AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS

TREATMENT PROTOCOLS - GUIDELINES AND COSTING OF SELECT GERIATRIC DISORDERS

A CCRAS -WHO COUNTRY OFFICE, INDIA COLLABORATIVE PROJECT

CENTRAL COUNCIL FOR RESEARCH IN AYURVEDA AND SIDDHA
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AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS
There is a slow and steady growth of elderly population during the last few decades. It is interested to note that there is a shift in the population growth from child and young to higher age groups. The elderly population is presently about 70 millions and the demographers project that within 25 years time, this would come to 150 million. The percentage of elderly population is also increasing in faster than that of total population. These demographic changes may be due to the improvement of health status, socio-economic status and medical care facilities.

Due to increased elderly population, the prevalence of Geriatric specific disease conditions is also increasing. The emergence of new refractory and lifestyle related problems calls for development of Ayurvedic treatment protocols for selected geriatric disease conditions for dissemination of messages among health care professionals.

Rasayana is one among eight branches Ayurveda. Through Rasayana therapy, one can attain longevity, improved harmony, intelligence, freedom from disease, youthful vigor, complexion and voice, physical strength and good sensory functions. Rasayana therapy prevents various degenerative disease conditions; promote the health status of an individual.

Other strength of Ayurveda is Panchakarma therapies (bio-cleansing procedures). Panchakarma is beneficial for preventive, promotive and rejuvenative health purposes and management of various systemic diseases. It is also widely prescribed for improving the quality of life in various incurable diseases.

Besides Rasayana and Panchakarma therapies, various single and compound Ayurvedic formulations, dietary and life style guidelines will help in the effective management of Geriatric conditions.

The Government of India, Ministry of Health and Family Welfare, Department of AYUSH has launched the National Campaign on Ayurveda and Siddha for Geriatric Health Care on 23rd and 24th January 2008 for promotion of merits of Ayurveda and Siddha for the care of elderly in the Country.
The CCRAS and WHO India country office have joined together for developing a concise and comprehensive document on Ayurvedic Management of Selected Geriatric Disease Conditions (Treatment Protocols for Geriatric Disorders) focusing on general information about the disease, diagnosis, preventive aspect, treatment (medicines, procedure based therapies and yoga), general and dietary advises and the approximate cost of the treatment modalities.

I personally and on behalf of CCRAS appreciate the encouragement and support received from Dr. S. J. Habayeb, WHO Representative to India and Dr. D. C. Katoch, National Consultant (Traditional Medicine & Homoeopathy) and Sh. Pradeep Diwan, Administrative Officer, WHO Country Office for India, New Delhi.

The Council is grateful to the members of working group and consultative group for their valuable inputs and suggestions, which have made this document comprehensive and informative.

I hope that this document would serve the Ayurvedic medical practitioners, policy makers, health insurance sector and other health care professionals as ready reference manual.

Ramesh Babu
Director General
CCRAS
# KEY TO TRANSLITERATION

| अ   | a   | ठ   | ठha   |
| आ   | ā   | ḍ   | ḍha   |
| इ   | i   | ḍ   | ḍha   |
| इ-क   | ī   | ḍ   | ḍha   |
| उ   | u   | ṇ   | ṇa   |
| ऊ   | ū   | ṇ   | ṇa   |
| ऋ   | r   | ḍ   | ḍa   |
| ए   | e   | ḍ   | ḍa   |
| ऐ   | ai  | n   | na    |
| ओ   | o   | p   | pa    |
| ऐँ   | au  | f   | pha   |
| ्   | ū   | b   | ba    |
| क   | ka  | m   | ma    |
| ख   | kha | ṣ   | ya    |
| ग   | ga  | ṛ   | ra    |
| घ   | gha | ḍ   | ḍa   |
| ह   | ūa  | ṭ   | va    |
| च   | ca  | ṣ   | ša    |
| छ   | cha | s   | sa    |
| ज   | ja  | ṣ   | ša    |
| झ   | jha | ṭ   | ḍa   |
| ञ   | ūa  | ḍ   | kṣa   |
| ठ   | ṭa  | ḍ   | jñā   |
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SECTION 1

PREVENTIVE HEALTH CARE IN GERIATRICS
Ageing is a process of physical, psychological and social change in multi dimensional aspects. The World population of the elderly is increasing and by the year 2050, adults older than 65 years will comprise 1/5th of the global population. In India 3.8% of the population are older than 65 years of age. According to an estimate the likely number of elderly people in India by 2016 will be around 113 million.

The cause of morbidity and mortality world over is shifting from communicable diseases a few decades ago to non-communicable diseases. The leading causes of mortality among aged people comprise respiratory problems, heart diseases, cancer and stroke. Significant causes of morbidity among this group is chronic inflammatory and degenerative conditions such as arthritis, diabetes, osteoporosis, depression, psychiatric disorders, parkinson's disease and age related urinary problems.

**Ayurvedic understanding of Geriatrics**

Ayurveda, the Indian traditional holistic health science has got the potential for prevention of diseases by promotion of health and management of diseases occurring in old age. It has a focused branch called Rasāyana (Rejuvenation) which deals with the problems related to ageing and methods to counter the same. Geriatrics or Jāra cikītsā or Rasāyana in Ayurveda is a unique therapeutic methodology to delay ageing and to minimize the intensity of problems occurring this degenerative phase of one's life.

**Contemporary application of Ayurvedic Geriatrics**

Ayurvedic treatment as such is very individualistic and general; sometimes physician may need to prescribe different formulations for patients having the same disease, considering their prakṛti (constitution), sāmya (habit / allergies), bala (strength), etc. It is difficult to bring out generalised management plans for a particular disease condition and implement the same in a large scale geriatrics population. There is a need to come up with protocols to
document, diagnose in an integrative frame work for the holistic management of geriatric problems.

Prevention and management of health problems could help the elderly to improve quality of life and remain self dependent for their daily activities to maximum possible extent. *Ayurveda* has broad spectrum of preventing measures for combating the ageing process which is still widely practiced in our country. *Ayurvedic* literature record numerous single and compound plant based medicines, herbo-mineral, herbo-metalic (a few) formulations for general well being and in disease specific conditions relating to geriatrics.

### 1.2 Daily and Seasonal Regimens

Maintenance of a healthy life by one's own right action is called *Svasthayọtta* which means the regime of abiding one's own nature. Health is the dynamic integration between our environment, body, mind and spirit. *Ayurveda* and other traditional Indian health systems lay emphasis on preventing the diseases. Elaborate description is available on personal hygiene encompass diet and regimen during daily routine (*dinacaryā*), seasonal routine (*rụcāryā*) and behavioural and ethical guidelines (*sadvọtta*). Observance of certain rules regarding suppressible and non-suppressible urges also paves way towards positive health. These practices lay emphasis on prevention of diseases and promotion of health.

#### 1.2a. Daily regimen (*Dinacaryā*)

The *Ayurvedic* regimen of right living is designed for maintenance of health achievement of a long, healthy active life, providing relief from pain and disease thereby achieving satisfactory enjoyment of life and attainment of self-realisation.

**Time to wake up**

It is advisable to wake up during *brahma muhūrta* (preferably between 4.00 a.m. to 5.30 a.m.). This is the best time for study and to gain knowledge.

**Cleansing of teeth and mouth**

Cleansing of teeth and mouth should be practiced after every meal in addition to early morning and before going to bed. The soft brushes made out of twigs of *khadira*, *karaṇja*, *nimba*, *arka*, *apāmārga*, etc. should be used for this purpose. Tongue and mouth should be cleaned by a long flexible strip of metal or plant material. It not only cleanses the tongue but also stimulates digestion. Mouth should also be cleaned properly.
Drinking Water

Drinking water early in the morning according to one's capacity cleanses the body by enhancing the elimination of toxic wastes.

Bowels

One should attend the nature's calls. Elimination of urine and faeces cleanse the body and cheers up the mind.

Eye Care

Eyes should be cleaned with fresh water to prevent eye diseases and promote vision. Also wash eyes with tripalā water every day.

Betel Chewing

Chewing of betel leaves with small pieces of pūga (Areca nut) and fragrant substances like cardamom, cloves, refreshes the mouth and enhance digestion. Tobacco and tobacco preparations should be strictly avoided.

Abhyaṅga (Oil Massage)

It is highly beneficial to massage whole body including scalp with oil everyday to prevent dryness of body and stiffness of joints due to ageing in elderly. For massaging, tila taila (gingelly oil), sarsapa taila (mustard oil), nārikela taila (coconut oil) or any medicated oils like Nārāyana taila may be used. Oil massage ensures softness and unctuousness of skin, free movement of joints and muscles; renders nourishment, improves peripheral circulation and eliminates metabolic wastes.

Exercise

Regular exercise builds up stamina and resistance against disease, clears the channels of body (srotas) and increases the blood circulation and efficiency of vital organs, promotes appetite and digestion and prevents obesity. Daily walking is the best exercise that can be advised to old people. Before starting any exercise program consult with consultant physician.
Bath

Bathing improves enthusiasm, strength, appetite, span of life and removes sweat and other impurities from the body. After bath, one should wear clean clothes and smear the body with natural perfumes. One should have regular shaving, hair cut, clipping of nails etc.

Marital Life

Person should avoid extra marital sexual relationship and sexual intercourse with a woman during her menses, pregnancy, within one and half month after delivery, devoid of passion, older than one and suffering from disease to prevent Dhātu kṣaya in elderly.

1.2b. Seasonal regimen (Ṛtucaryā)

Seasonal changes bring about diseases and they may be prevented by adopting certain seasonal regimen. The seasons are classified mainly by the movement of the Sun i.e. dakṣiṇāyana (winter solstice) and uttarāyana (summer solstice) and are again sub classified into six seasons, viz. Śīśra (winter), vasanta (spring), grīšma (summer), varṣā (rainy), śarada (autumn) and hemanta (post autumn [pre winter]). Hemanta and śīśra are cold seasons, grīšma is a hot season; varṣā is a season of rains, śarada and vasanta seasons are moderate that is to say the days are moderately hot and nights are cold and pleasant.

SEASONAL VARIATIONS OF THE DOŚĀS (BIOLOGICAL HUMORS)

<table>
<thead>
<tr>
<th>Season</th>
<th>Sañcaya (accumulation)</th>
<th>Prakopa (provocation/aggravation)</th>
<th>Prāśama (dissemination/spread)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemanta (post autumn [pre winter]) (Nov. - Dec.)</td>
<td>-</td>
<td>-</td>
<td>Pitta</td>
</tr>
<tr>
<td>Śīśra (winter) (Jan. - Feb.)</td>
<td>Kapha</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vasanta (spring) (Mar. - April)</td>
<td>-</td>
<td>Kapha</td>
<td>-</td>
</tr>
<tr>
<td>Grīśma (summer) (May - June)</td>
<td>Vāta</td>
<td>-</td>
<td>Kapha</td>
</tr>
</tbody>
</table>
Season | Diet and regimen | Pañcakarma (Bio-cleansing) regimen
---|---|---
Hemant (Nov.-Dec.) | Massage, exercise, intake of sweet, sour, salty items | -
Śiśira (Jan.-Feb.) | Use of woolen blankets, measures for protect against cold | -
Vasanta (March-April) | Massage exercise, fomentations, light and dry food etc. | Vamana (Therapeutic Emesis)
Grışma (May-June) | Seasonal fruits like āmra (Mango), jambu (Jamun), milk, sweets, butter milk etc. | -
Varṣā (July-August) | Avoid stagnant water in surrounding area and sleeping on ground | Vasti (Administration of medicated enemata)
Śarada (Sept.-Oct.) | To sit in moon light in the first quarter of night | Virecana (Therapeutic purgation)

1.2c. Some preventive regimens

Observations of certain prescriptions and prohibitions given in Ayurveda ensure physical, mental and spiritual well-being.

Non-suppressible urges

In Ayurveda thirteen types of natural urges (activities) are described; these are not to be suppressed, if suppressed they may lead to various diseases and treatment measures mentioned in various Ayurvedic classics should be followed for that.
1. Suppression of urine may lead to difficulty in passing urine, urinary stone and atony of bladder and inflammation of urinary tract.

2. Suppression of stool may lead to pain in abdomen, indigestion, flatulency and headache.

3. Suppression of semen may produce a stone (spermolith), pain in testis and difficulty in intercourse.

4. Suppression of flatus may lead to pain in abdomen, indigestion, heart diseases, constipation or diarrhoea.

5. Suppression of vomiting produces different types of diseases like urticaria, giddiness, anaemia, hyperacidity, skin diseases and fever.

6. Suppression of sneezing may produce rhinitis and chronic cold, headache, sinusitis and diseases of respiratory system.

7. Suppression of eructation may lead to hiccough, pain in chest, cough and loss of appetite.

8. Suppression of yawning may lead to diseases of the eyes, throat, ear and nose.

9. Suppression of hunger may lead to nutritional disorders and debility.

10. Suppression of thirst may lead to nutritional disorders and badhirya (deafness).

11. Suppression of tears may lead to mental disorders, chest pain, giddiness and digestive disorders.

12. Suppression of sleep may lead to insomnia, mental disorders, digestive disorders and diseases of sense organs.

13. Suppression of respiration may lead to suffocation, respiratory disorders, heart diseases and even death.

In addition, ācārya Vāgbhaṭa included the Kāsa under non suppressive urges.

14. Suppression of cough may lead to its increase, difficulty in breathing, loss of taste, heart disease, emaciation and hiccup.

1.3 Dietetics / Nutrition Ageing and Nutrition

Elderly people have different nutritional requirements compared to the normal adult population. With increasing age, people become more vulnerable to malnutrition for many reasons including arocaka (anorexia) due to ageing, medication, disease like smṛti nāśa (dementia), manoavasāda (depression), stroke, kampavāta (Parkinson disease) and other
neurological disorders, poor dentition, delayed gastric emptying, ill fitting dentures, swallowing problems, oral infections, taste changes and diminished smell sensation. Older individuals tend to respond to thirst much less than the younger ones, predisposing to dehydration particularly in case of fever and diarrhoea. Therefore fluid intake is necessary to replace physiological losses, better digestion and intestinal function and for renal clearance. There is no change in absorption of fats and carbohydrates, whereas vitamin D and calcium absorption is impaired, which leads to their deficiency. Calcium intake along with vitamin D is necessary to prevent bone mineral loss in elderly. Diet containing dairy products, fish, legumes, nuts, eggs, etc. are full of vitamin D and calcium. In addition, organic calcium like Pravāla piśī, Pravāla paṅcāmṛta, Kukkuṭāṇḍatvāk bhasma, Śaṅkha bhasma, Kaparda bhasma etc. may be given as medication. Folic acid deficiency is more common in elderly. Diet containing cereals, vegetables, legumes and fruits should be given to the elderly. The diet should be regulated taking into account the habitat, season, age, etc. the diet should be balanced and the quantity should be according to one's digestive capacity. Following points may be considered while planning/ advising dietary and other life style regimen.

1. The food should be tasty, nutritious, fresh and good in appearance
2. Too spicy, salty and pungent food should be avoided
3. It should neither be very hot nor very cold
4. Liquid intake should be more frequent and in small amount
5. Heavy food can be prescribed in a limited quantity
6. Heavy food should not be given at night. The proper time for night meals is two to three hours before going to bed. After dinner, it is better to advice for a short walk.
7. Heavy physical work should be avoided after meals
8. Mind should be peaceful while eating
9. Eating only whenever hungry and avoidance of over eating
10. Inclusion of sufficient amount of vegetables and fruits in diet.
11. Daily intake of vegetable soup and fruit juices
12. Milk and ghee are the agrauṣadha (drug of choice) of vārdhakya (senility). Hence their daily usage is advisable. Patient with hyperlipidaemia, ischemic heart disease, obesity these use in moderate quantity is essential.
1.4 CODE OF CONDUCT

A. Ethical regimen

A healthy mind is as important as healthy body. This ethical regimen contains principles of right conduct that are applicable to all. Effort should be made to maintain mental balance by śātvik food and life style. Śātvik āhāra is considered to be the best hitakara (wholesome), pathyakara (compatible) diet. It is a vegetarian diet containing non-oily, non-spicy articles which are easily assimible (sātmya) e.g. milk, rice, green vegetables, certain fruits etc.

1. One should suppress urges of greed, grief, fear, fury, pride, shamelessness, envy and excessive passion
2. Observe self control and always speak truth
3. One should not harm others and should always act in a polite manner
4. Errors/ mistakes in dietetic and behavioural habits if any should be given up gradually and good habits should be practiced.
5. An intelligent person who seeks happiness should make a great effort to make good company and avoid the bad one.

B. Social hygiene

Man is a social animal and one has to work in the society in a manner which is conducive to better hygiene and sanitation of his community. This can only be achieved by individual's efforts as well as his co-operation with the concerned authorities.

1. The house refuse /waste should not be thrown at random. It should be consigned to its proper place
2. The drainage should not remain blocked
3. Latrines and urinals should be kept properly cleaned
4. Water sources should not be contaminated and well protected from environmental pollutants
5. In case of outbreak of any infectious disease concerned authorities should be immediately reported
6. Always discourage use of plastic bags
C. Ācāra rasāyana (Good conduct)

Ayurveda adopts Satvāvjaya cikitsā (non-drug psychotherapies) that includes various codes of conduct (ācāra rasāyana) for maintenance of better mental health and to prevent various mental disorders. This includes the factors viz.

1. Practice universal prayer
2. Be truthful
3. Speak softly, gently
4. Speak with others kindly and with smiling face
5. Be considerate about others' feelings
6. Donate generously
7. Don't loose temper
8. Don't take much stress
9. Don't ridicule
10. Don't harm others

1.5 PREVENTIVE REGIMENS

A. Rasāyana (rejuvenation)

The strength of Ayurveda in the context of Geriatric care is Rasāyana therapy. Rasāyana stands as an answer in preventing premature ageing and to solve the problems due to ageing; it also ensures healthful longevity including mental health and resistance against various geriatric disease conditions. The observance of dietetics, rules of hygiene are essential for the success of treatment prescribed for healthy longevity of life and rejuvenation.

There are specific Rasāyana for different age groups, which help in restoring the loss of specific bio-values of respective ages.

Specific Rasāyana drugs according to age²

<table>
<thead>
<tr>
<th>Age in yrs.</th>
<th>Bio-values which are on decline</th>
<th>Suitable Rasāyana</th>
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<tbody>
<tr>
<td>1-10</td>
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<td>Vacā (Acorus calamus Linn.), Kāśmarī (Gmelina arborea Linn.), Svarna (Aurum)</td>
</tr>
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<td>11-20</td>
<td>Vṛddhi (Growth)</td>
<td>Kāśmarī (Gmelina arborea Linn.), Balā (Sida cordifolia Linn.), Aśvagandhā</td>
</tr>
<tr>
<td>Karma</td>
<td>Indications</td>
<td>Suggested drugs</td>
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<tr>
<td>---------------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Balya</strong></td>
<td>General debility, <em>Oja kṣaya</em> (Immuno-deficiency)</td>
<td><em>Aśvagandhā</em> (Withania somnifera Dunal), <em>Śatāvarī</em> (Asparagus racemosus Wild), <em>Bālā</em> (Sida cordifolia Linn.), Milk, ghṛta</td>
</tr>
<tr>
<td>(General tonics)</td>
<td></td>
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<tr>
<td><strong>Hṛdyā</strong></td>
<td>Hypertension and Ischemic Heart Diseases</td>
<td><em>Arjuna</em> (Terminalia arjuna W. and A.), <em>Puṣkaramūla</em> (Inula racemosa Hook. f.), <em>Āmra</em> (Mangifera indica Linn.), <em>Dāḍima</em> (Punica granatum Linn.)</td>
</tr>
<tr>
<td>(Cardioprotective)</td>
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<tr>
<td>Condition</td>
<td>Ayurvedic herbs</td>
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<tr>
<td><strong>Kanṣṭhya</strong></td>
<td>Throat and speech related problems in elderly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vacā (Acorus calamus Linn.), Pippalī (Piper longum Linn.), Drāksā (Vitis vinifera Linn.), Yaṣṭhīmadhu (Glycyrrhiza glabra Linn.)</td>
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<tr>
<td><strong>Tvacya</strong></td>
<td>Skin diseases in elderly people</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Candana (Santalum album Linn.), Haridrā (Curcuma longa Linn.), Khadira (Acacia catechu Willd.), Tuvaraka (Hydnocarpus laurifolia (Dennst.) Sleumer), Somarājī (Psoralea corylifolia Linn.)</td>
<td></td>
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<tr>
<td><strong>Cakṣuṣya</strong></td>
<td>Diabetic retinopathy and other eye problems in elderly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triphalā (Three myrobalons), Jyotiṣmatī (Celastrus paniculatus Willd), Kataka (Strychnos potatorum Linn.f.)</td>
<td></td>
</tr>
<tr>
<td><strong>Medhya</strong> (Brain tonic)</td>
<td>Dementia, Depression, Anxiety, Alzheimers disease</td>
<td></td>
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<td></td>
<td>Brāhmī (Bacopa monnieri Linn.), Śaṅkhapuṣṭī (Convulvulus pluricaulis Choisy), Yaṣṭhīmadhu (Glycyrrhiza glabra Linn.), Guḍūcī (Tinospora cordifolia (Willd) miers.)</td>
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<tr>
<td><strong>Śvāsahara</strong> (Anti asthmatic)</td>
<td>Bronchial asthma, Chronic bronchitis</td>
<td></td>
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<tr>
<td></td>
<td>Tulasī (Ocimum sanctum Linn.), Puṣkaramūla (Inula racemosa Hook. f.), Hiṅgu (Ferula foetida Regel), Haridrā (Curcuma longa Linn.), Pippalī (Piper longum Linn.), Śīriṣa (Albizzia lebbeck Benth), Vāsī (Adhatoda vasica Nees.)</td>
<td></td>
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<tr>
<td><strong>Śūlapraśamana</strong> (Analgesic)</td>
<td>Āmavāta /Sandhivāta (Arthritis)</td>
<td></td>
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<tr>
<td></td>
<td>Pippalī (Piper longum Linn.), Śuṣṭhī (Zingiber officinale Rose), Eraṇḍa (Ricinus communis Linn.), Guḍūcī (Tinospora cordifolia (Willd) miers.), Cīraka (Plumbago zeylanica Linn.)</td>
<td></td>
</tr>
<tr>
<td><strong>Vayasthāpana</strong> (Rejuvenators)</td>
<td>Premature ageing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guḍūcī (Tinospora cordifolia (Willd) miers.), Śatāvarī (Asparagus racemosus Wild), Āmalakī (Phyllanthus emblica Gartn.), Sārivā (Hemidesmus indicus R.Br.), Harītaki (Terminalia chebula)</td>
<td></td>
</tr>
</tbody>
</table>
Another Rasāyana described in Ayurveda i.e. Ājasrika Rasāyana refers to daily rejuvenative dietetics. Regular use of ghee, milk, fruits and vegetables in diet acts as Rasāyana.

**B. Paṇcakarma**

Paṇcakarma is a speciality of Ayurveda having preventive, promotive and curative actions and indicated in wide range of disease conditions/ health problems. It is a bio-cleansing regimen, which facilitates the body system for better availability of therapies, besides achieving homeostasis of humours.

Paṇcakarma is beneficial for

1. Preventive and promotive health
2. Before performing rejuvenative therapies.
4. The regimen is also widely prescribed in chronic diseases for improving the quality of life.

(Descriptions on indications and contraindications of Paṇcakarma procedures are available in Annexure-I of this document)

The principles laid down in the daily routine (Dinacaryā), seasonal routine (Ṛtucaryā) and behavioural and ethical principles (Sadvr̥tta) has been described here in brief. These measures are for preventing the diseases as well as for promoting the health. Proper observance of these principles leads to the perfect physical, mental and spiritual well being.
SECTION 2

MANAGEMENT
A. Physical examination in the elderly

In elderly patients, clinical features of disease conditions may differ from those in younger patients. The clinical presentation in the elderly is non-specific and frequently vague.

While taking history and in examination, physician should give more emphasis on physical health, mental health, functional status, social and economic status and environmental characteristics etc.

The following activities of daily living (ADL), instrumental activities of daily living (IADL) and advanced activities of daily living (AADL) should be assessed to know the functional status of daily living.

**ADL:** Bathing, dressing, toileting, continence, transferring, feeding etc.

**IADL:** Use of telephone, use of public transportation, shopping, preparation of meals, housekeeping, washing personal clothing, taking medication properly, managing personal finance etc.

**AADL:** Occupation related activities, traveling, volunteer activities, recreational activities, community tasks, organizing events etc.

Before starting the patient examination in the elderly, the following details should be recorded under history which may help either in diagnosis, counselling or in disease management.

- Education
- Marital status, number of children, present status of family/care giver
- Present and/or previous occupation
- Financial status/monthly income

2.1 PHYSICAL EXAMINATION AND TREATMENT MEASURES IN THE ELDERLY
- Age of menopause (in females)
- Habits - Smoking, alcohol consumption, drug abuse etc.
- Details of present medication, use of over the counter (OTC) drugs if any, previous illness
- Home environment, dependency if any etc.
- Details about sleep and appetite
- History of recent falls/ injuries

Once the above details are recorded, the following general physical examination is to be carried out.

- Weight, height, BMI, Temperature, Respiratory rate
- Blood Pressure at both lying and standing position in both hands
- Pulse - radial and other peripheral pulse
- Examine the mouth for bleeding or swollen gums, loose or broken teeth, dental caries, fungal infections and signs of cancer.
- Examine the abdomen for weak abdominal muscles, which are common among elderly people and may cause Hernia. Check also for Hydrocele, Swellings, Growth, Lumps etc.
- The spine is examined for scoliosis and tenderness. Severe low back, hip, and leg pain with tenderness in sacral region may indicate spontaneous osteoporotic fractures of the sacrum, which can occur in elderly patients.
- Examine for the voluntary and involuntary movements
- Extremities should be checked for any tenderness, swelling, muscle wasting, flexion, extension and movement difficulties, deformities, nodules etc.

Any difficulties in sitting, standing and walking, check for upper and lower limbs movement by asking the patient

- to pick up any item (pen) etc.
- to sit in the chair, rise from the chair
- to walk for 10-15 feet

Shoulder and elbow problems are commonly seen in elderly.

- Examine the joints for any functional impairment including tenderness, swelling,
flexion, extension and movement difficulties, stability, deformities etc.

- Status of hydration is to be examined by presence/absence of sweating in the axilla region. Conventional examination like skin elasticity, oral cavity for dryness, sunken eyes may not be reliable as these may be due to ageing changes.

- Mental status and orientation, behavior and emotional status should be assessed and recorded. Depression, dementia and confusion states are common in the elderly.

After completing the general physical examination, examination of special senses is to be carried out.

- Both eyes should be examined for visual acuity using a Snellen chart, visual fields, etc. Check for corneal opacity, ulcers, any growth etc. intra ocular pressure (IOP) should be recorded to rule out glaucoma and ophthalmoscopic examination should be done to check for cataract, optic nerve or macular degeneration and evidence of glaucoma, hypertension and diabetic retinopathy.

- Whisper voice test: Hearing test should be done for both ears. To avoid lip-reading, whisper 3 to 6 words or letters into each of the patient's ears (12 inches away from testing ear) behind the patient and ask whether hearing or not. The external auditory canal should be examined for cerumen, especially if a hearing problem is noted during the interview.

**Others**

The following mental state in the elderly is to be examined.

- Cheerful / sad

- Well presented/ disheveled with a neglected appearance

In women, breast and cervical cancers are the common cancers. Hence, breast and cervical examination in female patients along with cervical Pap smear is of essential part of examination. Check for any symptoms due to hormonal imbalance occurring after menopause.

Perineal and anal region should be examined for presence of hemorrhoids, fissures, fistula, etc. A digital rectal examination (DRE) is vital part in both sexes to detect a mass, stricture, tenderness or fecal impaction and especially in elderly males to rule out the prostatic enlargement and prostatic cancer.

Faecal and urinary incontinence should be recorded by history of bed wetting and urgency in faecal evacuation etc.
Any difficulties in the following basic activities of daily living should be enquired and evaluated for any pathology for those difficulties.

- Bowel movements
- Bladder emptying
- Toilet use
- Feeding
- Dressing
- Transfer/movement
- Bathing
- Climbing stairs/movement

Once the above examination is completed, systemic examination is to be carried out. Every system is to be examined even if there are no complaints relating to it, because asymptomatic pathology may be discovered which has vital importance.

### B. Treatment measures in the elderly

Some important points should be kept in mind before prescribing the treatment for any ailment in elderly i.e.

1. Prognosis and chronicity of disease may not be assessed due to ageing process.
2. There should be clear indication about doses and duration of drug. There are some difficulties to take medicine in elderly. Suitable dosage forms (per dose) should be chosen considering the palatability, ease of administration (syrup, avaleha, vati, etc).
3. *Ayurveda* recommends less doses of medicine in elderly than the adult dose. This is to be kept in mind while prescribing the medicine in elderly.
4. Due to memory loss there is possibilities of over or missed doses in older people. To avoid this, proper labeling should be done and checked by physician during follow up visit.
5. In addition to these things physio-therapy may be advised with treatment to improve the quality of life in elderly having neuro-muscular diseases.
Pañcakarma therapy in elderly

In view of increased incidence of refractory diseases attributable to change in life style and environmental conditions globally, it is imperative to adopt safe and effective regimen that could effectively manage such conditions. Pañcakarma is a specialty of Ayurveda having diversified preventive, curative and promotive actions that are indicated in wide range of diseases/ health problems. Pañcakarma procedures cleanse various systems of the human body and expel out cumulated toxic metabolites (waste products) from the body; maintain normal functioning of tissue, digestion, metabolism, mental function etc.

Application of Pañcakarma

Pañcakarma is beneficial for

1. Preventive, promotive health purposes
2. Management of various systemic diseases viz. geriatric, joint, musculoskeletal, dermatological, neurological, psychiatric, gynecological and respiratory disorders etc.
3. The regimen is also widely prescribed in chronic incurable diseases for improving the quality of life.

Definition of Pañcakarma

Pañcakarma is basically a bio-cleansing regimen, which facilitates the body for better bioavailability of the pharmacological therapies, besides achieving homeostasis of humours (doṣa). It also increases the acceptability of body to various dietary regimens and use of rejuvenation therapy (Rasāyana) for promotive health as well as therapeutic regimens. These therapies help in the elimination of disease-causing factors and maintainance the equilibrium of body tissues (dhatus) and humours (doṣa).

Pañcakarma therapy has three major components.

1. Preparatory procedures (Pūrvakarma) before pañcakarma therapy
2. Main procedures (Pradhānakarma) of pañcakarma therapy.
3. Post therapeutic procedures (Paścātikarma) after pañcakarma therapy.

a. Preparatory procedures (Pūrvakarma)

Before performing Pañcakarma, preparatory procedures are essential. These are

1. Dīpana and Pācana - Correction/ improvement the digestive process
2. Internal use of medicated oil/ ghee and external application of oils (Snehana).
3. Medicated sudation / fomentation (Svedana)

b. Main procedures (Pradhānakarma)

1. Vamana karma (Therapeutic emesis)
2. Virecana karma (Therapeutic purgation)
3. Anuvāsana vasti (Oil/ unctuous enema)
4. Āsthāpana vasti (Decoction based enema)
5. Nasya karma (Nasal administration of medicaments)

c. Post therapeutic procedures (Paścātkarma)

1. Samsarjana karma (Dietary regimen) - Regular diet is not advisable for few days following Vamana and Virecana Karma. The digestive power is very weak immediately after the Vamana and Virecana karma, hence only liquid food is advisable. As the digestive power gradual increases, the food may be also changed from liquids to solids and then to regular food. For the purpose this, four forms of food are prescribed i.e., liquid gruel, gruel, rice and meat soup for 7 days or 5 days/3 days. This helps in the complete restoration of the digestive ability.
2. Medicated smoking (Dhūmapāna), retaining of medicated liquids/ solids in oral cavity (Kavalagraha) etc.
3. Life style the following life style guidelines should be strictly followed during and after the procedure for a period of days double than the Paścātkarma procedure performed.

Don'ts

1. Sitting and standing for prolonged period
2. Walking for long distance
3. Strenuous travelling / riding on animals
4. Using of pillow of unsuitable height/ thickness
5. Day time sleep / excessive/ loud speaking / coitus
6. Suppression of natural urges e.g. passing of flatus, stools, urine etc.
7. Exposure to breeze/ intake of cold food items
8. Over exposure to sun light, smoke, dust etc.
9. Grief / anger / exercise
10. Intake of food in unusual time/ Intake of incompatible food.

Do's
1. Use of warm water throughout the treatment for all purposes
2. Maintain once celibacy
3. Following advice of attending the physician

Brief Note on Pañcakarma Procedures

i. SNEHANA (Oleation)

Oleation is of two types based on routes of administration of Snehadraya (medicated oil/clarified butter).

1. Internal (oral) administration of Snehadraya (Snehapāna)
2. External administration of Snehadraya (Abhyaṅga etc.)

Snehapāna is carried out before performing bio-cleansing procedures. It is also indicated in various disease conditions as a palliative treatment.

ii. SNEHAPĀNA (Method of administration of medicated taila / ghṛta)

The medicated taila (oil) / ghṛta (clarified butter) must be administered for confirming the digestive capacity. Every day before administration of Snehadraya, patient has to be examined for any signs and symptoms of indigestion or features of proper oleation. Snehapāna must be stopped once proper oleation features are attained or after 7 days.

According to Suśruta, Snehadraya is to be consumed 15 to 30 minutes after the sunrise and the Snehadraya is to be selected based on the disease condition/ indication for which Snehadraya is advocated. The quantity of Snehadraya is to be increased day by day in the following manner and if needed, must be adjusted according to the digestive capacity of the patient.

1. First day : 30ml
2. Second day : 50 ml
3. Third day : 75 ml
4. Fourth day : 100 ml
5. Fifth day : 125 ml
6. Sixth day : 150 ml
7. Seventh day : 175 ml

In elderly people, Sadya Sneha (instant oleation) is to be preferred. Medicated Sneha (oil/clarified butter) 50ml with 2-3 gm of Saindhava lavaña (Rock salt) for 3-7 days is to be administered for Sadya Snehana.

iii. SVEDANA (Sudation)

After attaining proper Snehana, Svedana is to be carried out before performing Vamana karma/ Virecana karma. This procedure liquefies the vitiated doṣa and help in expelling out them through Vamana / Virecana procedures.

iv. VAMANA (Therapeutic emesis)

Expelling out the vitiated doṣa through oral route is called Vamana (therapeutic emesis). It is performed after the preparatory procedures i.e. Snehana and Svedana. Medicated smoking (dhūmapāna) is advocated immediately after Vamana. As Vamana procedure alters the digestion process, specific dietary regimen (Saṃṣarjana krama) is to be followed for certain period based on the level emesis process. This procedure is commonly contraindicated in children and in elderly people.

v. VIRECANA (Therapeutic purgation)

Expelling out the vitiated doṣa through anal route is called Virecana (therapeutic purgation). It is also performed after the preparatory procedures i.e. Snehana and Svedana.

After administration of Virecana yoga, patients should be properly examined for features of proper/ incomplete/ excess purgation. Complications if any, arises needed to be managed timely and appropriately. Like in Vamana procedure, specific dietary regimen (Saṃṣarjana krama) is to be followed after Virecana karma for certain period based on the level purgation.
vi. **ANUVĀSANA VASTI** (Medicated oily/ unctuous enema)

Administration of unctuous / oily medicaments through anal route is called Anuvāsana vasti. Unlike Vamana and Virecana procedures, to perform Vasti, preparatory procedures are not commonly required. Local massage (abhyanga) with medicated oils (body) followed by mild sudation (svedana) at perineal region is suffice. Anuvāsana vasti should be performed only after mala-mūtra visarjana (after attending natural urges i.e. urination, defaecation) and it should not be performed on empty stomach.

The patient is advised to lie down on left lateral position with left leg straightened and right leg flexed at knee joint. The left hand should be kept below the head. After smearing the oil to the anal region, the medicated enemata should be administered by introducing the nozzle of enema apparatus through anal route. The administered contents commonly come out with in 12 hours (or 24 hours) after administration and sometimes they are retained also. Specific dietary and other guidelines should be followed accordingly to prevent complications and to achieve the benefits of Vasti.

vii. **NIRŪHA VASTI** (Medicated decoction enema)

Nirūha vasti is performed in similar to Anuvāsana vasti except the following main differences.

1. the medicaments for enemata are of decoction based
2. it is administered on empty stomach
3. the contents commonly come out with in 48 minutes after administration. If not, should be evacuated through tīkṣṇa vasti or other procedures.

These Anuvāsana and Nirūha vasti are commonly administered alternatively for the desired benefits. The contents and quantity of the enemata varies based on the disease conditions.

viii. **UTTARA VASTI** (Administration of medicine (douche) through genitourinary tract)

Administration of medicaments through urethral/ vaginal route is called Uttara vasti. It is indicated in various urological and gynaecological disorders and should be performed with utmost care and under aseptic conditions.

ix. **NASYA** (Nasal administration of medicaments)

Administration of medicaments through nasal route is called Nasya karma. It is mainly
indicated in diseases of head and neck region.

In elderly people usually Vāta is predominant and they are prone to develop Vāta disorders like, Sandhivāta (osteoarthritis), Kampavāta (parkinsonism), dryness of skin, Gṛdhraśī (sciatica), Kaṭiśūla (lumbago), Daurbalya (general delibity), Vibandha (constipation) etc. Ayurveda advises regular oil massage, fomentation and periodical Vāsti karma for prevention and cure of these old age related diseases. Pañcakarma should be advocated with special precautions and careful monitoring of the general condition and existing disease in elderly people. The dose of Snehapāna should be minimized in elderly and Mrḍu Virecana drugs should be used for Virecana karma.
2.2 NEUROLOGICAL/ NEURODEGENERATIVE AND SPECIAL SENSES DISORDERS

2.2.1 Hemiplegia (Pakṣāghāta)

Introduction

Hemiplegia is the commonest manifestation of a 'stroke' with neurological deficit affecting the face, limbs and trunk on one side or either side of the body. Impulses for voluntary movement are transmitted by the pyramidal tracts or upper motor neurons. Damage to these pyramidal tracts due to any lesion, trauma, ischemia or hemorrhage produces paralysis. In Ayurveda, it can be correlated with 'Pakṣāghāta'. When Vāta getting aggravated, dries up the Srotas and Snāyu (tendons) of one side (half) of the body, makes the organ/ parts of that side incapable of functioning and loss of sensation.

Aetiology

1. Cerebro-vascular accidents (Stroke)
   i. Cerebral hemorrhage
   ii. Sub - arachnoid hemorrhage
   iii. Cerebral thrombosis
   iv. Internal carotid artery thrombosis or stenosis
   v. Cerebral embolism
   vi. Venous sinus thrombosis
2. Hypertensive encephalopathy
3. Cerebral tumors
4. Acute encephalitis
Pathogenesis

Damage to the pyramidal tracts produces impairment or loss of voluntary movement from interruption of the conduction of motor impulses.

