Panchkarma Assistant

Grade: XII

QP Code: HSS/ Q3603 V 3.0

विद्यया ऽमृतमश्नुते

एन सी ई आर टी
NCERT

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About the Textbook

Panchakarma is a therapeutic branch of Ayurveda that focuses on detoxification, rejuvenation, disease prevention, and restoration of health through specialised procedures. With the growing awareness of natural healing, preventive healthcare, stress management, and wellness therapies, Panchakarma has gained significant acceptance in India and across the world. As a result, the demand for trained Panchakarma Assistants has increased rapidly in Ayurvedic hospitals, wellness centres, rehabilitation clinics, spas, medical tourism facilities, and integrative healthcare institutions.

This vocational course for Class XII students has been designed to provide foundational knowledge, practical skills, and professional competencies required for the job role of a Panchakarma Assistant. The course introduces students to the principles of Ayurveda and the practical aspects of Panchakarma procedures such as Vamana, Virechana, Vasti, Nasya, and Rakta Mokshana. Students will learn to assist the Vaidya (Ayurvedic physician) and therapist during procedures by preparing medicines, arranging instruments, maintaining hygiene and infection control, positioning patients, observing patient responses, and providing post-procedure care.

The textbook follows a competency-based vocational education approach combining theory with practical learning. Activities such as demonstrations, observation exercises, role plays, case studies, clinical recording, and practical assignments help students develop workplace readiness and confidence. Equal importance is given to communication skills, teamwork, discipline, ethics, empathy, and patient safety, which are essential qualities for healthcare professionals.
The statistical relevance of this job role is strongly linked to the rapid expansion of the AYUSH and wellness sectors in India. According to the Ministry of AYUSH and National AYUSH Mission, India has more than 3,800 AYUSH hospitals, 36,000 AYUSH dispensaries, and over 7.5 lakh registered AYUSH practitioners. The Government of India has also supported the establishment of 12,500 Ayush Health and Wellness Centres under the National AYUSH Mission to strengthen preventive and holistic healthcare services.

Students completing this vocational course may find employment opportunities as Panchakarma Assistants, therapy room assistants, Ayurvedic clinical assistants, wellness centre assistants, spa therapy assistants, and support staff in AYUSH hospitals and rehabilitation centres. The course also creates a foundation for higher education and specialised training in Ayurveda and allied health sciences.

The primary aim of this course is to prepare skilled, responsible, and compassionate Panchakarma Assistants capable of supporting safe and effective Ayurvedic healthcare delivery while contributing to the growing wellness and AYUSH industry in India.

UNIT - 1
PRADHANA KARMA

As you are aware of the basic concepts of Ayurveda and Panchakarma from the Class 11 textbook, this unit on Pradhana karma introduces the therapeutic procedures. The role of a Panchakarma assistant is to assist the physician or therapist with necessary medicines and their preparation, setting up the therapy room, positioning the patient, and communicating significant observations. The various sessions in this unit introduce the concept of Pradhana karma and the five therapeutic procedures.

Session - 1
Introduction to Pradhana Karma

The core Panchakarma procedures constitute the *Pradhana Karma* series and are intended to expel the vitiated (*prakupita*) doshas from the body. These procedures demand meticulous attention from the physician, technician, and Panchakarma assistant to ensure both safety and efficacy. The decision to administer any Panchakarma therapy rests solely with the Vaidya/practitioner and is based on a thorough assessment of the patient's symptomatic presentation and the extent of doshic imbalance. Disease progression in Ayurveda is understood through a six-stage chronological sequence known as *Kriyakala*, each marked by distinct clinical features. These stages provide a logical framework for treatment planning, enabling timely intervention to arrest or reverse pathogenesis. Thus, Kriyakala serves as a set of clinical checkpoints for selecting appropriate therapeutic measures.

The Kriyakala subdivisions are: *Sanchaya, Prakopa, Prasara, Sthana Samshraya, Vyakti,* and *Bheda*.

Chaya

During the initial phase of dosha vitiation, the affected dosha begins to accumulate in its own anatomical site; this stage is termed *Chaya*. At this level, subtle clinical indicators can be identified, particularly through changes in taste preference (*rasa*) and aversion. For instance, in the early stage of *Kaphaja Prameha* (incipient diabetes), an individual may develop a preference for pungent or spicy foods and an aversion to sweet substances.

This reflects the body's innate attempt to counterbalance the accumulating Kapha. However, excessive intake of such foods may further aggravate the dosha, leading to increased *ama* formation and impairment of *dhatvagni*. The manifestations in this stage are generally mild and specific to the dosha and its primary site of accumulation.

Table of symptoms revealed by dosha in the Chaya stage

Vata	***Pitta***	***Kapha***
Stabdhapoorna-koshtata (abdominal stiffness and a sense of fullness)	*Pittavabhasata* (yellowish discolouration of the body), *Mando ushamta* (mild elevation of body temperature or a feverish feeling)	*Anganam Gauravta* (heaviness of the body with reduced ease of movement), *Alasyam* (lethargy or persistent fatigue even after adequate rest)

The occurrence of Chaya can also be correlated with seasonal variations. Accordingly, appropriate modifications in diet, lifestyle, and physical activity—collectively termed *Ritucharya*—help in maintaining doshic balance and preventing disease progression.

Table of dosha Chaya related to seasons

Vata	***Pitta***	***Kapha***
Greeshma	*Varsha*	*Shishira*

Prakopa

With continued accumulation, the doshas reach a state of aggravation (*Prakopa*) and begin to overflow from their primary site. This stage may be compared to an overfilled container spilling its contents. A key feature here is the liquefaction and increased mobility of doshas. Early intervention at this stage with mild therapeutic measures—such as fasting (*langhana*) or the administration of carminative agents like *Shunti*—can effectively prevent further progression. The expertise of the Vaidya is crucial in identifying subtle changes and selecting appropriate treatment strategies.

Table of symptoms revealed by dosha in Prakopa stage

Vata	***Pitta***	***Kapha***
Koshta toda *sancharana* (abdominal pain and disturbed bowel activity)	*Amlika* (sour belching), *Pipasa* (excessive thirst), and *Paridaha* (burning sensation or heat intolerance)	*Hridyotkleda* (uneasiness or heaviness in the chest), *Annadwesha* (loss of appetite or aversion to food)

Prakopa is also influenced by seasonal variations, which guide preventive and therapeutic interventions. This stage is particularly important for planning Panchakarma procedures such as *Vasti* for Vata, *Virechana* for Pitta, and

Vamana for Kapha. In regions like Kerala, the *Varsha* season is traditionally considered ideal for Panchakarma therapies aimed at rejuvenation and tissue repair. The dietary inclusion of medicated porridge such as "Marunnu Kanni" or "Karkidaka Kanni" for a prescribed duration supports *Agni Deepana* and *Ama Pachana*.

Table of dosha chaya related to the particular season

Vata	***Pitta***	***Kapha***
Varsha	*Sharat*	*Vasanta*

Prasara

As the doshas continue to aggravate, they spread beyond their original sites, much like an overflowing fluid dispersing into adjacent areas. This stage is known as *Prasara*, where the vitiated doshas circulate throughout the body and localise in vulnerable tissues, initiating disease pathways. There are fifteen types of Prasara described based on different doshic combinations. The movement of doshas occurs in three primary directions—*Urdhva* (upward), *Adhah* (downward), and *Tiryak* (transverse).

Vata	***Pitta***	***Kapha***
Vimarga gamana/regurgitation	Paridaha- burning sensation	Aruchi- loss of appetite

Sthāna Samshraya

In this stage, the aggravated doshas localise at specific sites due to obstruction in the microchannels (*srotas*). Here, the interaction between dosha and tissue (*dushya*)—termed *dosha-dushya samurchana*—takes place, marking the onset of disease localisation. Prodromal symptoms (*purvarupa*) begin to appear at this stage, providing early warning signs and an opportunity for timely therapeutic intervention.

Vyakti

This stage represents the full manifestation of the disease, where clear and well-defined clinical features become evident. Diagnosis at this level becomes more straightforward due to the presence of characteristic signs and symptoms.

Bheda

If appropriate treatment is not initiated, the disease progresses to the stage of *Bheda*, characterised by complications and differentiation into more severe forms. This advanced stage requires careful management, as it may lead to chronicity, secondary disorders, or even mortality if left unaddressed.

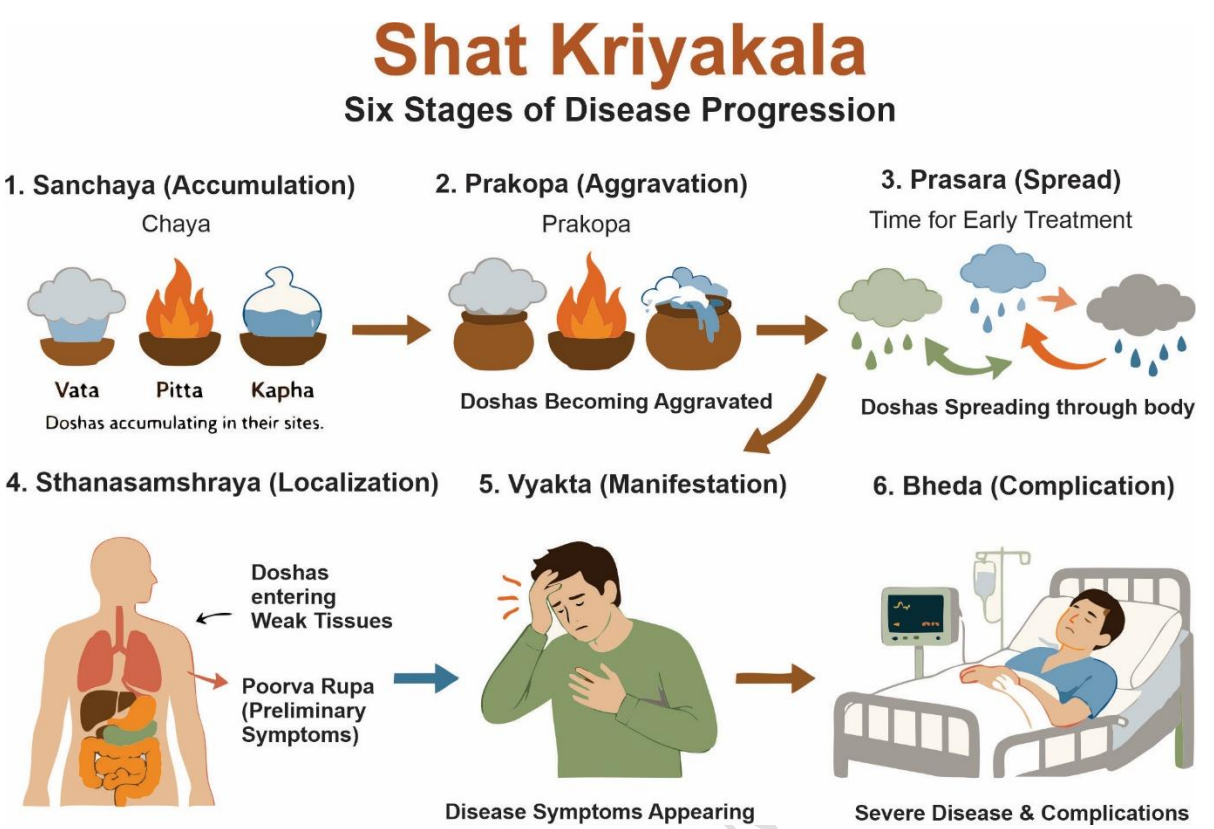

Fig 1.1: Shat Kriyakala

Practical Exercise

Exercise 1: Identification of Kriyakala Stages in a Case Scenario
Objective: To help students identify different stages of disease progression (Kriyakala) based on symptoms.

Procedure: The instructor provides 3–4 short patient case scenarios.

1. Students should carefully read each case and identify:
   - Stage of Kriyakala
   - Dominant Dosha (Vata/Pitta/Kapha)
   - Possible early intervention

Sample Case: A patient reports heaviness in the body, lethargy, and loss of appetite without any major disease symptoms.

Student Task:
- Identify the stage: _____
- Dosha involved: _____
- Suggested action: _____

Answer: Stage: Chaya (Kapha accumulation), Dosha: Kapha, Action: Light diet, exercise, Langhana

Exercise 2: Symptom Classification Table

Objective: To develop the ability to differentiate doshic symptoms across stages.

Instructions: Fill in this table

Symptom	**Stage**	**Dosha**
Burning sensation		
Heaviness in the body		
Abdominal pain		

Exercise 3: Role of Panchakarma Assistant

Objective: To understand responsibilities during early disease stages.

Task: List 5 responsibilities of a Panchakarma Assistant during:
- Chaya stage
- Prakopa stage

Sample Points:
- Monitor patient symptoms
- Assist in dietary regulation
- Prepare herbal formulations
- Maintain hygiene
- Report changes to Vaidya

Classroom Activities

Activity 1: Kriyakala Flowchart Creation

Objective: To visually understand disease progression.

Instructions:
- Divide students into groups.
- Each group draws a flowchart showing:
  - 6 stages of Kriyakala
  - Key symptoms
  - Intervention points

Outcome: Students to present and explain their charts.

Activity 2: Role Play – Panchakarma Clinic

Objective: To simulate real clinical situations.

Roles:
- Vaidya (Doctor)
- Panchakarma Assistant

- Patient

Scenario: Patient comes with early symptoms (e.g., Prakopa stage).

Task:
- Assistant records symptoms
- Assists Vaidya in planning therapy
- Explains dietary advice to the patient

Activity 3: Dosha Matching Game

Objective: To reinforce understanding of doshic symptoms.

Materials:
- Flashcards with symptoms
- Flashcards with doshas

Instructions: Students match symptom cards with the correct dosha and stage.

Activity 4: Seasonal Regimen Planning (Ritucharya)

Objective: To connect seasonal changes with dosha balance.

Task: Each group prepares:
- Diet plan
- Lifestyle advice
- Preventive measures

For one season (Varsha, Shishira, etc.)

Assessment Activity (Short Practical Test)

1. Identify the stage where symptoms clearly manifest.
2. Name one Panchakarma therapy for each dosha.
3. What is the role of the assistant in the Prasara stage?
4. Define Purvarupa.
5. Why is early intervention important?

PART A

A. Fill in the Blanks

1. The six stages of disease progression in Ayurveda are known as _____.
2. The first stage of Kriyakala is called _____.
3. Accumulation of doshas in their own site is termed _____.
4. The aggravated stage of doshas is known as _____.
5. The spreading of doshas throughout the body is called _____.

6. Localization of doshas in weak tissues is termed _____.
7. The stage where disease symptoms are clearly manifested is called _____.
8. The complication stage of disease is known as _____.
9. Early symptoms appearing before full manifestation are called _____.
10. The term for accumulation stage of dosha is also known as _____.
11. Excessive thirst and burning sensation are symptoms of _____ dosha aggravation.
12. Movement of doshas in upward, downward, and transverse directions is seen in _____ stage.
13. The interaction between dosha and tissue is called _____.

PART B

Short Answer Questions

1. Define Kriyakala.
2. List the six stages of Kriyakala.
3. What happens during the Chaya stage?
4. Explain the Prakopa stage with one example.
5. What is meant by Prasara?
6. Define Sthana Samshraya.
7. What are Purvarupa?
8. Describe the Vyakti stage.
9. What is the Bheda stage?
10. Why is early intervention important in Kriyakala?
11. Mention one symptom each of Vata, Pitta, and Kapha in the Chaya stage.
12. What is the role of Panchakarma in the Prakopa stage?
13. How do seasons influence dosha accumulation?
14. What is Dosha-dushya samurchana?

Match the Following

I. Match Kriyakala Stages

Column A	Column B
1. Sanchaya	a. Manifestation
2. Prakopa	b. Spread
3. Prasara	c. Accumulation
4. Sthana Samshraya	d. Localization
5. Vyakti	e. Aggravation
6. Bheda	f. Complication

II. Match Symptoms with Dosha

Column A	**Column B**
1. Burning sensation	a. Vata
2. Heaviness in body	b. Pitta
3. Abdominal pain	c. Kapha
4. Lethargy	d. Kapha
5. Sour belching	e. Pitta
6. Disturbed bowel movement	f. Vata

III. Match Stage with Key Feature

Column A	**Column B**
1. Chaya	a. Doshas spread throughout the body
2. Prakopa	b. Early accumulation
3. Prasara	c. Aggravation and overflow
4. Sthana Samshraya	d. Localisation in weak tissue
5. Vyakti	e. Clear symptoms
6. Bheda	f. Complications

Session - 2
Role of Panchakarma Assistant during Vamana Karma

The root word *"वम् (vam)"* means to vomit, to expel, or to eject. Accordingly, the Panchakarma procedure in which vitiated doshas are expelled through induced vomiting is known as *Vamana*. Kapha dosha primarily resides in the *urah pradesha* (chest region), and the *Amashaya* (stomach) is one of its principal sites of accumulation. Therefore, Vamana, which is indicated for the elimination of Kapha-dominant doshas, facilitates their expulsion through the oral route via induced emesis.

The vomiting reflex is essentially an antiperistaltic movement. Hence, appropriate preparatory measures are undertaken to stimulate the vomiting centre located in the medulla oblongata, thereby initiating the process. The Vamana procedure includes systematically planned *Snehana* (oleation) and *Swedana* (sudation), followed by the administration of emetic drugs to induce vomiting. This is further supported by a sequence of *Pashchat Karma* measures aimed at restoring electrolyte balance, stabilising the body, and gradually rekindling the digestive fire (*Agni*).