Risk factors

1. Age
2. Sex
3. Hypertension
4. Diabetes mellitus
5. Smoking, Alcohol abuse
6. Obesity
7. Hyperlipidemia

Clinical features

1. Unilateral loss of voluntary power in the affected arm, leg and in the lower face
2. Clasp-knife type spasticity
3. Tongue is protruded towards the paralysed side (in facial palsy)
4. Upper limb flexed at the elbow and wrist forearm slightly pronated
5. Movement of the hand and fingers are more affected than those of upper arm

Investigation

1. Haemogram
2. Lipid profile
3. C T Scan /MRI
4. Doppler studies of the Neck
5. CSF examination
6. X - Ray Spine
7. ECG.
Management approaches

a. Prevention

1. Add māṣa (black gram), kulattha (horse gram), palāṇḍu (onion), rasona (garlic), śuṇṭhī/ ārdra (ginger), mūlaka (radish), kūśmānda (ash gourd), mudga (green gram) in regular diet
2. Use fruits like dāḍima (pomegranate), āmra (mango), drākṣa (grape) etc.
3. Consume low fat and high fiber diet and Rasāyana drugs
4. Control the treatable risk factors like diabetes mellitus, hypertension, heart diseases
5. Take neccessary treatment of hypertension (if any)
6. Control cholesterol level and weight
7. Practice regular exercises
8. Avoid excessive use of pungent, astringent and/ or salty, oily/ fatty food and incompatible diet, canā (bengal gram), peas, barley etc.
9. Avoid excessive starvation, excess exercises, suppressing of natural urges and awakening in the nights
10. Avoid alcohol consumption, smoking
11. Avoid discontinuation of any regular medication without medical advise

b. Medical management

Line of treatment (Ca. Ci. 28/100)

1. Nidāna parivarjana (avoidance of aetiological factors) - Management of treatable risk factors and diseases like hypertension, acute encephalitis, heart disease etc. and avoid trauma.
2. Saṃśōdhana cikitsā - (Bio-cleansing therapies) followed by Šamana cikitsā (Palliative therapy) should be advocated.
   i. Snehana (Oleation): massage with medicated oils such as
      • Mahā nārāyaṇa tāila
      • Sahacarādi tāila
• Dhānvantara taila
• Kārpāśāthīdī taila
• Prabhaṅjana vimardana taila
• Kṣīrabalā taila
• Mahāmāśa taila
• Balā taila

ii. Svedana (Medicated fomentation)

• Ṣaṣṭika śāli piṇḍa sveda (made from Ṣaṣṭiaka śāli, Balāmūla, Aśvagandhā mūla and milk)/ patra piṇḍa sveda for 7-14 days

• Sarvāṅga sveda for 7 - 14 days

iii. Virecana (Purgation) with decoctions of :

\[
\begin{align*}
\text{Drākṣa (Vitis vinifera)} & : 10 \text{ gm} \\
\text{Āragvadha (Cassia fistula)} & : 10 \text{ gm} \\
\text{Harītakī (Terminalia chebula)} & : 10 \text{ gm} \\
\text{Katukī (Picrorhiza kurroa)} & : 5 \text{ gm along with} \\
\text{Eraṇḍa (Ricinus communis) taila} & : 1 \text{ teaspoonful} \\
\end{align*}
\]

or

\[
\text{Eraṇḍa taila 10 - 20 ml with half glass of milk at night}
\]

iv. Vasti (medicated enema)

• Mātrā vasti with Nārāyana taila 50 ml daily for 7 - 14 days

• Kaśāyā vasti for 15 days (Kāla vasti krama)

\[
\begin{align*}
\text{Eraṇḍamūla kvātha} & : 480 \text{ ml} \\
\text{Taila} & : 240 \text{ ml} \\
\text{Honey} & : 240 \text{ ml} \\
\text{Kalka} & : 30 \text{ gm} \\
\text{Saindhava lavana} & : 15 \text{ gm} \\
\end{align*}
\]

• Kṣīra vasti 350 - 500 ml for 7 - 14 days
v. *Nasya karma/ Bṛṃhaṇa nasya* with *Purāṇa ghṛta* (old ghṛta) / *Nārāyaṇa taila/ Kṣīra balā taila* 8-8 drops in both nostrils for 7 days

vi. *Śirovasti* with medicated oils (*Nārāyaṇa taila/ Kṣīra balā taila/ Candana balā lākṣādi taila*) daily 45 minutes for 7 days

vii. *Śirodhāra* with medicated liquids (*Nārāyaṇa taila/ Kṣīra balā taila/ Candana balā lākṣādi taila/ decoctions etc.*) daily 45 minutes for 21 days

*(above said formulations are common in practice but dose should be adjusted by the physician according to patient's condition).

3. **Drug Therapy** - All therapeutic measures may be started after crossing the acute phase of attack.

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA$^\text{a}$/ Vehicle</th>
<th>Duration$^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aśvagandhā (<em>Withania somnifera</em> Dunal) cūrṇa</td>
<td>3-5 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī (<em>Bacopa monnieri</em> Linn.) svarasa</td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Rasona (<em>Allium sativum</em> Linn.) kṣīra pāka</td>
<td>5-10 ml</td>
<td>Water/ milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Erapḍa (<em>Ricinus communis</em> Linn.) taila</td>
<td>5-10 ml</td>
<td>Milk</td>
<td>3 days</td>
</tr>
</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA$^\text{a}$/ Vehicle</th>
<th>Duration$^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gandharva hastādi kvāthā</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Sahacarādi kvātha</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Mahārāśnādi kvātha</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī vaṭī</td>
<td>125-250mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Mānasa mitra vaṭaka</td>
<td>125 mg</td>
<td>Rāsnāsaptaka kvāṭha</td>
<td>15 days</td>
</tr>
<tr>
<td>Vātāri guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
MOA - Mode of administration

Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Hiṅgutriguṇa taila⁴, Pañcakarma treatment with Māśādi Yoga⁴, Ekāṅgavīra rasa⁶ have shown improvement in Hemiplegia patients.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trayodaśāṅga guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Balāriṣṭa</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Aśvagandhāriṣṭa</td>
<td>15-30 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Hiṅgutriguṇa taila</td>
<td>5 ml</td>
<td>Lukewarm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Candana balā lākṣādi taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Kṣīrabalā taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Mahāmāṣa taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Mahā nārāyaṇa taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Nārāyaṇa taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Sahacarādi taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Dhāṅvantara taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Kārpāśāsthyādi taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Prabhāṇjana vimardana taila</td>
<td>external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Vātagajāṅkuśa rasa</td>
<td>125-250 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Vātakulāntaka rasa</td>
<td>125-250 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Rasarāja rasa</td>
<td>65 - 125 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Yogendra rasa</td>
<td>125-250 mg</td>
<td>Rasona svarasa and honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Bṛhatvāta cintāmaṇī rasa</td>
<td>125-250 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Ekāṅgavīra rasa</td>
<td>125-250 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
</tbody>
</table>
c. **Yogic practices** - The following yogic practices are beneficial in Hemiplegia; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Practice of Prāṇāyāma (Anuloma Viloma, Nāḍī śodhana, Bhrāmarī) and meditation alongwith the practice of Yama and Niyama
2. Deep relaxation technique, Yoga nidrā
3. Āsanās to correct the postural imbalances

**Counselling** - Advise the patient to

1. Be active and optimum use of affected part
2. Grasp the spastic arm at wrist with unaffected arm and push it above head regularly (10-15 times at each time) for 3-4 times a day
3. Continue exercises as suggested by the physiotherapist
4. To increase the practice of exercise gradually
5. Take balanced diet
6. Maintain healthy body weight
7. Limit salt intake and fat in diet
8. Control of hypertension and diabetes mellitus
9. Check lipid profile periodically
10. Avoid over exertion
11. Avoid smoking and alcohol consumption

**Indications for referral**

1. Further deterioration
2. Patient with head injury requires surgical intervention.
3. Not responding to medication

The other neurological conditions like monoplegia (paralysis of one limb), paraplegia (paralysis of both lower limbs) and quadriplegia (paralysis of all four limbs) are also to be managed in the similar manner.
## COSTING DETAILS

**Approx. costing of Hemiplegia Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>90-150</td>
<td>gm</td>
<td>0.48</td>
<td>44-88</td>
</tr>
<tr>
<td>1.</td>
<td>Brāhmī svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>113-226</td>
</tr>
<tr>
<td>2.</td>
<td>Rasona kṣīra pāka</td>
<td>150-300</td>
<td>ml</td>
<td>0.5</td>
<td>75-150</td>
</tr>
<tr>
<td>3.</td>
<td>Eraṇḍa taila</td>
<td>15-30</td>
<td>ml</td>
<td>0.48</td>
<td>07-14</td>
</tr>
<tr>
<td>4.</td>
<td>Gandharva hastādi kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.27</td>
<td>81-162</td>
</tr>
<tr>
<td>5.</td>
<td>Sahacarādi kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.28</td>
<td>84-168</td>
</tr>
<tr>
<td>6.</td>
<td>Mahārāsnādi kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.132</td>
<td>40-160</td>
</tr>
<tr>
<td>7.</td>
<td>Brāhmī vaṭī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>4.4</td>
<td>17-34</td>
</tr>
<tr>
<td>8.</td>
<td>Mānasa mitra vaṭaka</td>
<td>3.75</td>
<td>gm</td>
<td>5.73</td>
<td>22</td>
</tr>
<tr>
<td>9.</td>
<td>Vātāri guggulu</td>
<td>30-45</td>
<td>gm</td>
<td>1.67</td>
<td>52-75</td>
</tr>
<tr>
<td>10.</td>
<td>Trayodaśāṅga guggulu</td>
<td>30-45</td>
<td>gm</td>
<td>1.35</td>
<td>41-61</td>
</tr>
<tr>
<td>11.</td>
<td>Balāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.24</td>
<td>72-144</td>
</tr>
<tr>
<td>12.</td>
<td>Aśvagandhāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.43</td>
<td>130-260</td>
</tr>
<tr>
<td>13.</td>
<td>Hiṅgutriguṇa taila</td>
<td>150</td>
<td>ml</td>
<td>1.02</td>
<td>153</td>
</tr>
<tr>
<td>14.</td>
<td>Vātajāṅkuśa rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>3.6</td>
<td>14-28</td>
</tr>
<tr>
<td>15.</td>
<td>Vātakulāntaka rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>3.0</td>
<td>12-24</td>
</tr>
<tr>
<td>16.</td>
<td>Yogendra rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>370</td>
<td>1388-2775</td>
</tr>
<tr>
<td>17.</td>
<td>Bṛhatavāṭa cintāmanī rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>343</td>
<td>1287-2573</td>
</tr>
<tr>
<td>18.</td>
<td>Ekaṅgavīra rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>7.4</td>
<td>28-56</td>
</tr>
<tr>
<td>19.</td>
<td>Candana balā lākṣādi taila</td>
<td>200</td>
<td>ml</td>
<td>0.7</td>
<td>140</td>
</tr>
<tr>
<td>20.</td>
<td>Kṣīrabalā taila</td>
<td>200</td>
<td>ml</td>
<td>0.68</td>
<td>136</td>
</tr>
<tr>
<td>21.</td>
<td>Sahacarādi taila</td>
<td>200</td>
<td>ml</td>
<td>0.76</td>
<td>152</td>
</tr>
<tr>
<td>22.</td>
<td>Dhānvantara taila</td>
<td>200</td>
<td>ml</td>
<td>0.41</td>
<td>82</td>
</tr>
</tbody>
</table>
2.2.2 Parkinson's disease (*Kampaväta/ Vepathu*)

**Introduction**

Parkinson's disease is a degenerative disorder. It is the most common extra-pyramidal crippling disease affecting the older adults. It is a syndrome consisting of classical triad of resting tremor, bradykinesia and rigidity. This triad does not include the equally important gait and postural stability problems which also constitutes the syndrome. It is a disease of...
elderly and its prevalence increases from 1% in people over the age of 65 years to 5% in people over the age of 80 years and affects men and women equally. The disease has insidious onset and is slowly progressive leading to severe morbidity in advanced age. A disease condition 'vepathu' described in Ayurveda may also be correlated with Parkinson's disease. Generalized involuntary movements of all parts of the body or of the head only, is known as vepathu. It is caused by vitiated vāta. So 'vātahara' treatment should be given to these patients.

**Aetiology**

Although aetiology of the disease not well known but the following factors contribute in the pathogenesis of this disease

1. Genetic factors
2. Accelerated ageing
3. Environmental toxins (methyl-phenyl tetra hydro pyridine- MPTP) and other toxins (manganese, carbon monoxide and methanol)
4. Increased free radical and iron content in the Substantia Nigra
5. Drugs - Reserpine, Ethanol, Lithium, Diltiazem etc.
6. Neurodegenerative disorders such as multi system atrophy, Alzheimer's disease etc.
7. Post infections (viral encephalitis etc.)
8. Brain tumor
9. Repeated head injury (in boxing)

**Pathogenesis**

Parkinsonism is caused by degeneration of pigmented neurons (Dopaminergic neuron) in the zona compacta of substantia nigra, resulting decrease of dopamine levels in the brain which leads to motor dysfunctions viz. resting tremor, bradykinesia and rigidity.

**Clinical features**

1. Resting tremor
2. Bradykinesia
3. Rigidity
4. Stooped posture
5. Masked face
6. Pill rolling movements
7. Lack of postural adjustment
8. Festinating gait
9. Drooping of saliva due to infrequent swallowing movements
10. Monotonous soft voice
11. Absence of arm swing while walking
12. Aches and pain in body

**Complications**

1. Frequent falls
2. Incapacitation
3. Depressions and dementia
4. Postural hypotension
5. Urinary incontinence
6. Constipation
7. Aspiration

**Investigations**

There are no confirmatory tests available, diagnosis is commonly made on clinical grounds. The following investigations may help in the diagnosis.

1. CT Scan
2. MRI Scan
3. Positron-Emission Tomography (PET)
4. Levadopa drug challenge test
**Differential Diagnosis**

1. Drug induced Parkinson
2. Depression
3. Essential tremor
4. Normal pressure hydrocephalous
5. Cerebral hypoxia
6. Carbon monoxide poisoning

**Management approaches**

**a. Prevention**

1. Use śali (old rice), godhūma (wheat), citrus fruit, vegetable, nuts, milk and milk products, dādīma (pomegranate), nimbu (lemon), mango, orange, guava, apple, peach, garlic, asafoetida, sprout etc.
2. Practice regular aerobic exercises
3. Take balance diet
4. Consume anti-psychotics or any other medication under close supervision of doctor
5. Be as active as possible
6. Avoid yava (barley), peas, pūga (areca nut), jambu (jamun), excess protein diet, hot spicy food and incompatible food article.

**b. Medical management**

**Line of treatment**

1. *Nidāna parīvarjana* (avoidance of aetiological factors) - Modifiable causative factors like environmental toxins, drugs, head injuries, infections should be avoided.
2. *Saṃśodhana cikitsā* (Bio-cleansing therapies) followed by Śamana cikitsā (Palliative therapy) should be advocated.
   
   **i. Snehana (Oleation):** Gentle massage with medicated oils such as:
   
   - *Mahā nārāyaṇa taila*
   - *Kṣīrabalā taila*
• Sahacarādi taila
• Dhānvantara taila
• Mahāmāśa taila
• Balā taila
• Aśvagandhā taila

ii. Sarvāṅga sveda (Steam bath) / Patrapīṇḍa sveda for 3-7 days

iii. Mātrā Vasti with Sahacarādi taila 50 ml with Saindhava lavaṇa (Q.S.) and Śatapuṣpā (Q.S.) daily for 15-21 days

iv. Nasya karma/ Bṛhmaṇa nasya with Purāṇa ghṛta (old ghī)/ Nārāyaṇa taila / Kṣīra balā taila 8-8 drops in both nostrils for 7 days

v. Śīrovasti with medicated oils (Kṣīrabalā taila, Mahāmāśa taila, Mahā nārāyaṇa taila, Brāhmītaila daily 45 minutes for 7 days

vi. Śīrodhārā with medicated liquids (milk/water)/ oils (Kṣīrabalā taila, Mahāmāśa taila, Mahā nārāyaṇa taila, Brāhmītaila) daily 45 minutes for 7 days.

3. Drug therapy

**SINGLE DRUGS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA³/Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aśvagandhā (Withania somnifera Dunal) cūrṇa</td>
<td>3-5 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Kappikacchu bīja (Mucuna pruriens Linn.) cūrṇa</td>
<td>5-10 gm</td>
<td>After meal with milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Pārasīka yavānī (Hyoscyamus niger L.) cūrṇa</td>
<td>1-3 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Balā (Sida cordifolia Linn.) cūrṇa</td>
<td>5 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Rasona (Allium sativum Linn.) Kṣīra pāka</td>
<td>30-50ml</td>
<td>Water/ milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī (Bacopa monnieri Linn.) svarasa</td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
# COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA /Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daśamūla kvātha</td>
<td>10-20ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī vaṭī</td>
<td>250-500mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Śimhanāda guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Vātāri guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Koṇca bīja pāka</td>
<td>5-10 gm</td>
<td>Milk/ water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhma rasāyana</td>
<td>10 gm</td>
<td>milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Balāriṣṭa</td>
<td>12-24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Aśvagndhāriṣṭa</td>
<td>12-24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Daśamūlāriṣṭa</td>
<td>12-24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kṣīrabalā taila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Mahāmāṣa taila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Mahā nārāyaṇa taila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Sahacarādi taila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmītaila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Dhānvantara taila</td>
<td>External use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Caturbhujā rasa</td>
<td>125-250 mg</td>
<td>Triphalā kvātha/ honey</td>
<td>15 days</td>
</tr>
</tbody>
</table>

5 MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. **Yogic Practices**- The following *yogic* practices are beneficial in Parkinson's disease; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.
1. Practice of Prāṇāyāma (Anuloma viloma, Nāḍīśuddhi, Bhrāmarī) and meditation along with the practice of Yama and Niyama

2. Āsānas to correct the postural imbalances, weight bearing postures to manage the tremors

3. Deep relaxation technique and Yoga Nidrā

**Counselling** - Advice/inform the patient to

1. The nature of illness
2. Maintain good physical and mental health
3. Practice exercise regularly
4. Be active
5. Take diet rich in fibers, antioxidants and vitamins
6. Limit protein intake
7. Limit intake of manganese and Vitamin B₆
8. Avoid stress and anxiety
9. Avoid constipation

**Indications for referral**

1. Advanced Parkinson's disease and associated complications
2. Severe Dyskinesia
3. Life threatening concurrent illness

**COSTING DETAILS**

**Approx. costing of Parkinson's disease Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>90-150</td>
<td>gm</td>
<td>0.48</td>
<td>44-88</td>
</tr>
<tr>
<td>2.</td>
<td>Pārasīka yavāṇī cūrṇa</td>
<td>150</td>
<td>gm</td>
<td>1.0</td>
<td>150</td>
</tr>
<tr>
<td>3.</td>
<td>Balā cūrṇa</td>
<td>150</td>
<td>gm</td>
<td>0.5</td>
<td>75</td>
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</tbody>
</table>
Approx. costing of Pañcakarma procedure in Parkinson's disease **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Snehana (externally)</td>
<td>21</td>
<td>200</td>
<td>4200</td>
</tr>
<tr>
<td>2.</td>
<td>Sarvāṅga sveda</td>
<td>3-7</td>
<td>150</td>
<td>450-1050</td>
</tr>
<tr>
<td>3.</td>
<td>Patrapiṇḍa sveda</td>
<td>3-7</td>
<td>200</td>
<td>600-1400</td>
</tr>
<tr>
<td>4.</td>
<td>Matrā vasti</td>
<td>15-21</td>
<td>100</td>
<td>1500-2100</td>
</tr>
<tr>
<td></td>
<td>Ayurvedic Treatment</td>
<td>Quantity</td>
<td>Strength</td>
<td>Dosage</td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
<td>----------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>5.</td>
<td>Nasya karma</td>
<td>7</td>
<td>100</td>
<td>700</td>
</tr>
<tr>
<td>6.</td>
<td>Sirovasti</td>
<td>7</td>
<td>300</td>
<td>2100</td>
</tr>
<tr>
<td>7.</td>
<td>Sirodhara (oils)</td>
<td>7</td>
<td>300</td>
<td>2100</td>
</tr>
<tr>
<td>8.</td>
<td>Sirodhara (milk)</td>
<td>7</td>
<td>150</td>
<td>1050</td>
</tr>
</tbody>
</table>
2.3 NEURO-PSYCHIATRIC DISORDERS

2.3.1 Anxiety neurosis (Cittodvega)

Introduction

Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional and behavioural components. Anxiety is often accompanied by physical sensations such as palpitations, nausea, chest pain, shortness of breath, diarrhoea, chills, dryness of mouth, abdominal pain and headache. Somatic signs of anxiety may include pale skin, sweating, trembling and pupillary dilatation.

Ageing and anxiety is not mutually exclusive, anxiety is as common in the elderly as in the young, although how and when it appears is distinctly different in older adults.

Generalized anxiety disorder is one of the most prevalent anxiety disorders in older persons. Ageing brings with it a higher prevalence of certain medical conditions as a result. In the older people differentiating a medical condition (dementia, depression, fears) from physical symptoms of an anxiety disorder is more complicated. It comes under mānasa roga in Ayurveda.

Aetiology

The following factors are believed to play an important role in the occurrence of this disease.

1. Genetics and hereditary: Anxiety neurosis tends to run in families.
3. Personality type: Certain types of personalities are more prone to anxiety development e.g. people who have low self esteem and poor coping skills.
4. Social factors: Those who are exposed to abuse, violence and poverty are more
prone to this type of disorders.

5. Medical causes: Endocrine and cardio pulmonary disorders
6. Drugs and other substances: amphetamine, transquillsers, steroids etc.

**Risk factors**

1. Female gender
2. Low resources to cope up with the daily demands.

**Pathogenesis**

Sympathetic nervous system may always be poised to react, a crisis pulling in a state of constant tension. Various factors may cause over reaction of sympathetic nervous system resulting in anxiety.

**Clinical features**

1. Palpitation
2. Breathlessness and nervousness
3. Chest pain
4. Trembling
5. Dizziness and fainting
6. Insomnia
7. Anorexia
8. Headache
9. Parasthesia and weakness
10. Fatigue

**Investigations**

1. Hamilton anxiety rating scale
2. Anxiety disorder interview schedule
3. ECG.
Differential Diagnosis

1. Post traumatic stress disorders
2. Phobias
3. Social anxiety disorders
4. Alcoholism
5. Thyrotoxicosis
6. Hypoglycemia

Management approaches

a. Prevention

1. Use of madhura rasa (sweet in taste) pradhāna āhāra and buffalo milk
2. Follow sadvṛtta (Mental hygiene)
3. Practice of yoga and meditation
4. Avoid the causative factors
5. Avoid incompatible food articles
6. Avoid excessive consumption of coffee, tea, soft drinks, hot spicy food, alcohol and smoking
7. Avoid stressful conditions

b. Medical management

Line of treatment

1. Nidāna parivarjana (avoidance of aetiological factors) - Manage the disease conditions like endocrine and cardio-pulmonary disorder. Social factors like abuse, violence etc. and certain medications like tranquillizers and steroid should be avoided.

2. Pañcakarma therapies followed by Šamana cikītsā (Palliative therapy) should be advocated.
   i. Abhyaṅga (body Massage)
   ii. Snehapāna (Internal oleation) - Mahākalyāṇaka ghṛta 30-50 ml for 3-7 days
iii. Śīro abhyaṅga (head massage) with medicated liquids / oils

iv. Śīro vasti with medicated oils (Candanādi taila/ Himasāgara taila) daily 45 minutes for 7 days

v. Śīrodhārā with medicated liquid (milk, butter milk, water) / oils (Candanādi taila/ Himasāgara taila) daily 45-90 minutes for 7 days. Duration of the process depends upon nature of the illness and physical condition of the patient.

vi. Picu with Kṣīrabalā taila

vii. Takra dhārā daily 45 minutes for 14 days

viii. Nasya karma (Nasal administration of medicaments) with Brāhmī svarasa 5 drops/ nostril/ day for 7 days

ix. Śīrolepa with Brāhmī (Bacopa monnieri Linn.) leaf kalka

3. Drug therapy

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aśvagandhā (Withania somnifera Dunal) cūrṇa</td>
<td>3-5 gm</td>
<td>Sugar and ghṛta before meal</td>
<td>15 days</td>
</tr>
<tr>
<td>Jaṭāmāṃṣī (Nardostachys jatamansi DC.) cūrṇa</td>
<td>500 mg - 1 gm</td>
<td>Milk after meal</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī (Bacopa monnieri Linn.) cūrṇa</td>
<td>1-2 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Manḍūkaparṇī (Centella asiatica (Linn.) Urban.) cūrṇa</td>
<td>1-2gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brāhmī vaṭī</td>
<td>250-500 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Sarpagandhādi vaṭī</td>
<td>125 mg</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Sārasvatāriṣṭa</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Mānasā mitra vaṭaka</td>
<td>125 mg</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Muktā piṣṭī</td>
<td>125-250 mg</td>
<td>Ghṛta</td>
<td>15 days</td>
</tr>
</tbody>
</table>
Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

**MOA - Mode of administration**

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. **Yogic Practices** - The following yogic practices are beneficial in Anxiety; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Practice of Prāṇāyāma (Candra anuloma viloma, cooling Prāṇāyāma, Ujjáï, Bhrāmari) and meditation along with the practice of Yama and Niyama

2. Regular practice of Kuñjala and Jalaneti

3. Śaśāṅkāsana, Tadāsana, Matsyāsana, Maṇḍūkāsana, Bhujāṅgāsana and Śavāsana

These techniques may be followed in following sequence

i. Śavāsana

ii. Deep relaxation techniques

iii. Meditation

iv. Prāṇāyāma

v. Āsana
Counselling - Advice the patient to

1. Practice light physical activities, yoga and meditation
2. Read and listen to music
3. Participate in satsaṅga (association with virtuous people)
4. Visit of religious places
5. Avoid stressful conditions
6. Avoid heavy meals at bed time
7. Avoid consumption of coffee, tea, soft drinks, alcohol and smoking

Indications for referral

1. Not responding to medication
2. Further deterioration in spite of medication
3. Anxiety associated with complications

COSTING DETAILS

Approximate costing of Anxiety Management

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>90-150</td>
<td>gm</td>
<td>0.48</td>
<td>43.2-72</td>
</tr>
<tr>
<td>2.</td>
<td>Jaṭāmāṁśī cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>1.0</td>
<td>30-60</td>
</tr>
<tr>
<td>3.</td>
<td>Brāhmī cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>0.75</td>
<td>22.5-45</td>
</tr>
<tr>
<td>4.</td>
<td>Manḍūkapaṃṛti cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>0.75</td>
<td>22.5-45</td>
</tr>
<tr>
<td>5.</td>
<td>Brāhmī vaṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>4.4</td>
<td>33-66</td>
</tr>
<tr>
<td>6.</td>
<td>Sarpagandhādi vaṭī</td>
<td>3.75</td>
<td>gm</td>
<td>5.2</td>
<td>19.5</td>
</tr>
<tr>
<td>7.</td>
<td>Sārasvatāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.28</td>
<td>84-168</td>
</tr>
<tr>
<td>8.</td>
<td>Mānasa mitra vaṭaka</td>
<td>3.75</td>
<td>gm</td>
<td>5.73</td>
<td>22</td>
</tr>
<tr>
<td>9.</td>
<td>Muktā Piṣṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>1.4</td>
<td>11-22</td>
</tr>
<tr>
<td>10.</td>
<td>Kalyāṇaka ghṛta</td>
<td>180</td>
<td>gm</td>
<td>0.46</td>
<td>83</td>
</tr>
</tbody>
</table>
Approx. costing of Pañcakarma procedure in Anxiety **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abhyaṅga (Body Massage)</td>
<td>7</td>
<td>200</td>
<td>1400</td>
</tr>
<tr>
<td>2.</td>
<td>Śiro Vasti</td>
<td>7</td>
<td>300</td>
<td>2100</td>
</tr>
<tr>
<td>3.</td>
<td>Śirodhārā (with taila)</td>
<td>7</td>
<td>300</td>
<td>2100</td>
</tr>
<tr>
<td>4.</td>
<td>Śirodhārā (with milk)</td>
<td>7</td>
<td>150</td>
<td>1050</td>
</tr>
<tr>
<td>5.</td>
<td>Picu</td>
<td>7</td>
<td>100</td>
<td>700</td>
</tr>
<tr>
<td>6.</td>
<td>Takra dhārā</td>
<td>14</td>
<td>150</td>
<td>2100</td>
</tr>
<tr>
<td>7.</td>
<td>Nasya karma</td>
<td>7</td>
<td>100</td>
<td>700</td>
</tr>
<tr>
<td>8.</td>
<td>Śirolepa</td>
<td>7</td>
<td>250</td>
<td>1750</td>
</tr>
</tbody>
</table>

2.3.2 Depression (Mano-avasāda)

Introduction

Depression is a common mental disorder, characterized by sadness, loss of interest, pleasure, feeling of guilt or low self worth, disturb sleep, poor appetite, low energy and poor concentration. It is a common mood disorder in elderly and contributes to significant psychological and physical distress, physical disability and higher mortality. Depression is not a normal part of ageing.

Many elderly individuals face difficult changes such as - the death of a spouse or chronic medical problems that can lead to depression. Depression not only prevents from enjoying life like they could be, it also takes a heavy toll on death. Untreated depression poses serious risks for older people including illness, alcohol, drug abuse and even suicide.

International studies, including those in India suggest uniform prevalence of mood disorders across the world. Life time risk for major depression ranges from 2-25% with most authorities agreeing to a range of 10-15%. It is about 10% in men and 20% in women. By
2020, the World Health Organization (WHO) expects Depression to be the second frequent cause of morbidity world over.

**Aetiology**

1. Family history of depression/ hereditary
2. Trauma and stress caused by things like financial problems, breakup of a relationship or death of a loved one can cause depression
3. Pessimistic personality with low self-esteem and a negative outlook are at higher risk of becoming depressed
4. Medical illnesses such as stroke, heart attack, cancer, parkinson's disease, and hormonal disorders can cause depressive illness
5. Many medications such as steroids, pain killers, anti-hypertensive drugs, tranquilizers, cancer drugs, hormones etc. can trigger or exacerbate depression
6. Psychological disorders like Anxiety disorders, eating disorders, schizophrenia, substance abuse etc.
7. Living alone can result in depression

**Risk factors**

1. Family history
2. Female gender
3. Death of dear ones
4. Functional disability due to chronic illness
5. Substance abuse of alcohol and drugs
6. Cognitive impairment
7. Sleep disorders

**Pathogenesis**

By advancing age, Acetylcholine, dopamine and norepinephrine decrease in the CNS; elevated levels of mono amine oxidase (MAO) and decrease in number of neuro-receptors with increased resistance to diffusion of drugs contribute to the vulnerability to depression in older adults.
**Clinical features**

1. Mood variations; often worse in the morning, improving later in the day
2. Change in sleeping, eating habits or appetite
3. Weight gain or weight loss
4. Feeling of guilt and/or hopelessness
5. Slowed thoughts, speech and movement
7. Complaints that have no physical cause (somatic complaints) such as unexplained aches and pains
8. Short temper, feeling of anxiety
9. Tearfulness for no reason, unrealistic sense of failure
10. Lack of concentration and difficulty in making decisions
11. Feeling of loneliness
12. Reduced desire for sex

**Diagnosis**

Before being diagnosed with depression, elderly adults should be screened for the following common health issues that can affect mood

1. Anxiety disorders
2. Personality disorders
3. Vit $B_{12}$ deficiency
4. Hypothyroidism
5. Systemic malignancies
6. Nutritional deficiencies
7. Metabolic disorders including diabetes and hepatic dysfunction

**Investigations**

1. Neurological examination
2. Mini mental status test
3. Geriatric depression scale (GDS) (Yesavage)
4. Haemogram
5. Blood sugar
6. Blood urea and nitrogen
7. Serum creatinine
8. Liver Function Test
9. Serum Vitamin B$_{12}$
10. Serum T$_3$, T$_4$, TSH

Management approaches

a. Prevention

1. Use of fiber rich food like whole grams, whole fruits, fresh vegetables, āmalakī (Phyllanthus emblica Gartn.), etc.
2. Be active physically and mentally and practice regular exercise
3. Engage in social activities and avoid loneliness
4. Continue medication as per instructions
5. Practice yoga and meditation
6. Avoid non-vegetarian diet, frequent eating and high calory food
7. Avoid excessive thinking

b. Medical management

Line of treatment

1. Nidāna parivarjana (avoidance of aetiological factors) - To treat the depression, factors like trauma, use of steroids, pain killers, etc. should be avoided. Chronic illness if any should be treated first and living alone should be avoided.

2. Saṃśodhana cikitsā (Bio-cleansing therapies) followed by Šamana cikitsā (Palliative therapy) should be advocated.
i. **Snehapāna** (Internal oleation) - *Kalyāṇaka ghṛta* 50 ml with 2 gm *Saindhava lavaṇa* for 3 - 7 days (for *Sadya Snehana*)

ii. **Virecana** (Purgation) with *Eraṇḍa taila* 10 - 20 ml or *Ṭṝṛt cūrma* 5-10gm with half glass of milk at night

iii. **Nasya karma/ Brṛṭhaṇa nasya** with *Purāṇa ghṛta* (old ghee)/ *Aṇu taila/ Mahākalyāṇaka ghṛta* 8-8 drops in both nostrils for 7 days

iv. ** Śīro vasti** with *Nārāyaṇa taila* daily 45 minutes for 7 days

v. **Śirodhāra** with medicated oils (*Nārāyaṇa taila / Candanādi taila/ Himasāgara taila*)
   (or) *Kṣīra dhāra / Jala dhāra / Takradhāra* daily 30-90 minutes for 1-2 weeks

vi. **Śīro abhyāga** (head Massage) with medicated oils (*Brāhmī taila*) etc.

### 3. Drug therapy

#### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aśvagandhā</em> (<em>Withania somnifera</em> Dunal) cūrṇa</td>
<td>3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Jaṭāmānspī</em> (<em>Nardostachys jatamamasi</em> DC.) cūrṇa</td>
<td>1-2gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kapikacchu</em> (<em>Mucuna pruriens</em> Hook) cūrṇa</td>
<td>2-4 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Brāhmī</em> (<em>Bacopa monnieri</em> Linn.) svarasa</td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Manḍūkaparṇī</em> (<em>Centella asiatica</em> (Linn.) Urban.) svarasa</td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Guḍūcī</em> (<em>Tinospora cordifolia</em> (Willd.) Miers) svarasa</td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kūṣmāṇḍa</em> (<em>Benincasa hispida</em>) svarasa</td>
<td>5-10 ml</td>
<td>Sugar</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Śaṅkhapuṣṭī</em> (<em>Convolvulus pleuricaulis</em> Choisy) kalka</td>
<td>2-4 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
**COMPOUND FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Brāhmi vaṭī</em></td>
<td>250-500 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Mānasa mitra vaṭaka</em></td>
<td>125 mg</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Mahākalyāṇaka gṛṛta</em></td>
<td>6 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Brāhmi ḍhaṛta</em></td>
<td>6-12 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kalyāṇa ḍhaṛta</em></td>
<td>6 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Sārasvatāriṣṭa</em></td>
<td>10-20ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Aśvagandhāriṣṭa</em></td>
<td>10-20ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Brāhma rasāyana</em></td>
<td>10 gm thrice daily</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Candanādi taila</em></td>
<td>for śirodhārā/ śirovasti</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Himasāgara taila</em></td>
<td>for śirodhārā/ śirovasti</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Nārāyaṇa taila</em></td>
<td>for śirodhārā/ śirovasti</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Brāhmī taila</em></td>
<td>for head massage</td>
<td>-</td>
<td>15 days</td>
</tr>
</tbody>
</table>

$^5$MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician’s direction

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

**c. Yogic Practices:** The following yogic practices are beneficial in Depression; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.
1. *Padmāsana, Śavāsana, Sūryanamaskāra, Bhujaṅgāsana, Pascimottānāsana, Sarvāṅgāsana*

2. *Prāṇāyāma (Kapālabhāti, Bhastrīkā, Sūrya anuloma viloma)*

3. Meditation, etc.

Following sequence is to be followed

1. *Sūkṣma vyāyāma* (loosening exercise)
2. Āsanā
3. *Prāṇāyāma*
4. Deep relaxation technique
5. Meditation - *Nāda anusandhāna*

**Counselling** - Advice the patient to

1. Spend time with loved one
2. Take diet rich in antioxidants
3. Take green vegetables and yellow fruit (Vitamin $B_1$, $B_2$, $B_12$ and Biotin) in sufficient quantity
4. Take low fat diet
5. Practice yoga, meditation and exercise regularly
6. Be active and happy always
7. Participate in *satsānga* (association with virtuous people)
8. Visit of religious places
9. Avoid driving lonely

**Indications for referral**

1. Suicidal tendency
2. Complicated cases
3. Non-responsive to medication
# COSTING DETAILS

**Approx. Costing of Depression Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>150</td>
<td>gm</td>
<td>0.48</td>
<td>72</td>
</tr>
<tr>
<td>2.</td>
<td>Jaṭāmāṇisī cūrṇa</td>
<td>15 - 30</td>
<td>gm</td>
<td>1.0</td>
<td>15 - 30</td>
</tr>
<tr>
<td>3.</td>
<td>Kapikacchu cūrṇa</td>
<td>60-120</td>
<td>gm</td>
<td>1.0</td>
<td>60-120</td>
</tr>
<tr>
<td>4.</td>
<td>Brāhmi svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>5.</td>
<td>Maṇḍūkaparnā svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>6.</td>
<td>Guḍucī svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>7.</td>
<td>Śaṅkhapuṣpī kalka</td>
<td>60-120</td>
<td>gm</td>
<td>0.75</td>
<td>45-90</td>
</tr>
<tr>
<td>8.</td>
<td>Tagara cūrṇa</td>
<td>60-120</td>
<td>gm</td>
<td>1.2</td>
<td>72-144</td>
</tr>
<tr>
<td>9.</td>
<td>Kūśmāṇḍa svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.1</td>
<td>15-30</td>
</tr>
<tr>
<td>10.</td>
<td>Mānasā mitra vaṭāka</td>
<td>3.75</td>
<td>gm</td>
<td>5.73</td>
<td>22</td>
</tr>
<tr>
<td>11.</td>
<td>Brāhmi vaṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>4.4</td>
<td>33-66</td>
</tr>
<tr>
<td>12.</td>
<td>Kalyāṇa ghṛta</td>
<td>180</td>
<td>gm</td>
<td>0.46</td>
<td>83</td>
</tr>
<tr>
<td>13.</td>
<td>Mahākalyāṇaka ghṛta</td>
<td>180</td>
<td>gm</td>
<td>0.67</td>
<td>121</td>
</tr>
<tr>
<td>14.</td>
<td>Brāhmi ghṛta</td>
<td>180-360</td>
<td>gm</td>
<td>0.45</td>
<td>81-162</td>
</tr>
<tr>
<td>15.</td>
<td>Sārasvatāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.28</td>
<td>84-168</td>
</tr>
<tr>
<td>16.</td>
<td>Aśvagandhāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.152</td>
<td>46-92</td>
</tr>
<tr>
<td>17.</td>
<td>Brāhma rasāyana</td>
<td>450</td>
<td>gm</td>
<td>0.197</td>
<td>89</td>
</tr>
<tr>
<td>18.</td>
<td>Candanādi taila (for śirodhārā/ śirovasti)</td>
<td>1200-1500</td>
<td>ml</td>
<td>0.32</td>
<td>384-480</td>
</tr>
<tr>
<td>19.</td>
<td>Himasāgara taila (for śirodhārā/ śirovasti)</td>
<td>1200-1500</td>
<td>ml</td>
<td>0.55</td>
<td>660-825</td>
</tr>
<tr>
<td>20.</td>
<td>Nārāyana taila (for śirodhārā/ śirovasti)</td>
<td>1200-1500</td>
<td>ml</td>
<td>0.51</td>
<td>612-765</td>
</tr>
</tbody>
</table>
Approx. costing of Paṅcakarma procedures in Depression **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Paṅcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nasya karma</td>
<td>7</td>
<td>100</td>
<td>700</td>
</tr>
<tr>
<td>2.</td>
<td>Śirovasti</td>
<td>7</td>
<td>300</td>
<td>2100</td>
</tr>
<tr>
<td>3.</td>
<td>Śirodhārā (with taila)</td>
<td>14-21</td>
<td>300</td>
<td>4200-6300</td>
</tr>
<tr>
<td>4.</td>
<td>Śirodhārā (with milk)</td>
<td>14-21</td>
<td>150</td>
<td>2100-3150</td>
</tr>
<tr>
<td>5.</td>
<td>Jala dhāra</td>
<td>14</td>
<td>150</td>
<td>2100</td>
</tr>
<tr>
<td>6.</td>
<td>Takra dhāra</td>
<td>7-14</td>
<td>150</td>
<td>1050-2100</td>
</tr>
</tbody>
</table>

2.3.3 Insomnia (Anidrā or Nidrānāśa)

Introduction

Insomnia is the perception or complaint of inadequate or poor quality of sleep because of difficulty in falling asleep, difficulty in maintaining sleep or waking too early in the morning. It is the most common sleep disorder in elderly. Chronic Insomnia can lead to severe fatigue, anxiety, depression and lack of concentration. Insomnia can be classified in terms of its duration. It comes under Vāta nānātmaja vikāra and called Anidrā or Nidrānāśa in Ayurveda.

This sleep disorder is 1.5 times more common in persons aged more than 65 years compared to younger counterparts and incidence in women is 1.3 times greater than in men. The prevalence of Insomnia increases steadily with age and reported by up to one in 3 people aged 65 years and above

1. **Transient Insomnia** - lasting from a night to a week and is usually caused by events that alter normal sleep patterns, such as traveling or sleeping in an unusual environment.

2. **Short term Insomnia** - lasts about two to three weeks and is usually attributed to emotional factors such as worry or stress.

3. **Chronic Insomnia** - occurs most nights and lasts a month or more.
**Aetiology**

Insomnia is occasionally a symptom of an underlying medical or psychological condition but it may be caused by stress or lifestyle changes. About half of Insomnia cases have no identifiable cause. Some conditions or situations that commonly lead to Insomnia include:

1. Substance abuse; such as smoking, excessive consumption of caffeine, alcohol and recreational drugs
2. Disruption of circadian rhythms; such as shift work, change in work schedule
3. Uncomfortable and unusual sleeping environment
4. Psychiatric and neurological conditions; such as depression, manic depressive disorder, restless leg syndrome (RLS), post traumatic stress disorder
5. Biological factors - By advancement of ageing, the internal biological 'clock' that regulate sleep creeps slightly forward, compelling most older people to go to sleep earlier and to wake earlier. Also less physical and social activities and change in health may cause insomnia in elderly
6. Sleep disordered breathing - sleep apnea
7. Chronic medical illness - such as congestive heart failure, chronic obstructive pulmonary disease, heart burn, prostatic problems, menopause, diabetes, arthritis and hyperthyroidism
8. Certain medications - decongestants, bronchodilators and beta blockers and long term use of sleep medication
9. Excessive computer work or watching T.V.

**Pathogenesis**

Sleep disorders are associated with an impairment of melatonin production. Melatonin produced by the pineal gland at night, plays a role in regulation of sleep-wake cycle and diminished-melatonin secretion may cause insomnia.

**Clinical features**

Common symptoms of insomnia include

1. Not feeling refreshed
2. Inability to sleep despite being tired
3. Day time drowsiness, irritability, difficulty in concentrating
4. Impaired ability to perform normal activities
5. Body-ache and heaviness of the body

Complications

1. Depression
2. Anxiety disorder
3. Fatal accident
4. Increase in severity of chronic diseases such as high blood pressure and diabetes

Investigations

1. Polysomnography
2. Evaluation for depression and anxiety
3. Multiple sleep latency test (MSLT)
4. Thyroid function test
5. EEG

Management approaches

a. Prevention

1. Use of madhura rasa (sweet in taste) pradhāna āhāra and warm buffalo milk before bed time
2. Maintain active life mentally and physically
3. Practice yoga and meditation
4. Practice of śiroabhyāga and pādabhyāga (massage of scalp and plantar region).
5. Avoid excessive consumption of coffee, tea, soft drinks, alcohol and smoking
6. Avoid incompatible, indigestible, hot, spicy food articles
7. Avoid heavy meal and stress at night
8. Correction of hypertension and diabetes mellitus and urological problems, if any
b. Medical management

Line of treatment

1. **Nidāna parivarjana** *(avoidance of aetiological factors)* - before starting medication for insomnia any psychiatric, neurological condition and chronic medical illness should be treated first and smoking, excessive consumption of caffeine, alcohol, excessive computer work or T.V. watching should be avoided.

2. **Pañcakarma procedures** followed by *Śamana cikitsā* *(Palliative therapy)* should be advocated.
   
   i. *Virecana* *(Purgation)* with *Eraṇḍa taila* 10 - 20 ml with half glass of milk at night
   
   ii. *Abhyaṅga* *(body massage)*, *Pādābhyaṅga* *(foot massage)*, *Śīroabhyaṅga* *(head massage)* with medicated oils.
   
   iii. *Śūrodhārā* with medicated liquids *(milk/ water/ oils *(Nārāyaṇa taila)* daily 45-90 minutes for 21 days
   
   iv. Picu with *Kṣīrabalā* taila/ Himasāgara taila
   
   v. *Takra dhārā* daily 45 minutes for 14 days

3. Drug therapy

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA(^\text{S})/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aśvagandhā</em> <em>(Withania somniferà</em> Dunal) <em>cūṛṇa</em></td>
<td>3 gm</td>
<td>Sugar and ghṛta before meal</td>
<td>7 days</td>
</tr>
<tr>
<td><em>Jaṭāmānsī</em> <em>(Nardostachys jatamamasi</em> DC.) <em>cūṛṇa</em></td>
<td>500 mg - 1 gm</td>
<td>Milk after meal</td>
<td>7 days</td>
</tr>
<tr>
<td><em>Brāhmī</em> <em>(Bacopa monnieri</em> Linn.) <em>cūṛṇa / svarasa</em></td>
<td>1-2 gm/ 10 ml</td>
<td>Milk/ sugar</td>
<td>7 days</td>
</tr>
<tr>
<td><em>Maṇḍūkapaṇṇī</em> <em>(Centella asiatica</em> (Linn.) Urban.) <em>cūṛṇa / svarasa</em></td>
<td>1-2 gm/ 10 ml</td>
<td>Milk/ sugar</td>
<td>7 days</td>
</tr>
</tbody>
</table>
COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māṃsyādi kvātha</td>
<td>15-20 ml</td>
<td>Water</td>
<td>7 days</td>
</tr>
<tr>
<td>Brāhmi vaṭī</td>
<td>125-250 mg</td>
<td>Honey</td>
<td>7 days</td>
</tr>
<tr>
<td>Sarpagandhādi vaṭī</td>
<td>125 mg</td>
<td>Milk</td>
<td>7 days</td>
</tr>
<tr>
<td>Mānasa mitra vaṭaka</td>
<td>125 mg</td>
<td>Milk</td>
<td>7 days</td>
</tr>
<tr>
<td>Mahākalyāṇaka ghṛta</td>
<td>6 gm</td>
<td>Warm milk/warm water</td>
<td>7 days</td>
</tr>
<tr>
<td>Nārāyaṇa taila</td>
<td>for śirodhāra</td>
<td>-</td>
<td>21 days</td>
</tr>
<tr>
<td>Himasāgara taila</td>
<td>for śirodhāra</td>
<td>-</td>
<td>7 days</td>
</tr>
<tr>
<td>Kṣīrabalā taila</td>
<td>for picu</td>
<td>-</td>
<td>14 days</td>
</tr>
</tbody>
</table>

5 MOA - Mode of administration
*Initially 2 times in a day after meal for 7 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Jaṭāmāṇṣī (Nardostachys jatamamasi)² has shown improvement in Insomnia.

C. Yogic Practices - The following yogic practices are beneficial in Insomnia; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Practice of Prānāyāma (Candra anuloma viloma, Ujjāi, Bhrāmarī, Cooling prānāyāma) and meditation along with the practice of Yama and Niyama

2. Śūryanamaskāra, Tāḍāsana, Matsyāsana, Maṇḍūkāsana, Bhujaṅgāsana, Padmāsana, Pascimottānāsana and Śavāsana

3. Deep relaxation techniques, Yoga Nidrā

Counselling - advice the patient to

1. Drink warm milk before going to bed
2. Do some light physical activities before going to bed
3. Take warm bath before bedtime
4. Sleep on comfortable bed
5. Use the bed and bedroom only for sleep (it should not be used for watching TV and reading)
6. Maintain a regular sleep/wake up schedule
7. Practice yoga and meditation
8. Leave the bed if unable to fall asleep
9. Avoid stressful conditions
10. Avoid heavy meals at bed time
11. Avoid consumption of coffee, tea, soft drinks, alcohol and smoking
12. Avoid irregular sleep habits and nap during the day
13. Avoid watching TV at bed time

**Indications for referral**

1. Not responding to medication
2. Further deterioration in spite of medication
3. Insomnia associated with complications should be referred

**COSTING DETAILS**

**Approx. costing of Insomnia Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>42</td>
<td>gm</td>
<td>0.48</td>
<td>21</td>
</tr>
<tr>
<td>2.</td>
<td>Jaṭāmāṁśī cūrṇa</td>
<td>15-30</td>
<td>gm</td>
<td>1.0</td>
<td>15-30</td>
</tr>
<tr>
<td>3.</td>
<td>Brāhmaṁī cūrṇa</td>
<td>15-30</td>
<td>gm</td>
<td>0.75</td>
<td>12-24</td>
</tr>
<tr>
<td>4.</td>
<td>Maṇḍūkaparnī svaraṣa</td>
<td>15-30</td>
<td>gm</td>
<td>0.75</td>
<td>12-24</td>
</tr>
<tr>
<td>5.</td>
<td>Māṁsyādī kvātha</td>
<td>210-420</td>
<td>ml</td>
<td>0.45</td>
<td>95-190</td>
</tr>
<tr>
<td>6.</td>
<td>Brāhmaṁī vaṭī</td>
<td>1.75-3.5</td>
<td>gm</td>
<td>4.4</td>
<td>7.7-1.54</td>
</tr>
</tbody>
</table>
Approx. costing of Pañcakarma procedure in Insomnia **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abhyaṅga (body massage)</td>
<td>15</td>
<td>200</td>
<td>3000</td>
</tr>
<tr>
<td>2.</td>
<td>Śirodhārā (with taila)</td>
<td>21</td>
<td>300</td>
<td>6300</td>
</tr>
<tr>
<td>3.</td>
<td>Śirodhārā (with milk)</td>
<td>21</td>
<td>150</td>
<td>3150</td>
</tr>
<tr>
<td>4.</td>
<td>Takra dhārā</td>
<td>14</td>
<td>150</td>
<td>2100</td>
</tr>
<tr>
<td>5.</td>
<td>Picu</td>
<td>14</td>
<td>100</td>
<td>1400</td>
</tr>
</tbody>
</table>

2.3.4 Dementia (Smṛti nāśa)

Introduction

Dementia is characterized by progressive loss of memory and other cognitive domains, affecting an individual's ability to maintain normal social or occupational function\(^\text{13}\). It is far more common in the geriatric population. In dementia, higher mental functions are affected first in the process. In later stages, affected persons may be disoriented in time, place and person. Dementia is not a normal part of ageing. It affects about 5\% of people aged over 65 and 20 percent to those over 80. All statistics show a sharp rise in the prevalence of dementia with age. Between 1990 and 2010 the number of dementia cases in the developed countries will project to increase from 7.4 million to 10.2 million\(^\text{14}\). This predicted data shows that it affects the individual as well as economy of the country.
**Aetiology**

Common causes of dementia are

1. Degenerative disorder such as Alzheimer's disease, Parkinson disease
2. Vascular disease (Multi infarct dementia)
3. Traumatic brain injury
4. Metabolic and endocrine disorder (Hypothyroidism, Renal failure)
5. Brain tumor
6. Vitamin B deficiency
7. Drug or alcohol abuse, medication or exposure to toxic substances
8. Infectious diseases: AIDS, Syphilis, etc.

**Pathogenesis**

Impairment of the cholinergic system in the brain particularly those areas involved in learning and memory, decrease in level of choline acetyltransferase and degeneration of cholinergic neurons in basal forebrain leads to decrease production of acetylcholine and other neurotransmitters (involved in cognitive dysfunction) resulting in dementia.

**Risk factors**

1. Increasing age
2. Female gender
3. Genetic factors
4. Head trauma
5. Toxins
6. Diabetes mellitus

**Clinical features**

1. Memory impairment
2. Difficulty in conversation
3. Motor skills impairment (Balance and walking)
4. Impaired ability to recognize objects
5. Inability to think
6. Depression and suicidal behaviour
7. Anxiety, mood and sleep problems
8. Hallucinations

Investigations

1. Complete neurological examination
2. Mini mental status examination
3. Abbreviated mental test score
4. Clock drawing test
5. Thyroid function test
6. Serum Vit B\(_{12}\)
7. Serum electrolytes
8. Kidney function test
9. Liver function test
10. CT scan (may suggest normal pressure hydrocephalus) or MRI of the brain
11. SPECT - To differentiate the vascular cause from the Alzheimer's disease cause dementia appears to be superior to differentiation by clinical exam

Management approaches

a. Prevention

1. Use of śāli variety of rice, mudga (phaseolus bean), dhāroṣṭa godugdha (freshly milked cow's milk), leaves of brāhmi (indian pennywort), taṇḍulīya (a variety of amaranth) and vāstuka (a variety of chenopodium), leaf and fruit of paṭola (a variety of small cucumber), fruit of kūśmāṇḍa (a variety of pumpkin gourd) and drākṣa (grape fruit)
2. Use of green vegetables and yellow fruits (apple, papaya, guava, mango, banana etc.)
3. To live an active life mentally and physically
4. Consume low fat and rich antioxidant diet
5. Correction of hypertension and diabetes mellitus
6. Avoid incompatible and hot spicy food articles
7. Avoid suppression of natural urges like sleep, hunger and thirst

b. Medical management

Line of treatment

1. *Nidāna parivarjana* (avoidance of aetiological factors) - Exposure to toxic substances, excessive consumption of alcohol should be avoided and metabolic, endocrine disorder and vascular diseases, if any should be managed first.

2. *Saṃśodhana cikitsā* (Bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
   i. *Snehāpāna* - *Kalyāṇaka ghṛta* 50 ml with 2 gm *saindha lañha* for 3 - 7 days (for *Sadya sneha*)
   ii. *Virecana* (Purgation) with *Erañḍa taila* 10-20 ml with half glass of milk at night
   iii. *Nasya karma/ Brṛṃhaṇa nasya* with *Purāṇa ghṛta* (old ghee) 8-8 drops in both nostrils for 7 days
   iv. *Śiro vasti* with *Naṛāyaṇa taila* daily 45 min for 7 days
   v. *Takra dhārā* daily 45 minutes for 7 days
   vi. *Śirodhārā* with medicated oils (*Candanādi taila/ Himasāgara taila*) / cold milk daily 30-90 min for 7-14 days
   vii. *Śiro abhyanga* (head massage) with medicated oils (*Brāhmī taila*) etc.

   Duration of the process depending upon nature of the illness and physical condition of the patient.

3. **Drug therapy**
### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aśvagandhā</em> (<em>Withania somnifera</em> Dunal) <em>cūrṇa</em></td>
<td>3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Jaṭāmāṇiśī</em> (<em>Nardostachys jatamansi</em> DC.)* cūrṇa*</td>
<td>1-2 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Vacā</em> (<em>Acorus calamus</em> Linn.*) <em>cūrṇa</em></td>
<td>250-500 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Brāhmī</em> (<em>Bacopa monnieri</em> Linn.) <em>svarasa</em></td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Maṇḍūkaparnī</em> (<em>Centella asiatica</em> (Linn.) Urban.) <em>svarasa</em></td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Guḍūcī</em> (<em>Tinospora cordifolia</em> (Willd) Miers) <em>svarasa</em></td>
<td>5-10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Śaṅkhāpusṭī</em> (<em>Convolvulus pleuricaulis</em> Choisy) <em>kalka</em></td>
<td>2-4 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Tagara</em> (<em>Valeriana wallichii</em> DC.) <em>cūrṇa</em></td>
<td>2-4 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Brāhmī vaṭī</em></td>
<td>250-500 mg</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Śivā guṭikā</em></td>
<td>6 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Cyavanaprāśāvaleha</em></td>
<td>15-30 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Sarpagandhādi vaṭī</em></td>
<td>250 mg</td>
<td>Butter Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Mānasā mitra vaṭaka</em></td>
<td>125 mg</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kalyāṇa ghṛta</em></td>
<td>6 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Brāhmī (Bacopa monnieri)\(^5\) has shown improvement in senile dementia.

### c. Yogic Practices

The following yogic practices are beneficial in Dementia; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Śavāsana, Viparīta karaṇī, Sarvāṅgāsana, Matsyāsana
2. Practice of Prāṇāyāma (Anuloma viloma, Kapālabhāti, Bhastrīkā, Ujjāī, Bhrāmarī)
3. Meditation - Nādi anusandhāna, Bhrūmadhyā drṣṭī, Nāsikāgra drṣṭī, Trāṭaka

### Counselling

- Advice the patient to
  1. Take diet rich in antioxidants, calcium, magnesium and zinc
  2. Take vitamin B\(_1\), B\(_2\), B\(_12\) and biotin in sufficient quantity

<table>
<thead>
<tr>
<th><strong>Medicines</strong></th>
<th><strong>Dosage</strong></th>
<th><strong>Mode of Administration</strong></th>
<th><strong>Duration</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahākalyāṇaka ghṛta</td>
<td>6 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī ghūta</td>
<td>6-12 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Sārasvatāriṣṭa</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Aśvagandhāriṣṭa</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kumāryāsava</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhma rasāyana</td>
<td>10 gm thrice daily</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Candanādi taila</td>
<td>for Śirodhārā/Śirovasti</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Hīmasāgara taila</td>
<td>for Śirodhārā/Śirovasti</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī taila</td>
<td>for head massage</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Nārāyaṇa taila</td>
<td>for Śirovasti</td>
<td></td>
<td>15 days</td>
</tr>
</tbody>
</table>

\(^5\) MOA - Mode of administration
3. Add ginger and haridrā (curcuma longa Linn.) powder in diet
4. Practice yoga, meditation and exercise regularly
5. Take low fat diet
6. Be active and happy always
7. Avoid driving lonely
   In addition, reassurance may also be beneficial in dementia patients.

**Indications for referral**

1. Complete dementia
2. Hydrocephalic dementia+

**COSTING DETAILS**

**Approximate Costing of Dementia Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagandhā cūrṇa</td>
<td>150</td>
<td>gm</td>
<td>0.48</td>
<td>72</td>
</tr>
<tr>
<td>2.</td>
<td>Jaṭāmāṃśī cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>1.0</td>
<td>30-60</td>
</tr>
<tr>
<td>3.</td>
<td>Vācā cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>1.0</td>
<td>30-60</td>
</tr>
<tr>
<td>4.</td>
<td>Brāhmī svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>5.</td>
<td>Mandūkarparnī svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>6.</td>
<td>Guḍucī svarasa</td>
<td>150-300</td>
<td>ml</td>
<td>0.75</td>
<td>112.5-225</td>
</tr>
<tr>
<td>7.</td>
<td>Śaṅkhasūpī kalka</td>
<td>60-120</td>
<td>gm</td>
<td>0.75</td>
<td>45-90</td>
</tr>
<tr>
<td>8.</td>
<td>Tagara cūrṇa</td>
<td>60-120</td>
<td>gm</td>
<td>1.2</td>
<td>72-144</td>
</tr>
<tr>
<td>9.</td>
<td>Brāhmī vaṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>4.4</td>
<td>33-66</td>
</tr>
<tr>
<td>10.</td>
<td>Sarpagandhādī vaṭī</td>
<td>3.75</td>
<td>gm</td>
<td>5.2</td>
<td>19.5</td>
</tr>
<tr>
<td>11.</td>
<td>Mānasa mitra vaṭaka</td>
<td>3.75</td>
<td>gm</td>
<td>5.73</td>
<td>22</td>
</tr>
<tr>
<td>12.</td>
<td>Śivā guṭikā</td>
<td>1080</td>
<td>gm</td>
<td>4.4</td>
<td>2376</td>
</tr>
<tr>
<td>S.No.</td>
<td>Pañcakarma procedure</td>
<td>Days</td>
<td>Rate in Rs./ day</td>
<td>Cost in Rs.</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------</td>
<td>------</td>
<td>------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Nasya karma</td>
<td>7</td>
<td>100</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Śiro vasti</td>
<td>7</td>
<td>300</td>
<td>2100</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Śirodhārā (with taila)</td>
<td>7</td>
<td>300</td>
<td>2100</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Śirodhārā (with milk)</td>
<td>7</td>
<td>150</td>
<td>1050</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Takra dhārā</td>
<td>7</td>
<td>150</td>
<td>1050</td>
<td></td>
</tr>
</tbody>
</table>
2.4 CARDIO-VASCULAR DISORDERS (PREVENTIVE CARDIOLOGY)

2.4.1 Hypertension (Vyānabala vaiśamya)

Introduction

Hypertension is a medical condition in which the blood pressure is chronically elevated. It is considered to be present when a person's systolic blood pressure is consistently 140 mm Hg or higher, and/or their diastolic blood pressure is consistently 90 mm Hg or higher. Various epidemiologic studies had consistently demonstrated that increasing levels of systolic BP correlate directly with the risk of developing cardiovascular events and mortality. In the elderly, systolic blood pressure becomes a stronger predictor of risk than diastolic blood pressure or other standard risk factors besides age. Based on WHO definition the incidence of hypertension in urban population is around 40% and rural around 18%. High blood pressure is dangerous because it makes the heart work harder to pump blood to the body and it contributes to hardening of the arteries or atherosclerosis. However, there is no doubt that this disease must have been existed in the past as well, though may not in the same form, incidence and severity. The change in social and economic conditions, life style, dietary habits and an increasing stress and strain in earning the livelihood have increased the prevalence of this disease. Though a suitable term for the disease condition hypertension is not directly mentioned in the Ayurvedic classics, its symptomatology can be found in the chapters of vāta vyādhī, prameha, ḥṛdroga, etc. A disease condition vyānabala vaiśamya, which can be correlated with hypertension, seems to be resulted from the vaiśamya / viktī of vyānavāyu. Vaiśamya is of two types i.e. vṛddhi or kṣaya. Hypertension comes under vṛddhi type of vaiśamya.

Types of Hypertension

- **Primary or essential hypertension** - The hypertension is of unknown origin.
• **Secondary hypertension** - Hypertension with an identifiable cause secondary to another disease such as renal disease or tumor.

• **Isolated systolic hypertension** - Most common in elderly patients due to reduced vascular compliance, systolic B.P > 160 mm of Hg with Diastolic pressure < 90 mm of Hg.

• **Neurogenic hypertension** - It can be caused by strong stimulation of sympathetic nervous system. (e.g. when a person becomes excited for any reason or state of anxiety).

### Classification of Hypertension (Clinical Geriatrics - 3, IGNOU)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Systolic B.P.</th>
<th>Diastolic B.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal B.P.</td>
<td>&lt; 120</td>
<td>&lt; 80</td>
</tr>
<tr>
<td>Normal B.P.</td>
<td>&lt; 130</td>
<td>&lt; 85</td>
</tr>
<tr>
<td>High normal</td>
<td>130-139</td>
<td>85-89</td>
</tr>
<tr>
<td>Stage 1 Hypertension</td>
<td>140-159</td>
<td>90-99</td>
</tr>
<tr>
<td>Stage 2 Hypertension</td>
<td>160-179</td>
<td>100-109</td>
</tr>
<tr>
<td>Stage 3 Hypertension</td>
<td>180</td>
<td>&gt; 110</td>
</tr>
</tbody>
</table>

### Aetiology

1. Hereditary
2. Excess salt intake
3. Sleep apnea
4. Secondary to disease (e.g. polycystic kidney disease or chronic glomerulonephritis, adrenal disease, cushing's syndrome and coarctation of aorta etc.)
5. Certain medication (e.g. NSAIDS, steroids, throat lozenges and peptic ulcer medicines)

### Pathogenesis

Hypertension is not a simple physiological feature of ageing. Blood pressure tends to be normal or even low in the aged population. Development of Hypertension more depends on environmental factors, rather than simple ageing. Pathophysiological mechanism includes an
increase in peripheral vascular resistance, secondary to arteriolar smooth muscle vasoconstriction with the lower plasma renin activity and low aldosterone levels.

**Risk factors**

1. Child of Hypertensive parents
2. Obese person
3. Age > 45 years
4. Gender (men and postmenopausal women)
5. Diabetes mellitus, dyslipidaemia
6. Physical inactivity
7. Smoking, alcoholism

**Clinical features**

Hypertension is usually found incidentally by healthcare professionals during a routine checkup, usually produces no symptoms although there may be

1. Headache
2. Fatigue
3. Dizziness
4. Transient insomnia
5. Difficulty in sleeping due to feeling of hot or flushed
6. Tinnitus

**Complications**

While elevated blood pressure alone is not an illness, it often requires treatment due to the following short and long term effects like:

1. Cerebrovascular accidents (CVA) or strokes
2. Myocardial infarction
3. Hypertensive cardiomyopathy (heart failure)
4. Hypertensive retinopathy, nephropathy and encephalopathy
5. Congestion in the lungs
6. Left ventricular hypertrophy
7. Epistaxis
8. Blurring of vision owing to retinal changes
9. Impotence
10. Angina pectoris

**Investigations**

1. 24 hour ambulatory blood pressure monitoring
2. Urine for protein, blood and glucose
3. Serum electrolytes
4. Serum creatinine
5. Renal function test
6. Blood sugar fasting
7. Lipid profile
8. Electro cardiogram (ECG)
9. Chest X Ray (PA view)

**Management approaches**

**a. Prevention**

1. Consume plenty of fruits and vegetables such as apple, banana, blackberry, broccoli, cabbage, carrot, garlic, grape fruit, green leafy vegetable, onion, pea, tomato etc.
2. Consume preferably vegetarian, low fat, low calory diet rich in whole grain, high fibre and nuts
3. Use of garlic and onion in regular diet
4. Practice physical exercises such as brisk walking daily for 30 - 45 minutes
5. Weight reduction (in obese)
6. Limit use of salt (<5 gm/ day), fats and sweets
7. Avoid day sleep, anger, anxiety, hyper activity, over exertion
8. Avoid use of caffeine, alcohol and tobacco

b. Medical management

Line of treatment (Ca. Ci.28/92)

1. *Nidāna parivarjana* (avoidance of aetiological factors) - According to Ayurveda, avoidance of the causative factor is the first line of treatment for all diseases. Excess intakes of salt and fatty substance should be avoided and certain medicines such as NSAIDS, steroids, cough syrups etc. are also to be taken carefully.

2. *Samśōdhana cikitsā* (Bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
   i. *Lekhana Vasti* 350-500 ml for 8 days.
   ii. *Virecana karma* (Purgation) with *Eraṇḍa taila* 15 - 30 ml with half glass of milk at night
   iii. *Śirodhārā* with medicated liquids (milk/ water/ oils (*Nārāyaṇa taila*) daily 45-90 minutes for 21 days
   iv. *Takra dhārā* daily 45 minutes for 14 days

*It should be decided by physician according to the condition of the patient whether śōdhana therapy is beneficial or not.

3. Drug Therapy

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Sarpagandhā (Rauwolfia serpentiana Benth ex. Kurz.) cūrṇa</em></td>
<td>1 -3 gm</td>
<td>water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Aśvagandhā (Withania somnifera Dunal) cūrṇa</em></td>
<td>3-6 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Jaṭāmāṇṣī (Nardostachys jatamamasi DC.) cūrṇa</em></td>
<td>1-3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
**COMPONUD FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/Vehicle</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māṃsyādi kvātha</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Sarpagandhā ghanā vaṭī</td>
<td>125-250 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Brāhmī vaṭī</td>
<td>125-250 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Prabhākara vaṭī</td>
<td>125-250 mg</td>
<td>Water/Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Arjunāriṣṭa</td>
<td>10-15 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Abhayāriṣṭa</td>
<td>10-15 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Pravāla piṣṭī</td>
<td>250-500 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Śveta parpatī</td>
<td>125-250 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Nāgārjunābhra rasa</td>
<td>125-250 mg</td>
<td>Water/Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Hṛdayārnava rasa</td>
<td>125-250 mg</td>
<td>Honey/Triphalā kvātha</td>
<td>15 days</td>
</tr>
</tbody>
</table>

MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Lekhana Vasti* (medicated enema)\(^7\), *Arjuna (Terminalia arjuna W. and A.)*\(^8\), *Arjunavacādi yoga*\(^9\) have shown improvement in the hypertensive patients.
c. **Other practices**- Complementary or alternative therapies those help to reduce stress and improve quality of life may have some effect on blood pressure.

**Yoga**- The following *yogic* practices are beneficial in hypertension; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Breathing exercises (hand stretch breathing, hand in and out breathing)
2. *Śavāsana, Vajrāsana, Bhujāṅgāsana, Vakrāsana, Gomukhāsana, Pavanmuktāsana, Katicakrāsana, Ardhakaṭi cakrāsana, Taḍāsana*, etc.
3. Practice of *Prāṇāyāma* (*Candra anuloma viloma, Nāḍīṣodhana, Ujjāi, Bhrāmarī*)

**Counselling** - Advice the patient to

1. Regular blood pressure monitoring
2. Maintain healthy weight
3. Practice regular aerobic exercises (e.g. brisk walk, jogging, weight lifting etc.)
4. Increase intake of potassium, calcium and magnesium in diet
5. Relax mind and body by *yoga*, meditation and other methods
6. Consume plenty of fruits and vegetables such as apple, banana, broccoli, cabbage, carrot, garlic, grape, green leafy vegetables, onion, pea, tomato etc.
7. Use anti-inflammatory medicines wisely
8. Avoid cheese, animal fat, aged / stored meat, chocolate, cream, wine and yogurt and artificial sweetner
9. Avoid the use of antihistamines except under a physician’s direction
10. Restrict use of sugar and salt in diet
11. Discontinue tobacco and alcohol in any form

**Indications for referral**

Refer the patient in following conditions

1. Refractory hypertension - suboptimal control of blood pressure in spite of appropriate therapy
2. Target organ damage
3. Secondary hypertension not responding to medication

**AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS**
## COSTING DETAILS

### APPROX .COSTING OF HYPERTENSION MANAGEMENT

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sarpagandha cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>0.75</td>
<td>23-68</td>
</tr>
<tr>
<td>2.</td>
<td>Aśvagandha cūrṇa</td>
<td>90-180</td>
<td>gm</td>
<td>0.48</td>
<td>43-86</td>
</tr>
<tr>
<td>3.</td>
<td>Jaṭāmāṃśī cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>1.0</td>
<td>30-90</td>
</tr>
<tr>
<td>4.</td>
<td>Arjuna tvaka cūrṇa</td>
<td>90-180</td>
<td>gm</td>
<td>1.0</td>
<td>90-180</td>
</tr>
<tr>
<td>5.</td>
<td>Arjuna kṣīrapāka</td>
<td>300-900</td>
<td>ml</td>
<td>0.50</td>
<td>150-300</td>
</tr>
<tr>
<td>6.</td>
<td>Rasona kṣīrapāka</td>
<td>300-900</td>
<td>ml</td>
<td>0.50</td>
<td>150-300</td>
</tr>
<tr>
<td>7.</td>
<td>Māṇsyādi kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.45</td>
<td>135-270</td>
</tr>
<tr>
<td>8.</td>
<td>Sarpagandha ghana vaṭī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>5.2</td>
<td>20-40</td>
</tr>
<tr>
<td>9.</td>
<td>Brāhmi vaṭī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>4.4</td>
<td>17-34</td>
</tr>
<tr>
<td>10.</td>
<td>Prabhākara vaṭī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>4.4</td>
<td>17-34</td>
</tr>
<tr>
<td>11.</td>
<td>Arjunāriṣṭa</td>
<td>300-450</td>
<td>ml</td>
<td>0.26</td>
<td>78-117</td>
</tr>
<tr>
<td>12.</td>
<td>Abhayāriṣṭa</td>
<td>300-450</td>
<td>ml</td>
<td>0.23</td>
<td>69-104</td>
</tr>
<tr>
<td>13.</td>
<td>Éraṇḍa taila</td>
<td>50</td>
<td>ml</td>
<td>0.40</td>
<td>20</td>
</tr>
<tr>
<td>14.</td>
<td>Pravāla piṣṭi</td>
<td>7.5-15</td>
<td>gm</td>
<td>4.0</td>
<td>30-60</td>
</tr>
<tr>
<td>15.</td>
<td>Śveta parpatī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>3.0</td>
<td>10-20</td>
</tr>
<tr>
<td>16.</td>
<td>Nāgārjunābhra rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>5.4</td>
<td>21-42</td>
</tr>
<tr>
<td>17.</td>
<td>Ḥṛdayārṇava rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>8.0</td>
<td>30-60</td>
</tr>
</tbody>
</table>

### Approx. costing of Pañcakarma procedure in hypertension **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lekhana Vasti</td>
<td>8</td>
<td>150</td>
<td>1200</td>
</tr>
<tr>
<td>2.</td>
<td>Śirodhārā (with milk)</td>
<td>14</td>
<td>150</td>
<td>2100</td>
</tr>
<tr>
<td>3.</td>
<td>Takra dhārā</td>
<td>14</td>
<td>150</td>
<td>2100</td>
</tr>
</tbody>
</table>
2.5 ENDOCRINE DISORDERS

2.5.1 Diabetes mellitus (*Madhumeha*)

**Introduction**

The metabolic deregulation in terms of increased plasma glucose levels (hyperglycemia) is called Diabetes mellitus. Reduced insulin production and decreased insulin sensitivity are the contributing factors for hyperglycemia. The term diabetes is derived from two greek words meaning 'to go through' in urine / honey like urine, similarly in Ayurveda a condition in which a person passes honey like (sweet) urine is called *Madhumeha*. It is one among 20 types of *Prameha* (urological disorder) described in various Ayurvedic classics i.e. *Caraka saṃhitā*, *Suṣruta saṃhitā*, *Aṣṭāṅga saṅgraha*, *Mādhava nidāna*, *Yoga ratnākara* etc.

*Ācāryās* have narrated that excess use of *guru* (heavy to digest), *snigdha* (unctous), *amla* and *lavaṇa rasa*, *navānna* (food prepared from newly harvested grains), new wine, *āsyā sukha* (sedentary life style), *atinidrā* (excess sleep), *avyāyāma* (lack of exercise), *acintā* (lack of mental exercise), obstain from *saṃśodhana* (purification) therapy are the causes of *Madhumeha*.

Chronic hyperglycemia is associated with significant long term sequelae particularly damage or dysfunction of various organs especially the kidneys, eyes, nerves, heart and blood vessels. Diabetes is the seventh-leading cause of death, and is on the rise, both in developed and developing countries. It is the single most important metabolic disease that affects nearly every organ/ system in the body. Today diabetes affects more than 135 million people worldwide and that number is expected to increase to 300 million by 2025. India has the largest number of Diabetes patient in the world. The data published by the International Diabetes Federation in the year 2006, the number of people with type 2 diabetes in India is around 40.9 million and this is expected to rise to 69.9 million by 2025. In India, about 10% elderly people aged 65 or more have diabetes.
The classification of diabetes is based on the etiology of diabetes

1. Type-I DM - Due to 'Beta' cell destruction, usually leading to absolute insulin deficiency.

2. Type-II DM - Due to variable degree of
   i. Insulin resistance
   ii. Impaired Insulin secretion
   iii. Glucose intolerance and insulin resistance increases with age.

3. Other specific types of Diabetes due to
   i. Impaired Beta cell function due to genetic defects
   ii. Impaired Insulin action due to genetic defects
   iii. Diseases of pancreas
   iv. Endocrinopathies
   v. Drugs (chemical induced)
   vi. Infections- congenital rubella, cytomegalovirus etc.

Risk factors

1. Family history
2. Obesity (BMI $\geq 27$ kg/ $m^2$)
3. Age $\geq 45$ years
4. Hypertension (B.P. $\geq 140/90$ mm of Hg)
5. HDL $\leq 35$ mg/ dl and/ or triglycerides levels $\geq 250$ mg/ dl
6. Habitual physical inactivity

Clinical features

1. Polyuria
2. Increased appetite (Polyphagia)
3. Excess thirst (polydypsia)
4. Turbidity in urine
5. Debility/ tiredness
6. Weight loss
7. Non-healing ulcer
8. Visual disturbances
9. Inflammation of glans penis

The presentation of symptoms in elderly patients with diabetes may be significantly different from the classic triad of polyuria, polydypsia, polyphagia and weight loss. They may present with fatigue, anorexia, failure to thrive, loss of motivation, difficulty in concentration and urinary incontinence.

**Complications**

In later stage of diabetes mellitus the following complications may appear

1. Burning sensation (neuropathy) over palmar and plantar region
2. Boils and carbuncles
3. Gangrene
4. General debility
5. Retinopathy
6. Renal tissue damage (nephropathy)
7. Cardiovascular diseases

**Investigations**

**Disease Specific**

i. Measurement of the plasma glucose level
   a. Random blood sugar (RBS)
   b. Fasting blood sugar (FBS)
   c. Post prandial blood sugar (PPBS)

ii. Urine routine and microscopic

iii. Glycosylated haemoglobin (HbA1c)

iv. Lipid Profile
Other related Investigations

i. Blood urea and serum creatinine
ii. E.C.G.
iii. Fundus examination
iv. Serum electrolytes

Diagnosis

The diagnosis will be made by the symptoms and on the basis of plasma glucose levels

1. Fasting plasma glucose $\geq$ 126 mg/dl after an overnight fasting (or)
2. Random plasma glucose $\geq$ 200 mg/dl (or)
3. Two hours prandial glucose $\geq$ 200 mg/dl

Management approaches

a. Prevention

1. Use of various preparations made from yava (barley), mudga (green gram), old rice, bitter gourd, drum-stick, methī, paṭola (snake gourd), pumpkin, cucumber, bimbī, watermelon, buttermilk, triphalā etc. are beneficial in diabetic patients
2. Dinacaryā (daily regimen) and Ṛtucaryā (seasonal regimen)
3. Practicing regular exercise/ increase calorie consuming activities (walking, swimming, etc.)
4. Regular use of rasāyana drugs (āmalaki rasāyana etc.)
5. Restrict sugar/ sugar products, fried food and dairy products
6. Restrict the use of different types of wine, excess use of oil, clarified butter, milk, sugarcane products, cakes and the flesh of domestic and aquatic animals
7. Avoid day sleep and laziness

b. Medical management

Line of treatment (Ca. Ci.6/ 15)

1. Nidāna parīvarjana (avoidance of aetiological factors) - tubers, sweets, dairy
products, soft drinks, fried foods and sweet fruits like mango, banana, custard apple and date must be restricted for a diabetic patient.