Purva Karma

Snehana and *Swedana* are essential preparatory procedures that must be strictly followed before administering Vamana therapy. Initially, the patient is given a small dose of *Sneha* (medicated ghee or oil), and the time required for its digestion is carefully assessed on the first day. Subsequently, the dose is gradually increased each day until the features of *Samyak Snigdha* (adequate oleation or saturation) are observed. Clinical indicators such as aversion to medicated ghee, oily or loose stools, and a feeling of saturation are monitored—often with the assistance of the Panchakarma assistant—to determine readiness for the next stage. The assistant should also ensure that the patient has continuous access to warm water for daily activities during the Snehana phase.

Swedana is performed after achieving the endpoints of Snehana. Before sudation, the patient is given a mild oil massage (*Abhyanga*), followed by exposure to a full-body sudation chamber. The endpoints of Swedana include profuse sweating, particularly on the forehead, relief from stiffness or pain, and improved joint mobility. Adequate post-procedure care is essential; the patient must be allowed sufficient rest before leaving the treatment area. As Swedana can influence fluid and electrolyte balance, sudden exertion immediately after the procedure may lead to weakness or even collapse, and should therefore be strictly avoided.

For effective Vamana, Kapha dosha must be brought to a state of aggravation (*Utklesha*). To achieve this, the patient is advised to consume Kapha-promoting foods such as black gram preparations, sweets like *jilebi*, and sesame-based items on the day before the procedure. This deliberate increase

in Kapha facilitates its easy mobilisation and expulsion during the *Pradhana Karma* (main procedure) of Vamana.

Identification of Vamana drugs:

***Madanaphala/ Randia dumetorum*/Emetic nut**

***Fig 1.2: Madanaphala/ Randia dumetorum*/Emetic nut**

Identification features:

- The fruit of *Randia dumetorum* is globose to ovoid in shape when fresh and turns yellowish to brown upon drying.
- The seeds of the fruit serve the emetic purpose and are primarily used in Vamana therapy.

Rasa	***Guna***	***Virya***	***Vipaka***	***Prabhava***
Madhura, Tikta	*Laghu, Ruksha*	*Ushna*	*Katu*	*Vamaka*

***Vacha/Acorus calamus/* Sweet flag**

Fig 1.3: Vacha/Acorus calamus/ Sweet flag

Identification features:

- The rhizome of the plant is used for its medicinal properties. It exhibits slight longitudinal ridges along its length, with distinct, thick nodes demarcating each rhizomatous segment from the next.
- A characteristic, strong aromatic odour released on breaking the rhizome is a unique identifying feature of *Vacha*.

Rasa	***Guna***	***Virya***	***Vipaka***	***Prabhava***
Katu, Tiktha	*Laghu, Teekshna*	*Ushna*	*Katu*	*Medhya*

Preparation of medicine for the Vamana procedure

A Vamana Karma formulation typically includes *Madanaphala*, *Vacha*, honey, and rock salt. Among these, *Madanaphala* is used as the primary ingredient. *Vacha* is taken in half the quantity of Madanaphala, and rock salt is used in a quantity half that of Vacha. Honey is added to prepare a paste (*Kalka*) consistency.

This represents a commonly followed proportion; however, the final formulation is determined by the clinical judgment of the Vaidya. The composition may be modified based on factors such as the disease condition, strength of the patient, seasonal variations, and overall therapeutic requirements.

Pradhana Karma

The sequence of Vamana Karma is initiated after completion of *Snehana* for 3, 5, or 7 days, depending on the patient's condition, followed by two days of *Swedana*. The day after Swedana, the patient is advised to consume *Kapha Utkleshakara* (Kapha-aggravating) foods such as sesame seed balls and black gram fritters, as mentioned earlier. A light and easily digestible meal should be taken at night. Intake of a glass of milk before sleep is beneficial for facilitating the smooth execution of Vamana.

On the following day, the patient is awakened early and instructed to report to the treatment room on an empty stomach after evacuating natural urges.

Vamana Pradhana Karma

Patient preparation

Patient is made to sit comfortably on a stool of knee height, preferably facing the east direction. It must be ensured that the stomach is empty and the previous meal has been completely digested. The Panchakarma assistant may confirm this by asking about the nature of belching (clear or with sour/food taste).

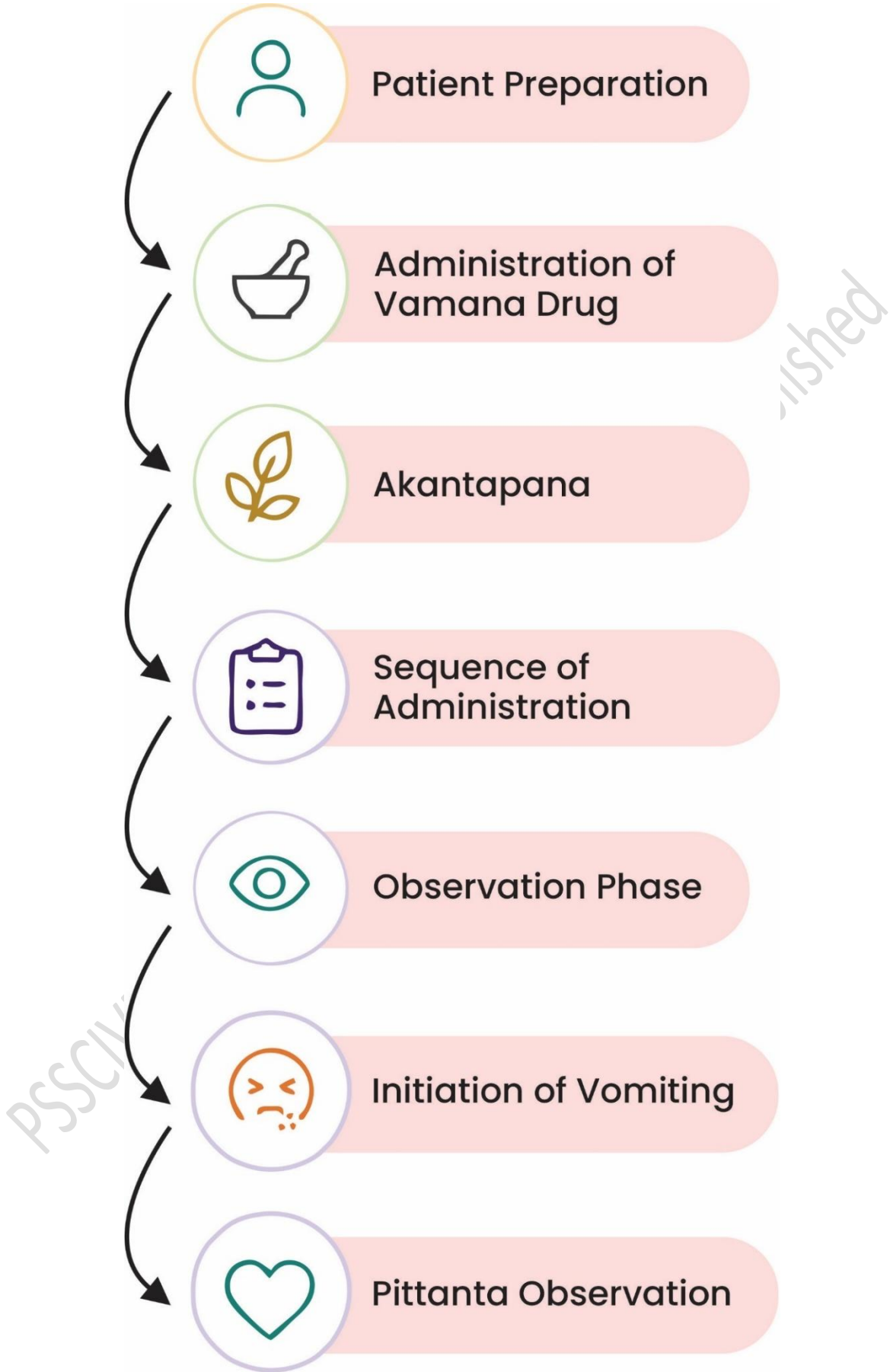

Fig 1.4: Pradhana karma procedures related to Vamana therapy

Fig 1.5: Administration of the Vamana drug

Fig 1.6: Initiation of 2-3 glasses of liquid

Fig no 1.7: above showing Emetic intake

Fig 1.8: Figure showing the start of vomiting

The patient is administered a preparation of *Madanaphala*, *Vacha*, rock salt, and honey, either as a paste (*Kalka*) or mixed with plain water.

Akantapana (intake up to throat level)
The patient is given milk, sugarcane juice, or buttermilk according to the predominance of dosha, consumed until a sense of fullness reaches the throat (*Akantam*).

Sequence of administration: Bulk liquid is administered first, followed by the Vamana drug, and again bulk liquid is given until throat fullness is achieved.

Observation phase: The patient is allowed to sit and wait for the onset of vomiting, which is identified through specific premonitory symptoms (as described separately).

Initiation of vomiting: Once vomiting begins, the number of bouts (*vega*) is carefully counted and monitored.

Pittanta observation: The procedure is continued until the appearance of yellowish *Pitta* in the vomitus (*Pittante*), indicating the proper completion of Vamana.

Symptoms	Assessments
Sweating of the forehead	Indicates detachment of dosha from *srotas* along with initiation of liquefaction, mobility, and upward movement
Horripilation (goosebumps)	Suggests the displacement of the dosha moving towards the *koshta*
Adhmana (abdominal distension)	Reflects accumulation of displaced dosha reaching the *koshta*
Hrullasa (nausea)	Signifies upward movement of accumulated dosha, preparing for expulsion

Table no:1.1: Sequence of Pre-Vomiting Symptoms after Intake of Bulk Liquid and Medicine

Vamana	Uttama	Madhyama	Heena
Vega (frequency/bouts)	8	6	4
Mana (quantity of vomitus)	2 prastha (1536 ml)	1½ prastha (1152 ml)	1 prastha (768 ml)

Table no 1.2: Assessment of Vamana based on Vomitus and Number of Bouts

Samyak Vamana Lakshana	Ayoga Lakshana	Atiyoga Lakshna
Mana prasada (clarity and satisfaction of mind), lightness of body	Vomiting limited to medicine alone, itching,	Unconscious, dizziness, extreme weakness, bleeding

	eruptions/boils, heaviness of body	

Table no 1.3: Features of Samyak, Ayoga, and Atiyoga Vamana

- *Bleeding during Vamana is a life-threatening condition that requires immediate emergency management to control the haemorrhage and stabilise the patient.*
- *1 Prastha = 768 ml*
- *Order of dosha expulsion in Vamana: Kapha → Pitta → Vata.*

Pashchat Karma

- The patient should be given lukewarm water for kavala (gargling) to remove sliminess and cleanse the oral cavity after completion of all vegas (bouts).
- The patient should be provided with lukewarm water to rinse the hands and feet. A towel dipped in hot water may be used to wipe the face, chest, and neck region.
- The patient should be comforted and allowed to rest for some time.
- The Panchakarma Assistant (PA) should prepare the dhumapana varti and ensure proper administration of the dhuma procedure.
- After dhuma, the patient should again be given water for gargling.
- The PA should assess the vital signs and inform the concerned authorities about the patient's condition.
- The PA should strictly advise the patient to follow the pathyakrama to avoid any untoward events.
- A stable patient may be allowed to leave the treatment room.

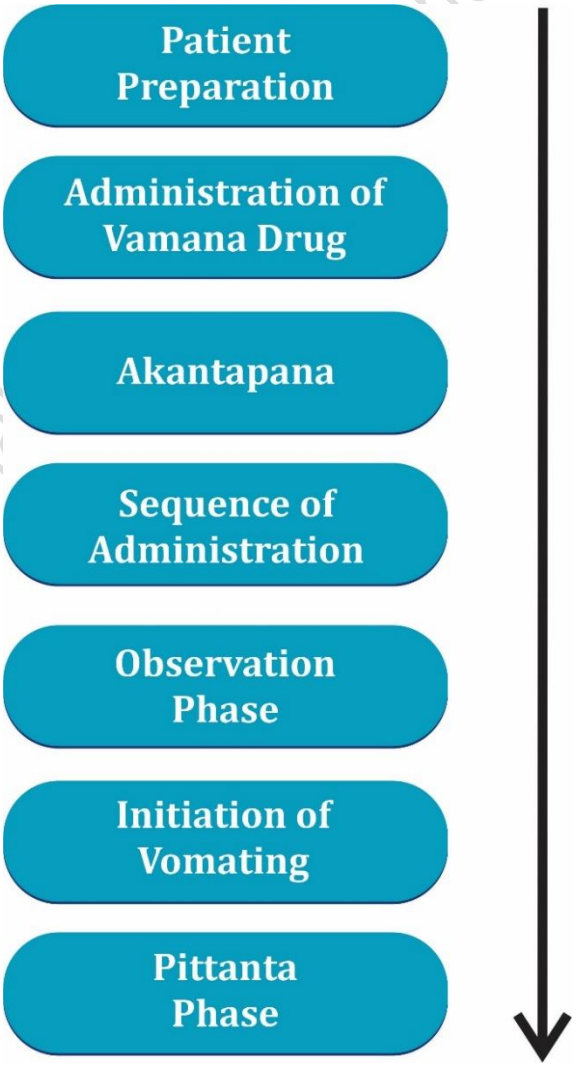

Fig 1.9: Flow chart of Pashchat Karma

The list of Apathya(Contra indications) to be followed after Vamana therapy

- Loud speaking should be avoided.
- Prolonged standing should be avoided.
- Excessive walking should be avoided.
- Emotions such as anger and grief should be controlled.
- Exposure to extreme heat, cold, wind, and rain should be avoided.

- Travelling and sexual activities should be avoided.
- Consumption of incompatible foods, untimely meals, and excessive food intake should be avoided.
- Natural urges (vegas) such as urination and defecation should be attended to as soon as the sensation arises; they should neither be forcibly suppressed nor induced.

PRACTICAL EXERCISE

Title: Clinical Observation of Stepwise Symptoms during Vamana Karma.
Objective: To develop observational and recording skills in Panchakarma Assistant (PA) students by systematically documenting the sequence and timing of symptoms during Vamana Karma.

Procedure:

1. Observe the Vamana Karma procedure in at least five patients under the supervision of a Vaidya.
2. Carefully note the sequence of symptoms from the initiation of the procedure until *Pittanta* (appearance of yellowish pitta in vomitus).
3. Record the exact or approximate time of appearance of each symptom.
4. Observe associated factors such as the number of vomiting bouts (*vega*), nature of vomitus, and patient comfort.
5. Maintain patient confidentiality and follow all ethical guidelines during observation.

Instructions for Recording:

- Use a separate row for each patient
- Record time in minutes from the start of Vamana drug administration
- Note any deviations or special observations

S. No.	Patient Code	Time of Drug Administration	Onset of Nausea	Onset of Sweating	First Vomiting Bout	Total Vegas	Appearance of Pitta (Pittanta)	Remarks
1								
2								
3								
4								
5								

Analysis Questions:

1. Which symptom appeared first in most patients?
2. Was there variation in the number of *Vegas* among patients? Why?
3. How long did it take to reach *Pittanta* in different cases?
4. What factors could influence the differences observed?

ACTIVITY

Activity 1: Procedure Sequencing and Skill Practice

Title: Arrange and Perform the Steps of Vamana Karma

Objective: To develop procedural understanding and correct sequencing of Vamana Karma.

Instructions:

1. The following steps of Vamana Karma are given in a jumbled manner.
2. Arrange them in the correct order.
3. After arranging, demonstrate the steps through role-play (Assistant–Patient).

Jumbled Steps:

- ___ Administration of Vamana drug
- ___ Snehana (internal oleation)
- ___ Observation of pre-vomiting symptoms
- ___ Swedana (sudation therapy)
- ___ Pashchat Karma (post-procedure care)
- ___ Akantapana (intake of liquid up to throat level)
- ___ Kapha Utkleshakara diet
- ___ Counting of vegas (vomiting bouts)
- ___ Patient preparation (empty stomach, seating position)

Part B: Demonstration Task

Students perform:

- Checking patient readiness (empty stomach, belching)
- Assisting in drug administration
- Observing symptoms (sweating, nausea, etc.)
- Providing post-care (gargling, rest)

Activity 2: Observation and Recording Chart

Title: Clinical Observation during Vamana Procedure

Objective: To train students in monitoring and recording patient responses during Vamana.

Instructions:

1. Observe a simulated/recorded Vamana procedure (or teacher demonstration).
2. Fill in the observation chart below.

Observation Chart

Parameter	Observation
Presence of sweating on the forehead	_____
Presence of nausea (Hrullasa)	_____
Abdominal distension (Adhmana)	_____

Parameter	Observation
Number of Vegas (bouts)	_____
Appearance of Pitta (yellow colour)	_____

Part B: Assessment of Vamana

Tick the appropriate category:

- Uttama (8 vegas) ☐
- Madhyama (6 Vegas) ☐
- Heena (4 Vegas) ☐

Part C: Identify Condition

Tick the correct condition observed:

- Samyak Vamana ☐
- Ayoga ☐
- Atiyoga ☐

Part D: Reflection Question

1. What precautions should be taken after Vamana?
2. What will you do if the patient shows signs of Atiyoga?

Check your progress

A. Fill in the Blanks

1. Snehana and Swedana together are known as _____ Karma.
2. The main ingredient used in Vamana formulation is _____.
3. The stage of adequate oleation is called _____ Snigdha.
4. Intake of liquid up to throat level before vomiting is termed _____.
5. The sequence of dosha expulsion in Vamana is _____ → _____ → _____.
6. Appearance of yellowish colour in vomitus indicates the presence of _____.
7. One Prastha is equal to _____ ml.
8. Gargling with lukewarm water after Vamana is called _____.

B. Short answer questions

1. What are the two main procedures included under Purva Karma before Vamana?
2. Name the ingredients used in the preparation of Vamana medicine.
3. What are the premonitory symptoms observed before the onset of vomiting in Vamana?
4. How is the completion of proper Vamana (Samyak Vamana) identified?
5. List any two post-procedure care measures (Pashchat Karma) after Vamana.

Session - 3
VIRECHANA KARMA (Therapeutic Purgation)

The word *"Virechana"* means purging or expelling. In the context of Panchakarma, it has two meanings:

1. *Shiro-virechana* (a type of Nasya)
2. Therapeutic purgation through oral administration of medicine

Here, Virechana refers to the second type—purgation therapy. It is the second Panchakarma procedure performed after Vamana. Virechana is mainly indicated for the elimination of Pitta-dominant dosha and is also beneficial in conditions involving vitiated Rakta (blood).

Virechana can sometimes be advised by a physician for home-based administration, when appropriate. The formulation of Virechana medicine is selected based on:

- Dominant dosha
- Disease condition
- Strength of the patient
- Drug potency

The ideal season for Virechana is Sharad Ritu (Autumn), when Pitta is naturally aggravated due to its accumulation (*Chaya*) during the Varsha Ritu (Rainy season).

Traditional Ayurvedic literature mentions that Virechana may be performed once a year by family members, indicating its relative safety compared to Vamana. However, it must always be performed under expert supervision.

Purva Karma (Preparatory Procedures)

Proper preparation is essential for effective Virechana.

1. Selection of Medicine and Koshta Assessment
- Selection depends on dosha predominance and bowel nature (*Koshta*)
- Example:
  - Vata dominance → Castor oil preparations (e.g., Sinduvareranda)
  - Pitta dominance → Sugar-based formulations (e.g., Avipathy Churna)

2. Snehana (Oleation)
- Performed for 3–7 days
- Continued until *Samyak Snigdha Lakshana* is achieved

3. Swedana (Sudation)
- Done after Snehana
- Includes Abhyanga (oil massage) followed by sudation for 2–3 days

4. Diet Before Procedure

- Light and easily digestible food on the previous day
- Citrus fruit juice is given to cause *Pitta Utklesha* (aggravation)

Types of Virechana Drugs

Type	Qualities	Example
Anulomana	Digestive and loosens stool	Terminalia chebula
Sramsana	Expels undigested material	Cassia fistula
Bhedana	Breaks and expels accumulated masses	Picrorhiza kurroa
Rechana	Strong purgative action	Operculina turpethum

Table no 1.4: Types of Virechana Drugs

Terminalia chebula

Cassia fistula

Picrorhiza kurroa

Operculina turpethum

Table no 1.5: Representation of Virechana drugs

Pradhana Karma (Main Procedure)

- Performed in the morning between 8:00 and 10:00 AM
- Patient should be on an empty stomach
- The Vaidya must assess the patient's strength (Bala)

Procedure Steps:

- Virechana medicine is administered with suitable *Anupana* (milk, warm water, etc.)
- Purging begins after approximately 90 minutes
- First 2 bouts are discarded from counting

During Procedure:

- Patient is given fried jeera water after each bout
- This helps:
  - Vatanulomana
  - Prevent dehydration

End Point:

- Slimy stool output (*Kaphanta Virechana*)

Role of Panchakarma Assistant:

- Ensure intake of lukewarm water
- Observe:
  - Frequency (vega)
  - Colour
  - Consistency
- Record all observations

Order of Dosha Expulsion

Pitta → Kapha → Vata

Assessment of Virechana

Type	**Vega (Frequency)**	**Quantity of Mana (Vomitus)**
Uttama	30	4 Prastha (3072 ml)
Madhyama	20	2 Prastha (1536 ml)
Heena	10	1 Prastha (768 ml)

Table no 1.6: Assessment of Virechana

Signs of Virechana: *Samyak, Avara* and *Ati virechana*

Signs	**Features**
Samyak Virechana Lakshana	Relief from burning, itching, lightness; relief from constipation and dysuria
Ayoga Lakshana	Boils, itching, running nose, vomiting, anorexia
Atiyoga Lakshana	Watery stool, dizziness, weakness; resembles complications of Vamana

Table no 1.7: Signs of Virechana: Samyak, Avara and Ati virechana

Pashchat Karma (Post-Procedure Care)

- Assess the *Kaphante* or patient strength (*Bala*) and confirm the signs
- Administer rice gruel with rock salt to stop the procedure
- Monitor vital signs
- Advise rest
- Reduce excessive defecation urges
- Educate the patient and the bystanders about Samsarjana Krama (diet regimen)

- Follow pariharya krama or apathya (restrictions) as in the Vamana procedure
- Lukewarm bath in the evening before consuming samsarjana kala diet (avoid head bath before first diet)

Complications of Virechana Karma (10 Vyapad)

- Adhmana (bloating)
- Parikartika (anal pain)
- Srava (discharge)
- Hridgraha (chest tightness)
- Gatragraha (body stiffness)
- Jeevadana (bleeding)
- Vibramsha (displacement)
- Stambha (stiffness)
- Upadrava (complications)
- Klama (fatigue)

Immediate reporting to the physician is essential if any of these side effects are observed.

Practical Exercise

Observation and Recording of Virechana

Fill in the following during the demonstration:

Parameter	**Observation**	
	Onset	Endpoint
Time of purging onset		
Number of bouts		
Stool consistency		
Colour of stool		
Patient condition		

Activity

Role Play: Assisting in Virechana

- Student 1: Vaidya
- Student 2: Panchakarma Assistant
- Student 3: Patient

Task:

- Prepare patient
- Assist during procedure
- Record observations
- Provide post-care instructions

Check Your Progress

A. Fill in the Blanks

1. Virechana is mainly used to eliminate _____ dosha.
2. The ideal season for Virechana is _____ Ritu.
3. Snehana is performed for _____ days.
4. The first _____ bouts are not counted.
5. The end point of Virechana is called _____.
6. Fried _____ water is given after each bout.
7. One Prastha equals _____ ml.
8. The order of dosha expulsion starts with _____.

B. Short Answer Questions

1. What is Virechana Karma?
2. What are the steps involved in Purva Karma during virechana?
3. Why is the Koshta assessment important during virechana?
4. What is the role of the Panchakarma Assistant during Virechana?
5. List any two complications of Virechana.

Session - 4
VASTI KARMA (Therapeutic Enema)

The term *Vasti* has multiple meanings in anatomical and therapeutic contexts. Anatomically, it refers to a reservoir or container, specifically the urinary bladder in animals. In external therapies, the term is used for procedures like:

- Janu Vasti (knee)
- Kati Vasti (lumbar region)
- Griva Vasti (cervical region)
- Uro Vasti (chest)
- Shiro Vasti (head)

Therapeutically, Vasti is the third Panchakarma procedure, primarily used to pacify Vata dosha. Since Vata is the most dominant dosha, Vasti is called "Ardha Chikitsa" (half of the total treatment).

Although Vasti resembles an enema, it is more complex and must be performed under the supervision of an experienced Vaidya.

The Vasti Karma is performed using an emulsion liquid known as *Vasti Dravya*, which is filled into a reservoir called *Vasti Putaka*. Traditionally, this reservoir was prepared from the carefully collected and processed urinary bladder of animals such as cow or buffalo, ensuring that it was free from diseases and defects. The bladder used for this purpose should be devoid of eight types of defects (*Ashta Dosha*), such as excessive thinness or thickness, tears, foul smell, improper shape, hardness, stickiness, and contamination. Similarly, while administering or planning a Vasti procedure, careful attention must be given to possible errors related to the *Vasti Netra* (nozzle), the person administering the Vasti, and the consistency and quality of the Vasti Dravya. Any deviation in these factors may affect the proper administration and therapeutic outcome of the procedure.

The Vasti procedure is also described as "Ajanma Satmya," which implies that it is suitable and effective from birth through old age. In old age, the human body is often compared to a worn-out and weakened tree trunk. At this stage, many therapeutic procedures may further complicate the quality of life. However, even in such conditions, Vasti therapy can be administered judiciously according to the *Yukti* (clinical reasoning) of the Vaidya, as mentioned in classical Ayurvedic texts.

There are three main types of Vasti:

- Niruha Vasti
- Anuvasana Vasti
- Uttara Vasti

The term Niruha generally implies "that which expels" or "eliminates." It is considered highly effective, and its benefits are said to be extensive. Niruha Vasti is also associated with the concept of *Ardha Chikitsa* (half of the entire treatment), highlighting its importance as a major therapeutic procedure, especially due to its ability to pacify *Vata Dosha*.

Anuvasana Vasti is derived from two words: "anu," meaning "following," and "vasana," meaning "to reside." In this type of Vasti, unctuous substances, mainly oil-based preparations, are administered. These substances remain in the intestinal tract for a longer duration and are not expelled immediately, unlike Niruha Vasti. Hence, the name Anuvasana Vasti.

Uttara Vasti refers to the administration of Vasti through the vaginal or urethral route. It is especially useful in treating diseases related to the urinary bladder, uterus, and vagina. The term "Uttara" means "subsequent" or "after." This type of Vasti is usually administered after 2–3 Niruha Vastis and is given through a different route compared to other types of Vasti, hence the name Uttara Vasti.

Purva Karma (Preparatory Procedures)
Preparation includes:

1. Preparation of Vasti medicine
2. Preparation of instruments
3. Preparation of the patient

1. Vasti Dravya Preparation

Niruha Vasti: Emulsifying the five components: Honey, Rock Salt, Oil, Kalka, Decoction

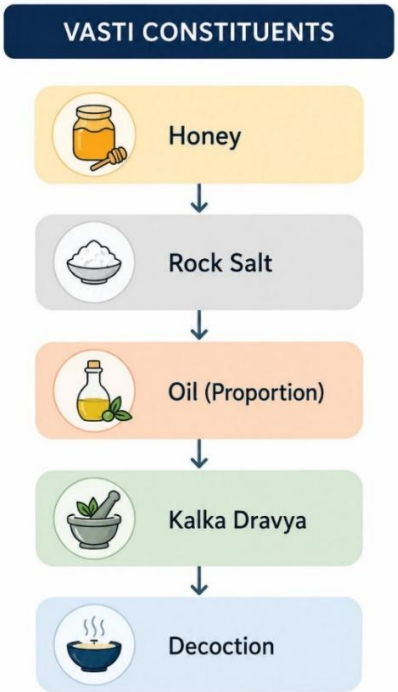

Fig 1.10: Vasti Dravya Preparation

Fig 1.11: Left lateral position

The mixing process should be initiated in a mortar and pestle (*Kharal*), following the sequence mentioned in the figure. Honey is first poured into the Kharal and churned thoroughly using the pestle to reduce its viscosity and thickness.

Rock salt is then added and ground well along with the honey until a fine, smooth paste is formed. The choice of oil depends on the disease condition; therefore, the Vaidya selects suitable options such as *Bala Taila*, *Rasnadi Taila*, or plain *Tila Taila*.

After this, the *Kalka* (paste) of substances like *Anethum graveolens* (dill), jaggery, or tamarind is added to the mixture. This oil phase, along with the other ingredients, should be mixed thoroughly before adding the final liquid phase.

The liquid phase may consist of milk, herbal decoctions, or even properly collected cow's urine, as decided by the Vaidya. Proper mixing of all components leads to the formation of a uniform emulsion known as *Vasti Dravya*.

The final volume of the Vasti preparation is generally around 400–500 ml. However, depending on the ratio of ingredients, it may vary from as low as 160 ml to as high as 960 ml.

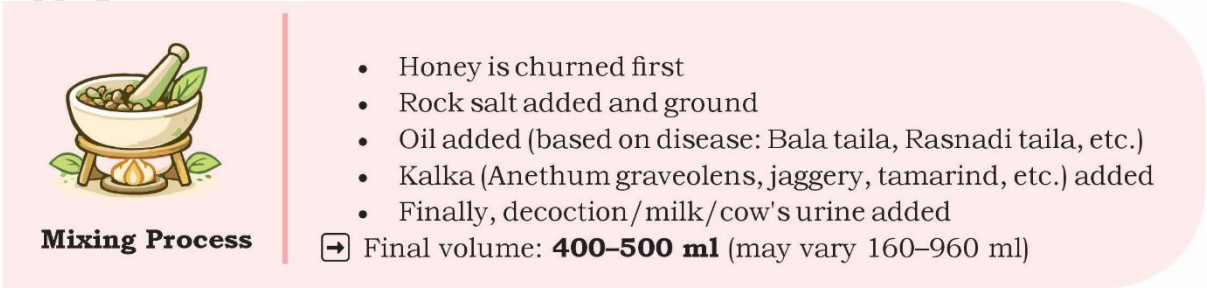

Fig 1.12: Mixing Process

Issues During Preparation of Vasti Dravya

Cause	Effect
Cold and overly smooth dravya	Poor peristalsis
Less quantity/salt/thin consistency	No proper effect (unattained Samyak yoga)
Thick consistency	Delay in expulsion with rumbling sounds
Excess salt	Burning, diarrhea due to electrolyte imbalance

Table no 1.8: Issues During Preparation of Vasti Dravya

2. Anuvasana Vasti

The dose of *Anuvasana Vasti* is usually 240 ml (6 Pala) or 120 ml (3 Pala). A smaller dose, known as *Matra Vasti*, is administered using oil alone, typically in a quantity of 60 ml (1½ Pala). The addition of rock salt and *Shatahva* (*Anethum sowa*) may be advised by the Vaidya based on *Yukti* (clinical judgment) to enhance the effectiveness of the preparation.

- Dose: 240 ml / 120 ml / 60 ml (Matra Vasti)
- May include rock salt and Shatahva
- Usually 1/4th dose of Niruha Vasti
- Disposable tubes can be used

Fig 1.13: Dosage for Anuvasana Vasti

In brief, *Sneha Vasti* (another term for Anuvasana Vasti) is generally administered in a dose that is one-fourth of *Asthapana (Niruha) Vasti*. The lukewarm oil is prepared as described earlier and filled into the container, which is then properly attached to the nozzle.

Disposable 100 ml injection syringes or tubes may also be used. In such cases, the nozzle should be discarded after each use, even if the treatment (such as Matra Vasti) is planned for multiple days, for example, a 7-day regimen.

3. Uttara Vasti

Uttara Vasti must be performed under strict aseptic conditions, as the procedure involves the administration of medicine into the uterine cavity or urethra. Therefore, all medicines should be handled in properly sterilised

(autoclaved) vessels before being loaded into an injection syringe or catheter for administration.

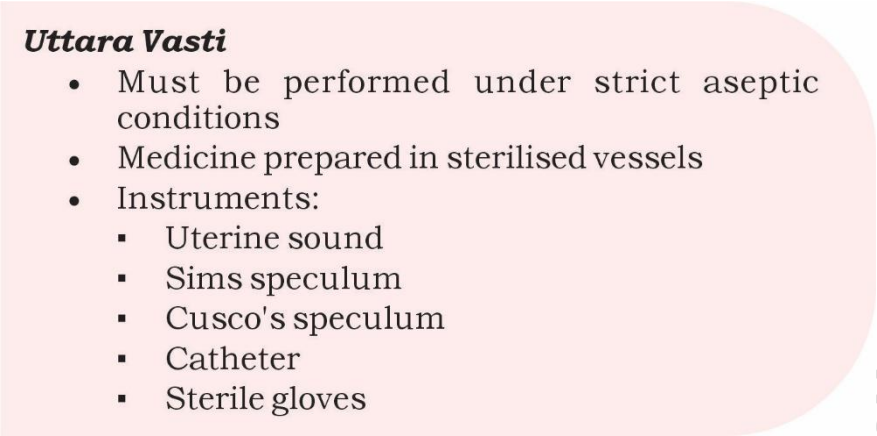

Fig 1.14: Uttara Vasti

Preparation of Instruments

The prepared *Niruha Vasti Dravya* is transferred into a single-use polythene bag and securely tied to the nozzle (*Vasti Netra*). The junction between the bag and nozzle must be tight; otherwise, uniform pressure cannot be maintained, resulting in an interruption of the continuous flow of the Vasti Dravya. This may adversely affect the therapeutic outcome.

A slow or inadequate flow may prevent the medicine from reaching the desired anatomical region. A study using X-ray recording with barium sulphate immediately after Vasti administration has shown that properly administered Vasti can reach up to the required level (Gundeti et al., 2013). Ideally, a properly administered Vasti fills the sigmoid colon, reaches the ileocecal junction, and may extend into the ascending colon. However, if excessive force is applied, the medicine may travel beyond the intended level and cause complications.