2. If patient is obese then *Sāṃśōdhana cikitsā* (bio-cleansing therapies) in the form of *vamana*, *virechana*, *vasti* are to be performed, but it should be decided by the physician that which procedure should be employed. If patient is lean and thin then only *Śamana cikitsā* (Palliative therapy) should be given.

3. **Drug therapy** - In *Ayurveda* most of the drugs indicated in diabetes mellitus may act on beta cell of pancreas thus improve insulin production/ increase the insulin sensitivity. The following drugs/ formulations are useful to control type II diabetes mellitus. In case of type I diabetes mellitus, these drugs/ formulations may be used as a supportive therapy in addition to conventional insulin therapy to prevent long term complications.

SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Āmalaki (Phyllanthus emblica Gartn.) cūrṇa</td>
<td>3 - 6 gm</td>
<td>Warm water</td>
<td>90 days</td>
</tr>
<tr>
<td>Haridrā (Curcuma longa Linn.) cūrṇa</td>
<td>1 - 3 gm</td>
<td>Luke warm water</td>
<td>90 days</td>
</tr>
<tr>
<td>Jambū (Syzygium cuminí (Linn.) Skeels) bīja cūrṇa</td>
<td>3 - 6 gm</td>
<td>Water</td>
<td>90 days</td>
</tr>
<tr>
<td>Meṣāśṛṅgī (Gymnema sylvestre R.Br.) cūrṇa</td>
<td>3 - 6 gm</td>
<td>Water</td>
<td>90 days</td>
</tr>
<tr>
<td>Methikā (Trigonella foenum-graecum Linn.) cūrṇa</td>
<td>3 - 6 gm</td>
<td>Water</td>
<td>90 days</td>
</tr>
<tr>
<td>Vijayasāra (Pterocarpus marsupium Roxb.) cūrṇa</td>
<td>3 - 6 gm</td>
<td>Water</td>
<td>90 days</td>
</tr>
</tbody>
</table>
## COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA(^5)/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Niśāmalakī cūrṇa</em></td>
<td>3 - 6 gm</td>
<td>Honey</td>
<td>90 days</td>
</tr>
<tr>
<td><em>Triphalā cūrṇa</em></td>
<td>3 - 6 gm.</td>
<td>Luke warm water/honey</td>
<td>90 days</td>
</tr>
<tr>
<td><em>Śivā guṭikā</em></td>
<td>6 gm</td>
<td>Water/milk</td>
<td>90 days</td>
</tr>
<tr>
<td><em>Chandraprabhā vaṭī</em></td>
<td>250-500 mg</td>
<td>Water</td>
<td>90 days</td>
</tr>
</tbody>
</table>

### *In case of associated complications*

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Dhānvantara ghṛta</em> (Diabetic carbuncles)</td>
<td>48 gm</td>
<td>Warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td><em>Kṣīra balādi taila</em> (Neuropathy)</td>
<td>6 gm (orally) also used for abhyanga</td>
<td>Milk/warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td><em>Saptāmṛta lauha</em> (Retinopathy)</td>
<td>250 mg</td>
<td>Milk/ghṛta</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td><em>Śilājatvādi vaṭī</em></td>
<td>250-500 mg</td>
<td>Asana kvātha</td>
<td>7 - 10 days</td>
</tr>
</tbody>
</table>

\(^5\) MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Vijayasāra (Pterocarpus marsupium)*\(^23\), *Ayush-82*\(^24\), *Bimbī (Coccinia indica)*\(^25\) have shown improvement in the diabetic patients.

c. **Yogic practices:** Lean diabetic patients may be advised to perform specific yoga positions that are believed to benefit them with the least physical stress. Certain postures are believed to stimulate the endocrine pancreas and improve its function. The following yogic practices are beneficial in diabetes mellitus; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Kaṭicakrāsana, Tāḍāsana, Pavanamuktāsana, Govumkhāsana, Śalabhāsana, Vakrāsana, Śasāngāsana, Dhanurāsana, Mayurāsana, Paścimottāṇāśana, Uṣṭrāsana* etc
2. *Bhastrikā, Bhrāmarī, Sūryabhedana prāṇāyāma*

3. *Kunjala, Śaṅkha prakṣālana, Vastra dhauti*

**Counselling** - Advice the patient to

1. Do physical activity at least for 30 - 60 minutes daily
2. Increase the use of barley, wheat, *mudga* and roasted *chanā* (bengal gram) in diet
3. Limit the use of potato, rice, milk, milk products and oily foods
4. Take utmost care of personal hygiene especially of feet and hand
5. Avoid any injury and immediately consult in case of injuries/ skin infections
6. Avoid tobacco and liquor consumption in any form
7. Restrict or stop intake of sweets
8. Regular monitoring of blood glucose level and medical checkup
   a. Glycosylated haemoglobin (HbA1c) test twice in a year
   b. Eye examination annually
   c. Foot examination twice in a year/ daily by the patient
   d. Renal function screening yearly
   e. Blood pressure quarterly
   f. Lipid profile annually
   g. Cardiac check up once annually

**Indications for referral:**

a. Renal failure, severe infections

b. Associated with complications (diabetic foot, coronary artery disease, diabetic nephropathy, diabetic neuropathy, diabetic retinopathy etc.) and not responding to the medication
COSTING DETAILS

Approx. costing of Diabetes mellitus

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Āmalakī cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.25</td>
<td>135-270</td>
</tr>
<tr>
<td>2.</td>
<td>Haridrā cūrṇa</td>
<td>180-540</td>
<td>gm</td>
<td>0.30</td>
<td>54-162</td>
</tr>
<tr>
<td>3.</td>
<td>Jambū bīja cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.20</td>
<td>108-216</td>
</tr>
<tr>
<td>4.</td>
<td>Meṣaśṛṅgī cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.40</td>
<td>216-512</td>
</tr>
<tr>
<td>5.</td>
<td>Methikā cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.40</td>
<td>216-512</td>
</tr>
<tr>
<td>6.</td>
<td>Vijayasāra cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.4</td>
<td>216-512</td>
</tr>
<tr>
<td>7.</td>
<td>Niśāmalakī cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.45</td>
<td>243-486</td>
</tr>
<tr>
<td>8.</td>
<td>Triphalā cūrṇa</td>
<td>540-1080</td>
<td>gm</td>
<td>0.32</td>
<td>173-346</td>
</tr>
<tr>
<td>9.</td>
<td>Śivā guṭikā</td>
<td>1080</td>
<td>gm</td>
<td>4.4</td>
<td>4752</td>
</tr>
<tr>
<td>10.</td>
<td>Candraprabhā vaṭī</td>
<td>45-90</td>
<td>gm</td>
<td>2</td>
<td>90-180</td>
</tr>
<tr>
<td>11.</td>
<td>Dhānvantara ghṛṭa</td>
<td>680-960</td>
<td>ml</td>
<td>0.36</td>
<td>245-346</td>
</tr>
<tr>
<td>12.</td>
<td>Kṣīra balādi taila</td>
<td>85-120</td>
<td>ml</td>
<td>0.43</td>
<td>40-52</td>
</tr>
<tr>
<td>13.</td>
<td>Saptāmṭa lauha</td>
<td>3.5-5.0</td>
<td>gm</td>
<td>1.5</td>
<td>5.25-7.5</td>
</tr>
</tbody>
</table>

Approx. costing of Pañcakarma procedure in Diabetes mellitus **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vamana Package (including preparatory and post therapeutic procedures)</td>
<td>11</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>2.</td>
<td>Virecana Package (including preparatory and post therapeutic procedures)</td>
<td>11</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>
2.6 RESPIRATORY DISEASES

2.6.1 Chronic bronchitis (Jīrṇa kāsa)

Introduction

Chronic bronchitis is defined as the presence of chronoc productive cough for at least three months in each of two successive years\(^\text{26}\). Chronic bronchitis, as a cause of chronic obstructive pulmonary disease (COPD) is a significant cause of morbidity, especially in the elderly. Functional impairment of mobility and communication may result from the associated breathlessness and copious respiratory secretions that are produced in chronic bronchitis. Altered mucus secretion in respiratory tracts as a senility change facilitates bacterial adherence. Decreased clearance of the airway due to less effective coughing may predispose to respiratory infection. The prevalence of chronic bronchitis in rural India may be as high as 30% in the over 40 years age group whereas in urban India the incidence is around 10%\(^\text{27}\).

Similarly in Ayurveda, a condition in which vitiated pṛāṇa vāyu producing a loud noise as of from a cracked vessel, comes out of the mouth suddenly with expectoration is called kāsa. Exposure to smoke, dust etc., consumption of rukṣa (non-fatty/ dry) food and suppression of natural urges are the main cause of kāsa according to Ayurveda.

Aetiology

1. Exposure to dust, fumes, pollutants
2. Respiratory infections
3. Smoking
4. Prolonged use of tobacco

Chronic bronchitis may be associated with other pulmonary diseases such as emphysema, pulmonary fibrosis, bronchial asthma, tuberculosis and sinusitis.
**Pathogenesis**

The characteristic pathologic features of chronic bronchitis are hyperplasia and hypertrophy of the mucous secreting goblet cell glands and the upper and mid level bronchi. These anatomic airway changes can be quantified pathologically by measurement of goblet cell density, and they are distinct from the smooth muscle changes (asthma) and to alveolar changes (emphysema).

**Risk factors**

1. Increasing age
2. Smoking (active or passive)
3. Work exposure to toxic chemicals such as silica, cadmium etc.

**Clinical features**

The following are the most common symptoms of chronic bronchitis

1. Cough
2. Expectoration of mucous
3. Difficulty in breathing
4. Recurrent respiratory infection
5. Decreased exercise tolerance
6. Wheezing

**Signs**

1. On inspection, barrel shape chest and use of neck muscles (accessory muscles of respiration) during inspiration may be seen.
2. On auscultation specific sounds such as moist rales, crackling and wheezing may be heard that indicate airway narrowing and fluid secretion in the bronchial tubes.

**Complications**

Potential complications of chronic bronchitis are

1. Pulmonary hypertension
2. Cardiomegaly and heart failure
3. Cardiac arrhythmias
4. Pneumothorax
5. Pneumonia and other opportunistic infections

**Investigation**

In addition to the complete medical history and physical examination, following investigation should be done:

1. Pulmonary function test (PFT)
   - Spirometry
   - Peak flow monitoring
2. Pulse oximetry
3. X-Ray chest (PA view)
4. BAL (Broncho Alveolar Lavage) fluid analysis (if required)
5. CT Scan of lungs, if required
6. Complete haemogram
7. Sputum analysis

**Management approaches**

**a. Prevention**

1. Use of gōdhūma (wheat), mudga (green gram), kulattha (horse gram) old rice paravalā (snake gourd), hot pungent diet, rasōna (garlic), harīdrā (turmeric), ārdraka (ginger), kṛṣṇa marica (black pepper), mīśrī, (sugar candy), guḍa (jaggery), tulasī (holy basil), cow's urine, raisins, śuṣṭhī (dry ginger), elā (cardamom), goat milk, honey, luke warm water, fruits like āmalakī and drāksā (grapes) are beneficial
2. Practice of physical and respiratory exercises (prāṇāyāma and yoga) regularly
3. Use of cyavanaprāśa/ agastya harītakī (1 teaspoon with milk in the morning) and indukānta ghṛta 2 teaspoon with milk after food especially in winter (if the patient is non-diabetic).
4. Use of goat's milk regularly (if possible)
5. Avoid sweets, chilled food items, curd, contaminated water, mustard leaves and incompatible food, oily and fried food

6. Avoid exposure to cold, humid atmosphere, smoke, dust, fuel, pollen, fumes and pollution

7. Avoid chemical and environmental irritants

8. Avoid sleep in day time

9. Avoid tobacco use in any form

b. Medical management

Line of treatment (Ca. Ci.18/32-34)

1. **Nidāna parivarjana** (avoidance of aetiological factors) - To manage the bronchitis causative factors should be avoided first. Smoking, use of tobacco, exposure of dust, fumes, pollutants etc. should be avoided and other pulmonary diseases should be corrected timely.

2. **Saṃsādhana cikitsā** (Bio-cleansing therapies) followed by **Śamana cikitsā** (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether Śodhana therapy (Bio-cleansing therapies) should be given or not.

   i. **Snehana** externally with oil (preferably Tila taila/ Sarṣapa taila/ Daśamūla taila/ Karpūra taila) mixed with Saindhava lavaṇa.

   ii. Internal **Snehana** (internal oleation) with medicated ghṛta (Kaṇṭakārī ghṛta, Vāsā ghṛta, Indukānta ghṛta, Vidāryādi ghṛta, Śatphala ghṛta etc) 50 ml with 2-3 gm saindhava lavaṇa daily for 3-7 days before paṇcakarma (bio cleansing procedure).

   iii. **Ekāṅga sveda** (hot fomentation), Sarvāṅga svēda (steam bath) for 1-2 days

   iv. **Sneha virechana** with Eraṇḍa taila 10 - 20 ml with half glass of milk at night

3. **Drug therapy**

Numbers of herbal and herbo-mineral preparations are in practice which strengthen the respiratory system and have curative effect in respiratory disorders. The following drugs/formulations may act as expectorant, bronchodilator and immunomodulator and helpful in patients.
## SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vāsā (Adhatoda vasica Nees.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Pippalī (Piper longum Linn.) cūrṇa</td>
<td>1-3 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Śuṣṭhī (Zingiber officinale Rose.) cūrṇa</td>
<td>1-3 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Tulasī (Ocimum sanctum Linn.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Ādraka (Zingiber officinale Rose.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Haridrā (Curcuma longa Linn.) cūrṇa</td>
<td>1-3 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
</tbody>
</table>

## COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Śṛṅgyādi cūrṇa</td>
<td>1-2 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Sitopalādi cūrṇa</td>
<td>2.5 gm</td>
<td>Gṛṭta/honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Tālīsādi cūrṇa</td>
<td>2.5 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Trikaṭu cūrṇa</td>
<td>1-2 gm</td>
<td>Honey/warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Gōjihvādi kvātha cūrṇa</td>
<td>10-20 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Daśamūla kaṭutraya kaśāya</td>
<td>15-30 ml</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Śvāsānandam guṭikā</td>
<td>250-500 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Marīcyādi vaṭī</td>
<td>1.5 gm</td>
<td>Chewable</td>
<td>15 days</td>
</tr>
<tr>
<td>Khadirādi guṭikā</td>
<td>500 mg - 1 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Lavaṅgādi vaṭī</td>
<td>500 mg - 1 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kanṭakārī gṛṭta</td>
<td>15-30 ml</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Indukānta gṛṭta</td>
<td>3-6 gm</td>
<td>Warm water / milk</td>
<td>15 days</td>
</tr>
</tbody>
</table>
MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

The following rasāyana medicines (rejuvenators) may be used to strengthen respiratory system (these may be employed for about 30 days and repeated after 4-6 months)

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vidāryādi ghṛta</td>
<td>10 gm</td>
<td>Warm water / milk</td>
</tr>
<tr>
<td>Vāsāvaleha</td>
<td>6 gm</td>
<td>Milk / water</td>
</tr>
<tr>
<td>Cyavanaprāśa</td>
<td>6 gm</td>
<td>Water / milk</td>
</tr>
<tr>
<td>Kauṭakāryāvaleha</td>
<td>6 gm</td>
<td>Milk / water</td>
</tr>
<tr>
<td>Kanakāsava</td>
<td>12-24 ml</td>
<td>Water</td>
</tr>
<tr>
<td>Causaṭa praharī pippalī</td>
<td>125mg - 250mg</td>
<td>Honey</td>
</tr>
</tbody>
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<td>125mg - 250mg</td>
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</tr>
</tbody>
</table>

Vidāryādi ghṛta 5 - 10 gm Before breakfast and at bedtime with milk boiled with 1 gm śuṇṭhi/ haridrā cūṛṇa

Agastya harītakī rasāyana 5 - 10 gm Before breakfast and bedtime with milk boiled with 1 gm śuṇṭhi / haridrā cūṛṇa

Drākṣāvaleha 5 - 10 gm Before breakfast and bedtime with Milk boiled with 1 gm śuṇṭhi cūṛṇa

Indukānta ghṛta 5 - 10 gm With milk after food

Bṛhatī (Solanum indicum) and Kauṭakāri (Solanum xanthocarpum)²⁸, Cyavanaprāśa²⁹, Kauṭukī (Picrorhiza kurroa)³⁰ and Vibhītakī (Terminalia belerica)³¹ powder have shown improvement in the COPD patients.

c. **Yogic practices** - The following yogic practices are beneficial in chronic bronchitis; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the yoga therapist.

1. Kuṇjala with lukewarm water, Jalaneti
2. Sūrya namaskāra, Śavāsana, Sarvāṅgāsana, Maṇḍūkāsana, Gomukhāsana, Trikoṇāsana, Ardhaṅcakrāsana

3. Deep relaxation techniques, Yoga nidrā

Counselling - Advice the patient to
1. Practice breathing (prāṇāyāma) and other regularly exercises
2. Drink plenty of fluids
3. Use lukewarm water in place of cold water
4. Add garlic, turmeric, holy basil, clove etc. in diet
5. Take nutritious diet rich in antioxidants, potassium, magnesium, selenium and zinc
6. Avoid allergic food and exposure to irritants like air pollution, fume, pollen etc.
7. Don't reside in humid, damp, dusty and smoky atmosphere
8. Avoid tobacco consumption in any form

Indications for referral
1. Patients not responding to therapy
2. Patient with acute respiratory distress/ failure
3. Patients with acute pulmonary infection
4. Patient with cardiac disease

COSTING DETAILS

Approx. costing of Chronic Bronchitis (Jīrṇa Kāśa)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Haridrā cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>0.3</td>
<td>9-18</td>
</tr>
<tr>
<td>2.</td>
<td>Pippalī cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>0.6</td>
<td>18-36</td>
</tr>
<tr>
<td>3.</td>
<td>Śuṇṭhī cūrṇa</td>
<td>30-60</td>
<td>gm</td>
<td>0.5</td>
<td>15-30</td>
</tr>
<tr>
<td>4.</td>
<td>Tulasī svarasa</td>
<td>300</td>
<td>ml</td>
<td>0.50</td>
<td>150</td>
</tr>
<tr>
<td>5.</td>
<td>Ardraka svarasa</td>
<td>300</td>
<td>ml</td>
<td>1.0</td>
<td>300</td>
</tr>
</tbody>
</table>
### Approx. costing of Pañcakarma procedure in Chronic bronchitis **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Snehapāna package</td>
<td>3-7</td>
<td>-</td>
<td>750</td>
</tr>
<tr>
<td>2.</td>
<td>Snehana externally</td>
<td>1-2</td>
<td>200</td>
<td>200-400</td>
</tr>
<tr>
<td>3.</td>
<td>Sarvāṅga sveda</td>
<td>1</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>4.</td>
<td>Virecana package</td>
<td>11</td>
<td>-</td>
<td>1000</td>
</tr>
</tbody>
</table>

*(including preparatory and post therapeutic procedures)*
2.6.2 Bronchial asthma (Tamaka Svāsa)

Introduction

Bronchial Asthma is an inflammatory disorder of the airways characterized by increased responsiveness of the trachea and bronchi to various stimuli resulting in narrowing of the airways due to bronchial spasm and edema in bronchial mucous membrane. These changes are reversible either spontaneously or with medication. It may be acute or paroxysmal in type. Most asthmatic patients are diagnosed by triad episodic symptoms (wheezing, cough and dyspnoea). In older people, it is not easy to differentiate whether it is certainly a case of asthma, as these symptoms are also seen in other diseases because of poor respiratory function due to ageing. Bronchial asthma is increasing day by day with the increase in pollution levels and the stressful lifestyle. The prevalence of asthma in elderly people varies from 6.5 to 10%, however the incidence is dependent on environmental condition, occupational patterns, genetic configuration and dietary pattern of the population besides diagnostic crieteria adopted by different investigators. Bronchial asthma is similar to disease entity 'Tamaka Svāsa' described in Ayurveda. Tamaka svāsa is a condition in which difficulty in breathing occurred due to obstruction to prāṇavāyu due to vitiated kapha. According to Ayurveda, main causes of tamaka svāsa are unwholesome diet (vidāhī, guru, rūkṣa, abhiṣyandī diet), exposure to allergen (cold air, dust, smoke etc.), excessive exertion etc., which are very close to etiology of bronchial asthma.

Treatment of asthma in older people needs much more attention and care. Corticosteroids can cause softening of bone resulting into fracture of fragile bones. Incidence of acquiring tuberculosis also increases in patients who are on corticosteroids.

Asthma is a heterogeneous disease, is broadly described in to two types

1. Allergic - often associated with a personal/ family history of allergic diseases like rhinitis, urticaria, eczema etc.
2. Idiosyncratic - there is no personal/ family history of allergy.

Aetiology

The causes contributing to attacks of asthma can be divided into two groups

1. Predisposing factors
   - Hereditary factors
   - Psychological factors - anxiety, frustration, fatigue, over exertion, sleeplessness
   - Endocrine cause - in women particularly before menstruation and perimenopausal period
• History of hay fever, urticaria, infantile eczema or migraine

2. Exciting factors

• Hypersensitivity to various allergens, such as moulds, powder, feathers, dust, pollen, dandruff and ingested allergens such as - wheat, milk, chocolate, potatoes etc.

• Drugs and chemicals - Aspirin, gum acacia and Iodine

• Infections of bronchial tree - Viral, bacterial

• Climatic changes

• Physical exertion

Pathogenesis

In asthma, hyperreactivity of the bronchi to various stimuli occurs due to infiltration of airways by eosinophils, activation of T-cell and production of cytokines as well as other mediators. An increase in mast cell numbers and desquamation of airway epithelium resulting inflammation, that causes remodeling of the airways with mucosal thickening and smooth muscle hypertrophy. Finally obstruction of airways due to narrowing of bronchioles causes increased airway resistance resulting difficulty breathing.

Clinical features

1. Wheezing
2. Breathlessness (Dyspnœa)
3. Productive cough
4. Shortness of breath, feels comfortable in the sitting position
5. Nocturnal awakening with dyspnœa and/ or wheezing
6. Feeling of tightness in the chest
7. Disturbed sleep
8. Symptoms aggravated by cloudy and rainy season cold waves and wind
9. Unable to expectorate the sputum (some times)
10. Occasional giddiness
Signs

On auscultation bilateral rhonchi /coarse rales/ cripitation may be heard throughout the entire chest.

Investigation

1. Complete haemogram
2. X-Ray chest (P.A. and Lateral view)
3. Absolute Eosinophilic Count (AEC)
4. Sputum examination
5. Spirometry
6. Serum IgE levels
7. Skin allergy test

Differential Diagnosis

Patients with above said symptoms and signs may to be ruled out of the following

1. Disease from cardiac origin (presents with previous history of cardiac problems, increased jugular venous pressure (JVP) and pedal edema are seen
2. Laryngeal edema
3. Upper airway obstruction by tumor
4. Chronic bronchitis
5. Eosinophilic pneumonias
6. Pulmonary tuberculosis

Management approaches

a. Prevention

1. Usage of godhūma (wheat), mudga (green gram), kulattha (horse gram) yava (barley), old rice, paraval (snake gourd), hot pungent diet, rasona (garlic), haridrā (turmeric), ārdraka (ginger), kṛṣṇa marica (black pepper), miśrī (sugar candy), guḍa (jaggery), tulasī (holy basil), cow's urine, raisin, śuṣṭhī (dry ginger), elā
(cardamom), goat milk, honey, Luke warm water, fruits like āmalakī and drākṣā (grape).

2. Use lukewarm water

3. Regular practice of yoga and prāpyāma

4. Virecana karma in śarada ṛtu

5. Use of cyavanaprāśa/ agastyagṛta (1 teaspoon with milk in the morning) and indukānta gṛta 2 teaspoon with milk after food especially in winter (if the patient is non- diabetic)

6. Avoid fish, heavy diet, māṣa (black gram), fried items, mustard leaves, cool drinks, ice-creams etc.

7. Avoid banana, lemon and guava fruit (if allergic to)

8. Avoid exposure to cold and humid atmosphere, smoke, dust and fumes, chilled water, stored food items, curd and curd preparations

9. Avoid excessive day sleep/ excess exercise

10. Avoid suppression of natural urges

11. Avoid use of tobacco in any form

b. Medical management

Line of treatment (*Ca. Ci. 17/71-77*)

1. *Nidāna parivarjana* (avoidance of aetiological factors) - Patients with bronchial asthma should avoid exposure to allergens and chemicals, allergic food articles, cold breeze, over exertion, anxiety etc.

2. *Saṃśodhana cikitsā* (Bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
   i. External Snehana (oleation) with oil (preferably Tila taila, Sarṣapa taila, Daśamūla taila, Karpūra taila) mixed with Saindhava lavaṇa
   ii. Internal Snehana (internal oleation) with medicated gṛta (Kaṇṭakārī gṛta, Vīsā gṛta etc.) 50 ml with 2-3 gm saindhava lavaṇa daily for 3-7 days before paṅcakarma (bio cleansing procedure)
   iii. Ekāṅga sveda (hot fomentation), sarvāṅga sveda (steam bath) for 1-2 days
   iv. Virecana (therapeutic purgation) with Eraṇḍa taila 10-20 ml at bedtime virecana
should be decided by physician according to the condition of the patient whether Āyurvedic (bio-cleansing) therapy is to be advocated or not.

v. Steam inhalation with Tulasī, karpūra, haridrā, menthol etc.

3. Drug Therapy

The following drugs/ formulations may act as expectorant, bronchodilator and immunomodulator and helpful in asthmatic patients.

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA$^/$ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haridrā (Curcuma longa Linn.) cūrṇa</td>
<td>1-3 gm</td>
<td>Luke warm water</td>
<td>7 days</td>
</tr>
<tr>
<td>Pippalī (Piper longum Linn.) cūrṇa</td>
<td>1-2 gm</td>
<td>Honey</td>
<td>7 days</td>
</tr>
<tr>
<td>Śuṣṭhī (Zingiber officinale Rose.) cūrṇa</td>
<td>1-2 gm</td>
<td>Honey</td>
<td>7 days</td>
</tr>
<tr>
<td>Puṣkaramūla (Inula racemosa Hook.f.) cūrṇa</td>
<td>1-3 gm</td>
<td>Water</td>
<td>7 days</td>
</tr>
<tr>
<td>Tulasī (Ocimum sanctum Linn.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>7 days</td>
</tr>
<tr>
<td>Ārdraka (Zingiber officinale Rose.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>7 days</td>
</tr>
<tr>
<td>Vāsā (Adhatoda vasica Nees.) svarasa</td>
<td>10 ml</td>
<td>Honey</td>
<td>15 days</td>
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</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Śṛṅgyādi cūrṇa</td>
<td>1-2gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Śiṭopalādi cūrṇa</td>
<td>2.5 gm</td>
<td>Gṛṛta/ Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Tālisādi cūrṇa</td>
<td>2.5 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Trikaṭu cūrṇa</td>
<td>500 mg - 1 gm</td>
<td>Honey/ Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Gojiḥvadi kvāṭha cūrṇa</td>
<td>10-20 gm</td>
<td>Water</td>
<td>15 days</td>
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The following Rasāyana medicines (rejuvenators) may be used to strengthen respiratory system (these may be employed for about 30 days and repeated after 4-6 months)

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<th>Duration</th>
</tr>
</thead>
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<tr>
<td><em>Daśamūla kaṭutrāya kaśāya</em></td>
<td>15-30 ml</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Elādi vaṭī</em></td>
<td>1.5gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Maricyādi vaṭī</em></td>
<td>1.5gm</td>
<td>Chewable</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kasturyādi guṭikā</em></td>
<td>125 mg</td>
<td>Jīraka kvāṭha</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Lavaṅgādi vaṭī</em></td>
<td>500mg - 1 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Gorocanādi vaṭī</em></td>
<td>125 mg</td>
<td>Ārdhra svarasa</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Vāśāvaleha</em></td>
<td>6 gm</td>
<td>Milk/ Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Cyavanaprāśa</em></td>
<td>12 gm</td>
<td>Water/ Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kaṇṭakārī avaleha</em></td>
<td>6 gm</td>
<td>Milk/ Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Vyāghrīharītakī</em></td>
<td>6 gm</td>
<td>Milk/ Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Kanakāsava</em></td>
<td>5 - 10 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Indukānta ghṛta</em></td>
<td>10 gm</td>
<td>Warm water/ Milk</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Śṛṅga bhasma</em></td>
<td>125 - 250 mg</td>
<td>ghṛta/ Honey</td>
<td>15 days</td>
</tr>
<tr>
<td><em>Taṅkaṇa bhasma</em></td>
<td>125 - 250 mg</td>
<td>Honey/ Water</td>
<td>15 days</td>
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<tr>
<td><em>Causaṭa praharī pippalī</em></td>
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<td>Honey</td>
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</tbody>
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<tr>
<th>Medicine</th>
<th>Dosage</th>
<th>Administered With</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cyavanaprāśa</em></td>
<td>1 spoon (15 -25 gm)</td>
<td>Before breakfast and at bedtime with milk boiled with 1gm śuṣṭī / haridrā cūrṇa.</td>
<td></td>
</tr>
<tr>
<td><em>Agastya harītakī Rasāyana</em></td>
<td>1 spoon (15 -25 gm)</td>
<td>Before breakfast and at bedtime with milk boiled with 1gm śuṣṭī cūrṇa / haridrā cūrṇa.</td>
<td></td>
</tr>
<tr>
<td><em>Drākṣāvaleha</em></td>
<td>1 spoon (15 -25 gm)</td>
<td>Before breakfast and bedtime with Milk boiled with 1gm śuṣṭī cūrṇa.</td>
<td></td>
</tr>
<tr>
<td><em>Indukānta ghṛta</em></td>
<td>5 - 10 gm</td>
<td>With milk after food</td>
<td></td>
</tr>
</tbody>
</table>

5 MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction*
NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Kaṅkārī* (Solanum xanthocarpum), *Śiriṣa* (Albegia lebbeck), *Tvak* (Cinnamomum zeylanicum) kvāṭha, *Kaṭkū* (Picrorhiza kurroa), *Vibhītakī* (Terminalia belerica) phala cūma have shown improvement in the asthmatic patients.

c. **Yogic practices** - The following yogic practices are beneficial in Bronchial asthma; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. *Kuṇjala* with lukewarm water, *Vastra dhauti*
2. *Sūrya namaskāra*, Sarvāṅgāsana, Gomukhāsana and Śavāsana
3. *Kapālabhāti*, *Bhastrikā*, Sūryabheda prāṇyāma
4. Breathing exercises (hand stretch breathing, hand in and out breathing, tiger breathing)

**Counselling** - Advice the patient to

1. Sip a glass of hot water or tea during attack
2. Practice breathing exercises (prāṇyāma) regularly
3. Drink plenty of fluids
4. Use lukewarm water in place of cold water
5. Take light food in the night
6. Take freshly cooked diet articles preferably
7. Avoid excessive exertion/ emotional upset
8. Avoid allergic food
9. Avoid to reside in humid, damp, dusty and smoky atmosphere
10. Avoid tobacco and consumption of liquor
11. Avoid cool drinks, ice creams and refrigerated food items
12. Avoid cold items immediately after taking hot items
**Indications for referral**

1. Patients with severe attacks of asthma and not responding to therapy
2. Patient with acute respiratory distress/ failure
3. Status asthmaticus

**COSTING DETAILS**

*Approx. costing of Bronchial asthma (Tamaka śvāsa)*

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
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<tr>
<td>1.</td>
<td><em>Haridrā cūrṇa</em></td>
<td>30-60</td>
<td>gm</td>
<td>0.3</td>
<td>9-18</td>
</tr>
<tr>
<td>2.</td>
<td><em>Pippalī cūrṇa</em></td>
<td>30-60</td>
<td>gm</td>
<td>0.6</td>
<td>18-36</td>
</tr>
<tr>
<td>3.</td>
<td><em>Śuṣṭhi cūrṇa</em></td>
<td>30-60</td>
<td>gm</td>
<td>0.5</td>
<td>15-30</td>
</tr>
<tr>
<td>4.</td>
<td><em>Puṣkaramūla cūrṇa</em></td>
<td>30</td>
<td>gm</td>
<td>1.0</td>
<td>30</td>
</tr>
<tr>
<td>5.</td>
<td><em>Tulasī svarasa</em></td>
<td>300</td>
<td>ml</td>
<td>0.50</td>
<td>150</td>
</tr>
<tr>
<td>6.</td>
<td><em>Ārdraka svarasa</em></td>
<td>300</td>
<td>ml</td>
<td>1.00</td>
<td>300</td>
</tr>
<tr>
<td>7.</td>
<td><em>Śṛṅgyādi cūrṇa</em></td>
<td>30-60</td>
<td>gm</td>
<td>1.75</td>
<td>52-104</td>
</tr>
<tr>
<td>8.</td>
<td><em>Sitopalādi cūrṇa</em></td>
<td>75</td>
<td>gm</td>
<td>1.12</td>
<td>84</td>
</tr>
<tr>
<td>9.</td>
<td><em>Ṭālīsādi cūrṇa</em></td>
<td>75</td>
<td>gm</td>
<td>0.58</td>
<td>45</td>
</tr>
<tr>
<td>10.</td>
<td><em>Trikaṭu cūrṇa</em></td>
<td>60-120</td>
<td>gm</td>
<td>2.3</td>
<td>138-276</td>
</tr>
<tr>
<td>11.</td>
<td><em>Gojiḥvādi kvātha cūrṇa</em></td>
<td>300-600</td>
<td>gm</td>
<td>0.5</td>
<td>150-300</td>
</tr>
<tr>
<td>12.</td>
<td><em>Daṃmūla kaṭutraya kaśāya</em></td>
<td>450-900</td>
<td>ml</td>
<td>0.32</td>
<td>145-290</td>
</tr>
<tr>
<td>13.</td>
<td><em>Elādi vaṭī</em></td>
<td>45</td>
<td>gm</td>
<td>1.9</td>
<td>86</td>
</tr>
<tr>
<td>14.</td>
<td><em>Maricyādi vaṭī</em></td>
<td>45</td>
<td>gm</td>
<td>1.8</td>
<td>81</td>
</tr>
<tr>
<td>15.</td>
<td><em>Kasturyādi guṭikā</em></td>
<td>3.75</td>
<td>gm</td>
<td>10.8</td>
<td>40.5</td>
</tr>
<tr>
<td>16.</td>
<td><em>Lavaṅgādi vaṭī</em></td>
<td>45</td>
<td>gm</td>
<td>1.4</td>
<td>63</td>
</tr>
<tr>
<td>17.</td>
<td><em>Gorocana vaṭī</em></td>
<td>3.75</td>
<td>gm</td>
<td>21.6</td>
<td>81</td>
</tr>
<tr>
<td>18.</td>
<td><em>Kaṇṭakārī ghṛta</em></td>
<td>450-900</td>
<td>ml</td>
<td>0.345</td>
<td>156-311</td>
</tr>
</tbody>
</table>
### Approx. costing of Pañcakarma procedure in Bronchial asthma **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Snehana externally</td>
<td>1-2</td>
<td>200</td>
<td>200-400</td>
</tr>
<tr>
<td>2.</td>
<td>Ekāṅga sveda</td>
<td>1-2</td>
<td>100</td>
<td>100-200</td>
</tr>
<tr>
<td>3.</td>
<td>Virecana Package (including preparatory and post therapeutic procedures)</td>
<td>11</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>
2.7 GASTRO-INTESTINAL DISEASES

2.7.1 Constipation (Vibandha)

Introduction

Constipation is a general term used by patients to indicate fewer bowel movements, hard stools, painful defaecation and feeling of bloating, abdominal discomfort or incomplete elimination. It is a very common gastro-intestinal disorder experienced by most people at some time during their life time. Numerous conditions can lead to constipation by disrupting the normal process of absorption, stool formation and propelling of feces within the large intestine. Constipation is very similar to the disease condition Vibandha described in Ayurveda.

Constipation may be just due to a poor diet with insufficient fiber, poor fluid intake or a side effect of certain medication. Sometimes it may be due to any mechanical obstruction or a serious problem such as colon cancer.

Elderly people are more likely to suffer from constipation due to changes in diet, medication and/ or decreased mobility and intestinal motility. The exact figure on the prevalence of constipation is not known. Around 2% of the population suffers recurrent and constant constipation and is more common in women than in men. The overall prevalence of self reported constipation is 24 to 37%. In the institutionalized elderly, up to 50% self-report constipation and up to 74% use laxatives daily.

Aetiology

Constipation occurs when the large intestine absorbs too much water from the stool result into dry and hard stools. It may also be due to inadequate contraction of bowel walls to expel the stool and waste product. It occurs due to

1. Poor diet and liquid intake (low fiber diet, less quantity etc.)
2. Immobility and lack of exercise
3. Ageing, stress and travel
4. Ignoring the urge to defecate
5. Inadequate fluid intake
6. Medications (antacids, anti-histamines, anti-psychotic drugs, aspirin, beta blockers, anti-hypertensive drugs, iron and calcium supplements, diuretics, calcium channel blockers etc.)
7. Secondary to another disease (hypothyroidism, anal fissure, chronic renal failure, colon or rectal cancer, hypercalcaemia)

**Risk factors:**
1. Older age
2. Female gender
3. Less exercise/ physical activity
4. Low calorie intake

**Clinical features**
The following symptoms may be associated with constipation
1. Passage of hard stools
2. Abdominal pain/ discomfort or bloating
3. Straining during passage of stools
4. Headache
5. Malaise
6. Feeling of incomplete evacuation

**Complications**
Although constipation is rarely serious, but in chronic stage it may lead to
1. Bowel obstruction
2. Hemorrhoids
3. Rectal prolapse
4. Hernia
5. Spastic colitis
6. Laxative abuse - A large number of people use laxatives (self-medication) for constipation. This is not a good practice, especially if these are used regularly for longer duration. Chronic laxative use can alter the normal physiological functions of the intestines.
7. Excessive straining may have deleterious effects on the cerebral, coronary, and peripheral arterial circulation resulting in syncope, cardiac ischemia, and transient ischemic attacks.

**Diagnosis**

Criteria for diagnosing chronic functional constipation

a. Presence of two or more of the following symptoms, for at least 12 weeks in the preceding year
   1. Straining with > 25% of bowel movements
   2. Sense of incomplete evacuation with > 25% of bowel movements
   3. Hard or pellet stools with > 25% of bowel movements
   4. Manual evaluation maneuvers with > 25% of bowel movements
   5. Feeling of anorectal blockage with > 25% of bowel movements
   6. Number of bowel movements two or less per week
b. Absence of loose stools and insufficient criteria for irritable bowel syndrome

**Investigations**

1. Stool examination
2. Barium enema
3. Lower G.I. Endoscopy
4. Ultra-sonography (whole abdomen)
5. Complete haemogram
6. Sigmoidoscopy
Management approaches

a. Prevention

1. Consumption of godhûma (wheat), mudga (green gram), old rice, rasona (garlic), seasonal fruits, high fiber diet, hiũgû (asafoetida), drâkṣa (grapes), āmalakī (Phyllanthus emblica gartn), harītakī (Terminelia chebula Retz.), pippalī (long pepper), śuṇṭhi (dry ginger), green leafy vegetables and lukewarm water

2. Consumption of light and easily digestible high fiber diet

3. Drink plenty of fluids and water (minimum 2-3 lt. per day)

4. Drink a glass of warm water, early in the morning (This helps in gastro-colic reflex and results into bowel evacuation)

5. Practice regular exercise

6. Follow a healthy dietetic plan that emphasise fruits, green leafy and other vegetables and fibre rich diet

7. Avoid irregular food habits, heavy, unwholesome, excess oily and spicy food items, bakery and preserved items

8. Avoid suppression of natural urges, excess tea, coffee, smoking

9. Avoid using self medication

b. Medical management

Line of treatment (Ca. Ci. 28/ 90)

1. **Nidāna parivarjana** (avoidance of aetiological factors) - Incompatible diet, irregular food habits, low fiber diet, stress, and inadequate fluid intake should be avoided.