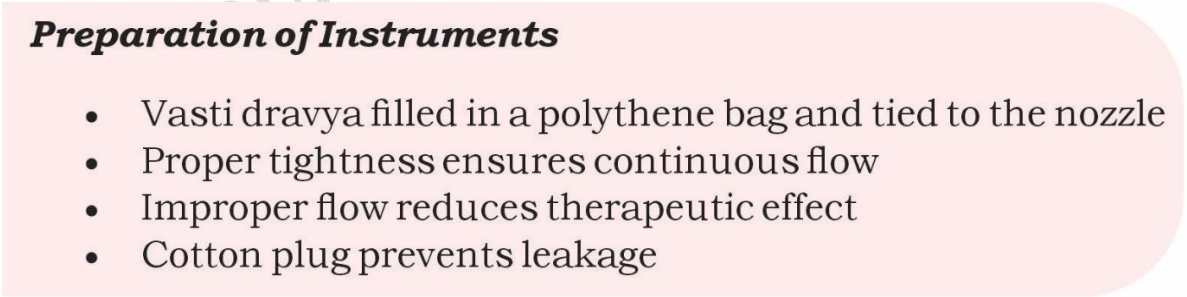

Fig 1.15: Preparation of Instruments

Therefore, proper tying of the bag to the nozzle is essential for the safe and effective administration of Vasti. A cotton plug inserted into the nozzle helps prevent leakage of the medicine until the initiation of *Pradhana Karma*.

In the case of *Uttara Vasti*, instruments such as a uterine sound, Sims speculum, Cusco's speculum, and vaginal wall retractor should be properly

sterilised before the procedure. A sterile pair of gloves, appropriate catheters (for urethral administration), cotton swabs, and a *Pichu* (cotton balls wrapped in gauze) should be kept ready for use and for final plugging after administration.

Patient Preparation

Patient preparation should be performed after proper Abhyanga (oil massage), Svedana (sudation), or before *Snehapana*. The patient should be instructed not to laugh, cough, sneeze, or yawn during the administration of Vasti.

If the patient experiences natural urges such as urination or defecation during the procedure, these should be attended to first, and the procedure can be resumed afterwards.

For *Niruha Vasti* and *Uttara Vasti*, the patient should be on an empty stomach with proper digestion of previously consumed food. In contrast, *Anuvasana Vasti* is administered immediately after the patient has taken food, usually after lunch.

In *Uttara Vasti*, the perineal and pubic hair should be shaved before the procedure. During *Abhyanga* and *Svedana*, special attention should be given to the lower parts of the body. An autoclaved towel may be used to cover the rest of the body, exposing only the required area—namely, the penis in males and the perineal region in females—for the management of bladder or uterine conditions.

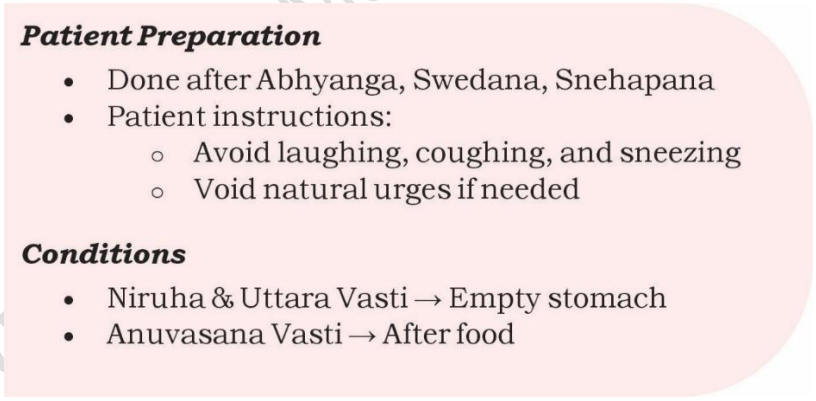

Fig 1.16: Patient Preparation

Pradhana Karma (Main Procedure)

In ***Niruha and Anuvasana Vasti***, the patient is positioned in the left lateral posture, with the right leg flexed at the hip and knee joints and the left leg extended. The left hand can be kept as support for the head, and the right hand should be relaxed over the flank region. The rest of the body, except the anal region, should be draped with a clean cloth.

A small amount of oil is smeared over the anal region, and the cotton plug is removed. The Vaidya places the index finger to prevent premature leakage of

contents. The Vasti nozzle is then gently inserted in alignment with the anal opening, and the Vasti dravya is pushed inside with adequate and continuous pressure.

After administering the medicine, the patient is made to lie in the supine position. The heels are gently stroked against the buttocks. The palms and soles are rubbed thoroughly, and the legs are moved upward and downward. These procedures are repeated for about 2 minutes.

At the urge of defecation, the patient should report the details of bouts, colour, consistency, etc. The Niruha Vasti is expected to come out within the stipulated time, whereas the Anuvasana Vasti should not be expelled immediately.

Fig 1.17: Pradhana Karma

In ***Uttara Vasti***, the patient is made to lie in the supine position on autoclaved towels, with either the penile or perineal region exposed as required.
In males, the prepuce is retracted, and the glans penis is cleansed with an appropriate aseptic solution. In females, the areas around the urethral opening, vagina, and anal region are cleansed from top to bottom to avoid contamination from the anal region.

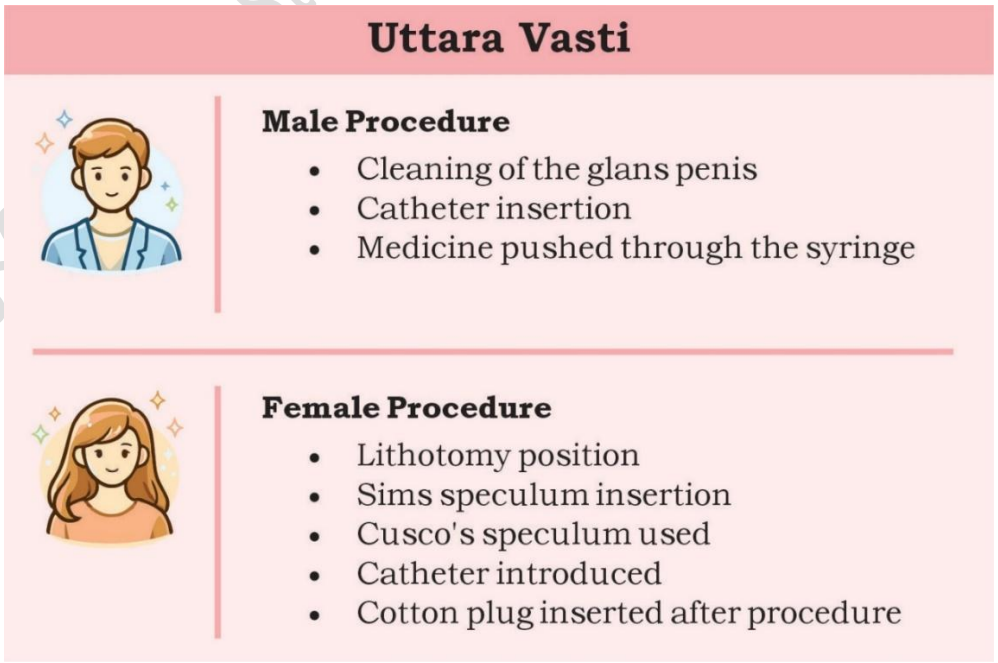

Fig1.18: Uttara Vasti

The amount of medicine should be confirmed by the Panchakarma Assistant (PA) from the case sheet.

For Males and Females

- The catheter is lubricated with the same aseptic oil that is to be administered.
- It is carefully inserted until it reaches the bladder, which can be identified by the demarcation.
- The medicated oil is filled into the syringe, ensuring removal of air by gently pushing until oil oozes out.
- The syringe is attached to the catheter, and the contents are gently pushed into the bladder through the catheter.

For Females

- A Sims speculum is carefully inserted with the patient in the lithotomy position (supine with hips and knees flexed). The patient may be instructed to take a deep breath during insertion. A vaginal retractor may be used for examination and sterilisation
- with an aseptic solution.
- A Cusco's speculum is then inserted after the initial examination.
- The catheter attached to a syringe loaded with medicine is carefully introduced into the uterine canal or urethral opening.
- A previously prepared cotton ball wrapped in gauze, dipped in the remaining oil, is inserted into the vaginal canal. This can be retained by the patient until the next urge to urinate. After urination, the plug should be discarded to avoid contamination.

Pashchat Karma (Post-Procedure Care)

In ***Niruha Vasti***, after voiding the contents, the patient may take a quick shower and, without much delay, should consume food to avoid *Vata prakopa* due to an empty stomach and intestines.

In case of delay in evacuation of the administered Niruha Vasti, a time period of up to 48 minutes can be awaited. If there are no signs of defecation within this time, immediate arrangements should be made for a second Vasti or the use of any *Varti*, etc.

The Panchakarma Assistant (PA) should always enquire about the patient's condition so that any adverse events due to retention of Vasti dravya can be detected early and managed promptly.

In ***Anuvasana Vasti***, the patient should not be allowed to take an afternoon nap. In the evening, light food may be consumed according to the hunger level.

The maximum expected time for the expulsion of *Sneha* is about 9 hours. If Sneha is not expelled, the patient should not be given food the next day. A *Varti* or Vasti may be administered to facilitate the evacuation of the medicine.

The patient may also be given sips of hot water prepared with a mixture of dry ginger powder and split coriander seeds for *Vatanulomana*. The patient is advised to use lukewarm water for all daily activities until the completion of treatment.

Niruha Vasti

- Food taken immediately after evacuation
- If not expelled within 48 minutes, repeat the procedure

Anuvasana Vasti

- Avoid daytime sleep
- Light food in evening
- Max retention: 9 hours
- If not expelled → no food next day
- Use hot water with dry ginger & coriander

Uttara Vasti

- Monitor evacuation
- Light diet advised

Fig 1.19: Pashchat Karma

In Uttara Vasti, the evacuation of the medicine should be monitored by enquiring with the patient. The patient should be advised or provided with a light and easily digestible diet.

The count of bouts and measurement of evacuations are assessed like *Virechana Karma*.

Niruha and Anuvasana Vasti are always administered in combination to avoid the adverse effects of a single therapy. They are given in schedules of 30, 16, or 8 administrations, alternating between Niruha and Anuvasana.

These are collectively known as Kala Vasti, Karma Vasti, and Yoga Vasti, as shown in the table below.

Karma Vasti	Kala Vasti	Yoga Vasti
• Total of 30 Vasti	• Total of 16 Vasti	• Total of 8 Vasti
• Initially 5 Sneha Vasti	• Initially 3 Sneha Vasti	• Initially 1 Sneha Vasti
• Followed by alternating Niruha and Sneha Vasti – 12 each	• Followed by alternating Niruha and Sneha Vasti – 6 each	• Followed by alternating Niruha and Sneha Vasti – 3 each
• Finally, 1 Sneha Vasti	• Finally, 1 Sneha Vasti	• Finally, 1 Sneha Vasti

Table 1.9: Kala Vasti, Karma Vasti, and Yoga Vasti

Practical Exercise

Observation of Vasti Procedure

Record the following:

Parameter	Observation
Type of Vasti	_____
Position of the patient	_____
Amount of dravya	_____
Patient response	_____
Time of expulsion	_____

Activity

Role Play: Assisting in Vasti
Roles:

- Vaidya
- Panchakarma Assistant
- Patient

Tasks:

- Prepare instruments
- Assist during administration
- Monitor patient
- Provide post-care

Check Your Progress

A. Fill in the Blanks

1. Vasti is mainly used to pacify _____ dosha.
2. Vasti is called _____ chikitsa.
3. The reservoir used is called _____.
4. The nozzle is called _____.
5. Niruha Vasti contains _____ main components.
6. Anuvasana Vasti is mainly based on _____.
7. Uttara Vasti is given through _____ or _____ route.
8. Niruha Vasti should be expelled within _____ minutes.

B. Short Answer Questions

1. Define Vasti Karma.
2. Why is Vasti called Ardha Chikitsa?
3. Name the types of Vasti.
4. List the components of Niruha Vasti.
5. What is the role of the Panchakarma Assistant during Vasti?
6. Explain patient preparation before Vasti.
7. What precautions are needed in Uttara Vasti?
8. What are the post-care measures after Anuvasana Vasti?

Session - 5
Rakta Moksha

Rakta Mokshana literally means "letting off blood." Although blood is also referred to by synonyms such as *Jeevadana*, which highlight its vital role in sustaining life, the procedure focuses on the elimination of vitiated blood for therapeutic purposes. Rakta becomes vitiated mainly due to increased *Pitta-prakopaka* factors, and diseases such as various types of *Kushta*, *Rakta Pitta*, *Pradara*, etc., are directly associated with blood disorders. In the modern era, PRP (Platelet-Rich Plasma) treatment, which uses one's own blood serum, as well as practices involving removal, storage, and re-administration of blood, are employed—especially by athletes—to improve efficiency and recovery. Historical records from Galen also indicate that bloodletting was practised in ancient times.

Ayurveda follows different Rakta Mokshana techniques that have been prescribed based on dosha predominance. The main categorisation depends on whether the vitiation is localised or systemic. Prachana and Sira Vedhana Rakta Mokshana are indicated for localised and systemic management, respectively. In Prachana, specific instruments such as *Trikurchika* or *Vrihimukha Shastra* are used to create multiple small bleeding points at sites where the symptoms are more pronounced. In Sira Vedhana, a controlled puncture is made in a prominent vein to allow blood to flow out, and this procedure is considered "Ardha Chikitsa" (half of the treatment or a major component of therapy) in the Shalya school of thought. Classical texts also describe other methods of bloodletting based on dosha predominance, namely Shringa, Jalouka, and Alabu, which are indicated for Vata, Pitta, and Kapha conditions, respectively. Shringa refers to the use of animal horns, while Alabu denotes the use of the outer covering of the fruit of *Lagenaria siceraria* (bottle gourd) from the Cucurbitaceae family. Both these methods function on the principle of creating negative pressure (vacuum) to facilitate blood flow.

Similarly, the use of Ghati Yantra (where "Ghati" means a small pot and "Yantra" refers to an instrument) operates on the same principle of vacuum pressure to enhance blood flow from the punctured site. In this method, a vacuum is created by igniting a spirit-soaked cotton wick held with forceps inside the pot, which is then quickly placed over the punctured area. The cupping therapy practised in contemporary medicine can be considered an extension of this traditional technique.

For conditions with predominant Pitta vitiation, bloodletting is preferably performed using leeches, a procedure known as Jalouka Avacharana. This method is especially suitable for weak or delicate patients who may not tolerate more invasive procedures. Classical texts provide clear guidelines for identifying medicinal leeches that are safe for therapeutic use. In the *Sushruta Samhita*, a total of 12 types of leeches are described, out of which 6 are considered poisonous and unsuitable for use.

Before performing Rakta Mokshana, the patient must undergo appropriate investigations, including a hemogram, with special emphasis on parameters such as partial thromboplastin time (PTT), bleeding time, and clotting time. These investigations help in identifying underlying bleeding disorders and ensure the safe administration of the therapy.
The important methods include:

- Prachana – localized management
- Sira Vedhana – systemic management

In Prachana, specific instruments called *Trikurchika* or *Vrihimukha Shastra* are used to make small bleeding points where the symptoms are more pronounced. In Sira Vedhana, a small puncture to a bulged vein allows blood to ooze out and is considered "Ardha Chikitsa" (half of the treatment or a major portion of treatment) in the Shalya school of thought. There is mention of Shringa, Jalouka, and Alabu for bloodletting according to Vata, Pitta, and Kapha respectively:

- Shringa – Vata
- Jalouka – Pitta
- Alabu – Kapha

Shringa refers to the horns of animals, and Alabu is the outer covering of the fruit of the plant *Lagenaria siceraria* of the Cucurbitaceae family. Both these arrangements work on the principle of blood flow created due to vacuum pressure. The use of Ghati Yantra (Ghati means small pot and Yantra means instrument) is an arrangement that works on the same principle of vacuum pressure, increasing blood flow from the punctured site. Vacuum is created by burning a spirit-dipped cotton wick held with forceps inside the pot, which is then immediately placed over the punctured site. The cupping therapy practised nowadays is an extended version of this age-old technique.

The bloodletting for Pitta-dominant symptoms is managed with leeches (*Jalouka Avacharana*), and this method suits very weak patients who cannot tolerate the pain of the previously mentioned bloodletting techniques. There are clear identification features for medicinal leeches, the use of which will not create adverse reactions. In *Sushruta Samhita*, there are mentions of 12 types of leeches, of which 6 varieties are considered poisonous:
- Total leeches – 12
- Poisonous – 6

The patient posted for bloodletting should mandatorily undergo a hemogram, especially for:
- Partial thromboplastin time (PTT)
- Bleeding time
- Clotting time

This helps rule out patients with bleeding disorders, which can complicate the therapy.

Poorva Karma

Bloodletting should be performed under moderate climatic conditions, as extreme heat or cold can influence the therapeutic outcome. Proper patient preparation includes *Snehapana* and *Swedana*, which help in facilitating better results. The selection of the site and method of bloodletting depends on the clinical judgment of the Vaidya. The positioning of the patient is determined based on the selected site; for instance, when the lower limb is chosen, a sitting position may aid in generating natural pressure and promoting better blood flow compared to a lying position. In the case of leech therapy, the procedure can be carried out comfortably when the patient is appropriately positioned with minimal movement, allowing effective blood suction.

In all Rakta Mokshana procedures, the selected site is generally cleaned with an aseptic solution before intervention, except in the case of leech therapy. For patients undergoing leech application, the site is first rubbed with turmeric powder to remove oiliness and then cleansed thoroughly with lukewarm water. The use of strong antiseptics is avoided, as it may prevent the leech from attaching properly. The preparation and arrangement of necessary instruments, along with readiness for post-procedure bandaging, are essential components of Poorva Karma, considering the possibility of emergencies.

The instruments for different types of *raktha mokshna* are as follows:

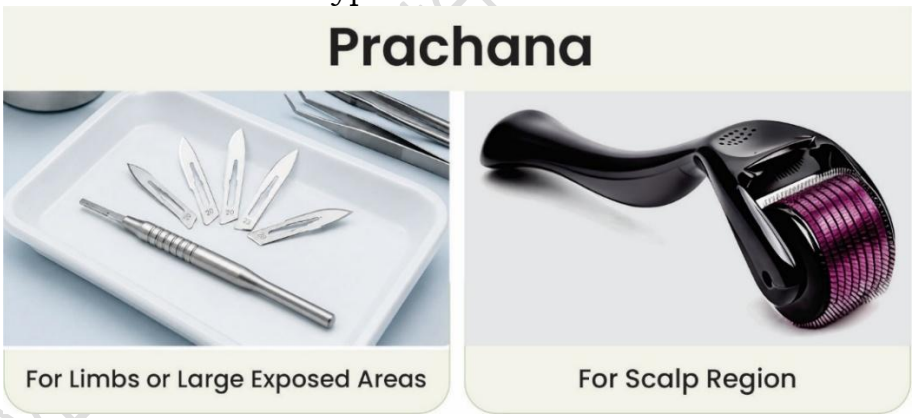

Fig 1.20: Prachana

Fig 1.21: Shringa

Fig 1.22: Alabu

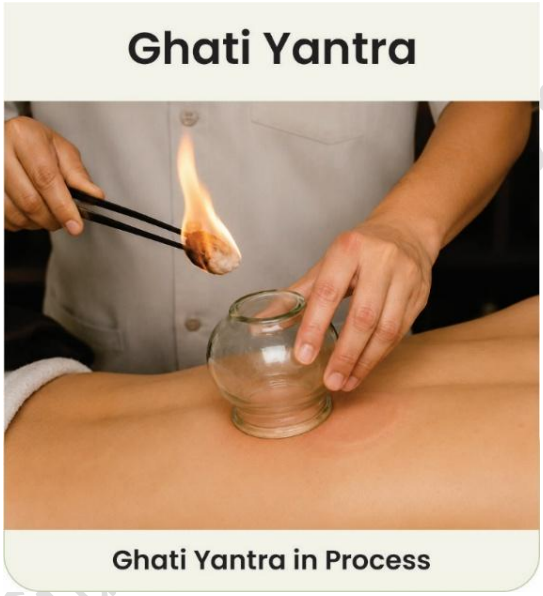

Fig 1.23: Ghanti Yantra

Fig 1.24: Sira Vedha

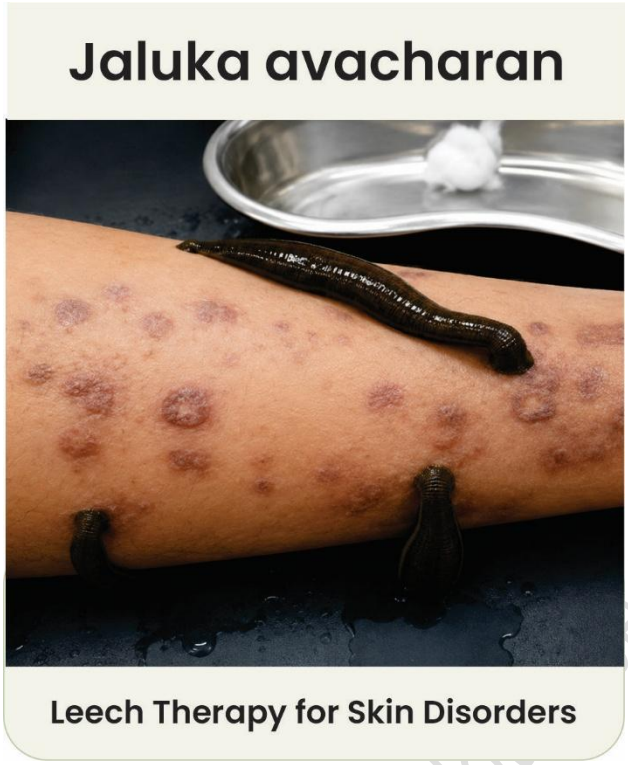

Fig 1.25: Jaluka Avacharan

Glycyrrhiza glabra

Fig 1.26: Glycyrrhiza glabra

Identification features of the raw material:

1) Aromatic smell of the material
2) The crenated and striated bark portion

Rasa	***Guna***	***Virya***	***Vipaka***	***Prabhava***
Madhura	*Snigdha, Guru*	*Sheeta*	*Madhura*	*Shonitasthapana* (Styptic)

Table no 1.10: Identification features of raw material

Jalouka Avacharana does not usually require elaborate pre-procedures such as Snehana and Swedana, apart from the specific preparation of the application site. The leeches intended for use are transferred to a kidney tray

containing water mixed with turmeric powder approximately two hours before the procedure. During this period (around 48 minutes of observation), the leeches are monitored for their activity. Care must be taken to prevent active leeches from escaping the tray. After the stipulated time, only the most active leeches are selected for therapeutic use.

Prachana, or multiple superficial incisions, may be performed with or without prior Snehana and Swedana, depending on the discretion of the Vaidya, as it is primarily intended for localised dosha shamana. This procedure is commonly beneficial in conditions such as alopecia areata, where multiple bald patches are present on the scalp. By removing localised Kapha and vitiated Rakta, Prachana may aid in the stimulation of hair follicles. Proper sterilisation of both the site and the instruments is essential before commencing the procedure.

Sira Vedha, or venesection, requires prior administration of Snehapana and Swedana. The positioning of the patient is decided based on the disease condition. A tourniquet is applied a few inches proximal to the selected vein to maintain adequate pressure. The puncture site is prepared using an aseptic solution, and the vein is gently stroked to make it more prominent. An intravenous cannula is used for puncturing the vein, and a kidney tray is arranged to collect the blood.

Procedures involving *Shringa, Alabu, and Ghati Yantra* are also enhanced by prior Snehapana and Swedana. As a general measure, the selected site is cleaned using an aseptic solution. In the Shringa method, the horn is connected to a catheter and further attached to a syringe to create a vacuum pressure for the blood to ooze out clearly. In Alabu and Ghati Yantra, a vacuum is generated by igniting a cotton wick and immediately placing the instrument over the punctured site.

Pradhana Karma

In *Jalouka Avacharana*, the leech is guided to attach to the selected site, often facilitated by creating a small superficial wound to attract it towards the area requiring treatment. Once the leech begins to suck blood, it is covered with a moist cotton cloth to maintain a cool and conducive environment. The appearance of a horseshoe-shaped attachment at the mouth and rhythmic movements of the leech's body are considered confirmatory signs of proper blood suction. The moisture of the covering cloth is maintained throughout the procedure by sprinkling small amounts of water.

In *Prachana*, the prepared aseptic site is incised using continuous movements of the instrument, creating multiple linear superficial punctures. The incisions are made from distal to proximal direction, with a depth of approximately 2 mm, ensuring that deeper structures are not affected. The resulting wounds are allowed to bleed as per the judgment of the Vaidya. Special care is taken to avoid puncturing veins, tendons, and joint regions to prevent complications.

In *Sira Vedha*, the prominent vein is punctured using an intravenous cannula. After insertion, the needle is withdrawn carefully, allowing blood to flow through the cannula into the collection tray. The quantity of blood removed should not exceed approximately 540 ml (one prastha) in a single sitting, as described in classical texts. The cannula is removed based on the clinical observation and discretion of the physician.

In procedures involving Shringa, Alabu, and Ghati Yantra, Prachana is first performed to initiate bleeding. In the Shringa method, the base of the horn is placed firmly over the punctured site, and a vacuum is created by withdrawing the piston of the attached syringe. This negative pressure facilitates enhanced blood flow from the site. The duration and intensity of suction are determined by the Vaidya. In Alabu and Ghati Yantra, the procedure remains similar, with the primary difference being the method used to create a vacuum.

Paschat Karma

In *Jalouka Avacharana***,** the leech detaches naturally upon completion of blood sucking, often indicated by sensations such as itching or mild irritation at the site. If it does not detach spontaneously, the application of substances like salt or turmeric powder can facilitate its removal. The bite site is then dusted with *Glycyrrhiza glabra* powder to control bleeding and is subsequently bandaged. The site is observed for a short duration, typically around 30 minutes, to ensure that there is no excessive bleeding before the patient is allowed to leave the treatment area.

After removal, the leeches are transferred to a kidney tray, where turmeric powder is applied to induce regurgitation of the ingested blood. Gentle pressure may also be applied to assist in this process. The leeches are then placed in clean water and can be reused after an appropriate interval, usually one week. Proper expulsion of ingested blood helps maintain the vitality and activity of the leeches, whereas retention may render them inactive and reduce their lifespan.

In Prachana, Sira Vedha, Shringa, Alabu, and Ghati Yantra procedures, the treated site is cleaned thoroughly and dusted with *Glycyrrhiza glabra* powder before applying a proper bandage. In cases involving multiple incisions, the site is first wiped to remove residual blood and then cleaned before dressing with a Madhuyashti bandage. The post-procedure regimen, including *Samsarjana Krama* and adherence to *Pathya-Apathya*, remains similar to that followed in other Panchakarma therapies.

Practical Exercise

Observation and Assistance in Jalouka Avacharana (Leech Therapy)

Objective: To enable students to understand and assist in the procedure of Rakta Mokshana through Jalouka Avacharana.

Procedure: Students will observe a demonstration (or simulated setup) of leech therapy. They will identify the materials used, steps involved, and precautions taken during the procedure. Under supervision, they may assist in arranging instruments, preparing the site, and post-procedure care.

Tasks to be performed by students:

- Identify and arrange required materials (kidney tray, turmeric water, cotton, bandage, etc.)
- Observe site preparation technique
- Note the method of leech application and signs of proper attachment
- Record post-procedure steps including leech handling

Outcome: Students will be able to describe the procedure, assist safely, and identify key precautions in Rakta Mokshana.

Classroom Activity

Activity: Procedure Mapping

Students will be divided into small groups. Each group will prepare a flowchart of one Rakta Mokshana technique (Prachana, Siravedha, or Jalouka Avacharana) including:

- Poorva Karma
- Pradhana Karma
- Paschat Karma

Each group will present their flowchart and explain the sequence of steps.

A. Fill in the Blanks (with Answer Key)

1. Rakta Mokshana means _____ of blood.
2. Prachana is mainly indicated for _____ vitiation.
3. Siravedha is considered as _____ chikitsa in Shalya Tantra.
4. Jalouka Avacharana is especially useful in _____ dominant conditions.
5. The maximum quantity of blood that can be removed in one sitting is _____ ml.

B. Short Answer Questions

1. Define Rakta Mokshana and mention its importance.
2. Differentiate between Prachana and Siravedha.
3. Why is Jalouka Avacharana preferred in weak patients?
4. What are the pre-procedure investigations required before Rakta Mokshana?
5. Explain the role of Poorva Karma in Rakta Mokshana.

Session - 6
Nasya Karma

"Nasa" means nose, and the procedure by which medicine is administered through the nasal route is called Nasya or Nasya Karma. The instilled medicine is described as reaching the *Shringataka Marma*, a vital point considered to be the convergence site of *sira* (nerves) supplying the eyes, ears, nose, and throat. From an anatomical perspective, the olfactory epithelium, which is a continuation of the nasal mucosa, passes through the cribriform plate of the ethmoid bone and reaches the olfactory bulb located in the cranial cavity. The nasal mucosal membrane is highly vascularized, and a particularly vulnerable area within it is *Little's area*, located in the antero-inferior part of the nasal septum. This region is prone to profuse bleeding even with minor irritation. Therefore, Nasya medicine is believed to reach specific target sites through both the rich vascularity of the nasal mucosa and the proximity to olfactory pathways.

There is a classical simile comparing the therapeutic effect of Nasya to the separation of "Eeshika," the fibrous covering of Munja grass (*Saccharum munja*). The fibrous portion is carefully separated from the stem for processing into products such as doormats, baskets, sleeping mats, and bags. This precise separation serves the purpose of artisans effectively. Similarly, Nasya helps in the expulsion of vitiated doshas from the cephalic region.

Nasya is broadly classified into Virechana, Brimhana, and Shamana types, based on its therapeutic purpose—expulsion of doshas, nourishment of weakened tissues, and pacification of aggravated doshas, respectively. There are also different forms of Nasya based on the type of drug used, including dry powdered forms such as *churna*, viscous media like honey, medicated oils and ghee, and liquid preparations such as *swarasa*, *asava*, *kwatha*, and even plain water. Another variety is *Dhuma Nasya*, in which the patient inhales medicated smoke and exhales through the mouth, avoiding exhalation through the nostrils to protect the eyes from irritation. *Churna Nasya* is indicated when the doshas are excessively vitiated, whereas medicated oils or ghee are more suitable for emaciated individuals. As most types of Nasya involve the expulsion of accumulated doshas, particularly Kapha, it is commonly referred to as *Shiro Virechana*.

Purva Karma

The patient scheduled for Nasya Karma should undergo *Swedana* immediately before the instillation of Nasya medicine. A gentle massage is first administered over the face, neck, and shoulder regions using a suitable oil, with the patient in a supine position. This is followed by localized sudation above the shoulder region, ensuring that the eyes are properly covered to protect them from steam exposure. Sudation may also be administered with the patient seated in a knee-high chair.

The Moonj craft is practised in the Sultanpur district of eastern Uttar Pradesh, where village women weave colourful baskets and other utility items from Moonj grass fibres. This traditional art has recently been included in the ODOP (One District One Product) scheme to promote eco-friendly products and support the livelihoods of local artisans.

Fig 1.27: Did you know?

Traditionally, steam was directed using elongated pipes known as *Nadi* or *Nalee Sweda*. The medicine is made lukewarm by placing it in a *Gokarna* (a traditional pouring vessel), which is kept in hot water for indirect heating. A small cotton wick is placed at the tip of the Gokarna to facilitate controlled instillation of the medicine drop by drop, preventing sudden flow. In modern practice, the medicine bottle itself is immersed in warm water, which minimizes wastage, simplifies handling, and ensures accurate dosing. The medicine should be prepared according to the patient's condition, whether it is *Swarasa*, *Churna*, or *Dhuma Nasya*, as per the instructions of the Vaidya.

Pradhana Karma

The patient is advised to lie in a comfortable supine position, and a gentle massage is administered over the face, neck, and shoulder regions. The head is slightly lowered, or a pillow is placed beneath the neck to achieve a mild extension, ensuring that the nostrils are clearly visible and accessible. The medicine is instilled into one nostril first, and the patient is instructed to inhale deeply. The same procedure is then repeated in the other nostril.

After instillation, the patient is advised to spit out the medicine that reaches the throat by turning the head alternately to both sides into a spittoon. The spittoon should be placed alternately on both sides to facilitate this movement. The patient may be allowed to rest for about five minutes, especially if there is a persistent taste of the medicine in the mouth.

Paschat Karma

After completion of the procedure, the patient is made to sit comfortably, and sudation is repeated using a steamer or a towel dipped in hot water, applied cautiously over the face, neck, and shoulder regions. This is followed by a gentle massage over the forehead, palms, and soles.

The patient is then administered *Dhumapana*, in which medicated smoke is inhaled through the nostrils and exhaled through the mouth. This process may be repeated three times for each nostril. In some cases, Dhumapana is followed by lukewarm *Gandusha* to remove residual oiliness or medicine from the oral cavity.

The patient should be carefully observed before leaving the treatment room. Symptoms such as irritation, itching, heaviness of the head, nasal discharge, or excessive mucous secretion should be noted and reported to the physician. The *Samyak Lakshana* (signs of proper Nasya) include a feeling of lightness

in the head, sound sleep, early awakening, and relief from disease-related symptoms. These observations should be recorded for future reference and clinical evaluation.

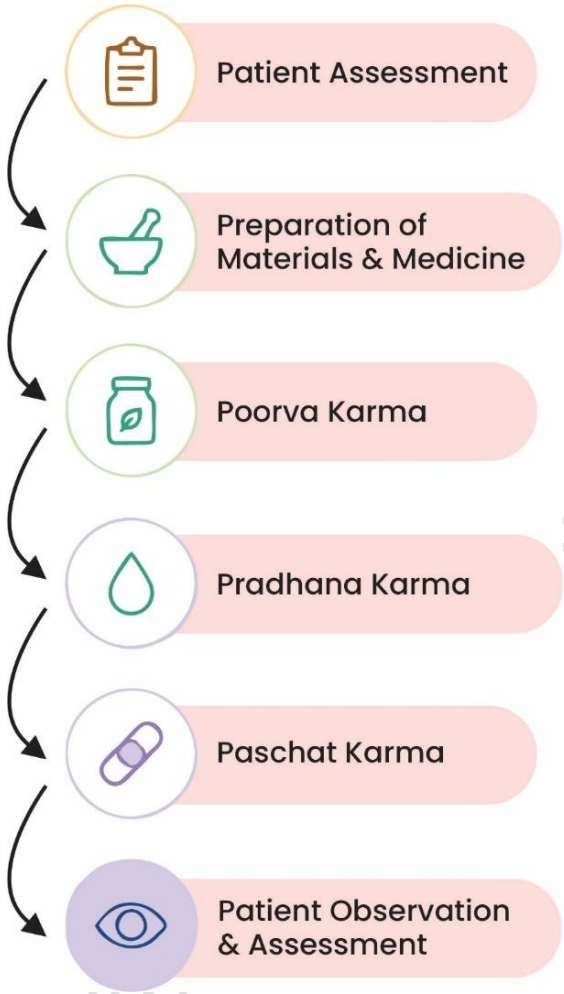

Fig 1.28: Nasya Procedure

Practical Exercise

Demonstration and Practice of Nasya Procedure

Objective: To understand and assist in the proper administration of Nasya Karma.