2. **Samśodhana cikitsā** (Bio-cleansing therapies) followed by Šamana cikitsā (Palliative therapy) should be advocated.
   i. **Snehapāna** (internal oleation) with Sukumāra ghṛta 50 ml with 2-3 gm saindhava lavaṇa daily for 3-7 days before pāṇcakarma (bio- cleansing procedure)
   
   ii. **Sarvāṅga sveda** for 1 day

   iii. **Virecana** (therapeutic purgation) with*

      Drākṣā (Vitis vinifera) - 10 gm
      Āragvadha (Cassia fistula) -10 gm
Harītakī (Terminalia chebula) - 10 gm

Kuṭakī (Picrorhiza curroa) - 5 gm along with 1 teaspoon full Eraṇḍa (Ricinus communis) taila

or

Eraṇḍa taila 10 - 20 ml with half glass of milk at night

iv. Vasti

• Anuvāsana vasti with Daśamūla taila/ Pippalyādi taila 50ml and Nirūha vasti with Daśamūla kvāth 240 ml, honey 120 ml, Pippalyādi taila 120 ml, saindhava āvaṇa 5 gm etc. alternately for 8 days (Yoga vasti krama)

v. Phalavarti (medicated suppositories)

Virechana and Vasti should be decided by physician according to the condition of the patient whether Śodhana therapy (bio-cleansing therapies) is beneficial or not.

* (Above said formulations and dosage are common in practice but dose should be adjusted by the physician according to patient's condition)

3. Drug therapy

If life style modifications fail to relieve the constipation, then only pharmacological therapy usually with laxatives carminatives and pācana drugs should be started.

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA / Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aśvagola (Plantago ovata Forsk.) (Isabgol) cūrṇa</td>
<td>2-5 gm</td>
<td>Warm water/ milk at bed time</td>
<td>S.O.S.</td>
</tr>
<tr>
<td>Sonāmukhī (Cassia angustifolia Vahl.) cūrṇa</td>
<td>1-2 gm</td>
<td>Lukewarm water at bed time</td>
<td>S.O.S.</td>
</tr>
<tr>
<td>Harītakī (Terminelia chebula Retz) cūrṇa</td>
<td>3 gm</td>
<td>Lukewarm water at bed time</td>
<td>S.O.S.</td>
</tr>
</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA / Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiṅgvaṭṭaka cūrṇa</td>
<td>1.5-3 gm.</td>
<td>Ghūta/ Luke warm water</td>
<td>3 days</td>
</tr>
</tbody>
</table>
MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices- The following yogic practices are beneficial in constipation; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Kūrmāsana, Vakrāsana, Kaṭicakrāsana, Sarvāṅgāsana, Śavāsana, Pavanamuktāsana, Maṇḍūkāsana, Vajrāsana, Meruḍāṅḍa saṅcālanāsana etc.
2. Yogamudrā, Śaṅkha prakṣālana, Nāḍī śodhana
3. Sūrya anuloma viloma, deep relaxation technique

**Counselling** - Advice the patient to

1. Make habit of regular bowel habits
2. Walk for about 30 minutes daily
3. Take of warm water or milk in early morning
4. Eat an adequate breakfast
5. Take plenty of fluids
6. Use of rich fiber diet like beans, brown rice, whole cereals, entire fruits, citrus fruits, legumes in diet
7. Don’t supress the urge to defecate
8. Sit on the toilet for 10 minutes at the same time every day to induce regularly bowel movements

**Indications for referral**

a. Acute intestinal obstruction
b. Rectal prolapse
c. Undiagnosed bleeding per annum and not responding to medication

**COSTING DETAILS**

**Approx. costing of Constipation management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aśvagola cūrṇa</td>
<td>2-5</td>
<td>gm</td>
<td>2.0</td>
<td>4-10</td>
</tr>
<tr>
<td>2.</td>
<td>Sonāmukhī cūrṇa</td>
<td>1-2</td>
<td>gm</td>
<td>0.9</td>
<td>1-2</td>
</tr>
<tr>
<td>3.</td>
<td>Harītakī cūrṇa</td>
<td>10</td>
<td>gm</td>
<td>0.28</td>
<td>3.0</td>
</tr>
<tr>
<td>4.</td>
<td>Hiṅgvaṣṭaka cūrṇa</td>
<td>10-20</td>
<td>gm</td>
<td>0.82</td>
<td>9-17</td>
</tr>
<tr>
<td>5.</td>
<td>Triphalā cūrṇa</td>
<td>15-20</td>
<td>gm</td>
<td>0.31</td>
<td>5-7</td>
</tr>
</tbody>
</table>
Approx. costing of Pañcakarma procedure in Constipation

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sarvāṅga sveda</td>
<td>1</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>2.</td>
<td>Virecana Package (including preparatory and post therapeutic procedures)</td>
<td>-</td>
<td>-</td>
<td>1000</td>
</tr>
<tr>
<td>3.</td>
<td>Yoga vasti (including preparatory and post therapeutic procedures)</td>
<td>8</td>
<td>-</td>
<td>1250</td>
</tr>
</tbody>
</table>

2.7.2 Indigestion (Ajīrṇa)

Introduction

An abnormality in digesting food or lack of proper digestion is termed as Indigestion (dyspepsia). Indigestion refers to number of gastro-intestinal complaints, which can include...
gas (belching or flatulence) and upset stomach. Ageing is accompanied by several changes in the gastro-intestinal system and older adults frequently present with gastro-intestinal problems. Physiological changes of ageing may be difficult to differentiate from disease.

According to Ayurveda, those who are not following dietary guidelines and consume food without self control become victims of Ajīrṇa (Indigestion). This leads to various diseases.

**Aetiology**

1. Excessive drinking of water after meal
2. Incompatible and unwholesome diet (Samaśana)
3. Irregular food habits (Viṣamāśana)
4. Suppression of natural urges of nīdrā (sleep), vāta (flatus) and purīśa (stool)
5. Improper sleeping habits
6. Emotional disturbances
7. Loss of teeth due to ageing
8. Decreased saliva production
9. Over eating (Adhyaśana)

**Patho-physiology**

In elderly people, ingested food doesn't digest properly due to

1. Diminished secretion of digestive enzymes
2. Impaired chewing due to loss of teeth
3. Decrease in saliva production due to ageing may also contribute to severity of acid reflux
4. Slowing of gastric emptying, which may produce abdominal distention, increase meal induced fullness

**Clinical features**

1. Pain or burning sensation in the upper abdomen
2. Feeling of undue satiety after eating
3. Nausea, heartburn, bloating and belching
4. Regurgitation, vomiting (occasionally)
5. Heaviness in the body
6. Headache and body ache
7. Thirstiness
8. Loss of taste etc.

The severity of these symptoms is often associated with eating.

**Investigations**

Following investigations may be helpful to know whether indigestion is physiological as a process of ageing or secondary to any disease condition

1. Liver function test (LFT)
2. Ultrasonography (USG-Abdomen)
3. Upper G.I. Endoscopy
4. Barium meal follow through

**Management approaches**

**a. Prevention**

1. Consumption of godhāma (wheat), mudga (green gram), old rice, rasona (garlic), seasonal fruits, diet of high fiber content, hiṅgu (asafoetida), drākṣa (grapes), āmalaki (Phyllanthus emblica Gartn), pippalī (long pepper), śuṇṭhī (dry ginger), green leafy vegetables and luke warm water
2. Consume light and easily digestible food and chew food properly
3. Take triphalā cūrṇa 3 gm with lukewarm water at the bed time
4. Practice of vajrāsana after meal regularly
5. Avoid irregular food habits, heavy, unwholesome, oily and spicy food items, bakery and preserved items
6. Avoid overeating, suppression of natural urges, excess tea, coffee, smoking
7. Avoid irregular sleep, worries, anxiety, depression
b. Medical management

Line of treatment (A.H.Su.8/27)

1. **Nidāna parivarjana** (avoidance of aetiological factors) - Incompatible diet, irregular food habits, drinking of excess water immediately after meal should be avoided

2. **Sarvāṇga svedana** for 1 day

3. **Dīpana** (increasing the digestive fire/ process) with **Trikaṭu cūrṇa**

4. **Pācana** (digestion of toxic metabolites) with **Citrase vaṭī, Laśunādi vaṭī** etc.

5. **Saṃśodhana cikitsā** (bio-cleansing therapies) followed by **Śamana cikitsā** (Palliative therapy) should be advocated
   
i. **Virechana** (therapeutic purgation) with*

   - **Drākṣa** (Vitis vinifera) - 10 gm
   - **Āragvadha** (Cassia fistula) - 10 gm
   - **Harītakī** (Terminalia chebula Linn.) - 10 gm
   - **Kuṭakī** (Picrohiza kurroa) - 5 gm along with 1 teaspoon full **Eraṇḍa (Ricinus communis) taila**

   or

   **Eraṇḍa taila** 10-20 ml with half glass of milk at night

   It should be decided by physician according to the condition of the patient whether **Śodhana** therapy (bio-cleansing therapies) is to be advocated or not.

   * (Above said formulations are common in practice but dose should be adjusted by the physician according to patient's condition).

6. **Drug therapy**

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Šuṣṭhi (Zingiber officinale Rose.) cūrṇa</td>
<td>1 gm</td>
<td>Warm water</td>
<td>7 days</td>
</tr>
<tr>
<td>Ajamoda (Apium graveolens Linn.) cūrṇa</td>
<td>3 gm</td>
<td>Lukewarm water</td>
<td>7 days</td>
</tr>
<tr>
<td>Pippali (Piper longum Linn.) cūrṇa</td>
<td>2-3 gm</td>
<td>Lukewarm water</td>
<td>7 days</td>
</tr>
</tbody>
</table>
## COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA(^5)/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiṅgvaṣṭaka cūrṇa</td>
<td>1.5-3 gm.</td>
<td>Gṛhta/ Luke warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Lavaṇabhāskara cūrṇa</td>
<td>1-2.5 gm</td>
<td>Butter Milk</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Gandharvahastādi kaśāya</td>
<td>15 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Ajamodārka</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Pudīnārka</td>
<td>12 - 25 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Śaṅkha vaṭī</td>
<td>250 - 500 mg</td>
<td>Honey/ warm water/ Butter milk</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Citrakādi vaṭī</td>
<td>1.5 mg</td>
<td>Warm water/ Butter milk</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Hiṅgvādi vaṭī</td>
<td>1.5 gm</td>
<td>Warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Laśunādi vaṭī</td>
<td>1.5 gm</td>
<td>Warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Agnītuṇḍīvaṭī</td>
<td>125 - 250 mg</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Saṅjīvanī vaṭī</td>
<td>125 mg</td>
<td>Ārdraka Svarasa/ Warm water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Indukānta ghṛta</td>
<td>10 gm</td>
<td>Warm water/Milk</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Pippalyādi ghṛta</td>
<td>10 gm</td>
<td>Warm water/Milk</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Pippalyāsava</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Kumāryāsava</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Drākṣāriṣṭa</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
<tr>
<td>Jīrakādyariṣṭa</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>7 - 10 days</td>
</tr>
</tbody>
</table>

\(^5\)MOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient.
patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. **Yogic practices** - The following *yogic* practices are beneficial in Indigestion; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. *Sūryanamaskāra, Kaṭicakrāsana, Bhujāṅgāsana, Dhanurāsana, Vajrāsana, Pavanamuktāsana* etc.
2. *Prāṇāyāma (Sūrya anuloma viloma, Bhastrikā)*
3. *Agniśāra kriyā, Bhujāṅginī mudrā*
4. *Kuṇjala, Daṇḍa dhauti, Vastra dhauti* etc.

**Counselling** - Advice the patient to

1. Ensure the digestion of previously consumed food before having next meal
2. Eat properly in a pleasant, quite atmosphere without watching T.V., reading, talking, etc.
3. Take food at a regular time
4. Take dinner 2-3 hours before sleep
5. Walk regularly after dinner
6. Include fiber food in diet
7. Avoid the habit of skipping breakfast
8. Avoid spicy, oily and heavy food articles
9. Avoid tea or coffee before sleep
10. Avoid the habit of drinking too much water after meal
11. Avoid junk food like pizza, burger, samosa, kachori etc.

**Indications for referral**

1. Patients who are suffering from indigestion secondary to another disease may be referred
2. Having carcinoma of esophagus or other alimentary tract
## COSTING DETAILS

**Approx. costing of Indigestion Management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Śuṣṭhī cūrṇa</td>
<td>15</td>
<td>gm</td>
<td>0.6</td>
<td>9</td>
</tr>
<tr>
<td>2.</td>
<td>Ajamoda cūrṇa</td>
<td>15</td>
<td>gm</td>
<td>0.5</td>
<td>7.5</td>
</tr>
<tr>
<td>3.</td>
<td>Pippalī cūrṇa</td>
<td>15</td>
<td>gm</td>
<td>0.5</td>
<td>7.5</td>
</tr>
<tr>
<td>4.</td>
<td>Hiṅgaśṭaka cūrṇa</td>
<td>20-60</td>
<td>gm</td>
<td>0.28</td>
<td>5.6 - 18</td>
</tr>
<tr>
<td>5.</td>
<td>Lavaṇabhāskara cūrṇa</td>
<td>50-60</td>
<td>gm</td>
<td>0.31</td>
<td>16 - 19</td>
</tr>
<tr>
<td>6.</td>
<td>Gandharvahastādī kaśāya</td>
<td>210-300</td>
<td>ml</td>
<td>0.5</td>
<td>105-150</td>
</tr>
<tr>
<td>7.</td>
<td>Ajamodārka</td>
<td>200-500</td>
<td>ml</td>
<td>0.13</td>
<td>26 - 65</td>
</tr>
<tr>
<td>8.</td>
<td>Pudīnārka</td>
<td>200-500</td>
<td>ml</td>
<td>0.50</td>
<td>100 - 250</td>
</tr>
<tr>
<td>9.</td>
<td>Śaṅkha vaṭī</td>
<td>3.5-10</td>
<td>gm</td>
<td>1.90</td>
<td>7 - 19</td>
</tr>
<tr>
<td>10.</td>
<td>Citraṅgādi vaṭī</td>
<td>21-30</td>
<td>gm</td>
<td>1.20</td>
<td>26 - 36</td>
</tr>
<tr>
<td>11.</td>
<td>Hiṅgādi vaṭī</td>
<td>21-30</td>
<td>gm</td>
<td>2.00</td>
<td>42 - 60</td>
</tr>
<tr>
<td>12.</td>
<td>Laśunādi vaṭī</td>
<td>21-30</td>
<td>gm</td>
<td>1.60</td>
<td>33 - 48</td>
</tr>
<tr>
<td>13.</td>
<td>Agniunḍīvaṭī</td>
<td>1.75-3.5</td>
<td>gm</td>
<td>2.20</td>
<td>4 - 8</td>
</tr>
<tr>
<td>14.</td>
<td>Saṅjīvanī vaṭī</td>
<td>1.75-3.0</td>
<td>gm</td>
<td>1.60</td>
<td>3 - 5</td>
</tr>
<tr>
<td>15.</td>
<td>Indukānta ghṛṭa</td>
<td>70-100</td>
<td>gm</td>
<td>0.45</td>
<td>32-45</td>
</tr>
<tr>
<td>16.</td>
<td>Pippalyādi ghṛṭa</td>
<td>70-100</td>
<td>gm</td>
<td>0.34</td>
<td>24-34</td>
</tr>
<tr>
<td>17.</td>
<td>Pippalyāśava</td>
<td>200-500</td>
<td>ml</td>
<td>0.75</td>
<td>16-39</td>
</tr>
<tr>
<td>18.</td>
<td>Kumāryāśava</td>
<td>200-500</td>
<td>ml</td>
<td>1.54</td>
<td>31 - 77</td>
</tr>
<tr>
<td>19.</td>
<td>Drāksāriṣṭa</td>
<td>200-500</td>
<td>ml</td>
<td>0.12</td>
<td>24 - 60</td>
</tr>
<tr>
<td>20.</td>
<td>Jīrakādyariṣṭa</td>
<td>200-500</td>
<td>ml</td>
<td>1.43</td>
<td>29 - 72</td>
</tr>
</tbody>
</table>
Approx. costing of *Pañcakarma* procedure in Indigestion **

<table>
<thead>
<tr>
<th>S.No.</th>
<th><em>Pañcakarma</em> procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Sarvāṅga sveda</em></td>
<td>1</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>2.</td>
<td><em>Vamana</em> (including preparatory and post therapeutic procedures)</td>
<td>-</td>
<td>-</td>
<td>1000</td>
</tr>
<tr>
<td>3.</td>
<td><em>Virecana</em> (including preparatory and post therapeutic procedures)</td>
<td>-</td>
<td>-</td>
<td>1000</td>
</tr>
</tbody>
</table>
2.8 MUSCULO-SKELETAL DISEASES

2.8.1 Osteoporosis (Asthi sauśirya)

Introduction

With increasing numbers of the elderly people in India, Osteoporosis is fast emerging as a public health problem of massive proportions. It is often under-diagnosed and responsible for substantial morbidity and mortality. It is a systemic skeletal disease characterized by low bone mass and micro architectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture. It is also called 'Brittle bone disease'. The spine, hips and wrists are common areas of bone fractures from osteoporosis.

Osteoporosis is most common in women after menopause. Fragility fractures have doubled in the last decade. 40% of all women over 50 yrs. will suffer on osteoporotic fracture. The number of the hip fractures will rise from about 1.7 million in 1990 to 6.3 million by 2050.

Osteoporosis comes under 'Dhātu kṣaya' in Ayurveda. Osteoporosis can be correlated with asthi majjā dhātu kṣaya. The symptoms described in asthi majjā kṣaya closely resemble osteoporosis i.e. asthi sauśirya (weak and porous bones) bhrama (vertigo), timira darśana (darkness in front of eyes) asthi tōda (cutting pain in bones) and athi śūnyatā (numbness in bone) etc.

Aetiology: The cause of osteoporosis is not known. However the factors those contribute include

1. Low calcium intake
2. Early menopause
3. Sedentary life style
4. Inadequate exercise
5. Familial history of the disease
6. Endocrine disorders (Hyperthyroidism, Hypogonadism, Hyper-parathyroidism and Diabetes mellitus)
7. Prolonged use of steroids
8. Immobility for a prolonged duration

Pathogenesis

Bone remodeling occurs at discrete sites within the skeleton and proceeds in an orderly fashion, with bone resorption always being followed by bone formation. In older individuals, the rate of resorption exceeds the rate of formation resulting in 'too little bone mass' or osteoporosis. The bone mass progressively decreases but the bone is morphologically normal. In the first 5 years after menopause, bone density declines by about 2% annually and then declines to 1% loss every year.

Risk factors

Non modifiable

1. Gender - Women are at greater risk than men
2. Age - Advance age; female above 45 and males above 55 years
3. Body size - Small and thin people
4. Family history
5. Low oestrogen and testosterone levels

Modifiable:

1. Excess alcohol consumption
2. Vit. D deficiency
3. Low Body Mass Index (BMI)
4. Malnutrition
5. Higher Cadmium exposure
6. Use of soft drinks
Clinical features

Osteoporosis itself has no specific symptoms, in fact the first manifestation of the illness may be

1. Hip, spine or wrist fractures
2. External rotation and shortening of the involved leg
3. Delayed fracture healing process
4. Vertebral collapses
5. Kyphosis and painless vertebral fractures

Complications

Fractures of bone in hip, spine, wrist joints and ribs are the most common complications of osteoporosis.

Investigations

1. X-ray - Hip and wrist
2. Bone densitometry by
   - Photon absorptiometry
   - Dual energy X-ray absorptiometry (DXA)
3. Ultrasound scan
4. Quantitative CT scan
5. Serum Calcium, Alkaline phosphatase, Phosphate
6. Assessment of vitamin D and the bone markers (markers for the bone formations and of bone resorption)

Diagnosis

WHO has established the following diagnostic guidelines (Bone densitometry) using these T-scores -

a. T-score $\geq$ - 1.0 - Normal
b. T-score $< -1.0$ to $> - 2.5$ - Osteopenia
c. T-score ≤ - 2.5 - Osteoporosis

d. T-score ≤ - 2.5 and Presence of at least one fragility fracture - Severe osteoporosis

Management approaches

a. Prevention

1. Proper nutrition
2. Uses of māṣa (black gram), tīla (sesame seeds), milk, milk products, kadali (banana), pear, apple and other dietary articles rich in calcium
3. Practice physical exercise like walking, swimming, yogāsana and meditation
4. Life style modifications like reduction in weight, regular, slow and gentle exercises
5. Adequate rest
6. Regular Abhyāṅga (Gentle massage) of joints with medicated oils (twice a week)
7. Exposure to sunlight
8. Prevent injuries to joints
9. Avoid pungent and astringent or salty food
10. Avoid suppression of natural urges, excess tea, coffee, smoking and alcohol
11. Avoid excessive exertion

b. Medical management

Line of treatment

1. Nidāna parivarjana (avoidance of aetiological factors) - Avoid the causative factors to prevent complications of the disease. Avoid self medication with steroids, sedentary life style and consume wholesome diet

2. Samśodhana cikitsā - (Bio-cleansing therapies) followed by Śamana cikitsā (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether Śodhana therapy (Bio-cleansing therapies) is beneficial or not
i. **Snehana** - externally: Gentle massage with medicated oils such as
   - *Mahānārāyaṇa taila*
   - *Kṣīra balā taila*
   - *Mahāmāśa taila*
   - *Balā taila* etc.

   **Snehapāna** (internal oleation) with *Guggulutikta ghṛta* / *Pañcatiktaka ghṛta* 50 ml with 2-3 gm *saindhava lavana* daily for 3-7 days before *pañcakarma* (bio-cleansing procedure).

iii. **Svedana**
   - *Ṣaṣṭiaka śāli piṇḍa svēda* (made from Ṣaṣṭiaka śāli, *Balāmūla*, *Aśvagandhā mūla* and milk) for 15 days
   - *Upanāha sveda*
   - *Sneha dhārā* (kāyaseka - pizhichil) with *Dhānvantara taila* for 14 days

iv. **Vasti** - *Pañcatiktaka kṣīra vasti* for 7 days
   - *Pañcatiktaka kṣīra kvātha* - 240 ml
   - *Honey* - 120 ml
   - *Madhuyāṣṭhyādi taila* - 120 ml
   - *Guggulutikta ghūta* - 120 ml
   - *Saindhava lavana* - 15 gm

   The Dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

3. **Drug Therapy**

   The goals of treatment in Osteoporosis are to increase the strength of bones and improve and maintain the joint functions.

### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aśvagandhā</em> (Withania somnifera Dunal) eūṛpa</td>
<td>3-6 gm</td>
<td>Water/milk</td>
<td>30 days</td>
</tr>
</tbody>
</table>
## COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA $^*$/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pañcatikta kṣīra kvātha</td>
<td>10-20 ml</td>
<td>Water/milk</td>
<td>30 days</td>
</tr>
<tr>
<td>Guggulu tikta ghṛta</td>
<td>10 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Pañcatikta ghṛta guggulu</td>
<td>3-6 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Lākṣādi guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Yogarāja guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Trayodaśāṅga guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Pravāla piṣṭī</td>
<td>125-250 mg</td>
<td>Water/milk</td>
<td>30 days</td>
</tr>
<tr>
<td>Muktā piṣṭī</td>
<td>250-500 mg</td>
<td>Water/milk</td>
<td>30 days</td>
</tr>
<tr>
<td>Godantī bhasma</td>
<td>250-500 mg</td>
<td>Water/milk</td>
<td>30 days</td>
</tr>
<tr>
<td>Mahāmāṣa taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Mahānārāyaṇa taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Balāśvagandhādi taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Dhānvantara taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Kṣīrabalī taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
</tbody>
</table>

$^*$MOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.
c. **Yogic practices** - The following yogic practices are beneficial in Osteoporosis; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. **Śavāsana**

2. Deep relaxation technique, breathing exercises (Hand in and out, hand stretch, śaśāṅkāsana breathing, trikoṅāsana breathing, tiger breathing)

3. **Nāḍī anusandhāna, Nāḍī śodhana**

4. **Prāṇāyāma**

**Counselling** - Advice the patient to

1. Take nutritious diet rich in calcium and vitamin D
2. Practice weight bearing exercises (walking, climbing stairs, dancing etc.)
3. Spend a brief time under early morning sun light every day
4. Increase dairy products (milk, curd, butter cheese etc.) in diet
5. Take calcium supplements
6. Avoid over exertion
7. Avoid falls and trauma
8. Reduce/ stop smoking and alcohol intake

**Indications for referral:**

1. Any bone fractures

**COSTING DETAILS**

**Approx. costing of Osteoporosis management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Āśvagandhā cūṛṇa</td>
<td>180-360</td>
<td>gm</td>
<td>0.48</td>
<td>87-174</td>
</tr>
<tr>
<td>2.</td>
<td>Śatāvarī cūṛṇa</td>
<td>120-240</td>
<td>gm</td>
<td>0.5</td>
<td>60-120</td>
</tr>
<tr>
<td>3.</td>
<td>Āmalakī cūṛṇa</td>
<td>120-240</td>
<td>gm</td>
<td>0.25</td>
<td>30-60</td>
</tr>
</tbody>
</table>
4. Asthi śṛṅkhalā cūrpa 60-120 gm 0.2 12-24
5. Lāksiḍī guggulu 180 gm 1.33 240
6. Guggulutikta ghṛta 1500 gm 0.61 920
7. Induṅānta ghṛta 250-350 gm 0.45 120
8. Pañcatikta ghṛta guggulu 180-360 gm 0.95 171-342
9. Yogarāja guggulu 60-90 gm 1.30 78-117
10. Trayodaśāṅga guggulu 60-90 gm 1.35 80-120
11. Pravāla piṣṭī 7.5-15 gm 4 30-60
12. Mukta piṣṭī 15-30 gm 1.4 21-42
13. Godantī bhasma 15-30 gm 1.9 28.5-57
14. Mahāmāsa taila 200 ml 1.28 256
15. Mahānārāyaṇa taila 200 ml 1.75 350
16. Balāśvagandhādi taila 200 ml 0.285 57
17. Dhānvantara taila 200 ml 0.41 82
18. Kṣīrabalā taila 200 ml 0.68 136

Approx. costing of Pañcakarma procedure in Osteoporosis **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Snehana (externally)</td>
<td>15</td>
<td>200</td>
<td>3000</td>
</tr>
<tr>
<td>2.</td>
<td>Şaṣṭika śali piṇḍa sveda</td>
<td>15</td>
<td>350</td>
<td>5250</td>
</tr>
<tr>
<td>3.</td>
<td>Nirūha Vasti (Kṣīra vasti)</td>
<td>7</td>
<td>250</td>
<td>1750</td>
</tr>
<tr>
<td>4.</td>
<td>Sneha dhārā (Pizhichil)</td>
<td>14</td>
<td>350</td>
<td>4900</td>
</tr>
</tbody>
</table>

2.8.2 Osteoarthritis (Sandhi vāta)

Introduction

Musculoskeletal disorders predominate in the older adults and are a major reason for chronic disability and health care utilization in the geriatric age group. Osteoarthritis (OA) is a
degenerative disease of synovial joints commonly associated with minor inflammatory features due to primary cartilage disorder. OA is characterized by a slowly progressive deterioration of a joint in which there is a localized loss of cartilage, subchondral bone thickening (sclerosis), osteophyte formation and synovial thickening. Osteoarthritis commonly affects in the weight bearing joints. It is the most common articular disease in the elderly, with a steep rise in incidence after age 50 in men and age 45 in women. Symptomatic knee osteoarthritis is more common in women than in men. Also polyarticular involvement appears more common in females.

In a radiographic survey of women less than 45 years old only 2% had osteoarthritis. In the ages of 45-60 year the prevalence was 30% and for those older than 65 years is 68%. Similarly a condition described in Ayurveda, in which the vitiated vāta afflicts the joints, leads to a painful swelling and ultimately destruction of the joints is called Sandhivāta, which more closely resembles the disease entity, Osteoarthritis. Trauma, āma dōṣa, excessive fasting, riding or standing aggravates vāta dōṣa which leads to sandhi vāta.

Aetiology

Most of the time, the cause of osteoarthritis is unknown. It is mainly related to ageing but metabolic, genetic, chemical and mechanical factors can also contribute in the genesis of osteoarthritis.

OA can be primary or secondary.

1. Primary osteoarthritis occurs without any injury or obvious cause.
2. Secondary osteoarthritis is osteoarthritis due to injury/ another disease or condition.

Pathogenesis

Osteoarthritis is a derangement of balance between cartilage matrix degradation and repair. Primary Osteoarthritis is mostly related to ageing. With ageing, the water content of the cartilage increases and lubricant and the protein makeup of cartilage degenerates. Repeatitive use of the joints over the years irritates and inflames the cartilage causing joint pain and swelling. Eventually cartilage begins to degenerate by flaking or forming tiny crevasses. In advanced cases, there is a total loss of the cartilage/ cushion between the bones of the joints. Loss of cartilage cushion causes friction between the bones, leading to pain and limitation of joint mobility. Inflammation of the cartilage can also stimulate new bone outgrowths (spurs) to form around the joint. Osteoarthritis occasionally can be found in multiple members of the same family, implying a heredity (genetic) basis for this condition.
**Risk factors**

1. Genetic factors
2. Age
3. Obesity
4. Occupation related mechanical stress
5. Repetitive stress
6. Joint damage (trauma, sepsis)
7. Bone/ Joint related congenital defects
8. Crystal accumulation in articular cartilage
9. Prior inflammatory joint disorder
10. Metabolic/ endocrine disorders

**Clinical features**

1. Pain in the affected joints (knee joints are commonly affected)
2. Swelling, warmth and crackling of the affected joint
3. Stiffness of joint after long periods of inactivity
4. Nocturnal pain and rest pain (in advance stage)
5. Cracking of the joint with motion
6. Abnormal movement and muscular spasm
7. Joint pain increase in rainy weather
8. Deformity of the affected joints

Though the radiological findings suggest osteoarthritic changes, some people may be asymptomatic.

**Complications**

1. Gait disturbance, significant disability and deformities
2. Joint pains and stiffness of joints
3. Muscle inactivity (quadriceps weakness in knee osteoarthritis)
Investigations

1. Complete haemogram, ESR
2. X-Ray of affected joints
3. Serum uric acid
4. Serum calcium/ Phosphate
5. Synovial fluid analysis

Management approaches

a. Prevention

1. Uses of māṣa, (black gram), palāṇḍu (onion), rasōna (garlic), tila (sesamum) śunṭhī/ ādraka (ginger), mūlaka (radish), ladies finger, kūśmāṇḍa (pumpkin), mudga (green gram) and fruits like dāḍima (pomegranate), āmra (mango), drākṣā (grape) etc. in diet.
2. Perform adequate physiotherapy for strengthening the muscles of knee joint
3. Mild gentle massage with medicated oils
4. Prevent joint injuries
5. Adequate rest to joints
6. Regular, slow and gentle exercises
7. Maintenance of posture and flexibility of the joints
8. Take balanced diet
9. Reduction in weight
10. Avoid prolonged walking, standing, kneeling and squatting and crossed leg sitting
11. Avoid pungent and astringent or salty food and yava (barley)
12. Avoid exposure to too cold atmosphere and consumption of cold water and chilled soft drinks
13. Avoid excessive exertion, awaking up to late night and day sleep
14. Avoid suppression of natural urges
b. Medical management

Line of treatment (C. Ci. 28/93)

1. **Nidana parivarjana** (avoidance of aetiological factors) - The causative factors like prolonged standing, over exertion and injury to joints, prolonged use of steroid and sedentary life style should be avoided. Endocrine disorders should be corrected timely.

2. **Samśodhana cikitsā** - (Bio-cleansing therapies) followed by Śamana cikitsā (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether Śodhana therapy (Bio-cleansing therapies) is beneficial or not

   i. **Lepa** (local application) with *Jatāmaṃsyādi/Gṛhadhūmādī lepa* for 7 days

   ii. **Snehana** (external): massage for 15 days with medicated oils such as
       - *Mahānārāyaṇa taila*
       - *Daśamūla taila*
       - *Mahāmāśa taila*
       - *Viṣagārba taila*

   iii. **Snehapāna** (internal oleation) with *Guggulutikta gṛhīta/ Pañcatikta gṛhīta* 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days

   iv. **Svedana** (medicated fomentation)
       - *Ekāṅga* or *Sarvāṅga sveda* (hot fomentation) with decoction of *Nirguṇḍī, Daśamūla, Eraṇḍa, Balā mūla*, etc. for 15 days.

       or

       - *Patra piṇḍa sveda* (made from leaves of *Nirguṇḍī, Dhaturā, Ciścā, Eraṇḍa*, etc.) for 15 days

       - *Ṣaṣṭiaka sāli piṇḍa sveda* (made from *Ṣaṣṭiaka sāli, Balāmūla, Āsvagandhā mūla* and milk) for 15 days

       - *Snehadrava dhārā* (pizhichil) for 14 days

       - *Upanāha* (poltice) with *Gṛhadhūmādī cūrṇa* (in case of severe pain)

       - *Rukṣa sveda* with *kulaṭṭha cūrṇa* for 5-7 days followed by abhyāṅga

   v. **Vasti** - *Pañcatikta kṣīra* vasti for 7 days
The dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

3. Drug therapy

The goals of treatment in osteoarthritis (OA) are to reduce the joint pain and inflammation. While improving and maintaining the joint functions, increase the strength of the joints and reduce the disabling effects of the disease.

**SINGLE DRUGS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Śuṇṭhī (Zingiber officinale Rose.) cūrṇa</td>
<td>1 - 3 gm</td>
<td>Warm milk</td>
<td>30 days</td>
</tr>
<tr>
<td>Eraṇḍa (Ricinus communis Linn.) mūla kvāṭha</td>
<td>10 - 30 ml</td>
<td>Water</td>
<td>30 days</td>
</tr>
<tr>
<td>Nirguṇḍī (Vitex negundo Linn.) kvāṭha</td>
<td>10 - 30 ml</td>
<td>Water</td>
<td>30 days</td>
</tr>
</tbody>
</table>

**COMPOUND FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahārāsnādi kvāṭha</td>
<td>12 - 24 ml</td>
<td>With Śuṇṭhī cūrṇa (1-2gm)</td>
<td>30 days</td>
</tr>
<tr>
<td>Rāsnairṇḍādi kvāṭha cūrṇa</td>
<td>12 - 24 gm</td>
<td>Water</td>
<td>30 days</td>
</tr>
<tr>
<td>Daśamūla kvāṭha</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>30 days</td>
</tr>
<tr>
<td>Rāsnādi Kvāṭha</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>30 days</td>
</tr>
<tr>
<td>Mahā Yogarāja guggulu</td>
<td>500 mg-1 gm</td>
<td>Luke warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Yogarāja guggulu</td>
<td>1-1.5 gm</td>
<td>Luke warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Drug</td>
<td>Dosage</td>
<td>Mode of Administration</td>
<td>Duration</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------</td>
<td>------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Guggulutikta ghṛta</td>
<td>10 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Paṇcatikta ghṛta guggulu</td>
<td>3-6 gm</td>
<td>Warm water</td>
<td>30 days</td>
</tr>
<tr>
<td>Mahānārāyaṇa taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Viṣagarbha taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Nārāyaṇa taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Mahāmāśa taila</td>
<td>for external use</td>
<td>-</td>
<td>30 days</td>
</tr>
<tr>
<td>Daśāṅga lepa</td>
<td>for external use</td>
<td>-</td>
<td>7 days</td>
</tr>
</tbody>
</table>

5MOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Śallakī (Boswellia serrata)\(^5\) and Guggulu (Commiphora mukul)\(^7\) have shown improvement in the patients of osteoarthritis.

**c. Yogic practices** - The following yogic practices are beneficial in OA; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga practicenor.

1. Makarāsana, Pavanamuktāsana, Dhanurāsana, Kaṭicakrāsana, Vakrāsana, Bhujāṅgāsana, Śavāsana, Tāḍāsana, Utkāṭāsana, Sūkśma vyāyāma (loosening exercise) etc.

2. Prāṇāyāma, Yoga nidrā

**Counselling** - Advice the patient to

1. Maintain a normal body weight as per height
2. Practice regular weight bearing exercises and yoga as per the expert advise
3. Maintain a right posture
4. Eat freshly cooked food items
5. Take diet rich in antioxidants
6. Practice exercises for knees - Quadriceps exercise (ask the patient to lie on bed and
raise the legs slowly with knees in extended position gradually; some weight may be put on ankles and same exercise to be repeated

7. Practice exercise for spine - Lie in prone position. Put both hands along the side. Raise the neck above without support and maintain this position for some time. Repeat this exercise many times a day

8. Don’t stand continuously for a longer time

9. Avoid over exertion / lifting heavy weight

**Indications for referral**

1. Bone/ joint deformity/ inability to move the joints
2. Osteoarthritis associated with complication
3. Unbearable pain not responding to medication
4. Very advanced OA conditions where surgery is the only solution

**COSTING DETAILS**

**Approx. costing of Osteoarthritis management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Śuṣṭhī cūrṇa</td>
<td>60-120</td>
<td>gm</td>
<td>0.5</td>
<td>30-60</td>
</tr>
<tr>
<td>2.</td>
<td>Eraṇḍa mūla kvāṭha</td>
<td>600-1800</td>
<td>ml</td>
<td>0.2</td>
<td>120-360</td>
</tr>
<tr>
<td>3.</td>
<td>Nirguṇḍī kvāṭha</td>
<td>1800</td>
<td>ml</td>
<td>0.2</td>
<td>360</td>
</tr>
<tr>
<td>4.</td>
<td>Mahārāṣṇādi kvāṭha</td>
<td>750-1500</td>
<td>ml</td>
<td>0.132</td>
<td>98.3-196</td>
</tr>
<tr>
<td>5.</td>
<td>Rāṣnairaṇḍādi kvāṭha cūrṇa</td>
<td>750-1500</td>
<td>gm</td>
<td>0.76</td>
<td>570-1140</td>
</tr>
<tr>
<td>6.</td>
<td>Daśamūla kvāṭha</td>
<td>750-1500</td>
<td>ml</td>
<td>0.147</td>
<td>110-220</td>
</tr>
<tr>
<td>7.</td>
<td>Daśamūla kvāṭha cūrṇa</td>
<td>750</td>
<td>gm</td>
<td>0.18</td>
<td>135</td>
</tr>
<tr>
<td>8.</td>
<td>Rāsnādi Kvāṭha</td>
<td>750-1500</td>
<td>ml</td>
<td>0.475</td>
<td>357-713</td>
</tr>
<tr>
<td>9.</td>
<td>Mahā yogarāja guggulu</td>
<td>30-60</td>
<td>gm</td>
<td>5</td>
<td>150-300</td>
</tr>
<tr>
<td>10.</td>
<td>Yogarāja guggulu</td>
<td>60-90</td>
<td>gm</td>
<td>1.30</td>
<td>78-118</td>
</tr>
<tr>
<td>S.No.</td>
<td>Pañcakarma procedure</td>
<td>Days</td>
<td>Rate in Rs./ day</td>
<td>Cost in Rs.</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------</td>
<td>------</td>
<td>-----------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Snehana (externally)</td>
<td>15</td>
<td>200</td>
<td>3000</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Ekāṅga sveda</td>
<td>15</td>
<td>100</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Sarvāṅga sveda</td>
<td>15</td>
<td>150</td>
<td>2250</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Patra piṇḍa sveda</td>
<td>15</td>
<td>200</td>
<td>3000</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Ṣaṣṭiaka śāli piṇḍa sveda</td>
<td>15</td>
<td>350</td>
<td>5250</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Snehadra va dhāra (kayaseka - pizhichil)</td>
<td>14</td>
<td>350</td>
<td>4900</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Yoga Vasti</td>
<td>8</td>
<td>-</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Kāla Vasti</td>
<td>16</td>
<td>-</td>
<td>2500</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Karma Vasti</td>
<td>30</td>
<td>-</td>
<td>5000</td>
<td></td>
</tr>
</tbody>
</table>

**Approx. costing of Pañcakarma procedure in Osteoarthritis**
2.9 GENITO-URINARY DISEASES

2.9.1 Benign Prostatic Hypertrophy (Aṣṭhīlā)

Introduction

A condition in which a non-cancerous growth of the prostate gland makes urination frequent, difficult and uncomfortable is called benign prostatic hypertrophy (BPH). BPH rarely causes symptoms before age 40, but more than half of men in their sixties and 75% by age of 80 have some symptoms of BPH. It is a common part of ageing. Prevalence rates are 2-7% for men aged 45-49, increasing to 24% by the age of 80 years. If left untreated, BPH can be a progressive disease. Incomplete voiding may result in urinary tract infections in these patients.