Procedure: Students will observe a demonstration of Nasya therapy and assist under supervision in preparation and post-procedure care.

Student Tasks:

- Arrange materials (oil, dropper, towel, steamer, spittoon)
- Assist in positioning the patient correctly
- Observe the correct method of instillation
- Note post-procedure care (spitting, dhumapana, observation)

Learning Outcome: Students will be able to describe the steps of Nasya and assist safely in a clinical setup.

Classroom Activity

Sequence Arrangement

Students are asked to list the Nasya procedures and arrange them in the correct order under:

- Poorva Karma:
- Pradhana Karma:
- Paschat Karma:

A. Fill in the Blanks

1. Nasya is the administration of medicine through the _____ route.
2. The vital point associated with Nasya action is _____ Marma.
3. Dhuma Nasya involves inhalation of _____.
4. Nasya is also called _____ Virechana.
5. The patient should exhale smoke through the _____ in Dhuma Nasya.

B. Short Answer Questions

1. Define Nasya Karma.
2. What are the three types of Nasya based on action?
3. Why is Swedana done before Nasya?
4. What are the signs of proper Nasya (Samyak Lakshana)?
5. Explain the importance of head positioning during Nasya.

UNIT - 2
PASCHAT KARMA PROCEDURES

The objective of this unit is to understand the importance of following a defined lifestyle regimen to bring back the body functions after pradhana karma. Unit one introduces the concept of Samsarjana krama, and the second unit describes the methods of preparation of the diet.

Session - 1
Introduction to Paschat Karma

Panchakarma procedures interfere with the body's natural evacuation processes, leading to a considerable loss of fluids. To restore these lost fluids and re-establish proper digestive function, a specific therapeutic dietary regimen is advised. This regimen aims to gradually rekindle the digestive fire, and this process is known as Samsarjana Krama.

The term Samsarjana refers to the strict adherence to a graduated dietary pattern until the digestive system returns to its normal capacity after Shodhana therapy. This diet regimen is based on the concept of Agni (digestive fire) in Ayurveda.

Just as a fire for cooking is gradually kindled in a traditional stove—starting with small, easily combustible materials and then adding larger pieces of firewood once sufficient heat is generated—the digestive fire (Jatharagni) must also be gradually restored. Jatharagni (where Jathara means stomach and Agni means fire) represents the digestive and metabolic processes, including enzymatic and mucosal secretions that help in the digestion and assimilation of food as it passes from the mouth through the oesophagus to the stomach.

Types of Samsarjana Krama

Samsarjana Krama varies based on several factors, such as the type of Shodhana therapy performed and the predominance of specific Doshas at that time. The main types include: Peyadi Krama, Tarpanadi Krama, Rasadi Krama

Peyadi Krama is a commonly followed dietary regimen in which food is introduced in a sequential manner, starting with Manda (thin rice gruel), followed by Peya (slightly thicker gruel), Vilepi (semi-solid preparation), and Yusha (pulse soup). This type of Samsarjana Krama is especially suitable after Vamana (therapeutic emesis) and Virechana (therapeutic purgation), as it helps in the gradual restoration of digestive capacity.

Tarpanadi Krama: In certain conditions, the use of Peya may not be suitable. Just as dry soil turns into sticky mire when excessive rainwater is added, individuals with predominant Kapha and Pitta Dosha may develop a similar "mire-like" condition in the body when light liquid diets like Peya are

administered. This can aggravate existing disease conditions and may lead to complications. Such situations are observed in inadequate Shodhana therapy, chronic alcoholism, skin diseases dominated by Kapha and Pitta, summer season. In these cases, Laja (puffed rice) is preferred due to its lightness and ease of digestion.

Rasadi Krama is generally followed after Peyadi Krama to pacify any residual or aggravated Doshas that may arise during the Samsarjana period. It helps in restoring strength and normalcy to the body after undergoing intense Shodhana procedures. The term Rasadi Krama is derived from the systematic use of different Rasa (tastes) in an alternating pattern. These tastes are selected based on their Guna (properties) and their role in balancing the Doshas. The appropriate combinations of Rasa help in promoting recovery, improving digestion, and enhancing overall strength.

The alternating Rasa and their effects on Dosha are presented in the following table.

Rasa	***Guna***	***Dosha***
Amla, Madhura	*Snigdha, Hrudya* and *Guru* combination	*Vata*
Amla, Lavana	*Laghu* and *Ruksha*	*Kindles agni*
Madhura, Tikta	*Sheeta* and *Guru*	*Pitta*
Kashaya, Katu	*Laghu* and *Ruksha*	*Kapha*

Table no 2.1: Types of Samsarjana Krama

Duration of Samsarjana Krama

The duration or extent of *Samsarjana Krama* depends on the degree of *Shuddhi* (purification) achieved in the body after *Shodhana* therapy.

- In *Samyak* or *Pravara (Uttama) Shuddhi* (maximum purification), the duration is 7 days.
- In *Madhyama Shuddhi* (moderate purification), the duration is 5 days.
- In *Avara Shuddhi* (minimum purification), the duration is 3 days.

The *Annakala* (timing of food intake) is generally restricted to two meals per day initially, to support better digestion. The frequency of meals may be increased gradually depending on the patient's condition and digestive capacity.

Both *Peyadi Krama* and *Tarpanadi Krama* begin with *Manda*.

- *Manda* is the clear watery portion obtained after straining cooked rice.
- *Peya* is a thin gruel form of rice.

In *Tarpanadi Krama*, *Peya* may be replaced with *Laja* (puffed rice), either in powdered form or as whole grains, prepared as:

- *Swachha Tarpana* (clear preparation)
- *Ghana Tarpana* (thick preparation)

After *Peya*, thicker preparations such as *Vilepi* (thick rice gruel) are introduced. In *Tarpanadi Krama*, *Vilepi* is included after *Ghana Tarpana*.

Finally, *Yusha* (pulse soup) and *Mamsa Rasa* (meat soup) are introduced in the later *Annakala* of both regimens.

Thus, the sequence and progression of diet depend on the physician's (*Vaidya's*) assessment of the degree of purification. Continuous observation of the patient is essential, and dietary changes should be made only under the guidance of a Vaidya.

Samsarjana Krama for Pravara (Uttama) Shuddhi – 7 Days

Day	First Annakala	Second Annakala
Day 1	(Shodhana performed)	Manda
Day 2	Peya	Peya
Day 3	Peya	Vilepi
Day 4	Vilepi	Vilepi
Day 5	Akruta Yusha	Akruta Yusha
Day 6	Akruta Yusha	Kruta Yusha
Day 7	Kruta Yusha	Kruta Yusha

Table no 2.2: Samsarjana Krama for Pravara (Uttama) Shuddhi – 7 Days

Samsarjana Krama for Madhyama Shuddhi – 5 Days

Day	First Annakala	Second Annakala
Day 1	(Shodhana performed)	Manda
Day 2	Manda	Peya
Day 3	Peya	Vilepi
Day 4	Vilepi	Akruta Yusha
Day 5	Akruta Yusha	Kruta Yusha

Table no 2.3: Samsarjana Krama for Madhyama Shuddhi – 5 Days

Samsarjana Krama for Avara Shuddhi – 3 Days

Day	First Annakala	Second Annakala
Day 1	(Shodhana performed)	Manda
Day 2	Peya	Vilepi
Day 3	Akruta Yusha	Kruta Yusha

Table no 2.4: Samsarjana Krama for Avara Shuddhi – 3 Days

Case Study: Importance of Pashchat Karma

Mr Ramesh, a 42-year-old male, underwent *Virechana Karma* (therapeutic purgation) for the management of a chronic skin disorder. The procedure (*Pradhana Karma*) was conducted successfully, and signs of proper purification (*Samyak Shuddhi*) were observed.
After the procedure, the physician (*Vaidya*) advised strict follow-up of *Samsarjana Krama* starting with *Manda*, followed by *Peya*, *Vilepi*, and *Yusha* over a period of 5–7 days. Within two days, he developed the following symptoms: loss of appetite, abdominal discomfort and bloating, Loose stools with foul smell, general weakness and fatigue. He reported back to the Panchakarma unit, where the Vaidya identified that improper *Pashchat Karma* had disturbed the recovering digestive fire (*Agni*) and aggravated the *Doshas* again.

Questions for Students

1. Why is *Samsarjana Krama* important after *Shodhana* therapy?
2. What are the possible consequences of not following *Pashchat Karma* properly?
3. What role does a Panchakarma Assistant play in preventing such situations?
4. What advice should be given to the patient to avoid complications in the future?

Learning Points

- *Pashchat Karma* is as important as *Pradhana Karma* in Panchakarma therapy.
- The digestive fire (*Agni*) becomes weak after *Shodhana* and must be gradually restored.
- Sudden intake of heavy or unsuitable food can lead to complications and recurrence of disease.
- Proper patient education and monitoring by the Panchakarma Assistant are essential.
- Strict adherence to *Samsarjana Krama* ensures safe recovery and better therapeutic outcomes.

Practical Exercise

Preparation and Observation of Samsarjana Diets

Objective: To understand the preparation, consistency, and therapeutic use of different diets in Samsarjana Krama.

Procedure:

1. Prepare the following rice-based diets in the practical lab:
    - Manda
    - Peya
    - Vilepi
2. Measure the rice and water ratio accurately for each preparation.

3. Observe and note:
    - Consistency (liquid, semi-liquid, thick)
    - Digestibility (light/heavy)
    - Appearance and texture

4. Prepare a simple *Yusha* (pulse soup).

5. Record the differences between *Akruta Yusha* and *Kruta Yusha*.

Observation Table:

Preparation	Rice: Water Ratio	Consistency	Indication
Manda			
Peya			
Vilepi			

Outcome: Students will be able to prepare therapeutic diets and understand their role in post-Panchakarma care.

Classroom Activity

Sequencing the Diet

Instructions:

- Divide students into small groups.
- Provide each group with flashcards labelled: Manda, Peya, Vilepi, Akruta Yusha, Kruta Yusha, Mamsa Rasa.
- Ask them to arrange the correct sequence for:
    - Pravara Shuddhi (7 days)
    - Madhyama Shuddhi (5 days)
    - Avara Shuddhi (3 days)

Discussion Points:

- Why is the sequence gradual?
- What may happen if heavy food is introduced early?

A. Fill in the Blanks

1. The duration of Samsarjana Krama in Pravara Shuddhi is _____ days.
2. Manda is the _____ portion obtained after straining cooked rice.
3. Peya is a _____ form of rice preparation.
4. In Tarpanadi Krama, peya may be replaced with _____.
5. _____ Yusha is prepared without adding fat or spices.

B. Match the Following

Column A	Column B
1. Manda	a. Thick rice preparation
2. Peya	b. Clear liquid from rice
3. Vilepi	c. Pulse soup
4. Yusha	d. Thin gruel
5. Mamsa Rasa	e. Meat soup

C. Short Answer Questions

1. What is the aim of Samsarjana Krama?
2. How does the duration of Samsarjana Krama vary?
3. Define Manda and Peya.
4. What is the role of Yusha in Samsarjana Krama?
5. Why should the patient be under constant observation during Samsarjana Krama?

Session - 2
Preparations for Paschat Karma

Preparations of Therapeutic Diets in Samsarjana Krama

The diet in Samsarjana Krama mainly includes:

- Carbohydrates from rice preparations
- Proteins from pulses (*Yusha*) and meat (*Mamsa Rasa*)

Different rice preparations—*Manda, Peya, Vilepi, Yavagu,* and *Odana*—are prepared using varying quantities of water. These variations help regulate hydration and digestive strength according to the patient's needs.

- *Manda* helps restore electrolyte balance, especially after procedures like *Virechana*.
- *Peya* (thin gruel) and *Vilepi* (thick gruel) help in gradually improving strength and digestion.
- *Yavagu* is prepared with six times water, resulting in a semi-liquid consistency.
- *Odana* is well-cooked rice prepared with about five times the water, with minimal fluid remaining.

These preparations contain starch and dietary fibre, which act as prebiotics, supporting healthy intestinal flora.

Manda Preparation

Quantity of Rice	Quantity of Water
1 part	14 times the quantity of rice

Manda is prepared by cooking rice with excess water and then straining the liquid portion. This clear fluid is light, easily digestible, and suitable as the initial diet after *Shodhana* therapy.

Method of Preparation:

Rice is boiled in the required amount of water until it is soft and cooked. The liquid portion is then strained and separated from the rice. This clear liquid is called *Manda*.

Manda is usually served with a small amount of rock salt and dry ginger powder. It can also be given plain with only salt.

Properties and Benefits:

- Helps in digestion (*Pachana*)
- Stimulates digestive fire (*Deepana*)
- Promotes urination
- Useful in managing fever

Peya Preparation

Quantity of Rice	Quantity of Water
1 part	14 times the quantity of rice

Method of Preparation:

Rice is boiled in water until it is tender. Unlike Manda, the water is not strained. The preparation is served as it is and is called *Peya*.
It is usually given with a small amount of rock salt.

Properties and Benefits:

- Thin gruel, easy to digest
- Reduces thirst, hunger, and fatigue
- Promotes sweating and may help reduce fever
- Useful in digestive disorders

Vilepi Preparation

Quantity of Rice	Quantity of Water
1 part	4 times the quantity of rice

Method of Preparation:

Rice is boiled with less water until it becomes soft and thick in consistency. This thick preparation is called *Vilepi*.
It can be served with a small amount of salt.

Properties:

- Thicker than Peya
- Provides more nourishment and strength

Yusha (Pulse Soup) Preparation:

Quantity of Pulses	Quantity of Water
1 part (example: green gram)	14 times the quantity of pulses

Method of Preparation:

The pulses are lightly crushed and fried, then cooked with water. The mixture is boiled until the water is reduced to half.

- When served without oil and salt, it is called *Akruta Yusha*.
- When oil and salt are added, it is called *Kruta Yusha*.

Dry ginger powder and *Pippali* (long pepper) may be added to improve taste and digestion.
Properties:

- Provides protein
- Light and easy to digest

- Supports recovery and strength

Laja (Puffed Rice Preparation)

Quantity and Types:

Laja	Water	Preparation Type
1 part (powdered/crushed)	14 times	Swachha Tarpana (thin)
1 part (powdered/crushed)	4 times	Ghana Tarpana (thick)

Method of Preparation:

Laja (puffed rice) is lightly fried and then cooked with water.

- When prepared with more water, it forms a thin preparation called *Swachha Tarpana*.
- When prepared with less water, it becomes thick and is called *Ghana Tarpana*, which can substitute *Vilepi*.

Mamsa Rasa (Meat Soup)

Quantity of Meat	Quantity of Water
1 part	14 times the quantity of meat

Method of Preparation:

Meat (commonly goat meat or as advised by the Vaidya) is boiled in water until it is soft. The liquid portion is then strained to obtain *Mamsa Rasa*.
Patient preference may also be considered while preparing this diet.

Properties:

- Rich source of protein
- Provides strength and nourishment during recovery

Note: *Mudga Yusha* (green gram soup) can also be used as a protein source during this stage.

Mrs Sita, a 50-year-old patient, underwent *Virechana Karma* for the management of a digestive disorder. After successful *Shodhana*, she was advised *Samsarjana Krama* starting with *Manda*.
A Panchakarma Assistant was assigned to prepare the diet. After consuming the *Manda*, the patient complained of heaviness in the abdomen, indigestion, nausea and loss of appetite
The Vaidya assessed the situation and identified that the improper preparation of *Manda* disturbed the weak digestive fire (*Agni*) of the patient.

Questions for Students

1. Why is it important to follow the correct rice-water ratio?
2. What precautions should be taken while preparing Samsarjana diets?
3. Why should spices and excess salt be avoided in the initial stages?
4. What is the role of hygiene in the preparation of therapeutic diets?
5. How can a Panchakarma Assistant prevent such errors?

Learning Points

- Correct proportion of ingredients is essential for proper consistency and digestibility.
- Food should be well-cooked and properly processed according to the method.
- Minimal or no spices should be used, especially in the early stages.
- Hygiene and cleanliness must be strictly maintained.
- The digestive fire (*Agni*) is weak after *Shodhana*, so even small mistakes can lead to complications.
- The Panchakarma Assistant plays a crucial role in ensuring safe and effective post-therapy care.

The principle of *Samsarjana Krama* helps in the gradual restoration of digestive power and overall strength after *Shodhana* therapy. This concept can also be applied in other recovery stages of diseases to normalise body functions.

Modern nutritional guidelines also emphasise the importance of easily digestible foods, proteins, and whole grains, which align with the principles of Samsarjana Krama

PART A

Practical Exercise

Preparation of Samsarjana Diets

Objective: To develop skills in preparing different therapeutic diets used in Samsarjana Krama.

Materials Required: Rice, green gram (mudga), puffed rice (laja), meat (if applicable), water, rock salt, dry ginger powder, stove, vessels, and strainer.

Procedure:

1. Prepare Manda using the correct rice-water ratio and strain the liquid.
2. Prepare Peya without straining the water.
3. Prepare Vilepi with reduced water to obtain a thick consistency.

4. Prepare Akruta Yusha and then convert it into Kruta Yusha by adding salt and oil.
5. Prepare Laja Tarpana (thin and thick forms).
6. (Optional) Demonstrate preparation of Mamsa Rasa.

Observation Points:

- Consistency (liquid, semi-liquid, thick)
- Taste and appearance
- Ease of digestion (as per theoretical understanding)

Outcome:

Students will be able to prepare and differentiate between various Samsarjana diets and understand their therapeutic use.

Classroom Activity

Identify and Arrange the Preparation Method

Instructions:

- Provide students with mixed steps of preparation for Manda, Peya, and Vilepi.
- Ask them to:
    1. Identify the correct preparation (Manda/Peya/Vilepi/Yusha).
    2. Arrange the steps in proper sequence.

Example Task:

- "Rice is boiled, and water is strained" → Identify the preparation
- "Pulses are fried, boiled, and reduced to half" → Identify the preparation

Group Discussion:

- Why is straining done only for Manda?
- How does water quantity affect the final preparation?

PART B

A. Fill in the Blanks

1. Manda is obtained by _____ the liquid from cooked rice.
2. In Peya, the water is _____ (strained/not strained).
3. Vilepi is a _____ (thin/thick) rice preparation.
4. Yusha prepared without oil and salt is called _____ Yusha.
5. Laja with more water forms _____ Tarpana.
6. Mamsa Rasa is prepared by boiling _____ with water.

B. Short Answer Questions

1. Describe the method of preparation of Manda.
2. What is the difference between Manda and Peya?
3. How is Vilepi prepared?
4. Explain the preparation of Yusha and its types.
5. What is the role of Laja in Samsarjana Krama?
6. Why is Mamsa Rasa included in the later stages of the diet?

Case Illustration: Precautions in Preparation of Samsarjana Diet

Scenario:

Mr Arun, a 38-year-old patient, underwent *Vamana Karma* for a Kapha-related disorder. After successful *Shodhana*, the Vaidya advised *Samsarjana Krama*, beginning with *Manda* for the first day.

A Panchakarma Assistant was responsible for preparing and serving the diet. While preparing *Manda*, the assistant took proper care to:

- Use the correct rice-to-water ratio (1:14)
- Cook the rice thoroughly until soft
- Strain the liquid properly to obtain clear *Manda*
- Avoid adding excess salt or spices (only a small amount of rock salt was added)
- Maintain the cleanliness of utensils and the preparation area
- Serve the preparation fresh and warm

The patient consumed the *Manda* without any discomfort. The next day, *Peya* was introduced as per schedule. The patient showed:

- Good appetite
- No bloating or indigestion
- Improved strength and comfort

The Vaidya appreciated the proper preparation and advised continuation of the same method for subsequent diets.

Questions for Students

1. What precautions were followed while preparing Manda in this case?
2. Why is it important to serve the diet fresh and warm?
3. How did proper preparation help in patient recovery?
4. What is the role of a Panchakarma Assistant in this stage?

Learning Insight

This case highlights that accurate preparation, hygiene, and adherence to instructions are essential for successful *Samsarjana Krama*. Proper precautions support the gradual restoration of *Agni* and ensure smooth recovery after *Panchakarma therapy*.

UNIT - 3
INFECTION CONTROL PRACTICES

Introduction

Infection is the invasion and multiplication of harmful microorganisms such as bacteria, viruses, fungi, and protozoa in the body, which may lead to disease. In a Panchakarma unit, various therapeutic procedures involve close physical contact with patients, repeated handling, and the use of medicated oils, herbal preparations, and instruments. These factors increase the risk of infection transmission if proper precautions are not followed. Infection control policies are therefore crucial for maintaining a safe, clean, and hygienic treatment setting. These policies aim to prevent cross-infection between patients and healthcare workers, decrease hospital-acquired (nosocomial) infections, and ensure the quality and safety of Panchakarma therapies.

Ayurveda has described the concept of communicable diseases under *Aupsargika Roga*, which spreads through direct contact, respiration, sharing of objects, and bodily secretions. It also explains epidemic conditions (*Janapadodhwamsa*) caused by contamination of air, water, land, and seasonal changes, highlighting the importance of environmental hygiene. These classical principles show that the understanding of infection and its prevention existed even in ancient times.

Ayurveda strongly emphasises preventive measures such as personal hygiene, environmental cleanliness, and disciplined daily practices (*Dinacharya*). Practices like regular hand washing, wearing clean clothes, avoiding the sharing of personal items, and maintaining the cleanliness of surroundings were traditionally followed to prevent infection. Methods like *Dhupana* (fumigation) were also used to reduce microbial contamination in the environment. These principles are closely related to modern infection control practices.

To make you understand the infection control practices, this unit is divided into three sessions. The first session is regarding the roles and responsibilities of the Panchakarma assistant to limit the spread of infections. The second session describes the infection control followed in the panchakarma centres, and the third session provides specific hand hygiene practices.

Session - 1
Roles and Responsibilities of Panchakarma Assistant in Infection Control

In a Panchakarma unit, the Panchakarma Assistant plays a crucial role in implementing infection control policies. Their responsibilities directly influence patient safety and treatment outcomes.
A Panchakarma Assistant must:

- **Maintain Personal Hygiene**
  - Follow proper handwashing techniques before and after every procedure.
  - Wear clean uniforms, gloves, and protective clothing when required.
  - Avoid sharing personal items and ensure the cleanliness of oneself, as emphasised in Ayurvedic hygiene practices.

- **Prepare and Maintain a Clean Treatment Area**
  - Clean and disinfect treatment rooms, tables, and surfaces regularly.
  - Ensure proper ventilation and environmental hygiene, as contamination of air and surroundings is a known cause of disease spread.

- **Handle Instruments and Materials Safely**
  - Ensure proper sterilisation of instruments and dressing materials.
  - Use clean, uncontaminated oils and herbal preparations.
  - Avoid reuse of contaminated materials without proper cleaning.

- **Prevent Cross-Infection**
  - Avoid direct contact between infected and non-infected patients.
  - Follow isolation precautions when dealing with communicable diseases.
  - Prevent sharing of towels, sheets, or equipment between patients without proper disinfection, in line with Ayurvedic warnings against sharing contaminated objects.

- **Assist in Safe Procedure Practices**
  - Use gloves while handling body fluids, secretions, and excretions.
  - Maintain aseptic techniques during procedures.
  - Ensure patient comfort while maintaining hygiene standards.

- **Manage Waste Properly**
  - Dispose of contaminated materials in appropriate containers.
  - Handle excreta, dressings, and waste safely to prevent the spread of infection.

- **Support Preventive Health Measures**
  - Encourage hygienic practices among patients, such as hand washing and cleanliness.
  - Assist in simple preventive practices like gargling (*Kavala*), which help maintain oral hygiene and reduce infection risk.

- **Assist in Environmental Disinfection**
  - Participate in traditional practices like *Dhupana* (fumigation), where applicable, to reduce microbial load in the treatment area.

Practices to be Followed for Infection Control

To ensure effective infection control, the Panchakarma Assistant should consistently follow:

- Hand hygiene before and after patient contact
- Use of personal protective equipment (gloves, gowns)
- Regular cleaning and disinfection of treatment areas
- Proper sterilisation of instruments
- Safe handling of body fluids and contaminated materials
- Avoidance of sharing personal or treatment items
- Maintenance of environmental hygiene (clean air, water, surroundings)
- Proper biomedical waste disposal
- Adherence to both modern protocols and traditional Ayurvedic hygiene practices

Strict adherence to these infection control measures helps in preventing disease transmission, maintaining therapeutic effectiveness, and ensuring patient and staff safety. Thus, Panchakarma Assistants play a vital role in upholding hygiene standards and delivering safe and effective Ayurvedic care.

PART A

PRACTICAL EXERCISE

Demonstration and Practice of Infection Control Measures in Panchakarma Unit

Objective: To develop hands-on skills in maintaining hygiene and infection control during Panchakarma procedures.

Instructions:
Students will perform the following under supervision:

1. Hand Hygiene Practice
    - Demonstrate correct handwashing technique (steps and duration).
    - Use of sanitiser where appropriate.

2. Preparation of Treatment Area
    - Clean and disinfect a treatment table using appropriate disinfectant.
    - Arrange clean linens and materials.

3. Use of Personal Protective Equipment (PPE)
    - Demonstrate the proper method of wearing and removing gloves.
    - Identify when PPE is required.

4. Instrument Handling
    - Classify instruments as clean/contaminated.

- Demonstrate basic sterilisation or disinfection methods.

5. Waste Disposal
    - Segregate waste into appropriate categories (biodegradable, contaminated, etc.).
    - Dispose of mock waste in labelled containers.

Assessment Criteria:
- Correct technique
- Hygiene maintenance
- Proper sequencing of steps
- Awareness of safety precautions

2. Activity

Title: Role Play on Infection Control in Panchakarma Unit

Objective: To understand the real-life application of infection control practices.

Procedure:
- Divide students into groups.
- Assign roles:
    - Panchakarma Assistant
    - Patient (infected/non-infected)
    - Observer

Scenario Examples:
- Preparing a treatment room for two different patients
- Managing a patient with a communicable condition
- Handling contaminated linen after procedure

Task:
- Perform the scenario demonstrating correct infection control measures.
- Observer notes mistakes and suggests improvements.

Outcome:
- Enhances critical thinking and practical understanding.

PART B

A. Fill in the Blanks

1. Proper _____ must be performed before and after every procedure.
2. Panchakarma assistants should wear _____ and protective clothing when required.
3. Instruments must be properly _____ before reuse.
4. Sharing of _____ and sheets between patients should be avoided.
5. _____ technique is essential during procedures to prevent infection.

6. Waste materials should be disposed of in _____ containers.
7. Dhupana refers to _____ use for environmental disinfection.
8. Cross-infection occurs when infection spreads from one _____ to another.
9. Clean and uncontaminated _____ should be used for treatments.
10. Proper _____ of treatment area helps reduce disease spread.

B. Short Answer Questions

1. What is the role of a Panchakarma Assistant in infection control?
2. Why is hand hygiene important in Panchakarma procedures?
3. What are the methods used to prevent cross-infection?
4. Explain the importance of the sterilisation of instruments.
5. What is Dhupana, and how does it help in infection control?
6. List any four responsibilities of a Panchakarma Assistant.
7. Why should contaminated materials not be reused without cleaning?
8. What are the basic principles of biomedical waste management?
9. How can environmental hygiene be maintained in a Panchakarma unit?
10. What precautions should be taken while handling body fluids?

Session - 2
Controlling infections in Panchakarma Institutions

The word *siddhi* implies performing the panchakarma procedure to achieve the expected result without contracting an infection. The word *ashtkam* implies eight aspects related to the practices followed in panchakarma: (1) Panchakarma kaksha (theatre), (2) Upakaran (equipment and other utensils), (3) Panchakarma Dravya (medicines), (4) Vaidya (specialist), (5) Panchakarma Paricharak (assistants), (6) Rogi (patients), (7) Panchakarma Parikriya (procedures), (8) Panchakarma apashist prabandhan (biomedical waste Management).

1. **Panchakarma kaksha (theatre)**

- Daily sanitisation of the panchakarma theatre with sodium hypochlorite solution (commonly known as bleach) as per the standard practices. It is an effective disinfectant against viruses, bacteria, fungi, and mycobacteria.
- Dhupana karma- this medicated fumigation using Aparajitha Dhoopa Choornam prevents the spread of infection and purifies the air.
- Lighting ghee lamps or beeswax candles regularly purifies the indoor environment from the effects of poisonous agents (visha grahadi bhutaghnam).
- Display the infographics related to hand washing practices and other existing protective guidelines, for example, COVID-19.
- The floor of the Panchakarma theatre is ideally cleaned with antimicrobial liquid after attending to every patient.
- Washrooms attached to the theatre and common facility area are cleaned and sanitised after every use.
- Common facility areas of high -touch surfaces related to panchakarma should be cleaned frequently.

Panchakarma Upakaran

- Droni's should be cleaned with herbal liquid soap or herbal handwash liquid after use by any client.
- Copper utensils are recommended for use in Panchakarma.
- Disposable paper cups may be used for serving drinking water.
- Lids of dustbins should be properly fitted.

Panchakarma Dravya (medicines):

- Panchakarma medicines, which are being used repetitively for 3-7 days in the case of shirodhara, sarvangadhara, etc., should be kept covered to reduce any chance of contamination.
- The areas used for preparing medicines (kitchen) should be sanitised and cleaned regularly and frequently.

Panchakarma Vaidya (specialist)

- The physician must obtain written and signed consent from the patient.
- Physician and attendant should use Personal protective equipment (PPE)- single-use hand gloves, medical mask, face shield, disposable head cover, shoe cover and washable gowns if necessary, according to situations.

Panchakarma paricharak

- Masseurs and attendants must use appropriate protective measures, such as an apron, mask, gloves, head covers and other personal protective equipment.
- Ensure preventive measures, like frequent washing of hands/use of alcohol based ayurvedic hand sanitiser, respiratory etiquette (using tissue/handkerchief while coughing or sneezing), etc are followed while participating in therapy.
- Healthcare workers, after leaving the patient care units (wards/OPDs/IPDs), must follow adequate measures to prevent transmission/acquire infection by following social distancing/masking, etc.

Rogi (Patients)

- Patients are advised to follow hand hygiene and other hygiene practices at all times.
- Avoid panchakarma for patients or those belonging to vulnerable groups, i.e., aged above 65years or less than 10 years or having co-morbidities such as hypertension, diabetes mellitus, chronic kidney disease, cancer, etc.
- Advise patients to bring only necessary belongings and attendants while coming for panchakarma procedures.
- Patients have to follow the dietary regimen before and after the procedure.

Panchakarma prakriya (procedures)

- Adequate lighting and ventilation must be ensured in the room. The Panchakarma room should be cleaned using a floor cleaner (phenolic compounds, such as Lysol or phenyl) and disinfected with a 1% sodium hypochlorite (bleaching powder) solution. Use the solution in areas with spillage of body fluids, waste containers, drains, floors, and bathrooms.
- Spillage of oil, medicines, and decoctions on the floor should be cleaned using a floor cleaner. Oils should not be reused between patients. Containers should be clean, dry and labelled. Direct contact with medicated oils should be avoided.
- Cleaning and sterilisation of equipment and material (Panchakarma instruments: vasti netra, dhara vessels, nasya equipment) must be conducted after every use using 70% Ethyl alcohol, isopropyl alcohol/Povidine-iodine.

- Linen and laundry should be collected separately and washed with hot water and detergent. Contaminated linen should be handled with gloves.

Area	Recommended Chemical Agent
Floors & drains	Phenyl / Sodium hypochlorite
Procedure tables	Detergent + Ethyl Alcohol
Instruments	Ethyl Alcohol / Povidone-iodine
Linen	Detergent + hot water
Waste containers	Sodium hypochlorite
Hand hygiene	Soap / Alcohol rub

Table: *Chemical Agents used for cleaning the therapy area*

- Waste generated from panchakarma procedures, such as oils, liquids, cotton, hand gloves, masks, loincloths, disposable undergarments, empty medicine containers, bottles, etc., should be properly disposed of as per the latest guidelines and amendments of biomedical waste management rules.

Role of Panchakarma Assistant in Infection Control

- Ensure the cleanliness of the therapy area before and after procedures.
- Follow hand hygiene and personal protective protocols.
- Assist in the proper sterilisation and storage of equipment.
- Report any breach in infection control practices.
- Educate patients about post-procedure hygiene.

PART A

PRACTICAL EXERCISE

Visit a Panchakarma centre to observe the practices they follow to control the spread of infection. Write an observation report on the eight components of Siddhishtakam observed in the centre.

ACTIVITY

Raj is working as an assistant in a Panchakarma centre. Create a PowerPoint presentation to educate the masses on the measures taken by the centre to comply with the infection control practices.

1. For the Panchakarma theatre.
2. By the employees
3. For the Equipment
4. Dealing with Medicines
5. For the patient
6. During the procedure
7. Biomedical waste management.

PART B

A. Fill in the blanks

1. Daily sanitisation of the Panchakarma theatre is done using _____ solution.
2. Dhupana karma using _____ helps in preventing the spread of infection.
3. The physician must obtain written and signed _____ from the patient before procedures.
4. Panchakarma assistants should follow proper _____ and use of PPE to prevent infection.
5. Instruments like vasti netra and dhara vessels should be sterilised using _____ alcohol.
6. Waste generated from Panchakarma procedures should be disposed of according to _____ management rules.

B. Short answer questions

1. Why is it important to follow infection control practices in a Panchakarma centre?
2. How frequently should we sanitise the equipment used during the procedure?
3. Why should the people of the society be made aware of the infection control practices?