Descriptions of BPH are closely resembles with the clinical features of Aṣṭhīlā. It is one of the 13 types of Mūtrāghāta (obstructive uropathies) described in Ayurveda. Aṣṭhīlā is a mobile and elevated swelling, which obstructs the passage of urine and faeces. Generally vāta prakōpa āhāra (like dry, cold and light food in insufficient quantities) and vihāra (like starvation, over exertion and suppression of urine) aggravate vāta dōṣa which leads to Aṣṭhīlā (Pauruṣa granthi vūddhī - Prostate gland enlargement)

Aetiology

The exact aetiology of BPH is unknown; however, ageing process is an important causative factor for BPH. In addition, prostatic growth is directly related to presence of Dihydrotestosterone (DHT) also. Initially, prostate growth takes place at puberty and again around fifth decade of life, which continues for the rest of man's life. This process involves a heterogenous and granular hyperplasia of the prostate.
Clinical features

The most common symptoms of BPH are

1. Frequent urination, especially at night
2. Urgency of urination
3. Hesitancy and intermittency
4. Leaking or dribbling of urine
5. Interrupted weak stream
6. Bladder pain/ dysuria
7. Urine incontinence
8. Prolonged emptying
9. Urine retention (in severe BPH)
10. Hematuria

Complications

1. Urinary tract infections
2. Urinary stones
3. Blood in the urine
4. Hydronephrosis
5. Urinary retention

Investigations/Examination

1. Digital rectal Examination
2. Urine analysis
3. Ultrasound : Kidney, Ureter, Bladder
4. Cystoscopy
5. Serum Prostate Specific Antigen (PSA) Blood test
6. Prostate Biopsy
7. Uroflowmetry
Management approaches

a. Prevention of complications of BPH

1. Usage of wheat, old rice, mudga (green gram) juice, kulattha (horse gram), yava (barley) water, rasona (garlic), haridrā (turmeric), ārdraka (ginger), paṭola (snake gourd), ātru (drum stick), coconut, cucumber, watermelon, coriander, cumin seed, sugarcane, grapes, butter milk etc.

2. Consume of adequate liquids

3. Avoid pea, black gram, spinach, jāmun, mustard, sesame and excess hot and spicy food

b. Medical management

Line of treatment

1. Saṃśādhan Cikitsā - (Bio-cleansing therapies) /other therapeutic procedures followed by Śamana cikitsā (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether Śodhana therapy (Bio-cleansing therapies) is beneficial or not.

i. Avapīḍaka snehāpāna with Vastyāmayāntaka ghṛṭa, single dose of 200 - 300ml

ii. Avagāha sveda (Sitz bath) for 15 days with warm water or decoctions like

- Pañca valkala kvāṭha
- Triphalā kvāṭha
- Daśamūla kvāṭha

iii. Vasti

- Uttara vasti with Varuṇādi ghṛṭa/ Śatāvaryādi ghṛṭa 30-50 ml for 3 days (Each Uttara vasti is given with a gap of three days).
- Māṭrā vasti with Varuṇādi ghṛṭa/ Śatāvaryādi ghṛṭa 30-50 ml for 14 days

The dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

2. Drug therapy
### SINGLE DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA*/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gokṣura (<em>Tribulus terrestris</em> Linn.) <em>cūrṇa</em></td>
<td>3-6gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Paṣāṇabheda (<em>Bergenia ligulata</em> (Wall.) Engl.) <em>cūrṇa</em></td>
<td>1-3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Harītakī (<em>Terminalia chebula</em> Retz) <em>cūrṇa</em></td>
<td>3 gm</td>
<td>Lukewarm water at bed time</td>
<td>15 days</td>
</tr>
<tr>
<td>Varuṇa (<em>Crataeva nurvola</em> Buch. and Ham.) <em>kvātha</em></td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Punarnavā (<em>Boerhavia diffusa</em> Linn.) <em>kvātha</em></td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>

### COMPOUND FORMULATIONS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA*/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tṛṇapaṇcamūla <em>kvātha</em></td>
<td>10-50 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Bṛhatyādi <em>kaśāya</em></td>
<td>15-30ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Gokṣurādi <em>guggulu</em></td>
<td>1-1.5 gm</td>
<td>Luke warm water/ <em>Mustaka kvātha</em> (decoction made from <em>Cyperus rotundus</em>)</td>
<td>15 days</td>
</tr>
<tr>
<td>Kāñcanāra <em>guggulu</em></td>
<td>1-1.5 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Chandraprabhā <em>vaṭī</em></td>
<td>1-1.5 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Śveta parpaṭī</td>
<td>750-1250 mg</td>
<td>Water/ <em>Nārikela jala</em> (Coconut water)</td>
<td>15 days</td>
</tr>
<tr>
<td>Dhānvantara <em>ghṛta</em></td>
<td>15 ml</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Varuṇādi <em>ghṛta</em></td>
<td>15-30 ml</td>
<td>for <em>uttar Vasti</em></td>
<td>3 days</td>
</tr>
<tr>
<td>Śatāvaryādi <em>ghṛta</em></td>
<td>15-30 ml</td>
<td>for <em>uttar Vasti</em></td>
<td>3 days</td>
</tr>
<tr>
<td>Candanāsava</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Punarnavāsava</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS

5MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices - The following yogic practices are beneficial in BPH; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana, Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana etc.

2. Aśvini mudrā, Mūlabandha, Nāḍī ṣodhana, Śītalī prāṇāyāma

Counselling - Advice the patient to

1. Urinate when ever the urge and at regular intervals
2. Take plenty of fluids, but in divided quantities at regular intervals
3. Try to evacuate bladder completely
4. Practice kegel exercise: simply tighten and relax the pubo-coccygeus muscles for 3 seconds about 20-30 times a day for strengthening the pelvic floor
5. Practice yoga to reduce stress
6. Restrict high caloric and high fat diet
7. Avoid drinking large amounts of fluid at one time and especially at night
8. Avoid alcohol and caffee, especially after dinner.
9. Avoid drinking water within 2 hours before going to bed
10. Try to avoid decongestants and antihistamines, which can worsen BPH symptoms

Indications for referral

1. Incontinence of urine
2. Recurrent urinary infection
3. Recurrent blood in the urine
4. Urinary retention
## COSTING DETAILS

### Approx. costing of BPH management

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gōkṣura cūrṇa</td>
<td>90-180</td>
<td>gm</td>
<td>0.3</td>
<td>27-54</td>
</tr>
<tr>
<td>2.</td>
<td>Pāśaṇabhēda cūrṇa</td>
<td>90-180</td>
<td>gm</td>
<td>0.7</td>
<td>63-126</td>
</tr>
<tr>
<td>3.</td>
<td>Harītakī cūrṇa</td>
<td>90</td>
<td>gm</td>
<td>0.27</td>
<td>24.3</td>
</tr>
<tr>
<td>4.</td>
<td>Varuṇa kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.3</td>
<td>90-180</td>
</tr>
<tr>
<td>5.</td>
<td>Punarnavī kvāṭha</td>
<td>300-600</td>
<td>ml</td>
<td>0.3</td>
<td>90-180</td>
</tr>
<tr>
<td>6.</td>
<td>Trāṇapaṇamūla kvāṭha</td>
<td>100-150</td>
<td>gm</td>
<td>0.28</td>
<td>28-42</td>
</tr>
<tr>
<td>7.</td>
<td>Brhatyādi kaśāya</td>
<td>300-600</td>
<td>ml</td>
<td>0.23</td>
<td>69-138</td>
</tr>
<tr>
<td>8.</td>
<td>Gokṣurādi guggulu</td>
<td>30-60</td>
<td>gm</td>
<td>1.25</td>
<td>38-72</td>
</tr>
<tr>
<td>9.</td>
<td>Kańcanāra guggulu</td>
<td>30-60</td>
<td>gm</td>
<td>1.2</td>
<td>36-72</td>
</tr>
<tr>
<td>10.</td>
<td>Candraprabhā vaṭī</td>
<td>30-60</td>
<td>gm</td>
<td>2</td>
<td>60-120</td>
</tr>
<tr>
<td>11.</td>
<td>Śveta parpaṭī</td>
<td>22.5-37.5</td>
<td>gm</td>
<td>3</td>
<td>68-104</td>
</tr>
<tr>
<td>12.</td>
<td>Dhānvantara ghṛta</td>
<td>450</td>
<td>ml</td>
<td>0.45</td>
<td>210</td>
</tr>
<tr>
<td>13.</td>
<td>Varuṇādi ghṛta</td>
<td>45-90</td>
<td>ml</td>
<td>0.41</td>
<td>19-38</td>
</tr>
<tr>
<td>14.</td>
<td>Vastyāmayānthaka ghṛta</td>
<td>200-300</td>
<td>ml</td>
<td>0.625</td>
<td>125-188</td>
</tr>
<tr>
<td>15.</td>
<td>Śatāvaryādi ghṛta</td>
<td>45-90</td>
<td>ml</td>
<td>0.625</td>
<td>28.5-57</td>
</tr>
<tr>
<td>16.</td>
<td>Candanaśava</td>
<td>300-600</td>
<td>ml</td>
<td>0.118</td>
<td>36-71</td>
</tr>
<tr>
<td>17.</td>
<td>Punarnavāśava</td>
<td>300-600</td>
<td>ml</td>
<td>0.127</td>
<td>38-76</td>
</tr>
</tbody>
</table>

### Approx. costing of Pańcakarma procedure in BPH

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pańcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Avagāha sveda (Sitz bath)</td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
<tr>
<td>2.</td>
<td>Uttara vasti</td>
<td>3</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>3.</td>
<td>Mātrā vasti</td>
<td>7</td>
<td>100</td>
<td>700</td>
</tr>
</tbody>
</table>
2.10  SURGICAL PROBLEMS

2.10.1 Fistula in ano (Bhagandara)

Introduction

Fistula is an abnormal passage, leading from one internal cavity to another or to the surface; it is either lined with mucosal membrane or may be lined with epithelium. Fistula in ano is a track, lined by granulation tissue that connects deeply in the anal canal or rectum and superficially on the skin around the anus.

It is closely resemble with disease entity Bhagandara described in Ayurveda. The word Bhagandara is made up of two words Bhaga (perineum) and Dāraṇa (tearing pain), which mean tearing pain in perineum region. It starts originally from a boil, called as Bhagandra pidiṇā, when not treated properly bursts and forms a track (fistula in ano) called Bhagandara. Ācārya Suśruta, the father of ancient surgery has included Bhagandara under the aṣṭamahāgada. Since, the modern surgery is not able to give satisfactory result due to its various post operative complications and excess recurrence rate, kṣāra sūtra therapy mentioned in Ayurveda has drawn a global attention because of its efficacy, less complication, high success rate and very less chances of recurrence. It is globally accepted that kṣāra sūtra application in fistula track is safe and ambulatory mode of management.

Types of Fistulae

Various types of fistulae include

1. **Low level fistulae:** it is open into the anal canal below the anorectal ring
2. **High level fistulae:** it is open into the anal canal at or above the anorectal ring
Aetiology

1. Inadequate drainage or bursting of perineal abscess
2. Trauma to the perineal area
3. Infection of apocrine sweat glands around the anal margin
4. Secondary to disease such as inflammatory bowel disease (ulcerative colitis)
5. Chronic fissure in ano

Pathology

Fistula in ano usually results from an anorectal abscess which bursts spontaneously or by opening inadequately.

Clinical features

The following symptoms may be associated with Fistula in ano

1. Persistent or recurrent sero-purulent discharge from an abnormal opening adjacent to the anus
2. Swelling adjacent to the anus
3. Pain and discomfort in anal region while defecation
4. H/O passing flatus (rarely faeces) through abnormal (fistula) opening

Investigations/ Examination

1. Digital Examination
2. Probing
3. Proctoscopy
4. Fistulogram
5. Pus culture and sensitivity
Management approaches

a. Prevention

1. Daily consumption of śāka (green leafy vegetables), takra (buttermilk), drākṣa (grape), guava, dāḍima (pomegranate) and easily digestible dietary articles
2. Take care of regular bowel habits
3. Practice regular exercises such as walking, running, and swimming
4. Immediate consultation for perineal region pain / abscess
5. Maintain perianal hygiene
6. Eating plenty of fibre diet and sufficient fluid intake
7. Avoid hot, heavy, spicy and salty, incompatible dietary articles, highly processed and non vegetarian food
8. Avoid suppression of natural urges and sitting for longer duration

b. Medical management

Line of treatment

1. Nidāna parivarjana (avoidance of aetiological factors) - Trauma to perineal area should be avoided and perineal abscess, infection and inflammatory bowel disease should be corrected timely and modify life style to prevent repeated constipation.

2. Saṃśōdhana cikitsā (bio-cleansing therapies) followed by Śamana cikitsā (palliative therapy) should be advocated.
   i. Avagāha sveda (Sitz bath) for 15 days with warm water or decoctions like
      - Pañca valkala kvāṭha
      - Triphalā kvāṭha
      - Daśamūla kvāṭha
   ii. Vasti
      - Mātrā vasti with Pippalyādi taila 50 ml daily for 15 days
      - Anuvāsana vasti (with Kāsisādi taila/ Jātyādi taila 50ml) and Nirūha vasti (with Pañcavalkala kvāṭha/ Daśamūla kvāṭha 480ml, maṇjiṣṭhādi taila 240 ml, honey 240 ml, saindhava lāvaṇa 15 gm and kalka) alternately for 8 days (yoga vasti karma)
3. Drug therapy

**SINGLE DRUGS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA*/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sūraṇa (Amorphophalus campanulatus Blume ex Decne.) cūrṇa</td>
<td>1 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Ajamoda (Apium graveolens Linn.) cūrṇa</td>
<td>1 gm</td>
<td>Lukewarm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Harītakī (Termnelia chebula Retz.) cūrṇa</td>
<td>3 gm</td>
<td>Lukewarm water at bed time</td>
<td>15 days</td>
</tr>
<tr>
<td>Tālamūlī (Curculigo orchioides Gaertn.) cūrṇa</td>
<td>3-6 gm</td>
<td>milk</td>
<td>15 days</td>
</tr>
</tbody>
</table>

**COMPOUND FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA*/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphalā cūrṇa</td>
<td>3-6 gm.</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Hiṅguvacādi cūrṇa</td>
<td>1-2.5 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Guggulu paṇca pala cūrṇa</td>
<td>5 gm</td>
<td>Honey</td>
<td>15 days</td>
</tr>
<tr>
<td>Avipattikara cūrṇa</td>
<td>5gm</td>
<td>Water/ Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Śivākṣāra pācana cūrṇa</td>
<td>1-2.5 gm</td>
<td>Water/ at bed time</td>
<td>15 days</td>
</tr>
<tr>
<td>Cirābilvādi kaśāya</td>
<td>15-30ml</td>
<td>Water</td>
<td>Water</td>
</tr>
<tr>
<td>Citrakādi vaṭī</td>
<td>1.5 gm</td>
<td>Warm water/ Butter milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Kāṅkāyana vaṭī</td>
<td>250-500 mg</td>
<td>ghṛta /milk/ water</td>
<td>15 days</td>
</tr>
<tr>
<td>Triphalā guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Saptaviṃśati guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Paṇcatikta ghṛta guggulu</td>
<td>3-6 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Bāhuśālā guḍa</td>
<td>3-6 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Kuṭajārīṣṭa</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
**Abhayārīṣṭa** 12 - 24 ml Water 15 days

**Mṛdvikārīṣṭa** 12 - 24 ml Water 15 days

**Madhusnuhī rasāyana** 6-12gm Water/Milk 15 days

**Vyāḍhiharana rasāyana** 125-250 mg Water 15 days

**Nityānanda rasa** 125 - 250 mg Water 15 days

**Jātyādi taila** for external use - 15 days

**Guggulutikta ghṛta** 10 gm Warm water 15 days

**Kāsiśādi taila** for external use - 15 days

**Pippalyādi ghṛta** for mātrā vasti - 15 days

**Paṇcavalkala kvātha** for avagāha sveda - 15 days

**Triphalā kvātha** for avagāha sveda - 15 days

---

$^5$MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

**Kṣāra sūtra**$^{49}$ and **Tīkṣṇa kṣāra sūtra**$^{50}$ therapy have shown improvement in the patient of fistula.

### 4. Surgical treatment

**Kṣāra sūtra therapy** - If medical management is not responding or condition is chronic, then **Bhagandara** is to be treated by applying *kṣāra sūtra*

Advantages of *kṣāra sūtra* therapy over conventional fistulectomy are

1. Simple minimal invasive method
2. Does not require hospitalization
3. No complication when performed by the experts
4. Need of anesthesia and antibiotics are negligible when compared to conventional surgery
c. Yogic practices - The following yogic practices are beneficial in Fistula in ano; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Śaṅkha prakśālana once in a month.
2. Gaṇeśa kriyā, Aśvinī mudrā, Mūlabandha, Nāḍī śodhana, Śītalī prāṇāyāma
3. Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana etc

Counselling - Advice the patient to

1. Practice good personal hygiene, keep the anal area clean
2. Exercise the buttock muscles
3. Consume high fibre food
4. Take light food at night
5. Avoid constipation
6. Avoid junk food

Indications for referral

1. Multiple fistulae with severe associated complications
2. Chronic infections
3. Tubercular origin

COSTING DETAILS

Approx. costing of Fistula-in-ano management

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sūraṇa cūrṇa</td>
<td>30</td>
<td>gm</td>
<td>0.75</td>
<td>23</td>
</tr>
<tr>
<td>2.</td>
<td>Ajamodā cūrṇa</td>
<td>30</td>
<td>gm</td>
<td>0.50</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Harītakī cūrṇa</td>
<td>90</td>
<td>gm</td>
<td>0.27</td>
<td>25</td>
</tr>
<tr>
<td>4.</td>
<td>Tālamūlī cūrṇa</td>
<td>90-180</td>
<td>gm</td>
<td>0.25</td>
<td>23-46</td>
</tr>
<tr>
<td>No.</td>
<td>Item Description</td>
<td>Weight (gm)</td>
<td>Volume (ml)</td>
<td>Price (Rs)</td>
<td>Quantity (gm/ml)</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>------------</td>
<td>------------------</td>
</tr>
<tr>
<td>5.</td>
<td>Triphala cūrṇa</td>
<td>90-180</td>
<td></td>
<td>0.38</td>
<td>34-68</td>
</tr>
<tr>
<td>6.</td>
<td>Hindugvacādi cūrṇa</td>
<td>30-75</td>
<td></td>
<td>0.48</td>
<td>15-38</td>
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<tr>
<td>7.</td>
<td>Guggulu pañca pala cūrṇa</td>
<td>150</td>
<td></td>
<td>0.50</td>
<td>75</td>
</tr>
<tr>
<td>8.</td>
<td>Avipattikara cūrṇa</td>
<td>150</td>
<td></td>
<td>0.40</td>
<td>60</td>
</tr>
<tr>
<td>9.</td>
<td>Śivākṣāra pācana cūrṇa</td>
<td>30-75</td>
<td></td>
<td>0.36</td>
<td>11-27</td>
</tr>
<tr>
<td>10.</td>
<td>Cūrabilvādi kaśāya</td>
<td>450-600</td>
<td></td>
<td>0.41</td>
<td>185-246</td>
</tr>
<tr>
<td>11.</td>
<td>Citrakādi vaṭī</td>
<td>45</td>
<td></td>
<td>1.20</td>
<td>54</td>
</tr>
<tr>
<td>12.</td>
<td>Kāṅkāyana vaṭī</td>
<td>7.5-15</td>
<td></td>
<td>0.84</td>
<td>7-14</td>
</tr>
<tr>
<td>13.</td>
<td>Triphala guggulu</td>
<td>30-45</td>
<td></td>
<td>1.35</td>
<td>41-62</td>
</tr>
<tr>
<td>14.</td>
<td>Saptaviṃśati guggulu</td>
<td>30-45</td>
<td></td>
<td>1.35</td>
<td>41-62</td>
</tr>
<tr>
<td>15.</td>
<td>Pañcatikta ghṛta guggulu</td>
<td>180-360</td>
<td></td>
<td>0.95</td>
<td>172-344</td>
</tr>
<tr>
<td>16.</td>
<td>Bāhuśāla guḍa</td>
<td>90-180</td>
<td></td>
<td>0.20</td>
<td>18-36</td>
</tr>
<tr>
<td>17.</td>
<td>Guggulūltiktaka ghūta</td>
<td>300</td>
<td></td>
<td>0.61</td>
<td>184</td>
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<tr>
<td>18.</td>
<td>Kuṭajāriṣṭa</td>
<td>375-750</td>
<td></td>
<td>0.25</td>
<td>94-188</td>
</tr>
<tr>
<td>19.</td>
<td>Abhayāriṣṭa</td>
<td>375-750</td>
<td></td>
<td>0.23</td>
<td>87-174</td>
</tr>
<tr>
<td>20.</td>
<td>Mrdvīkāriṣṭa</td>
<td>375-750</td>
<td></td>
<td>0.11</td>
<td>42-84</td>
</tr>
<tr>
<td>21.</td>
<td>Madhusnuhśrasāyana</td>
<td>180-360</td>
<td></td>
<td>0.42</td>
<td>76-152</td>
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<tr>
<td>22.</td>
<td>Vyāḍhiharana rasāyana</td>
<td>3.75-7.5</td>
<td></td>
<td>20.00</td>
<td>75-150</td>
</tr>
<tr>
<td>23.</td>
<td>Nityānanda rasa</td>
<td>3.75-7.5</td>
<td></td>
<td>3.60</td>
<td>14-28</td>
</tr>
<tr>
<td>24.</td>
<td>Jātyādi taila</td>
<td>100</td>
<td></td>
<td>0.52</td>
<td>52</td>
</tr>
<tr>
<td>25.</td>
<td>Kāśīśādi taila</td>
<td>100</td>
<td></td>
<td>0.76</td>
<td>76</td>
</tr>
<tr>
<td>26.</td>
<td>Pippalādi ghṛta</td>
<td>750</td>
<td></td>
<td>0.35</td>
<td>265</td>
</tr>
<tr>
<td>27.</td>
<td>Pañcavalkala kvātha</td>
<td>500</td>
<td></td>
<td>0.16</td>
<td>180</td>
</tr>
<tr>
<td>28.</td>
<td>Triphala kvātha</td>
<td>750</td>
<td></td>
<td>0.20</td>
<td>150</td>
</tr>
</tbody>
</table>
### Approx. costing of Pañcakarma procedure in Fistula-in-ano **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Avagāha sveda (Sitz bath)</td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
<tr>
<td>2.</td>
<td>Yoga vasti karma (Package)</td>
<td>8</td>
<td>-</td>
<td>1250</td>
</tr>
<tr>
<td>3.</td>
<td>Mātrā vasti</td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
</tbody>
</table>

### Approx. costing of Kṣāra sūtra procedure in Fistula-in-ano **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kṣāra sūtra application in Bhagandara (Fistula in ano) (initial)</td>
<td>1</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>2.</td>
<td>Follow up after Kṣāra sūtra application in Bhagandara (Fistula in ano)</td>
<td>5-6 visits</td>
<td>250/ visit</td>
<td>1250-1500</td>
</tr>
</tbody>
</table>

### 2.10.2 Hemorrhoids (Arśa)

**Introduction**

Hemorrhoids (Piles) are dilated or bulged veins of rectum and anal region, caused by increased pressure in the rectal veins. The anatomical term 'hemorrhoids' technically refers to cushions of tissue filled with blood vessel at the junction of the rectum and the anus.

Hemorrhoids can occur at any time but become more common with advancing age and found equally in men and women and their prevalence peaks between 45 and 65 years of age. It is estimated that 50% to 85% of the world population will be affected by hemorrhoids at some time in their life\(^5\).

Arśa is generally translated as hemorrhoids in modern terms. Fleshy sprout or growth in guda is the most characteristic feature of arśa mentioned in Ayurveda as gudāṅkura. It is considered as one of the eight mahāgada.

Ayurveda has offered a variety of four fold treatment methods in the management of Arśa i.e. medicinal (bheṣaja cikitsā), Parasurgical - chemical cauterization (kṣāra karma cikitsā), thermal cauterization (agnikarma cikitsā) and surgical (śastra cikitsā) with clear indications of their applicability and limitations.
Types of Hemorrhoids

1. **External Hemorrhoids** - These occur outside of the anal verge (the distal end of the anal canal). They are sometimes painful and can be accompanied by swelling and irritation. Itching, although often thought to be a symptom from external hemorrhoids, is more commonly due to skin irritation.

   External hemorrhoids are prone to thrombosis, if the vein ruptures and a blood clot develops, the hemorrhoid becomes thrombosed.

2. **Internal Hemorrhoids** - These occur inside the rectum. As the area lacks pain receptors, internal hemorrhoids are usually painless and most people are not aware that they have them. Internal Hemorrhoids however, may bleed.

   Untreated internal hemorrhoids may lead to two severe forms, i.e. prolapsed and strangulated hemorrhoids.

Aetiology

The causes of hemorrhoids include

1. Family history
2. Habitually straining (due to constipation)
3. Less intake of water
4. Sedentary life style
5. Constipation (may also due to low fiber diet)
6. Portal hypertension
7. Diminished appetite
8. Tumors in the pelvis

Risk factors

1. Family history of varicose veins
2. Constipation
3. Obesity
4. Prolonged sitting
**Pathogenesis**

Certain anatomical factors may be related to the development of the hemorrhoids

1. In erect position a long column of blood passes via the inferior mesenteric vein to the splenic vein and is subject to the force of gravity.

2. Superior rectal vein lies in the lax sub mucosa is relatively unsupported and subject to fecal compression.

So, above said conditions give rise to pressure on the superior rectal vein into left, right anterior and right posterior division results in the formation of hemorrhoids.

**Clinical features**

The most common symptoms of hemorrhoids are

1. Constipation, obstruction to the flatus, incomplete evacuation of faeces

2. Itching and pain in rectal region

3. Soft lump felt at the anal opening

4. Bleeding per anum

5. Anaemia, if bleeding persists for longer period

**Complications**

Hemorrhoids if not managed properly may cause other complications such as

1. Anal fissures

2. Ulceration and fibrosis

3. Strangulation and thrombosis

4. Infection and suppuration

5. Anaemia

**Investigations/ Examination**

1. Digital Rectal Examination

2. Proctoscopy

3. Sigmoidoscopy
4. Colonoscopy
5. Haemogram, bleeding time and cloting time

Management approaches

a. Prevention

1. Daily consumption of patra śāka (green leafy vegetables), takra (buttermilk), drākṣa (grape), guava, papaya and easily digestible dietary articles
2. Use of sūraṇa (Amorphophalus companulatus Blume ex Decne.) in food
3. Maintain regular bowel habits
4. Practice exercises such as walking, running, swimming regularly
5. Consume adequate fluids
6. Practice Kegel exercises - simply tighten and relax the Pubococcygeus muscles for 3 seconds about 20-30 times a day for strengthening the pelvic floor
7. Use of triphala cūrpa 3 gm with lukewarm water daily at bed time for 5-7 days to prevent constipation in individuals having tendency of constipated bowels
8. Avoid excess hot, heavy, spicy and salty, incompatible dietary articles, highly processed and non vegetarian food
9. Avoid sitting for longer duration
10. Avoid straining while passing stools

b. Medical management

Line of treatment (Cakradutta 5/1)

1. Nidāna parivarjana (avoidance of aetiological factors) - Trauma to perineal area should be avoided and perineal obsess; infection and inflammatory bowel disease should be corrected timely and modify life style to prevent constipation.
2. Samśodhana cikitsā (Bio-cleansing therapies) followed by Śamana cikitsā (Palliative therapy) should be advocated.
   i. Avagāha sveda (Sitz bath) for 15 days with warm water or decoctions like
      • Pañcavalkala kvātha
      • Triphalā kvātha
• Daśamūla kvātha

ii. Vasti

• Anuvāsaṇa vasti (with Kāśīśādi taila/ Pippalyādi taila 50ml) and Nirūha vasti (with Paṇcavalka kvātha/ Daśamūla kvātha 480ml, Kṣīrābalā taila 240 ml, honey 240 ml, saindhava lavaṇa 15 gm and 30 gm kalka)

• Picchā vasti 350 – 500 ml for 8 days (if there is any bleeding)

3. Drug therapy

Pharmacological therapy usually with laxatives, carminatives and pāchana drugs should be employed.

**SINGLE DRUGS**

<table>
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<th>Dosage (per dose)</th>
<th>MOA§/ Vehicle</th>
<th>Duration*</th>
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<td>1 gm</td>
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<tr>
<td>Tālamūlī (Curculigo orchioides Gaertn.) cūrṇa</td>
<td>3-6 gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Sonāmukhī (Cassia aungustifolia Vahl.) cūrṇa</td>
<td>2-4 gm</td>
<td>Water</td>
<td>7 days</td>
</tr>
</tbody>
</table>

**COMPOUND FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA§/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphalā cūrṇa</td>
<td>3 gm.</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Hiṅguvacādi cūrṇa</td>
<td>1-2.5 gm</td>
<td>Luke warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Avipattikara cūrṇa</td>
<td>5 gm</td>
<td>Water/ Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Śivākṣāra pācana cūrṇa</td>
<td>1-2.5 gm</td>
<td>Water/ at bed time</td>
<td>15 days</td>
</tr>
<tr>
<td>Chinnabiliśādi kaśāya</td>
<td>15-30ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Ayurvedic Medicine</td>
<td>MOA</td>
<td>Administration</td>
<td>Duration</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>Citrakādi vaṭī</td>
<td>1.5gm</td>
<td>Warm water/Butter milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Arśoghnī vaṭī</td>
<td>250mg</td>
<td>Butter milk/water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kāṅkāyana vaṭī</td>
<td>250-500 mg</td>
<td>Ghee/milk/water</td>
<td>15 days</td>
</tr>
<tr>
<td>Triphalā guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Saptavīrāti guggulu</td>
<td>1-1.5 gm</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Bāhuśāla guḍa</td>
<td>3-6gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Sūranāvaleha</td>
<td>3-6 gm</td>
<td>Milk/water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kuṭajāriṣṭa</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Abhayāriṣṭa</td>
<td>12 - 24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Mrdvikāriṣṭa</td>
<td>12-24 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Madhusnuhīrasāyana</td>
<td>12 gm</td>
<td>Water/milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Arśakuṭhāra rasa</td>
<td>125-250 mg</td>
<td>Warm water</td>
<td>15 days</td>
</tr>
<tr>
<td>Nityānanda rasa</td>
<td>125 - 250 mg</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Śatadhauta ghṛta</td>
<td>for external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Jātyādi Taila</td>
<td>for external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Kāsīśādi taila</td>
<td>for external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Pippalyādi taila</td>
<td>for external use</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Paṇcavalkala kvāṭha</td>
<td>for Avagāha sveda</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Triphalā kvāṭha</td>
<td>for Avagāha sveda</td>
<td>-</td>
<td>15 days</td>
</tr>
<tr>
<td>Daśamūla kvāṭha</td>
<td>for nirūha vasti</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*MMode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.
Kravyāda rasa, Kāśisādi taila vasti and Triphalā cūrṇa have shown improvement in the Hemorrhoids.

4. Surgical treatment

Kṣāra sūtra Therapy - If medical management is not responding or in chronic conditions, Kṣāra sūtra therapy is to be employed.

Benefits of Kṣāra sūtra therapy

1. Simple minimal invasive method
2. Does not require hospitalization
3. No complication when performed by the experts
4. Need of anesthesia and antibiotics are negligible when compared to conventional surgery

c. Yogic practices - The following yogic practices are beneficial in Hemorrhoids; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. Śaṅkha prakāśālana once a month.
2. Gaṇeśa kriyā, Aśvinī mudrā, Mūlabandha, Nāḍī śodhana, Śītalī prāṇāyāma
3. Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana, Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana etc.
4. Deep relaxation technique

Counselling - Advice the patient to

1. Increase daily intake of dietary fibers
2. Drink at least 2-3 litres of water a day
3. Take light food at night, avoid junk food and too spicy food
4. Increase amount of daily physical activity
5. Consult with the doctor regarding the prolonged use of stool softeners and laxatives
6. Make the habit of regular bowel habits; respond to the urge to defecate and stay relaxed to avoid straining
7. Exercise the perineal muscles
8. Practice good personal hygiene and keep the anal region clean

**Indications for referral**

1. Strangulation of haemorrhoids, rectal prolapse
2. Profuse bleeding per rectum that is not responding to medication
3. Severe anaemia etc.

**COSTING DETAILS**

**Approx. costing of Hemorrhoids management**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sūraṇa cūṛṇa</td>
<td>30</td>
<td>gm</td>
<td>0.75</td>
<td>23</td>
</tr>
<tr>
<td>2.</td>
<td>Ajamoda cūṛṇa</td>
<td>30</td>
<td>gm</td>
<td>0.5</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Harītakī cūṛṇa</td>
<td>90</td>
<td>gm</td>
<td>0.27</td>
<td>25</td>
</tr>
<tr>
<td>4.</td>
<td>Tālāmaḷi cūṛṇa</td>
<td>90-180</td>
<td>gm</td>
<td>0.25</td>
<td>23-46</td>
</tr>
<tr>
<td>5.</td>
<td>Sanaya cūṛṇa</td>
<td>60-120</td>
<td>gm</td>
<td>0.9</td>
<td>54-108</td>
</tr>
<tr>
<td>6.</td>
<td>Triphalā cūṛṇa</td>
<td>90</td>
<td>gm</td>
<td>0.32</td>
<td>29</td>
</tr>
<tr>
<td>7.</td>
<td>Hīṅguvaḍādi cūṛṇa</td>
<td>30-45</td>
<td>gm</td>
<td>0.48</td>
<td>15-25</td>
</tr>
<tr>
<td>8.</td>
<td>Avipattikara cūṛṇa</td>
<td>150</td>
<td>gm</td>
<td>0.4</td>
<td>60</td>
</tr>
<tr>
<td>9.</td>
<td>Śivāksāra ṛacana cūṛṇa</td>
<td>30-45</td>
<td>gm</td>
<td>0.36</td>
<td>11-16</td>
</tr>
<tr>
<td>10.</td>
<td>Chinnabilāvādi kaśāya</td>
<td>450-600</td>
<td>ml</td>
<td>0.41</td>
<td>185-246</td>
</tr>
<tr>
<td>11.</td>
<td>Citrakādi vaṭī</td>
<td>45</td>
<td>gm</td>
<td>1.20</td>
<td>54</td>
</tr>
<tr>
<td>12.</td>
<td>Arśoghnī vaṭī</td>
<td>7.5</td>
<td>gm</td>
<td>4.60</td>
<td>35</td>
</tr>
<tr>
<td>13.</td>
<td>Kāṅkāyana vaṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>0.84</td>
<td>7-14</td>
</tr>
<tr>
<td>14.</td>
<td>Triphalā guggulu</td>
<td>30-45</td>
<td>gm</td>
<td>1.35</td>
<td>41-63</td>
</tr>
<tr>
<td>15.</td>
<td>Saptavīṣati guggulu</td>
<td>30-45</td>
<td>gm</td>
<td>1.35</td>
<td>41-63</td>
</tr>
<tr>
<td>16.</td>
<td>Bāhuṣāla guḍa</td>
<td>90-180</td>
<td>gm</td>
<td>0.2</td>
<td>18-36</td>
</tr>
<tr>
<td>17.</td>
<td>Sūraṇāvaleha</td>
<td>90-180</td>
<td>gm</td>
<td>0.192</td>
<td>17-35</td>
</tr>
<tr>
<td>18.</td>
<td>Kuṭajāriṣṭa</td>
<td>375-750</td>
<td>ml</td>
<td>0.25</td>
<td>94-188</td>
</tr>
</tbody>
</table>
## Approx. costing of Pañcakarma procedure in Hemorrhoids **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Avagāha sveda (Sitz bath)</td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
<tr>
<td>2.</td>
<td>Yoga vasti</td>
<td>8</td>
<td>-</td>
<td>1250</td>
</tr>
<tr>
<td>3.</td>
<td>Picchā vasti</td>
<td>8</td>
<td>150</td>
<td>1200</td>
</tr>
</tbody>
</table>

## Approx. costing of Kṣāra sūtra procedure in Hemorrhoids **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kṣārasūtra application in Arṣa (Hemorrhoids)</td>
<td>1</td>
<td>250</td>
<td>250</td>
</tr>
</tbody>
</table>
2.11 WOMAN SPECIFIC GERIATRIC DISEASES

2.11.1 Menopausal Syndrome

Introduction

Menopausal Syndrome includes symptoms associated with the physiological changes that take place in a woman's body as period of fertility ends. Menopause is a normal consequence of the ageing process and is a natural female hormone deficient state that occurs at the age of 45-55 years. In this stage ovaries gradually become less active and reduce their production of sex hormone (estrogen and progesterone). As a result, menses cease permanently.

Women are usually considered to be menopausal if she has not had a menstrual period for one year without any underlying cause. Some women experience mild problems or none at all but some women have severe symptoms in this period. It has become an inevitable phenomenon in a women's life and many years are spent in the postmenopausal phase. Similarly in Ayurveda, āchāryas depicted that menses starts at the age of 12 year and stops at the age of 50 and the whole process is a natural phase of life.

Aetiology

1. Reduced production of estrogen and progesterone
2. Less active ovaries

Pathogenesis

It is a natural and normal phenomenon of ageing. Reduced production of sex hormones due to less active ovaries lead to menopause.
Clinical features

1. Irregular periods with scanty or excessive bleeding
2. Hot flushes
3. Night sweats
4. Vaginal dryness and itching
5. Mood swings
6. Joint pain
7. Oedema
8. Sleeplessness
9. Lassitude
10. Excessive hair fall
11. Anaemia
12. Weakness
13. Stress incontinence
14. Loss of sexual desire
15. Wrinkling of skin etc.

Complications

1. Cardiovascular problems
2. Fractures due to osteoporosis

Investigations/Examination

1. Haemogram
2. PAP smear
3. Serum FSH levels
4. Serum estrodiol levels
5. Serum L.H. levels
6. Ultrasound abdomen
7. Bone mineral densitometry
8. Mammogram

**Management approaches**

**a. Prevention**

1. Consumption of *godhūma* (wheat), old rice, *mudga* (green gram), soyā, fresh seasonal fruits, ghee, nuts, milk etc.
2. Regular medicated oil massage and exposure to mild sun light
3. Practice personal and social good conduct
4. Maintain healthy body weight
5. Regular exercises, *yoga* and meditation
6. Control of blood pressure and cholesterol levels
7. Use of calcium supplements and diet rich in calcium and antioxidants
8. Use of *rasāyana* drugs
9. Avoid heavy and unwholesome food, excess pungent, salty and sour food items, mustard oil, etc.
10. Avoid excessive physical exertion

**b. Medical management**

**Line of treatment**

1. *Saṁśodhana cikitsā* (bio-cleansing therapies) / other therapeutic procedures followed by *Śamana cikitsā* (palliative therapy) should be advocated.

i. *Snehana*: Gentle massage with medicated oils such as :

- *Mahānārāyaṇa taila*
- *Kṣīrabalā taila*
- *Mahāmāṣa taila*
- *Balā taila*
ii. Internal Snehana (internal oleation) with medicated ghṛta (Sukumāra ghṛta/ Dādimaḍi ghṛta etc) 50 ml with 2-3 gm saindhava lavaṇa daily for 3-7 days before paṅcakarma (bio-cleansing procedure)

iii. Śirodhāra with Yaṣṭimadhu kāṣāya and milk 45 minutes daily for 15 days

iv. Takra dhārā 45 minutes daily for 15 days

v. Mātrā vasti with Dhānvantara taila / Sukumāra ghṛta 50 ml daily for 15 days

2. Drug therapy

**SINGLE DRUGS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA⁵/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>For debility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Šatāvarī (Asparagus racemosus Willd.) cūrṇa</td>
<td>1 -3gm</td>
<td>Water/ milk</td>
<td>15 days</td>
</tr>
<tr>
<td>Āmalakī (Phyllanthus emblica Gartn.) cūrṇa</td>
<td>1 -3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Madhuvaśthī (Glycyrrhiza glabra Linn.) cūrṇa</td>
<td>1-3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Aśvagandhā (Withania somnifera Dunal) cūrṇa</td>
<td>3gm</td>
<td>Milk</td>
<td>15 days</td>
</tr>
<tr>
<td>For fragile bones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthisṛṅkhalā (Cissus quadrangularis Linn.) cūrṇa</td>
<td>1-3 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Kukkuṭāṇḍa tvak bhasma</td>
<td>250 mg</td>
<td>Milk / water</td>
<td>15 days</td>
</tr>
</tbody>
</table>

**COMPOUND FORMULATIONS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (per dose)</th>
<th>MOA⁵/ Vehicle</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>For excessive bleeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puṣyāṅuga cūrṇa</td>
<td>1-3 gm</td>
<td>Rice water</td>
<td>15 days</td>
</tr>
<tr>
<td>Candraprabhā vaṭī</td>
<td>1.5 gm</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Lodhrāsava</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
<tr>
<td>Aśokāriṣṭa</td>
<td>10-20 ml</td>
<td>Water</td>
<td>15 days</td>
</tr>
</tbody>
</table>
**Ayurvedic Management of Select Geriatric Disease Conditions**

**MOA - Mode of administration**

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

**NOTE:** Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

**c. Yogic Practices** - The following yogic practices are beneficial in menopausal syndrome; however, these should be performed only under the guidance of qualified...
Yoga therapist. Duration should be decided by the Yoga therapist.

1. Sūryanamaskāra, Tāḍāsana, Kaṭicakrāsana, Vajrāsana, Uṣṭrāsana, Sarvāṅgāsana, Setubandhāsana, Baddhakonāsa, Pavanamuktāsana, Upaviṣṭakoṇāsana, Merudaṇḍa saṅcālanāsana
2. Bhrāmarī, Nāḍīśodhana, Śītalī prānāyāma
3. Mūlabandha with Aśvinī mudrā
4. Deep relaxation technique/ Yoga nidrā/ Nāḍī anusandhāna

Counselling - Advice the patient to

1. Develop positive approach towards menopause
2. Take calcium rich diet
3. Practice yoga and meditation for stress management
4. Check cholesterol levels periodically
5. Limit tea / coffee consumption
6. Avoid sedentary life style
7. Avoid smoking and consumption of alcohol

In addition, adequate counselling regarding cleanliness of genital organs, sexual behaviour and for regular medical check up should be given.

Indications for referral

1. Heavy bleeding which is not responding to medication
2. Menopausal syndrome associated with fracture
3. Menopausal syndrome associated with other serious systemic illness
## COSTING DETAILS

### Approx. Costing of Menopausal Syndrome management

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medicine</th>
<th>Requirement</th>
<th>Unit</th>
<th>Rate in Rs.</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Śatāvari cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>0.50</td>
<td>15-45</td>
</tr>
<tr>
<td>2.</td>
<td>Āmalaki cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>0.25</td>
<td>8-23</td>
</tr>
<tr>
<td>3.</td>
<td>Madhuyaśṭhi cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>1.00</td>
<td>30-90</td>
</tr>
<tr>
<td>4.</td>
<td>Aśvagandhā cūrṇa</td>
<td>90</td>
<td>gm</td>
<td>0.48</td>
<td>43</td>
</tr>
<tr>
<td>5.</td>
<td>Asthisūkhalā cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>0.20</td>
<td>6-18</td>
</tr>
<tr>
<td>6.</td>
<td>Kukkuṭāṇḍatvak bhasma</td>
<td>7.5</td>
<td>gm</td>
<td>7.20</td>
<td>54</td>
</tr>
<tr>
<td>7.</td>
<td>Puṣyāṅuga cūrṇa</td>
<td>30-90</td>
<td>gm</td>
<td>4.16</td>
<td>125-375</td>
</tr>
<tr>
<td>8.</td>
<td>Pravāla piṣṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>4.00</td>
<td>30-50</td>
</tr>
<tr>
<td>9.</td>
<td>Mukta piṣṭī</td>
<td>7.5-15</td>
<td>gm</td>
<td>1.40</td>
<td>11-22</td>
</tr>
<tr>
<td>10.</td>
<td>Brāhma vaṭī</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>4.40</td>
<td>17-34</td>
</tr>
<tr>
<td>11.</td>
<td>Candraprabhā vaṭī</td>
<td>45</td>
<td>gm</td>
<td>2.00</td>
<td>90</td>
</tr>
<tr>
<td>12.</td>
<td>Śatāvarī guṇa</td>
<td>180</td>
<td>gm</td>
<td>0.56</td>
<td>101</td>
</tr>
<tr>
<td>13.</td>
<td>Sukumāra ghṛta</td>
<td>300</td>
<td>gm</td>
<td>0.63</td>
<td>190</td>
</tr>
<tr>
<td>14.</td>
<td>Dāḍimādi ghṛta</td>
<td>210-350</td>
<td>ml</td>
<td>0.42</td>
<td>89-147</td>
</tr>
<tr>
<td>15.</td>
<td>Dhānvantara taila</td>
<td>750</td>
<td>ml</td>
<td>0.55</td>
<td>413</td>
</tr>
<tr>
<td>16.</td>
<td>Candanāsava</td>
<td>300-600</td>
<td>ml</td>
<td>0.12</td>
<td>36-72</td>
</tr>
<tr>
<td>17.</td>
<td>Aṣokāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.13</td>
<td>39-78</td>
</tr>
<tr>
<td>18.</td>
<td>Aśvagandhāriṣṭa</td>
<td>300-600</td>
<td>ml</td>
<td>0.15</td>
<td>45-90</td>
</tr>
<tr>
<td>19.</td>
<td>Uṣīrāsava</td>
<td>300-600</td>
<td>ml</td>
<td>0.12</td>
<td>36-72</td>
</tr>
<tr>
<td>20.</td>
<td>Lodhāsava</td>
<td>300-600</td>
<td>ml</td>
<td>0.22</td>
<td>66-132</td>
</tr>
<tr>
<td>21.</td>
<td>Lohāsava</td>
<td>300-600</td>
<td>ml</td>
<td>0.12</td>
<td>36-72</td>
</tr>
<tr>
<td>22.</td>
<td>Lākṣādi taila</td>
<td>750</td>
<td>ml</td>
<td>0.32</td>
<td>240</td>
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<tr>
<td>23.</td>
<td>Kāmadudhā rasa</td>
<td>3.75-7.5</td>
<td>gm</td>
<td>4.00</td>
<td>15-30</td>
</tr>
<tr>
<td>24.</td>
<td>Mānasā mitra vaṭaka</td>
<td>3.75</td>
<td>gm</td>
<td>5.73</td>
<td>22</td>
</tr>
<tr>
<td>25.</td>
<td>Brāhma rasāyana</td>
<td>450</td>
<td>gm</td>
<td>0.197</td>
<td>89</td>
</tr>
</tbody>
</table>
Approx. costing of *Pañcakarma* procedure in Menopausal Syndrome **

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Pañcakarma procedure</th>
<th>Days</th>
<th>Rate in Rs./ day</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Snehana</em> (externally)</td>
<td>15</td>
<td>200</td>
<td>3000</td>
</tr>
<tr>
<td>2.</td>
<td><em>Śirodhārā</em> (milk)</td>
<td>15</td>
<td>150</td>
<td>2250</td>
</tr>
<tr>
<td>3.</td>
<td><em>Takra dhārā</em></td>
<td>15</td>
<td>150</td>
<td>2250</td>
</tr>
<tr>
<td>4.</td>
<td><em>Mātrā vasti</em></td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
</tbody>
</table>
2.12 MISCELLANEOUS ISSUES IN THE ELDERLY

1. CANCER

Cancer is one of the five common causes of death in elderly Indian. With increase in the incidence and prevalence of cancer of all types physicians are more likely to encounter older patients with cancer\(^5^3\).

Awareness about the symptoms and signs among home care givers, family physicians and other health professionals will facilitate early diagnosis of these cancers. Palliative care is an integral to satisfactory medical support.

Ageing process is known to be the single greatest risk factor for the development of cancer. Currently, in the developed countries more than 50-60% of all cancers occur beyond 65 years of age. In India, 1 in 5 cancers are now detected in persons beyond 60 years of age. Demographic changes in developing countries like India will increase the aged population, from less than 10% of the population at present to 20% or more by the year 2020. Such a double-fold rise will result in increased cancer burden amongst the elderly persons. It has been observed that a rapid increase in incidence of certain specific cancers occur in the aged persons. Majority of the solid cancers (of lung, head and neck, gastro-intestinal tract, genitor-urinary system, breast, prostate and central nervous system) show a tendency for cancer development after the 5\(^{th}\) and 6\(^{th}\) decades of life. Similarly, advancing age increases the risk for some hematologic malignancies. In the developed countries; the common neoplasms afflicting the elderly population are those of lung, prostate, breast, colon and rectum, uterus, lymphomas and pancreas. The developing countries like India show certain differences and the common cancers of the elderly are: lung, stomach, cervix, head and neck, breast, esophagus, liver, colon and rectum and lymphomas. Those with high rate of death in the geriatric age groups in India are head and neck, lung, cervix and esophagus malignancies. The cancers of the head and neck region and uterine cervix are the two most prevalent cancers in India. These two sites are easily accessible for physical and diagnostic examinations\(^5^4\).
**Common Presenting Symptoms and Signs**

Symptoms of cancer are not necessarily exclusive and may quite often be similar in nature to many other non-cancerous conditions. Thus, it is necessary to have a high index of suspicion while evaluating all elderly patients for the cancer diagnosis. In general, whenever there is non-healing ulcer that bleeds on touch, stony hard swelling, unexplained weight loss, fatigue, anaemia etc., it should be investigated for cancer. Some of the dominating organ specific signs and symptoms can be enumerated as follows:

**Head and Neck:** Non-healing ulcer, tumour, pain in oral cavity and throat, difficulty in swallowing, change in voice, swelling in the neck.

**Lung:** Chronic cough, blood in sputum (hemoptysis) respiratory distress, chest pain, recurrent pulmonary infection, enlarged lymph glands.

**Upper GIT (esophagus, stomach):** Dysphagia, anorexia and weight loss, hematemesis, vomiting, aspiration pneumonia.

**Lower GIT (colo-rectal, and anal):** Alteration in bowel habits (constipation/ diarrhoea), bleeding or discharge per rectum, tenesmus, palpable mass in abdomen, intestinal obstruction.

**Genitourinary:** Hematuria and weight loss.

**Cervix:** Bleeding/ discharge per vaginam, post coital bleeding, low backache/pain in abdomen.

**Uterus:** Irregular bleeding, discharge per vaginum, pain in hypogastrium region

**Ovary:** Pain and bloating sensation or palpable mass in abdomen, cachexia, edema of the legs or vulva

**Prostate:** Increased frequency and urgency, dysuria, dribbling of urine, decreased flow of stream, constipation.

**Bladder:** Painless hematuria, pain abdomen, urinary retention.

**Breast:** Palpable lump, bleeding/ discharge from nipple, lump in the axilla.

**Hematologic (lymphoma/ leukemia):** Pallor, generalized weakness, fever, weight loss, recurrent chest and urinary infections, petechial haemorrhage, bleeding from nose and gum, joint pain, painless palpable lymph nodes, organomegaly (hepato-splenomegaly).

**Central Nervous system:** Headache, vomiting, seizures, diminution of vision, motor/sensory deficit, urinary/ bowel incontinence, altered sensorium.
Diagnostic Methods

i) General physical examination - This includes complete physical examination, assessment of nutritional status and psycho-social assessment.

ii) Diagnostic tests

(a) Endoscopy (laryngoscopy, bonchoscopy laparoscopy, colposcopy etc.)
(b) Radiological tests like plain X-ray, ultrasound, CT scan
(c) Hematologic and biochemical tests
(d) Special tests if needed (e.g. bone scan, bone marrow study; in women - PAP smear and mammography)
(e) Cytology (fine needle aspiration cytology, peripheral blood smear)
(f) Biopsy - incisional, excisional

Treatment decisions

i) Surgery
ii) Radiotherapy
iii) Chemotherapy
iv) Palliative care

Treatment decisions are based upon the following factors

1. General physical status and associated comorbid conditions
2. Stage of the cancer
3. Patient's willingness and compliance

At the present, most of the early cancers are curable in more than 70-90% of the cases. For head and neck, breast, cervix, GIT, prostate cancers, surgery and/ or radiation therapy are advocated as a single modality. With this kind of cancer treatment, the patient's quality of life may not be adversely affected by the treatment. In early stage hematologic malignancies, chemotherapeutic practices provide long term cure and survival in more than 70-80% of the patients, but rarely radiotherapy is utilized for these malignancies. For the advanced stage solid tumours, combined modalities of surgery and radiotherapy are preferred. For some of these tumors, chemotherapy is also recommended as an adjuvant therapy.
Both radio-therapeutic as well as chemotherapeutic modes of treatment are effective in malignancies of cardiac, renal as well as CNS origin. The morbidity and mortality can be reduced by use of less toxic drugs in providing good quality of life.

Prevention of Cancer

- Quit smoking
- Stop use of tobacco in any form
- Avoid alcohol consumption
- Avoid exposure to toxic chemicals, UV rays, radiation etc.
- Practice of yoga and meditation
- Consumption of food groups against cancer risk: International Agency for Research on Cancer (IARC) has suggested to increase or maintain following fruits and vegetables intake to improve nutrition for reducing the burden of cancer and other chronic diseases, such as; broccoli, cabbage, cauliflower, sprouts, turnip, radish, ginger, turmeric, mustard, blackberries, raspberries, strawberries, grapes, banana, carrot, peanuts, fruits rich in vitamin C, E and folic acid, milk and dairy products and green and black tea. 
- Life style changes - like healthy eating habits, exercise and practice of yoga and meditation

Palliative care in Cancer:

Palliative care in cancer comprises of active care of pain, distressing symptoms (i.e. tiredness, anorexia, feeling of sick, nausea, taste change, sore throat, bowel problems etc.) and other psychological issues (i.e. depression, anxiety, sleep disturbance etc.) and also improving the quality of life (QOL) of an incurable cancer patient. Ayurvedic drugs can be used as adjuvants or as supportive therapy. The following Ayurvedic formulations may be beneficial to prevent/minimize adverse effects due to the intensity of chemotherapy/radiotherapy and/or to improve the quality of life of cancer patients.

1. Āmalakī rāṣāyana  
2. Triphalā rasāyana  
3. Brāhma rāṣāyana  
4. Cyavanaprāśa  
5. Agastya harītakī rasāyana  
6. Drākṣāvaleha  
7. Aśvagandhā cūrṇa  
8. Śatāvarī cūrṇa
Ayurvedic Management of Select Geriatric Disease Conditions

9. Avipattikara cūrṇa  
10. Kāñcanāra guggulu
11. Kāśora guggulu  
12. Triphalā guggulu
13. Śilājatvādi vaṭī  
14. Punarnavā maṇḍūra
15. Śaṅkha vaṭī  
16. Daśamūla kvāṭha

Recent studies have shown the beneficial effects of following herbs in cancer.
1. Śarapuṅkhā (Tephrosia purpurea (Linn.) Pers) in oral carcinoma
2. Rasona (Garlic - Allium sativum Linn.), Methikā (Fenugreek - Trigonella foenum graecum Linn.) for reducing tumor cell growth
   a. Soyā (Glycine max (L.) Merr.) to decrease risk of breast, prostate and colon cancer
   b. Kāravellaka (Bitterguard - Momordica charantia Linn.) for inducing apoptosis in Colon cancer cells

2. UTERINE PROLAPSE AND URINE STRESS INCONTINENCE

Genital prolapse is commonly seen in elderly women. In addition, urinary symptoms especially urine stress incontinence is one of the most prevalent conditions in elderly women.

Uterine Prolapse

Descent of cervix into the vagina or outside the introitus along the axis of vaginal lumen is called uterine prolapse. Uterine prolapse is usually associated with variable degrees of vaginal prolapse.

Degree of uterine prolapse

1. First degree - Slight descent of uterus, cervix remaining within the vagina below the level of ischial spines.
2. Second degree - Cervix protrudes outside the introitus when she is standing or stretching.
3. Third degree - Entire uterus prolapse outside introitus with whole vagina or whole of anterior vagina wall and homepart of posterior vaginal wall is everted.


**Etiology**

1. Estrogen deficiency leads to alteration in collagen in the ligaments and endopelvic fascia - reduces their supportive strength
2. Ageing produces atrophy of tissues and hypotonia of muscles
3. Injuries during child birth
4. Multiple pregnancies
5. Increased intra-abdominal pressure due to chronic cough, constipation, obesity, ascities, intra-abdominal tumors

**Clinical features**

1. Mass protruding from vagina
2. Feeling of mass in the vagina
3. Pelvic discomfort
4. Low backache on prolonged standing
5. Purulent, blood strained discharge
6. Frequency of micturation
7. Stress incontinence
8. Vaginal flatus

**Management**

In complete prolapse, surgery is the last option but early stage (in first degree uterine prolapse) can be managed through *Ayurvedic* medical management.

**Prevention**

2. Child birth trauma should be avoided; it occurs should be managed properly
3. Prolonged second stage of labour is avoided by timely episiotomy or forceps delivery
4. Post natal exercises are to be done to strengthen pelvic floor
5. Squatting and straining are to be avoided

**Drug therapy**

1. *Snehana* and *svedana*

2. *Vasti*: *Anuvāsana vasti* with 50 ml *Sukumara taila*/*Bala taila*/*Śirīṣa taila* for 7 days and *Palāśādi nīrūha vasti* as *Kālavasti krama*

3. Application of *Picu* soaked in *Mūśika taila*

4. *Puṣyānuga cūrṇa* 3 gm twice daily for 30 days

5. *Phala ghṛta*/*Triphalādi ghṛta* 10 gm twice daily for 30 days

6. *Nyagrodhādi kaśāya* 15-30 ml twice daily for 30 days

7. *Mahārāśnādi kvātha* 15-30 ml twice daily for 30 days

**Stress incontinence**

Stress incontinence is a condition where urine leaks with rise in intra-abdominal pressure in the absence of detrusor activity. Exact incidence of this problem is not known but it is reported to be 25-30% in the elderly women attending gynaecological out patient department.

**Aetiology**

1. Vaginal injury during child birth
2. Ageing leads to loss of muscle tone
3. Estrogen deficiency leads to alteration in collagen in the ligaments
4. Intra abdominal pressure increasing factors like obesity, chronic cough, constipation and heavy weight lifting etc.

**Medical management**

**Prevention**

1. Use of kadalī (*Musa paradisiaca* Linn.), āmalakī (*Phyllanthus emblica* Gartn), māṣa (*Phaseolus mungo* Linn.), kūśmāṇḍa (*Benincasa hispida* (Thunb.) cogn.), kharjūra
(Phoenix sylvestris Roxb.), vidārīkanda (Pueraria tuberosum DC.) etc.

2. Weight reduction (in obese)
3. Pelvic floor exercise
4. Institutional delivery or by trained health care provider

**Drugs**

1. Āmalakī svarasa 10 ml with honey and sugar twice daily for 15 days
2. Nāgakeśara cūrṇa 2-3 gm with butter milk twice daily for 15 days
3. Vaṅgeśvara rasa 250mg with Triphalā kvātha
SECTION 3

OTHER ISSUES
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A. Social issues in the elderly

Various issues influence the status of health in elderly and also physician's ability to deliver timely and optimum health care services.

Marital status, financial status, work history, education, responsibilities, living atmosphere and arrangements are the prime issues to be considered while addressing the issues of elderly.

Elderly patients living with their family members may face fewer problems when compared to others who are living alone. Because physical, economical and social health care services are provided by the family members. Due to changing phenomenon in India like nuclear family system and urban migration of the people, the rural elderly people are the most sufferers due to absence of family support. Physical limitations and lack of interest in having meal is commonly seen in elderly people. Some elderly person living alone, even do not prepare and eat proper meal that may result into malnutrition problems.

Loss of key support like death of spouse/ siblings, retirement, relocation and financial deterioration etc. may take place during old age. These changes may cause multiple problems with regard to physical, social, mental wellbeing.

In addition, physical abuse, psychological abuse, neglect, financial abuse etc. are common on elderly patients, which further add to the agony.

B. Spiritual issues in the elderly

In the elderly patients, religion and spirituality plays an important role. Belief on god, hopeful and positive attitude about the life and illness influence the health. Active involvement in religious activities helps the patient in active life style and socialising, which in-turn minimize the problems arising from isolation and chronic diseases. Interaction with
people will also increase the awareness and hence there will be possibility for early detection of the diseases and better treatment compliance. Religious and spiritual persons tend to recover from diseases more quickly. Elderly persons attending religious activities remain motivated to stop addictions like smoking, alcohol, which help in better health and social status.

The common spiritual interventions are praying, reading religious books, visiting auspicious places, attending religious rituals, meditation, etc. This will increase the socialization, reduce isolation and promote the feeling of belongingness.
3.2 REHABILITATION IN ELDERLY

Rehabilitation means development of a person to the fullest potential consistence with his or her impairment and environmental limitations. The main goals of rehabilitation are to prevent complications of bed rest and promote self dependence. Unnecessary bed rest and immobility lead to negative psycho-physiological changes i.e.

1. Reduction of the muscle strength, endurance, joint mobility and functional reverse of musculoskeletal system
2. Deminution of the functional capacity of cardiovascular system
3. Thrombotic complication
4. Intellectual deficit and emotional disturbances
5. Peripheral neuropathy
6. Weakness etc.

THE REHABILITATION TEAM MEMBERS AND THEIR ROLES*

<table>
<thead>
<tr>
<th>TEAM MEMBERS</th>
<th>ROLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>Evaluates the medical and functional deficits, designs a plan for treatment based on the potential for rehabilitation</td>
</tr>
<tr>
<td>Pañcakarma specialist</td>
<td>designs plan for pañcakarma therapy for certain conditions</td>
</tr>
<tr>
<td>Yoga therapist</td>
<td>Provides yoga counselling and training</td>
</tr>
<tr>
<td>Patient and caregiver</td>
<td>participates in goal setting, plans for treatment and carries out instructions given by team members</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>assesses the strength, range of motion, balance and co-ordination, evaluates the need for mobility aids, performs</td>
</tr>
</tbody>
</table>
Benefits of early rehabilitation intervention

1. May prevent deconditioning
2. Maximize function
3. Improve quality of life

The following conditions need rehabilitation in elderly patients

1. Arthritis
2. Stroke
3. Parkinson's disease
4. Fractures
5. Depression
6. Memory deficit

*Source: T.S. Dharmarajan, Clinical Geriatrics, Page No140 (slightly modified)
7. Amputation

Co-morbid conditions such as urinary tract infection, confusion and depression, visual impairment, loss of balance may interfere with rehabilitation activities. The following interventions may reduce the risks and are integral part of rehabilitation.

1. Avoiding prolonged immobilization, chronic use of indwelling catheters and unnecessary medications

2. Control over diabetes

3. Audiometric evaluations and adaptation techniques for vision and hearing

In addition, the successful application of pañcakarma procedures like snehana (oleation), svedana (fomentation) etc., yoga practices and active exercises to enhance orthostatic stability, daily endurance exercise to maintain aerobic capacity or specific resistance exercise to maintain musculoskeletal integrity constitute effective rehabilitation management of patients.
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ANNEXURES
## ANNEXURE I

### INDICATIONS AND CONTRAINDICATIONS OF PAÑÇAKARMA

*(SOURCE: GUIDELINES ON BASIC TRAINING AND SAFETY IN PANCHAKARMA, 2008)*

Indications and contraindication for *Snehana*

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Persons who are fit for pañcakarma procedures (śodhanārha)</td>
<td>1. Thirst (tṛṣṇā)</td>
</tr>
<tr>
<td>2. Rough/ dry (rūkṣa) constitution</td>
<td>2. Pregnancy (garbhīṇī)</td>
</tr>
<tr>
<td>3. Diseases due to vitiation of vāta</td>
<td>3. Aversion to food (annadveṣa)</td>
</tr>
<tr>
<td>4. Persons, who does regular exercise e.g. athletes, wrestlers etc.</td>
<td>4. Persons undergoing the process of nasal administration of medicaments (nasya) and therapeutic enema (vasti)</td>
</tr>
<tr>
<td>(vyāyāmaśīla)</td>
<td></td>
</tr>
<tr>
<td>5. Intellectuals, executives (cintaka)</td>
<td>5. Vitiation/ increase of kapha &amp; fat tissue (meda)</td>
</tr>
<tr>
<td>7. Vātaroga like Hemiplegia, paralysis, (pakṣāghāta), sciatica (grdhūśī)</td>
<td>7. Poor digestion (nitya mandāgni)</td>
</tr>
<tr>
<td>backache (kaṭiśūla), facial palsy (ardita), gout (vāṭaś oṇīta), brachial neuralgia (avabāhuka),</td>
<td></td>
</tr>
</tbody>
</table>
8. Oligospermia (kṣīṇaretas)  
9. Incipient cataract (timira)  
10. Abdominal lump (gulma)  
11. Acid peptic disorders (pariṇāma śūla)  
12. Diseases of female genital tract (yonivyāpat)  
13. Emaciated (kṛśa)  
14. Marasmus (bālaśoṣa)  
15. Frontal headache (sūryāvarta)  
16. Sleeplessness (anidrā)  
17. Alcoholic intoxication (madāyaya)  
18. Chronic constipation (jīrṇa vibandha).  

## Indications and contraindication for Svedana

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diseases due to vāta, kapha</td>
<td>1. Pregnant (garbhīṇī)</td>
</tr>
<tr>
<td>2. Rhinitis (pratīṣṭya)</td>
<td>2. Anger (krodha)</td>
</tr>
<tr>
<td>3. Cough (kāsa) / Hikkā (hiccough)</td>
<td>3. Thirst (trṣṇā)</td>
</tr>
<tr>
<td>4. Breathlessness/ asthma (śvāsa roga)</td>
<td>4. Hunger (kṣudhita)</td>
</tr>
<tr>
<td>5. Heaviness in body (aṅga gaurava)</td>
<td>5. Grief (śoka)</td>
</tr>
<tr>
<td>6. Karna śula (earache), pain in neck region (manyāśula), headache śīraḥśula)</td>
<td>6. Weak (durbala)</td>
</tr>
<tr>
<td>7. Hoarseness of voice (svara bheda)</td>
<td>7. Diseases due to pitta (pittavikāra) [If required mild sudation can be done]</td>
</tr>
<tr>
<td>8. Chocking sensation in throat (galagraha)</td>
<td>8. Haemorrhagic disorders (raktapitta)</td>
</tr>
</tbody>
</table>
9. Vāta roga like facial palsy (ardita), Monoplegia (ekāṅga vāta), generalized paresis (sarvāṅga vāta), Paralysis (pakṣāṅga vāta), Bending of body/ Kyphosis/ Lordosis/ Scoliosis (vināmaka), Distension of abdomen (ānāha), constipation (vibandha), rigidity in lumbosacral region (kaṭigraha)

10. Defective reproductive elements (śukraṅga)

11. Yawning (jṃmbha), bodyache (aṅgamardha)

12. Rigidity in flanks, back, abdomen, lock jaw (pārśva/ priṣṭha/ kaṭi/ kuksi/ hanu graha)

13. Dysuria (mūtrakṛccchra)

14. Enlargement of scrotum (muṣkavṛddhi)

15. Pain in foot, leg, knee and thigh regions (pādārī / jaṅghārī / jānvārī / uru-arti)

16. Rigidity in foot, leg, knee and thigh regions (pāda, jaṅghā, jānu, uru graha)

17. Inflammation (śotha), Sciatica (ṛṛdhrasī)

18. Pain with cramps in ankle, knee, wrist, hip joints (khallī roga)

19. State of indigestion & toxic metabolites (āma doṣa)

20. Paralysis agitans/ tremors (kampavīta)

9. Diarrhoea (atīsāra)

10. Diabetes mellitus (madhumeha)

11. Proctitis, rectal prolapse (vidagdha bhraṣṭa brahdnām -pakvaguda, gudabhraṃśa)

12. Diseases due to Poisons/ alcohol (viṣa madya víkāra)

13. Extremely Obese (atisthūla)

14. Uropathy due to Pitta (pitta meha)

15. Jaundice (kāmalā)

16. Ascites, hepato spleeno-megaly, cirrhosis of liver, acute abdomen etc. (Udararoga)

17. Injury to the lungs (Urahkṣata)

18. Gout (vātarakta)

19. Gastroenteritis/ cholera (visūcikā)

20. Diminished strength/ immunity (kṣīṇa Oja)
Note: Protect the sensitive parts like eyes, heart and scrotal region by covering with cool items like flowers, leaves etc. If sudation (svedana) is required, mild sudation can be done in the scrotal and cardiac regions

### Indications and contraindications for Vamana karma

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chronic rhinitis/ sinusitis (pínasa)</td>
<td>1. Extremely obese (atisthūla)</td>
</tr>
<tr>
<td>2. Diseases of skin (kuṣṭha)</td>
<td>2. Cachexia (atikṛśa) ,Weak (durbala)</td>
</tr>
<tr>
<td>3. Early stages of fever (nava jvara)</td>
<td>3. Child (bāla), Elderly (vṛddha)</td>
</tr>
<tr>
<td>4. Tuberculosis (rājāyākṣmā)</td>
<td>4. Fatigue due to strain (śrānta)</td>
</tr>
<tr>
<td>5. Cough (kāsa)</td>
<td>5. Thirst (pipāsita), Hunger (kṣudhita)</td>
</tr>
<tr>
<td>6. Breathlessness/ asthma (śvāsa)</td>
<td>6. Exhausted by physical work (karmahat)</td>
</tr>
<tr>
<td>7. Chocking sensation in throat (gala graha)</td>
<td>7. Exhausted by weight lifting (bhāraham)</td>
</tr>
<tr>
<td>8. Goiter (galagaṇḍa)</td>
<td>8. Exhausted by walking (adhvahat)</td>
</tr>
<tr>
<td>9. Filariaisis (śīlpada)</td>
<td>9. Person under fasting (upavāsita)</td>
</tr>
<tr>
<td>10. 20 types of Urinary problems (meha)</td>
<td>10. Exertion (śrama)</td>
</tr>
<tr>
<td>11. Impaired digestive capacity (mandāgni)</td>
<td>11. Pregnant (garbhiṇī)</td>
</tr>
<tr>
<td>12. Indigestion due to incompatible food (viruddhājīrṇa)</td>
<td>12. Delicate/ sensitive (sukumāra)</td>
</tr>
<tr>
<td>21. Incipient cataract (timira)</td>
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<tr>
<td>22. Systemic lupus erythematosus</td>
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<td>23. Multiple Sclerosis, etc.</td>
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<td>No.</td>
<td>Disease Description</td>
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<tr>
<td>13.</td>
<td>Intestinal hypotony (<em>alasaka</em>)</td>
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<tr>
<td>14.</td>
<td>Distaste/ Aversion to food (<em>arocaka</em>)</td>
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<tr>
<td>15.</td>
<td>Ingestion of natural and artificial poison (<em>visagara pīta</em>)</td>
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<tr>
<td>16.</td>
<td>Indigestion (<em>avipāka</em>)</td>
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<tr>
<td>17.</td>
<td>Anaemia (<em>Pāṇḍu</em>)</td>
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<td>18.</td>
<td>Bleeding per rectum/ urogenital orifices (<em>Adhoga rakta pitta</em>)</td>
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<tr>
<td>19.</td>
<td>Haemorrhoides (<em>durnāma</em>)</td>
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<tr>
<td>20.</td>
<td>Nausea (<em>hṛllāsa</em>)</td>
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<td>21.</td>
<td>Chronic lymph-adenopathy/scrofula (<em>apacī</em>)</td>
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<td>22.</td>
<td>Epilepsy (<em>apasmāra</em>)</td>
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<td>23.</td>
<td>Psychosis (<em>unmāda</em>)</td>
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<td>24.</td>
<td>Oedema (<em>Śopha</em>)</td>
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<td>25.</td>
<td>Stomatitis (<em>mukhapāka</em>)</td>
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<td>26.</td>
<td>Vitiation of breast milk (<em>stanyaduṣṭī</em>)</td>
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<td>27.</td>
<td>Diseases due to kapha</td>
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<tr>
<td>28.</td>
<td>Urticaria (<em>śītapitta, udarda</em>)</td>
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<tr>
<td>29.</td>
<td>Angioneurotic edema (<em>koṭha</em>)</td>
</tr>
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<td>13.</td>
<td>After decoction enema (<em>āsthāpana vasti</em>)</td>
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<tr>
<td>14.</td>
<td>Weakness due to injury (<em>kṣatakśina</em>)</td>
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<tr>
<td>15.</td>
<td>Intestinal obstruction (<em>sanniruddha koṭha</em>)</td>
</tr>
<tr>
<td>16.</td>
<td>Haematemesis, haemoptysis, epistaxis, bleeding from ears etc. (<em>urdhvagat rakta pitta</em>), Vomiting (<em>chardi</em>)</td>
</tr>
<tr>
<td>17.</td>
<td>Tendency of opposite direction of impulses (<em>udāvarta</em>)</td>
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<tr>
<td>18.</td>
<td>Urinary obstruction (<em>mūtrāghāta</em>)</td>
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<tr>
<td>19.</td>
<td>Diseases of spleen (<em>plīha roga</em>)</td>
</tr>
<tr>
<td>20.</td>
<td>Abdominal lump (<em>gulma</em>)</td>
</tr>
<tr>
<td>21.</td>
<td>Ascities, hepato spleeno-megaly, cirrhosis of liver, acute abdomen, etc. (<em>udararoga</em>)</td>
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<tr>
<td>22.</td>
<td>Prostatic hypertrophy (<em>aṣṭhīlā</em>)</td>
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<tr>
<td>23.</td>
<td>Loss of voice (<em>svaropaghāta</em>)</td>
</tr>
<tr>
<td>24.</td>
<td>Incipient cataract (<em>timira</em>)</td>
</tr>
<tr>
<td>25.</td>
<td>Headache, temporal pain, earache, pain in the eyes (<em>śīraḥśula, śāikha sūla, karṇa sūla, aksisūla</em>)</td>
</tr>
<tr>
<td>26.</td>
<td>Hypertension &amp; Portal Hypertension</td>
</tr>
<tr>
<td>27.</td>
<td>Glaucoma (<em>adhimantha</em>)</td>
</tr>
<tr>
<td>28.</td>
<td>Helminthiasis/worm infestation (<em>kṛmikoṣṭha</em>)</td>
</tr>
<tr>
<td>29.</td>
<td>Giddiness (<em>bhrama</em>)</td>
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<tr>
<td>Indications</td>
<td>Contraindications</td>
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<tr>
<td>30. Cyst <em>(granthi)</em></td>
<td>30. Pain in flanks <em>(pārśvaruk)</em></td>
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<tr>
<td>31. Erysipelas <em>(visarpa)</em></td>
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<tr>
<td>32. Water brash <em>(praseka)</em></td>
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<tr>
<td>33. Obesity <em>(medoroga)</em></td>
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<td>34. Heart disease <em>(ṛdroga)</em></td>
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<td>35. Abscess <em>(vidradhī)</em></td>
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<tr>
<td>36. Foetid smell in the nostrils <em>(pūtināsa)</em></td>
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<tr>
<td>37. Inflammation of throat/ Pharyngitis <em>(kantha pāka)</em></td>
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<tr>
<td>38. Discharge from ears <em>(karpaśrāva)</em></td>
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<tr>
<td>39. Ranula <em>(adhijihvikā)</em></td>
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<tr>
<td>40. Uvulitis <em>(galaśundikā)</em></td>
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<td>41. Tumor/ Growth /Mass <em>(arbuda)</em></td>
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</table>

**Indications and contraindications for Virecana karma**

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<tr>
<th>Indications</th>
<th>Contraindications</th>
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<tbody>
<tr>
<td>1. Chronic fever <em>(Jīrpa Jvara)</em></td>
<td>1. Weak sensory/ motor functions <em>(durbalendriya)</em></td>
</tr>
<tr>
<td>2. Diseases of skin <em>(kuṣṭha)</em></td>
<td>2. After decoction enema <em>(nirūha vasti)</em></td>
</tr>
<tr>
<td>3. 20 types of urinary problems <em>(meha)</em></td>
<td>3. Excessively unctuous <em>(atisnigdha)</em></td>
</tr>
<tr>
<td>4. Haematemesis, haemoptysis, epistaxis, bleeding from ears etc. <em>(urdhvagat raktapitta)</em></td>
<td>4. Excessively rough <em>(asnigdha)</em></td>
</tr>
<tr>
<td>5. Fistula in ano <em>(bhagandara)</em></td>
<td>5. Cachexia <em>(atikṛṣa)</em></td>
</tr>
<tr>
<td>6. Haemorrhoides <em>(arśa)</em></td>
<td>6. Weak <em>(durbala)</em></td>
</tr>
</tbody>
</table>
8. Splenic disorders (plīhāroga)
9. Abdominal lump (gulma)
10. Tumor/ growth /mass (arbuda)
11. Goiter (galaganḍa)
12. Cyst (granthi)
13. Intestinal hypotony (alasaka)
14. Urinary obstruction (mūtrāghāta)
15. Helminthiasis / worm infestation (kṛṃkosoṭha)
16. Erysipelas (visarpa)
17. Anaemia (Pāṇḍu)
18. Pain in the flanks (pārśvaśūla)
19. Tendency of opposite direction of impulses (udāvarta)
20. Burning pain in eyes (netradāha)
21. Burning pain in mouth (āsyadāha)
22. Brown colour patches (vyaṅga)
23. Melasma (nīlikā)
24. Distaste (aruci)
25. Lacrimation, nasal secretions, excess salivation (netrasrāva nasāsrāva, āsyāsrāva)
26. Chronic obstructive jaundice/ Cirrhosis of liver (Halīmaka)
27. Breathlessness/ asthma (śvāsa)
28. Cough (kāsa)

8. Elderly (vṛddha)
9. Fatigue due to strain (śrānta)
10. Thirst (pipāsīta)
11. Hunger (kṣudhīta)
12. Exhausted due to weight lifting (bhārahāta)
13. Fasting (upavāsit)
14. Exertion (śrama)
15. Pregnant (garbhiṇī)
16. Excessively rough (atirūka)
17. Sensitive/ delicate (sukumāra)
18. Deficient digestive fire (alpāgni)
19. Constipated bowels (dārupa koṭha)
20. Extremely Obese (atisthūla)
21. Fearful (bhayabhīta)
22. Recently parturient women (nava prasūtī)
23. Exhausted by physical work (karmahat)
24. Soft perineum (subhaga)
25. Wounded ano-rectal region (kṣata guda)
26. Atonic rectum (muktanāla)
27. Bleeding per rectum/ urogenital orifices (adhogat rakta pitta)
28. Weakness due to injury (kṣatakṣīpa)
| 29. | Jaundice (kāmalā), gout (vātarakta) |
| 30. | Chronic lymph-adenopathy/ scrofula (apacī) |
| 31. | Epilepsy (apasmāra), psychosis (unmāda) |
| 32. | Defects of female genital tract (yoni doṣa) |
| 33. | Defects in semen (reto doṣa) |
| 34. | Incipient cataract (timīra) |
| 35. | Distaste/ aversion to food (aročaka) |
| 36. | Indigestion (avipāka), vomiting (chardi) |
| 37. | Eruptions (visphota) |
| 38. | Ascites, hepato spleno-megaly, cirrhosis of liver, acute abdomen etc. (udararoga) |
| 39. | Oedema (svayathu) |
| 40. | Diseases due to pitta |
| 41. | Paralysis/ hemiplegia/ paresis etc. (pakṣāgāhāta) |
| 42. | Pain in lower abdomen (pakkāśaya śūla) |
| 43. | Stiffness in waist region (kaṭigraha) |
| 44. | Mild chemical poison (garaviṣa) |
| 45. | Abscess (vidradhi), immature cataract (kāça) |
| 46. | Nausea (ḥṛllāsa), headache (sīraḥśūla) |
| 47. | Burning pain in head (śirodāha) |
| 48. | Constipation (vibandha), abscess (vidradhi) |
| 29. | Extremely Obese (atisthūla) |
| 30. | Drug abuse, Alcoholism (madātyaya) |
| 31. | Indigestion (ajīrṇa) |
| 32. | Flatulence (ādhmāna) |
| 33. | Person suffering from foreign body (Śalyārdit) |
| 34. | Early stages of fever (nava jvara) |
| 35. | Hypotension |
| 36. | Heart disease (hṛdroga) |
| 37. | Acute rhinitis (navapratiṣyāya) |
| 38. | Tuberculosis (rājayaksma) |
| 39. | Diarrhoea (atisāra) |
### Indications and contraindications for Anuvāsana vasti

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<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patient, who needs decoction enema (āsthāpana vasti)</td>
<td>1. Excessively unctuous (atisnigdha)</td>
</tr>
<tr>
<td>2. Generalized paresis, localised paresis, Paraplegia (sarvāṅga roga, ekāṅga roga, ardhaṅga roga)</td>
<td>2. Person who consumed fatty substances/ water (pīta sneha/ pītodaka)</td>
</tr>
<tr>
<td>3. Diseases of lower abdomen (kukṣiroga)</td>
<td>3. Excited state of humour (utkliṣṭaḍoṣa)</td>
</tr>
<tr>
<td>4. Deficiency in strength, complexion, muscle tissue (Bala, varṇa, māṁsa kṣaya)</td>
<td>4. Deficient digestive fire (alpāgni)</td>
</tr>
<tr>
<td>5. Defects of semen (reta doṣa)</td>
<td>5. Exhausted due to traveling (yanaklānta) , Weak (ati durbala)</td>
</tr>
<tr>
<td>6. Numbness in the body (aṅgasupti)</td>
<td>6. Suffering from hungry, thirst, fatigue (kṣut, ṭṛṭ, srama ārta)</td>
</tr>
<tr>
<td>7. Tendency of opposite direction of impulses (udāvarta) , Flatulence (ādhmāna)</td>
<td>7. Person undergone emesis (vamīta)</td>
</tr>
<tr>
<td>8. Chronic stage of diarrhoea (pakvāṭīsāra)</td>
<td>8. Person undergone purgation (virikta)</td>
</tr>
<tr>
<td>9. Pain in smaller joints (parvabheda)</td>
<td>9. Person recently undergone nasal medication (kṛtanasya karma)</td>
</tr>
<tr>
<td>10. Burning pain (abhitiśa)</td>
<td>10. Anger (krodha), Fearful (bhīta)</td>
</tr>
<tr>
<td>11. Abdominal lump (gulma), pain (śūla)</td>
<td>11. Empty stomach (abhukta bhakta)</td>
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<tr>
<td>12.</td>
<td>Fistula in ano <em>(bhagandara)</em></td>
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<tr>
<td>13.</td>
<td>Psychosis <em>(unmāda)</em></td>
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<tr>
<td>14.</td>
<td>Inguinal abscess <em>(bradhna)</em></td>
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<tr>
<td>15.</td>
<td>Headache <em>(śirahśūla)</em>, earache <em>(karna śūla)</em></td>
</tr>
<tr>
<td>16.</td>
<td>Stiffness in flanks, back and lumbosacral region <em>(pārsva / prśṭha / kaṭi graha)</em></td>
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<tr>
<td>17.</td>
<td>Tremors <em>(vepana)</em>, convulsions <em>(ākṣepaka)</em></td>
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<td>18.</td>
<td>Low weight persons <em>(atilāghava)</em></td>
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<td>19.</td>
<td>Scanty menstruation <em>(rajaḥ kṣaya)</em></td>
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<tr>
<td>20.</td>
<td>Irregular digestion <em>(viṣamāgni)</em></td>
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<tr>
<td>21.</td>
<td>Pain in lower limbs, vagina, shoulder, fingers, breast, teeth, nails, small joints, bones <em>(sphik, jānu, jaṅghā, uru, gulpha, pāṛṣṇi, prapāda, yoni, bāhu, aṅguli, stana, danta, nakha, parva, asthi śūla)</em></td>
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<tr>
<td>22.</td>
<td>Cachexia <em>(śoṣa)</em>, rigidity <em>(stambha)</em></td>
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<tr>
<td>23.</td>
<td>Pain in anal region <em>(guda śūla)</em>, hernia <em>(vṛddhi)</em></td>
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<tr>
<td>24.</td>
<td>80 types of diseases due to vāta</td>
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<tr>
<td>25.</td>
<td>Chronic rhinitis <em>(jāra pratiśyāya)</em></td>
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<tr>
<td>26.</td>
<td>Sciatica <em>(gṛdhrasī)</em>, renal calculus <em>(aśmarī)</em></td>
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<td>12.</td>
<td>Early stage of fever/ acute fever <em>(navajvara)</em></td>
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<td>13.</td>
<td>Constipated bowel habits <em>(gurukoṣṭha)</em></td>
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<tr>
<td>14.</td>
<td>Contraindicated conditions/ persons for decoction enema <em>(āsthāpana vasti)</em></td>
</tr>
<tr>
<td>15.</td>
<td>Anaemia <em>(pāṇḍu)</em>, Jaundice <em>(kāmalā)</em></td>
</tr>
<tr>
<td>16.</td>
<td>20 types of urinary problems <em>(meha)</em></td>
</tr>
<tr>
<td>17.</td>
<td>Haemorrhoides <em>(arśa)</em></td>
</tr>
<tr>
<td>18.</td>
<td>Rhinitis <em>(pratiśyāya)</em></td>
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<tr>
<td>19.</td>
<td>Distaste/ Aversion to food <em>(arocaka)</em></td>
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<td>Impaired digestive capacity <em>(mandāgni)</em></td>
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<td>21.</td>
<td>Diseases of Spleen <em>(plīhā roga)</em></td>
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<td>22.</td>
<td>Ascites, hepato spleno-megaly, cirrhosis of liver, acute abdomen etc. <em>(udararoga)</em></td>
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<tr>
<td>23.</td>
<td>Stiffening of thighs <em>(urustambha)</em></td>
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<tr>
<td>24.</td>
<td>Diarhoea <em>(atisāra)</em></td>
</tr>
<tr>
<td>25.</td>
<td>Poisoning <em>(viṣa)</em></td>
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<tr>
<td>26.</td>
<td>Acute catarrhal conjunctivitis <em>(pittābhiśyanda)</em></td>
</tr>
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<td>Indications</td>
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<td>--------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>27. Dysmenorrhoea (kaṣṭārtava)</td>
<td>27. Allergic conjunctivitis (Kaphābhiṣyanda)</td>
</tr>
<tr>
<td>28. Dryness in the body (ruksa śarīra)</td>
<td>28. Filariasis (ślīpada), Goitre (galagaṇḍa)</td>
</tr>
<tr>
<td>29. Strong digestive capacity (tīkṣnāgni)</td>
<td>29. Chronic lymph-adenopathy/Scrofula (apacī)</td>
</tr>
<tr>
<td>30. Diseases purely due to vāta</td>
<td>30. Helminthiasis/intestinal worm infestation (kṛmikoṣṭha), obese (sthaulya)</td>
</tr>
<tr>
<td>31. Diseases originated due to depleted tissues in the body (dhañtukṣaya janya roga)</td>
<td>31. Chronic rhinitis/sinusitis (Pīnasa)</td>
</tr>
<tr>
<td>27. Allergic conjunctivitis (Kaphābhiṣyanda)</td>
<td>28. Filariasis (ślīpada), Goitre (galagaṇḍa)</td>
</tr>
<tr>
<td>29. Chronic lymph-adenopathy/Scrofula (apacī)</td>
<td>30. Helminthiasis/intestinal worm infestation (kṛmikoṣṭha), obese (sthaulya)</td>
</tr>
<tr>
<td>31. Chronic rhinitis/sinusitis (Pīnasa)</td>
<td></td>
</tr>
</tbody>
</table>

### Indications and contraindications for Asthāpana vasti

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Generalized paresis, localised paresis, Paraplegia (sarbāṅga roga, ekāṅga roga, ardhāṅga roga)</td>
<td>1. Excessively unctuous (atīsnigdha)</td>
</tr>
<tr>
<td>2. Disorders of abdomen (kukṣiroga)</td>
<td>2. Person who consumed fatty substances/water (pīta sneha/pītadaka)</td>
</tr>
<tr>
<td>3. Obstruction to flatus, faeces, urine, semen (vāta, varca, mūtra, śukra saṅga)</td>
<td>3. Excited state of humours (utkliṣṭadoṣa)</td>
</tr>
<tr>
<td>4. Deficiency in strength, complexion, muscle tissue (Bala, varṇa, māṁsa kṣaya)</td>
<td>4. Deficient digestive fire (alpāgni)</td>
</tr>
<tr>
<td>5. Defect in semen (reta doṣa)</td>
<td>5. Exhausted due to travelling (yanaklānta)</td>
</tr>
<tr>
<td>6. Flatulence (ādhmāna)</td>
<td>6. Weak (ati durbala)</td>
</tr>
<tr>
<td>7. Numbness in the body (aṅgasupti)</td>
<td>7. Children (bāla), elderly persons (vṛddha)</td>
</tr>
<tr>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td>8.</td>
<td>Helminthiasis/ intestinal worm infestation (<em>krmikoṣṭha</em>)</td>
</tr>
<tr>
<td>9.</td>
<td>Tendency of opposite direction of impulses (<em>udāvarta</em>)</td>
</tr>
<tr>
<td>10.</td>
<td>Chronic stage of Diarrhoea (<em>pakvātisāra</em>)</td>
</tr>
<tr>
<td>11.</td>
<td>Pain in smaller joints (<em>parvabheda</em>)</td>
</tr>
<tr>
<td>12.</td>
<td>Burning pain (<em>abhitāpa</em>)</td>
</tr>
<tr>
<td>13.</td>
<td>Diseases of spleen (<em>plīhā doṣa</em>)</td>
</tr>
<tr>
<td>14.</td>
<td>Abdominal lump (<em>gulma</em>), Pain (<em>śūla</em>)</td>
</tr>
<tr>
<td>15.</td>
<td>Heart disease (<em>hṛ-драga</em>)</td>
</tr>
<tr>
<td>16.</td>
<td>Fistula in ano (<em>bhagandara</em>)</td>
</tr>
<tr>
<td>17.</td>
<td>Psychosis (<em>unmāda</em>)</td>
</tr>
<tr>
<td>18.</td>
<td>Chronic fever (<em>jīrṇa Jvara</em>)</td>
</tr>
<tr>
<td>19.</td>
<td>Inguinal abscess (<em>bradhna</em>)</td>
</tr>
<tr>
<td>20.</td>
<td>Headache (<em>śirāḥśūla</em>), ear ache (<em>karnāśūla</em>)</td>
</tr>
<tr>
<td>21.</td>
<td>Stiffness in cardiac region, flanks, back and lumbosacral region (<em>hṛdaya /pārśva prṣṭha / kaṭi graha</em>)</td>
</tr>
<tr>
<td>22.</td>
<td>Tremors (<em>vepana</em> ), convulsions (<em>ākṣepaka</em>)</td>
</tr>
<tr>
<td>23.</td>
<td>Heaviness in body (<em>aṅga gaurava</em>)</td>
</tr>
<tr>
<td>24.</td>
<td>Low weight persons (<em>atilāghava</em>)</td>
</tr>
<tr>
<td>25.</td>
<td>Scanty menstruation (<em>rajaḥ kṣaya</em>)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Suffering from hungry, thirst, fatigue (<em>kṣut, ṭṛṭ, śrama ārta</em>)</td>
</tr>
<tr>
<td>9.</td>
<td>Cachexia (<em>atikṛśa</em>)</td>
</tr>
<tr>
<td>10.</td>
<td>Person undergone emesis (<em>vamita</em>)</td>
</tr>
<tr>
<td>11.</td>
<td>Person undergone purgation (<em>virikta</em>)</td>
</tr>
<tr>
<td>12.</td>
<td>Person recently undergone nasal medication (<em>kṛtanasya karma</em>)</td>
</tr>
<tr>
<td>13.</td>
<td>Anger (<em>krodha</em>), grief (<em>śoka</em>), fearful (<em>bhīta</em>)</td>
</tr>
<tr>
<td>14.</td>
<td>Obese (<em>shaulya</em>), Indigestion (<em>aṭīra</em>)</td>
</tr>
<tr>
<td>15.</td>
<td>Nauseating (<em>prasakta chardi</em>)</td>
</tr>
<tr>
<td>16.</td>
<td>Excess salivation (<em>niśṭhīva</em>)</td>
</tr>
<tr>
<td>17.</td>
<td>Breathlessness/ Asthma (<em>śvāsa</em>)</td>
</tr>
<tr>
<td>18.</td>
<td>Cough (<em>kāsa</em>), Hiccups (<em>hikkā</em>)</td>
</tr>
<tr>
<td>19.</td>
<td>Impacted anal orifice/ intestinal obstruction (<em>baddha gudodara</em>)</td>
</tr>
<tr>
<td>20.</td>
<td>Intestinal perforation (<em>chidrodara</em>)</td>
</tr>
<tr>
<td>21.</td>
<td>Ascites (<em>dakodara</em>), Flatulence (<em>ādhmāṇa</em>)</td>
</tr>
<tr>
<td>22.</td>
<td>Intestinal hypotony (<em>alasaka</em>)</td>
</tr>
<tr>
<td>23.</td>
<td>Gastro-enteritis/ Cholera (<em>visūcikā</em>)</td>
</tr>
<tr>
<td>24.</td>
<td>State of indigestion &amp; toxic metabolites (<em>āmadoṣa</em>)</td>
</tr>
<tr>
<td>25.</td>
<td>Premature delivery/ Abortion (<em>āmaprajātā</em>)</td>
</tr>
<tr>
<td>26.</td>
<td>Irregular digestion (vişamāgni)</td>
</tr>
<tr>
<td>27.</td>
<td>Pain in lower limbs, vagina, shoulder, fingers, breast, teeth, nails, small joints, bones (sphik, jānu, jaṅghā, uru, gulpha, pārṣṇi, prapāda, yoni, bāhu, aṅguli, stana, danta, nakha, parva, asthi śūla)</td>
</tr>
<tr>
<td>28.</td>
<td>Cachexia (śoṣa), rigidity (stambha)</td>
</tr>
<tr>
<td>29.</td>
<td>Increased intestinal sounds (āṇtrakuṇāṇa)</td>
</tr>
<tr>
<td>30.</td>
<td>Pain in anal region (guda śūla)</td>
</tr>
<tr>
<td>31.</td>
<td>80 types of diseases due to vāta</td>
</tr>
<tr>
<td>32.</td>
<td>Hernia (vṛddhi), sciatica (grdhrasī)</td>
</tr>
<tr>
<td>33.</td>
<td>Renal calculus (āsmarī), Rhinitis (pratiśyāya)</td>
</tr>
<tr>
<td>34.</td>
<td>Incipient cataract (timira), Glaucoma (adhimantha)</td>
</tr>
<tr>
<td>35.</td>
<td>Paralysis/ Hemiplegia/ Paresis etc. (pakṣāghāta)</td>
</tr>
<tr>
<td>36.</td>
<td>Soft Chancre (upadaṃśa)</td>
</tr>
<tr>
<td>37.</td>
<td>Gout (vāṭarakta), haemorrhoides (arśa)</td>
</tr>
<tr>
<td>38.</td>
<td>Scanty breast milk (stanyakṣaya)</td>
</tr>
<tr>
<td>39.</td>
<td>Lock jaw, stiffness in neck region (hanugrahā, manyāgrahā)</td>
</tr>
<tr>
<td>40.</td>
<td>Dysmenorrhoea (kaṣṭārtava)</td>
</tr>
<tr>
<td>41.</td>
<td>Obstructed labour (mūḍhagarbha)</td>
</tr>
<tr>
<td>42.</td>
<td>Dysuria (mūṭrakṛccchra)</td>
</tr>
<tr>
<td>26.</td>
<td>Initial stage of Diarrhoea (āmā tīsāra)</td>
</tr>
<tr>
<td>27.</td>
<td>Diabetes mellitus (madhumeha)</td>
</tr>
<tr>
<td>28.</td>
<td>Diseases of skin (kuṣṭha)</td>
</tr>
<tr>
<td>29.</td>
<td>Proctitis (śūnapāyu)</td>
</tr>
<tr>
<td>30.</td>
<td>Acute abdomen (appendicitis, intestinal obstruction etc.)</td>
</tr>
<tr>
<td>31.</td>
<td>Unconscious state (mūrcchita)</td>
</tr>
<tr>
<td>32.</td>
<td>Anaemia (pāṇḍu)</td>
</tr>
<tr>
<td>33.</td>
<td>Distaste/ aversion to food (arocaka)</td>
</tr>
<tr>
<td>34.</td>
<td>Psychosis (unmāda)</td>
</tr>
<tr>
<td>35.</td>
<td>Weakness due to injury (Kṣatakṣīṇa)</td>
</tr>
</tbody>
</table>
## Indications and contraindications for Nasya

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stiffness in the head, teeth and neck region (śīro, danta, manyā stambha), choking sensation in throat (gala graha)</td>
<td>1. After taking food (bhuktabhakta)</td>
</tr>
<tr>
<td>2. Lock jaw (hanugraha), chronic rhinitis/ sinusitis (pīṇasa)</td>
<td>2. After consuming unctuous items, alcohol, water etc. (sneha, madya, toya pīta)</td>
</tr>
<tr>
<td>3. Uvulitis (galaśuṇḍikā), Adenoids (galaśāluka)</td>
<td>3. Person, who performed head bath or who wish to do bath/ head bath (snāta śira or snātu kāmā)</td>
</tr>
<tr>
<td>4. Disorders of cornea (netragata śukraroga)</td>
<td>4. Person, who is hungry, thirst (kṣudhā, tṛṣṇā) , cloudy weather (durdina)</td>
</tr>
<tr>
<td>5. Incipient cataract (timira) , diseases of eye lids (vartma roga)</td>
<td>5. Early/ acute stages of fever (navajvara)</td>
</tr>
<tr>
<td>6. Sleeplessness (anidrā), goiter (galagaṇḍa)</td>
<td>6. Exertion due to grief (śokābhītāpta)</td>
</tr>
<tr>
<td>7. Brown colour patches (vyaṅga), ranula (upajīhvīkā)</td>
<td>7. Person undergone therapeutic purgation/ oily enema (virikta/ anuvāsita) , Indigestion (ajīrṇa)</td>
</tr>
<tr>
<td>8. Hemicrania/ migraine (ardhāvabhedaka)</td>
<td>8. Women in Puerperial period (sūtikā)</td>
</tr>
<tr>
<td>10. Shoulder/ scapular pain (aṃśa śūla)</td>
<td>10. Injured by the weapons (śastra hata)</td>
</tr>
<tr>
<td>11. Diseases of mouth (mukha roga)</td>
<td>11. Acute rhinitis (nava Pratiśyāya)</td>
</tr>
<tr>
<td>12. Earache, headache, pain in nose, eyes, teeth (karṇaśūla, Śirahśūla, nasa śūla, aksi śūla, danta śūla)</td>
<td>12. Pregnant (garbhīṇī)</td>
</tr>
</tbody>
</table>
### Indications and contraindication for *Uttara vasti*

<table>
<thead>
<tr>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diseases of bladder (<em>vastivikāra</em>)</td>
<td>1. 20 types of urinary problems (<em>prameha</em>)</td>
</tr>
<tr>
<td>2. Prolapse of the uterus (<em>yonibhrāṇiṣā</em>)</td>
<td>2. Genitourinary tract infections</td>
</tr>
<tr>
<td>4. Defects of female genital tract (<em>yoni vyāpat</em>)</td>
<td><strong>This procedure is not to be performed in the following conditions.</strong></td>
</tr>
<tr>
<td></td>
<td>1. Other than <em>ṛtukāla</em> (in females)</td>
</tr>
</tbody>
</table>

While performing *nasya karma*, patient should not do the following:

1. Shaking/ moving of head (*śīra prakampanna*)
2. Getting angry
3. Talking
4. Sneezing
5. Laughing
2. Weak (*ati durbala*)

3. Suffering from hunger, thirst, exertion (*kṣut, tṛt, śrama āṛta*)

4. Fearful (*bhīa*)

5. Empty stomach (*abhukta*)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Menstrual disorders (<em>aṣṭgdara, rajodoṣa, raka pradara</em>)</td>
</tr>
<tr>
<td>6.</td>
<td>Leucorhoea (<em>śveta pradara</em>)</td>
</tr>
<tr>
<td>7.</td>
<td>Vitiation/ Defects in reproductive elements (<em>śukra duṣṭī</em>)</td>
</tr>
<tr>
<td>8.</td>
<td>Urinary obstruction (<em>mūtrāghāta</em>)</td>
</tr>
<tr>
<td>9.</td>
<td>Dribbling of urine (<em>mūtra bindu bindu srāva</em>)</td>
</tr>
<tr>
<td>10.</td>
<td>Urinary calculus, gravel etc. (<em>aśmarī, śarkarā</em>)</td>
</tr>
<tr>
<td>11.</td>
<td>Pain in bladder, inguinal and urethral regions (<em>vasti, vaṅkṣaṇa, mehana śūla</em>)</td>
</tr>
<tr>
<td>12.</td>
<td>Female infertility (<em>bandhyatva</em>)</td>
</tr>
<tr>
<td>13.</td>
<td>Male infertility (<em>klaibya</em>)</td>
</tr>
</tbody>
</table>

Period of 12 days after 4 days of menstruation is considered as *ṛtukāla*. 
ANNEXURE II

MINI-MENTAL STATE EXAMINATION (Folstein et al., 1975)

ORIENTATION:
1. Can you tell me what year it is?, season?, date?, day?, month? Score 1 for each (Score-5)
2. Can you tell me where we are? what town (or village)? what street (or hospital)? what house, (or ward)? what state? what country? (Score-5)

REGISTRATION:
3. I would like you to remember three things for me. The three things are (name three objects, taking I second to say each). Then ask the patient all three, after you have said them give one point for each correct answer. (Score-3)

ATTENTION AND CALCULATION:
4. Serial sevens, give one point for each correct answer, stop after five answers. Alternative: spell WORLD backwards. (Score-5)

RECALL:
5. Ask for the names of the three objects learned in question 3 give one point for each correct answer. (Score-3)

LANGUAGE:
6. Point to a pencil and a watch, say can you tell me what that is called? (score-2)
7. Ask the patient to repeat 'No, ifs, ands, or buts'. (Score-1)
8. Ask the patient to follow a three-stage command; Please take this piece of paper in your right hand, fold it in half, and put it on the floor. (Score-3)
9. Ask the patient to read and follow the written command. (Close your eyes) (Score-1)
10. Ask the patient to write a sentence of his or her choice. (To score correct, the sentence must contain a subject and a verb. Spelling mistakes do not matter). (Score-1)
11. Draw the design below and ask the patient to copy it. (Draw t with side of 1.5cm at least to score correct, each pentagon must have 5 sides and the intersecting sides must from a quadrangle). (Score-1)

\[\text{Total point 30}\]

Cut off point for probable cognitive impairment is 24.
ANNEXURE III

INSTITUTES OFFERING GERIATRIC COURSES / SERVICES IN INDIA

1. **Institute of Post Graduate Teaching & Research in Ayurveda**
   Gujarat Ayurved University
   Administrative Bhavan,
   Jamnagar- 361 008 (Gujrat)
   Phone (O): 0288-2676854, Fax : 0288-2555585
   Email: info@ayurveduniversity.com
   Website: http://www.ayurveduniversity.com

2. **National Institute of Ayurveda**
   Madhav Vilas Palace, Amer Road
   Jaipur-302002 (Rajasthan)
   Phone No:- 091-141-2635709,2635816, Fax: 91-141-2635709,
   Website: http://nia.nic.in
   Email: nia@raj.nic.in

3. **Institute of Medical Sciences**
   Banaras Hindu University
   Varanasi, India -221005 (Uttar Pradesh)
   Phone 0542 - 2307500, 2367568,
   Fax 91-542-2367568
   Website: http://www.bhu.ac.in/ims/index.html

4. **R. A. Podar Medical College (Ay)**
   Dr. Annie Besant Road, Worli
   Mumbai - 400 018 (Maharashtra)
   Telephone: 022 - 4936881/ 4934214
   Hospital: 022 - 4931846/ 4933533
   Website: www.ayurvedinstitute.com
5. **Govt. Ayurveda College & Hospital**  
   Trivandrum, (Kerala)  
   Hospital Ph: 0471 - 2460823  
   College Ph: 0471 - 2474190

6. **Arya Vaidya Sala,**  
   Kottakkal-676503, Malappuram Distt (Kerala)  
   Tel: 0483/2742216-19, 2742561-64, 2742571, 2744506-08  
   Fax: 0483-2742572  
   E-mail: koz_kottakkal@sancharnet.in  
   Website: www.aryavaidyasala.com

7. **National Research Institute of Panchakarma**  
   Cheruthuruthy, Via Shoranur  
   Trichur Distt -679531 (Kerala)  
   Fax: 04884-262366, Phone: 04884-262543  
   M: 09446501746  
   E-mail: trc_criachy@sancharnet.in

8. **KMM Academy of Health Sciences**  
   Kochi - 682038 (Kerala)

9. **National Institute of Social defence**  
   West Block - 1, Wing - 7  
   Ground Floor, R. K. Puram  
   New Delhi.-110066

10. **Madras Medical College (MD Geriatrics)**  
    Chennai - 600 003 (Tamilnadu)  
    Phone : 044 - 25363001 to 25363008

11. **Indira Gandhi National Open University**  
    (P.G. Diploma in Geriatric Medicine (PGDGM))  
    Maidan Garhi, New Delhi  
    Phone: 29535924-32, 29535062-65, 29532964, 29534326, 29533767, 29533790, 29536980 (EPABX).  
    Website: http://www.ignou.ac.in

12. **IMA AKN Sinha Institute (Post Graduate Certificate Course in Geriatrics)**  
    I.M.A. House, Indraprastha Marg  
    New Delhi-110 002.  
    Phone: 011 - 2337 0009, 2337 8819, 2337 8680, 2337 0492, 2337 8428  
    Fax: + 91-11-2337 9470, 2337 9178.
13. Seth Gordhandas Sunderdas Medical College (GSMC)  
Acharya Donde Marg, Parel  
Mumbai - 400 012 (Maharashtra)  
Phone: 91-22-2413 6051  
Fax: +91-22-2414 3435

14. Amrita Institute of Medical Sciences and Research Centre  
Amrita Lane, Elamakkara Post,  
Kochi - 682 026 (Kerala)  
Phone: 0091 (0) 484 280 1234, 280 4321, 400 1234  
Fax: +91 (0) 484 280 2020

15. Department of Community Medicine  
Maulana Azad Medical College  
New Delhi - 110002

16. All India Institute of Medical Sciences  
Ansari Nagar  
New Delhi

17. Division of Geriatrics  
Institute of Medical Sciences  
Banaras Hindu University  
Varanasi (Uttar Pradesh)
ANNEXURE IV

OLD AGE HOMES/ GERIATRIC CARING CENTRES IN INDIA

DELHI

1. Elder's Home Society  
   Flat No. 23 Shankar Market  
   Connaught Place  
   New Delhi -110001

2. Help Age India  
   C-14, Qutub Institutional Area  
   New Delhi -110016  
   Tel.: 011-26865675, 011-26867697  
   Fax: 011-26852916  
   Website: www.helpageindia.org  
   E-mail: helpage@nde.vsnl.net.in

3. Nai Roshni  
   D-7/7178, Vasant kunj  
   New Delhi -110070

4. Old Age Home  
   PWD Barracks, B-Block  
   (Near Gurudwara and Deshbandhu College, Kalkaji)  
   New Delhi -110 019  
   Phone: 011-26218940

5. Home for Aged and Infirm persons  
   Khadi Gramodyog Bhawan  
   (Near Musaddi Lal Higher Secondary School, Narela)  
   New Delhi -110040  
   Phone: 011-27784236
6. **Godhuli Senior Citizens Home**  
(Servants of People Society, Delhi Branch)  
Plot-7, Sector-2, Dwarka  
New Delhi -110 075  
Phone: 011-25080568  
Head office: Servants of the People Society  
Lajpat Bhawan, Lajpat Nagar-IV  
New Delhi -110024  
Phone: 011-26427650

7. **Old Age Home**  
Harijan Colony, Tilak Nagar  
New Delhi -110018  
Phone: 011-28332323

8. **Gharaunda**  
Plot No. 482  
Asola Fatehpur Beri  
Near Mehrauli  
New Delhi -110074

9. **Nirmal Hriday**  
(Mother Teresa's Missionaries of Charity)  
1, Magazine Road  
Majnu ka Tila  
New Delhi - 110054  
Phone: 011-23812180

10. **Arya Mahila Ashram**  
Near Arya Samaj Mandir  
Durga Colony  
New Rajendra Nagar  
New Delhi -110060  
Phone: 011-28741786, 28745091

11. **Aastha, Senior Citizens Home**  
(Air Force Association)  
(for ex-servicemen of Air Force, Army, Navy)  
62-64, Institutional Area  
Tuglakabad, MB Road  
Near Batra Hospital  
New Delhi -110062  
Phone: +91-11-26058866, 29958867
NOIDA

1. **Manvayatan**  
   Plot No. 2, Sector-37  
   Industrial Area  
   (Behind Community Center, Noida)  
   Uttar Pradesh - 201303  
   Phone: +91-120-2432195, 2432383

2. **Anand Niketan Vridh Sewa Ashram**  
   Jan Kalyan Trust  
   C-5, Sector-55  
   Noida-201305  
   Uttar Pradesh  
   Phone: +91-120-45382405, 4581475, 4583686

GURGAON

1. **Chiranjiv Karan Bhoomi (Divya Chaya Trust)**  
   C-1, Palam Vihar  
   Gurgaon  
   Haryana (INDIA)  
   Phone: +91-11-1024-4070090  
   E-mail: info@ckb.org.in

2. **HOPE Senior Citizens Home Society**  
   Post Box No. : 4, U-215  
   New Palam Vihar, Phase -I  
   Gurgaon -122017, Haryana (India)  
   Phone: +91-124-4071721, 2468383  
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MUMBAI

SENIOR CITIZENS HOMES

1. **Asmita Senior Citizen Group**  
   South Mumbai  
   Shri Harish Sutariya  
   501, Vaishali Apartment  
   Parekh Street  
   Mumbai - 400004
2. Dignity Senior Citizen Counselling Centre
B.M.C. School Building
Opp. Lamington Road
Grantroad (East)
Mumbai - 400 007

OLD AGE HOMES:

1. Sir J. J. Dharmsala
District Benevolent Society of Bombay
Duncan Road
Nagpada Junction
Mumbai - 400 008

2. Pearl Centre
Home for the aged
Tulsi Pipe Road
4th Floor, Dadar (West)
Mumbai - 400 0025

3. Vridhashram
Pearl Hospital, Khandala
Neral, Pearl Centre
Senapati Bapat Marg
Dadar (West)
Mumbai - 400 028

4. Shantidaan
Missionaries of Charities
Goraicreek
Borivali (West)
Mumbai - 400 092

5. Vatsalaya Trust
Vanprasthashram
Sector - 2, Plot - 11
Sanpada
Navi Mumbai - 400 705

6. Sharan Vrudhashram
Sector -9
Near Father Agnel Polytechnic Vashi
Navi Mumbai - 400 705
ANDHRA PRADESH

1. Association for the care of the Aged
   Jatkar Bhavan
   1-8-526
   Chikkadapally
   Hyderabad - 500020

2. Chudamani Vrudha Ashram
   C/o Sivananda Rehabilitation Home
   Kukatpally, P.O.
   Hyderabad - 500872

4. Karuna Nilayam
   Mahila Seva Mandali
   6/442, Khojjilipet
   Machilipatnam - 521001

KARNATAKA

1. Aid the Aged
   1492, 17th A Main Road
   II Phase, J.P. Nagar
   Bangalore - 560078

2. The Bangalore Friend-In-Need Society
   3, Colonel Hill Road
   Bangalore - 560051

KERALA

1. Bishop Gnanadason Memorial Anpu Nilayam
   Anpu Nilayam Building
   L.M.S. Compound, Cheruvarakonam
   Parassal - 695502

2. Homage
   33/564, A.R. Camp. Road
   Marikkunna PO
   Kozhikode - 673012
3. **Sevagram**  
Pothy, Thalayolaparambu PO  
Kottayam - 686605

4. **Sneha Bhavan, Kompady**  
Manjadi PO  
Thiruvalla - 689105

5. **Vishranthi Bhavan, St. Mary's Hospital**  
PO: Chathanagottu Nada  
Kavillumpara, Calicut-673 513

**TAMILNADU**

1. **Anbaham**  
CSI Home for the aged  
Beasant Avenue  
Adyar  
Chennai - 600020

2. **Naya Jyoti Charities Trust**  
Kandaswamy Street  
R.A. Puram  
Chennai - 600028

3. **Sai Charan Senior Citizen's Home**  
29, 27th Cross St. (M20/1)  
Beasant Nagar  
Chennai - 600090

4. **Santhi Sadan**  
Madras Seva Sadan  
7, Harrington Road  
Chennai - 600031
ANNEXURE V

SOME REHABILITATION CENTRES IN INDIA
(Source: http://www.empowerinfo.com/distrehabcent.html)

DISTRICT REHABILITATION CENTRES

1. **District Rehabilitation Centre**
   Capital Hospital Campus, VI
   Bhubaneshwar - 751001 (Orissa)
   Phone: 0674-407803

2. **District Rehabilitation Centre**
   Kharagpur General Hospital
   P.O. Kharagpur
   District Midnapore
   West Bengal - 721301
   Phone: 03221-610

3. **District Rehabilitation Centre**
   Lal Bagh
   (Near Raja College Field)
   Shahjahanpur Road
   Sitapur (Uttar Pradesh)
   Phone: 05862-3283

4. **District Rehabilitation Centre**
   Opposite Nurse Hostel
   Sardar Patel Hospital Campus
   Bilaspur - 495001 (Haryana)
   Phone: 07752-4893
5. District Rehabilitation Centre
1st Floor, Laundry Section
Civil Hospital
Bhiwani - 125021 (Haryana)
Phone: 01664-3075

6. District Rehabilitation Centre
Community Health Centre Campus
Jagdishpur (Sultanpur)
Uttar Pradesh - 227809
Phone: 0536-75033

7. District Rehabilitation Centre
G.S.T Road, Near Court
Chengalpattu - 603 001
Chennai (Tamilnadu)

8. District Rehabilitation Centre
Pulikesi Road
Govt. School for Blind Children Premises
Thilak Nagar
Mysore - 570 021 (Karnataka)
Phone: 0821-27670

9. District Rehabilitation Centre
MBS Hospital Complex
Kota - 324 001 (Rajasthan)
Phone: 0744-20891

11. District Rehabilitation Centre
H. No: 29-28-39
Surya Bhawan, Desari Street
Suryaraopet
Vijayawada-520 002 (Andhrapradesh)
Phone: 0866 - 63209
REGIONAL REHABILITATION TRAINING CENTRES

1. Regional Rehabilitation Training Centre (RRTC)
   C/o All India Institute of Physical Medicine and Rehabilitation
   Haji Ali Park
   Mahalaxmi
   Mumbai - 400034 (Maharashtra)
   Phone: 022 - 4435035

2. Regional Rehabilitation Training Centre (RRTC)
   C/o National Institute of Rehabilitation Training and Research
   Olatpur, P.O. Bairoi
   Cuttack - 754010 (Orissa)

3. Regional Rehabilitation Training Centre (RRTC)
   Limb Centre
   Opposite Hathi Park
   Lucknow - 226018 (Uttar Pradesh)
   Phone: 0522-242047

4. Regional Rehabilitation Training Centre (RRTC)
   Government Institute of Rehabilitation Medicine
   K.K. Nagar
   Chennai - 600083 (Tamilnadu)
   Phone: 044-4821793, 4821668
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AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS

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CONSULTATIVE MEETING TO FINALIZE THE DOCUMENT ENTITLED

"AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS"

(TREATMENT PROTOCOLS - GUIDELINES AND COSTING OF SELECT GERIATRIC DISORDERS)

[WHO INDIA OFFICE SUPPORTED PROJECT SE IND KKB 001 RB 08 (STICKER NO. SE/08/092704)]

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