Session - 3
Effective Hand Washing

Hand Hygiene Practices

The session emphasises the importance of hand washing for good health. Hygiene is a set of routine personal cleaning practices aimed at maintaining health. Modern medical sciences adhere to certain hygiene standards in various situations. The concept of hygiene differs across regions, cultures, gender groups, and individuals. Some regular hygienic practices are regarded as good habits by most people in society, while neglecting hygiene can be seen as disgusting, disrespectful, or even threatening.

Hand washing is the act of cleaning one's hands with or without the use of water, another liquid, or soap, to remove soil, dirt, and microorganisms. Medical hand hygiene refers to the practices followed while applying medicine or providing medical services that reduce or minimise the spread of diseases. Hand washing with soap is effective in preventing diarrhoea and acute respiratory infections (ARI). The purpose of hand washing is to remove disease-causing microorganisms, including bacteria and viruses, as well as harmful chemicals. This practice should be strictly followed by those working in the food preparation industry, the medical field, and by all individuals. It helps protect us from diseases transmitted through faecal-oral routes and direct contact, such as impetigo. Alcohol gels are another form of disinfectant that can kill bacteria, though their effectiveness is debated, and they may contribute to antibiotic-resistant bacterial strains. It is good practice to clean hands after using the toilet, changing diapers, handling animals, and touching food. Use liquid soap and warm running water to wash hands for at least 10 seconds.

Why is hand hygiene important?

The hands normally have a “resident” population of micro-organisms apart from those accumulated during everyday activities, termed “transient” organisms. Most of the germs on our hands are harmless, but some cause cold, flu, skin infections or diarrhoea. Forgetting to wash our hands causes the spread of these germs to other people; also infect ourselves when we touch our eyes, mouths or open cuts. Hand washing prevents the microorganisms from getting displaced to other surfaces, the patient or vulnerable areas on the patient.

Why is hand hygiene important in health care?

Patients are more vulnerable to infection from germs carried on their hands or other healthcare workers when brought into a healthcare environment. Patients, visitors, health care workers, nursing staff and doctors can cut the risk of spreading infections by regularly cleaning their hands.

Advice to healthcare staff and patients

All health care staff should wash their hands with soap or use alcohol gel:

- Before and after direct patient contact;
- Attending to the toilet needs of the patient.
- After Medical procedures;
- Wearing and removing gloves during each procedure.

The temperature of hot water used for hand washing is not sufficient to kill bacteria. Bacteria grow much faster at body temperature (37 °C). Warm water with soap is more effective than cold water for the removal of micro-organisms, as flowing water helps to dissolve the soil and dirt from hands easily. A hand sanitiser or hand antiseptic is a non-water-based hand hygiene agent. Hand sanitisers are effective against bacteria but not for some viruses, which commonly cause contagious gastroenteritis. Reduce touching wound dressings, stitches, catheters or an intravenous line, unless it is unavoidable, as it may lead to spreading of germs to other parts of the body. Medical hand-washing is ideally done for a minimum of 15 seconds, using soap and water or gel to lather and rub each part of the hands. Let us now practice the steps used for hand washing.

Initiate Small projects to create awareness in the society about hand washing practices (ICT-based or camps)

Fig.3.1: Stepwise procedure of hand washing

PRACTICAL EXERCISE

Demonstration of Proper Hand Hygiene

Objective: To develop skills in correct hand washing technique to prevent infection.

Procedure:

1. Students assemble near a handwashing station.
2. Demonstrate stepwise handwashing (as per figure):
    - Wet hands with water
    - Apply soap
    - Rub palms together
    - Rub between fingers
    - Clean back of hands
    - Clean thumbs and nails
    - Rinse thoroughly
    - Dry with a clean towel
3. Each student performs the steps individually.

Assessment Criteria:

- Correct sequence
- Adequate duration (minimum 10–15 seconds)
- Coverage of all hand areas
- Cleanliness maintained

Activity

Hand Hygiene Awareness Campaign

Objective: To promote awareness about hand washing in the community.

Procedure:

- Divide students into groups.
- Assign tasks:
    - Prepare posters or digital presentations (ICT-based)
    - Conduct awareness sessions or demonstrations
    - Create slogans on hand hygiene
- Organise a small camp or classroom awareness drive.

Outcome: Students understand the importance of hygiene and develop communication skills.

PART B

A. Fill in the Blanks

1. Hand washing removes _____ and microorganisms.
2. Medical hand hygiene helps to _____ the spread of diseases.

3. Washing hands with soap helps prevent _____ and respiratory infections.
4. Microorganisms present on hands are called _____ and transient organisms.
5. Alcohol-based hand sanitisers are _____-water-based agents.
6. Hands should be washed for at least _____ seconds.
7. Germs can enter the body through eyes, mouth, and _____.
8. Warm water helps in _____ removal of dirt and microbes.
9. Patients are more _____ to infections in healthcare settings.
10. Hand hygiene should be done before and after _____ contact.

B. Short Answer Questions

1. Define hand hygiene.
2. What is the purpose of hand washing?
3. Differentiate between resident and transient microorganisms.
4. Why is hand hygiene important in healthcare settings?
5. When should healthcare workers wash their hands?
6. What are the benefits of using soap in hand washing?
7. What is the role of alcohol-based hand sanitisers?
8. Why is warm water preferred for hand washing?
9. How do germs spread through hands?
10. List the basic steps of hand washing.

UNIT - 4
BIO-MEDICAL WASTE MANAGEMENT

Introduction

Managing biomedical waste in Panchakarma practice is as important as performing the therapy itself. Procedures such as Abhyanga, Swedana, Vasti, and Nasya generate different types of waste, including used cotton, oil-soaked linens, disposable materials, and sometimes sharps. While these may appear harmless, improper handling and disposal can lead to the spread of infections within the therapy area.

This unit is designed to help learners understand the concept, types, and risks associated with bio-medical waste in a Panchakarma setup. In Session 1, you will learn about the definitions, classification, and importance of proper waste management, along with the risks of hospital-acquired infections. Session 2 focuses on the sources of bio-medical waste in Panchakarma centres and the appropriate methods of disposal for different types of waste. Session 3 introduces the principles of segregation, color coding, transportation, and safe handling of waste materials.

By the end of this unit, learners will be able to identify different types of bio-medical waste, follow proper segregation practices, and assist in maintaining a clean and safe Panchakarma environment.

Case Study: A Small Lapse, A Big Impact

A Panchakarma centre had a haphazard waste-disposal routine for cotton and oil-soaked materials that were used for Abhyanga, and these items were left in an open bin. The gloves were reused for cleaning the therapy area and the bins.
This raises an important question:
Can improper waste management affect patient safety in Panchakarma practice?

A Panchakarma centre or Ayurvedic healthcare facility uses a variety of materials during diagnostic, therapeutic, preventive, and rehabilitative procedures such as Abhyanga, Swedana, Vasti, Nasya, Rakta Mokshana, and other therapies. The materials that are not utilised fully or become contaminated after use are discarded and treated as waste. Similar to modern hospitals, Panchakarma centres also consume a large number of materials for providing healthcare services, leading to the generation of waste.

These waste materials are generated as a result of diagnostic, therapeutic, immunization, or research-related activities conducted in Ayurvedic hospitals and Panchakarma units. Such waste has the potential to transmit serious diseases to Panchakarma assistants, healthcare workers, patients, and

visitors. Various terms are used for such waste, including medical waste, regulated medical waste, clinical waste, and hospital waste. However, in healthcare practice, the most commonly used term is bio-medical waste.

Bio-medical waste refers to the waste generated during the clinical management of patients and includes items such as syringes, needles, ampoules, disposable plastics, microbial waste, human tissues, body fluids, dressings, used oils contaminated with secretions, and other disposable materials generated during Panchakarma procedures.

Fig no 4.1: Bio medical waste management

Session 1: Introduction to Bio-Medical Waste Management

In this session, the learner understands the concept of biomedical waste management in Panchakarma practice, including the risks associated with poor waste management, waste classification, and methods of disposal.

Definitions

Bio-medical waste is defined as any solid or liquid waste generated during clinical procedures, along with its container, during patient care in Panchakarma or hospital settings.

Medical waste refers to waste generated in hospitals, Panchakarma centres, clinics, dental clinics, blood banks, and research facilities.
Clinical waste refers to waste generated after medical care is provided, excluding domestic waste.

Hospital or Panchakarma centre waste includes all biological and non-biological waste generated during treatment that is not intended for further use.

Pathological waste includes waste generated during procedures such as Rakta Mokshana or surgical interventions and includes human tissues, body parts, fluids, and specimens along with their containers.

Infectious waste refers to waste capable of transmitting diseases due to the presence of pathogenic microorganisms, including contaminated cotton, oils, and linens used in therapies.

Hazardous waste includes waste that is harmful to health, such as disinfectants, chemicals, and cleaning agents used in Panchakarma equipment maintenance.

Fig 4.2: Bio-medical waste

Radioactive waste includes materials contaminated with radioactive substances, though such waste is generally limited to integrated hospitals. Pressurised waste includes compressed gas containers and aerosol cans. *General waste* refers to domestic-type waste generated in offices, waiting areas, and kitchens.

Recyclable waste includes cleaned glass, paper, cardboard, and certain reusable materials.

Fig 4.3: Container with radioactive symbol

Classification of Hospital Waste

The World Health Organization has classified hospital waste such as general waste, sharps, infected waste, chemical waste, radioactive waste, and cytotoxic drugs. In Panchakarma practice, these categories can be understood as follows.

1. General waste includes waste from offices, kitchens, and administrative areas.
2. Sharps include needles, blades, broken glass, and instruments that can cause injury, especially in procedures like Rakta Mokshana.

3. Infected waste includes cotton, dressings, and materials contaminated with body fluids or medicated oils.
4. Chemical waste includes disinfectants and laboratory chemicals.
5. Radioactive waste and cytotoxic drugs may be present in integrated healthcare settings, including anti-cancer drugs.

Fig 4.4: Radioactive waste

Categories of Bio-Medical Waste (As per Rules)

The Ministry of Environment and Forests has drafted certain rules in exercise of powers conferred by sections 6,8, and 25 of the Environmental Protection Act 1986. The categories of bio-medical wastes, as per the Biomedical Waste (Management and Handling) Rules 1988, are as follows:

Waste Category	Waste class and description
Category No.1	*Human anatomical wastes*
Category No.2	*Animal wastes* Animal tissues, body parts, carcasses, organs, bleeding parts, and blood discharge from hospitals, animal houses.
Category No.3	*Microbiology and biotechnology wastes* Wastes from laboratory culture, stocks or specimens of microorganisms, human and animal cell cultures used in research and industrial laboratories, wastes from the production of biological toxins, and dishes and devices used for the transfer of cultures.
Category No.4	*Waste sharp* Blades, needles, syringes, scalpels, glass, etc. That is capable of causing punctures and cuts. This includes both used and unused sharps.
Category No.5	*Discarded medicines and cytotoxic drugs* Wastes comprising outdated, contaminated, and discarded medicines.

Category No.6	*Solid Waste Items* contain blood and body fluids, including cotton, dressing, soiled plaster casts, linen, beddings, and other materials contaminated with blood.
Category No.7	*Solid waste* Wastes generated from disposable items other than the waste sharps, such as tubes, catheters, and intravenous sets.
Category No.8	*Liquid Waste* Wastes generated from laboratory and washing, cleaning, housekeeping, and disinfection activities
Category No.9	*Incineration ash* Ash from the incineration of any biomedical waste.
Category No.10	*Chemical waste* Chemicals used in the production of biological products, chemicals used in disinfections, and insecticides.

Importance of Hospital Waste Management

Hospital or Panchakarma waste management is important because healthcare workers are directly exposed to waste during therapy procedures. Panchakarma assistants are responsible for generating, segregating, collecting, storing, and assisting in the disposal of waste. Improper handling of sharps can lead to infections such as HIV, Hepatitis B, and Hepatitis C.

Healthcare authorities must ensure proper training and supply of protective equipment such as gloves, masks, footwear, goggles, and gowns. Maintaining hygiene in Panchakarma units prevents infection transmission and ensures patient safety.

Fig 4.5: Red & white bag container

Nosocomial Infections

Nosocomial infections are infections acquired during the stay in a hospital or Panchakarma centre and are not present at the time of admission. These infections may occur within 72 hours of admission and are often caused by resistant organisms.

Sources of infection include the patient's own flora, other patients, contaminated objects (fomites), environmental sources, and contamination by

healthcare workers and visitors. The routes of transmission include aerial route through dust, direct contact through skin or mucous membranes, faeco-oral route through contaminated food or water, parenteral route through injections or procedures, and through contaminated equipment.

Practical Exercise

Visit a nearby Panchakarma centre or Ayurvedic hospital. Observe the waste generated during different therapies such as Abhyanga, Swedana, or Vasti. Identify the types of waste produced and classify them according to biomedical waste categories. Record your observations in the table below:

Waste Category	Waste
Category No.1	
Category No.2	
Category No.3	
Category No.4	
Category No.5	
Category No.6	
Category No.7	
Category No.8	
Category No.9	
Category No.10	

Check Your Progress

A. Multiple Choice Questions

1. The bio-medical waste should be properly discarded because it has –
a) The potential to transmit diseases
b) Radioactive properties
c) Good decaying materials
d) All the above

2. WHO has classified hospital waste into general, infected, chemical, radioactive, _____ and _____.
a) General waste
b) Sharp
c) Cytotoxic drugs
d) b and c

3. Nosocomial sources of infection are the patient's or other patients' flora, fomites, environmental sources, or_____
a) Contamination by patients, visitors, and hospital staff
b) Developmental disorder
c) Road traffic accidents
d) All the above

4. The routes of transmission of nosocomial infection are –
a) Direct contact
b) Faeco-oral and nasal route
c) Parenteral route
d) All the above

B. Match the following

Waste	Generated
1. Microbiology	a) generated from disposable items
2. Waste sharp	b) generated from laboratory and washing
3. Solid waste	c) Needles, syringes, scalpels, blades, glass, etc.
4. Liquid Waste	d) chemicals used in the production of biological
5. Chemical waste	e) Wastes from laboratory culture, stocks or specimens

C. Answer the following questions:

1. Write any five terminologies that are used in hospital waste management.
2. Write the classification of hospital-generated waste.
3. How bio-medical waste management helps in environmental protection.
4. What is hospital-acquired infection (HAI)?
5. Describe the importance of hospital waste management.

Session 2: Sources and Disposal of Bio-Medical Waste

Sources of biomedical waste

Bio-medical waste in Panchakarma settings is generated from therapy rooms, preparation areas, clinics, laboratories, and support services such as laundry and dressing areas. The sources can be classified as major and minor sources, depending on the amount of waste generated.

Hospital

- Hospitals of all categories, like general, specialist hospitals, private as well as public sector hospitals, generate biomedical wastes.

Clinics

- Physicians, Maternity clinics, Dentists, Immunisation Clinics, Dialysis centers, and Endoscopists.
- Dispensaries of state or central governments

Healthcare organizations

- Polyclinics
- Nursing homes
- Geriatric homes
- Panchakarma centres
- Ayurvedic centres

Support Services

- Blood banks, pharmacy, mortuary, laundry, and Laboratories

Disposal of Wastes

Biomedical waste should be disposed of separately, and not with other wastes. It should be treated and disposed of as per the standards of the notification of Bio Medical Waste (BMW) rule (1998) of the Ministry of Environment & Forest, Govt. of India. Once the wastes have been treated by one or the other method, it is to be finally disposed of in the following manner:

- **Disposal of general / non-hazardous waste**: It is done in the following methods:
  a. For a small quantity
    i. Landfill: it is done by
      1. Trench method
      2. Ramp method
      3. Area method
    ii. Use of pits
    iii. Composting

  b. For a large quantity
    i. NADEP composting

ii. Pelletisation technology
iii. Biopress and manure
iv. Pyrolysis

- **Disposal of wastewater and liquid waste**: The liquid waste is disposed of by any of the following manner
  - Discharge into the sewers
  - Soak pits
  - Waste stabilizing ponds.

- **Disposal of human anatomical, blood, and body fluids**: the preferred method is by incineration.

- **Disposal of sharps**: the needles should be destroyed by the needle destroyers and other sharps as well, and the needles should be bleached. The used syringes can be disposed of by melting and sterilization.

Fig 4.6: Disposal of sharps

- **Disposal of microbiological and bio-technological wastes**: This is done by autoclaving, hydroclaving, microwave, or incineration.

- **Disposal of pharmaceutical wastes**: The preferred method is by incineration, and the ash can be disposed of by land filling.

- **Disposal of infectious solid waste**: it is first treated and converted to non–hazardous waste, which is then disposed of as general waste.

- **Disposal of chemical waste**: Non-hazardous waste is disposed of as general waste, and the hazardous waste is first converted into non–hazardous waste and then disposed of as general waste.

- **Disposal of radioactive wastes**: This is done by the guidelines issued by the Bhaba Atomic Research Centre (BARC).

- **Disposal of pressurized containers**: This is disposed of with general waste in special landfills. All records should be subjected to inspection and

verification by the prescribed authority at any time. The authorized person shall maintain records related to generation, collection, reception, storage, transportation, treatment, disposal, and/or any form of handling of bio-medical waste. No untreated biomedical waste should be kept beyond a period of 48 hours.

After the waste is treated, it is disposed of in the following categories:

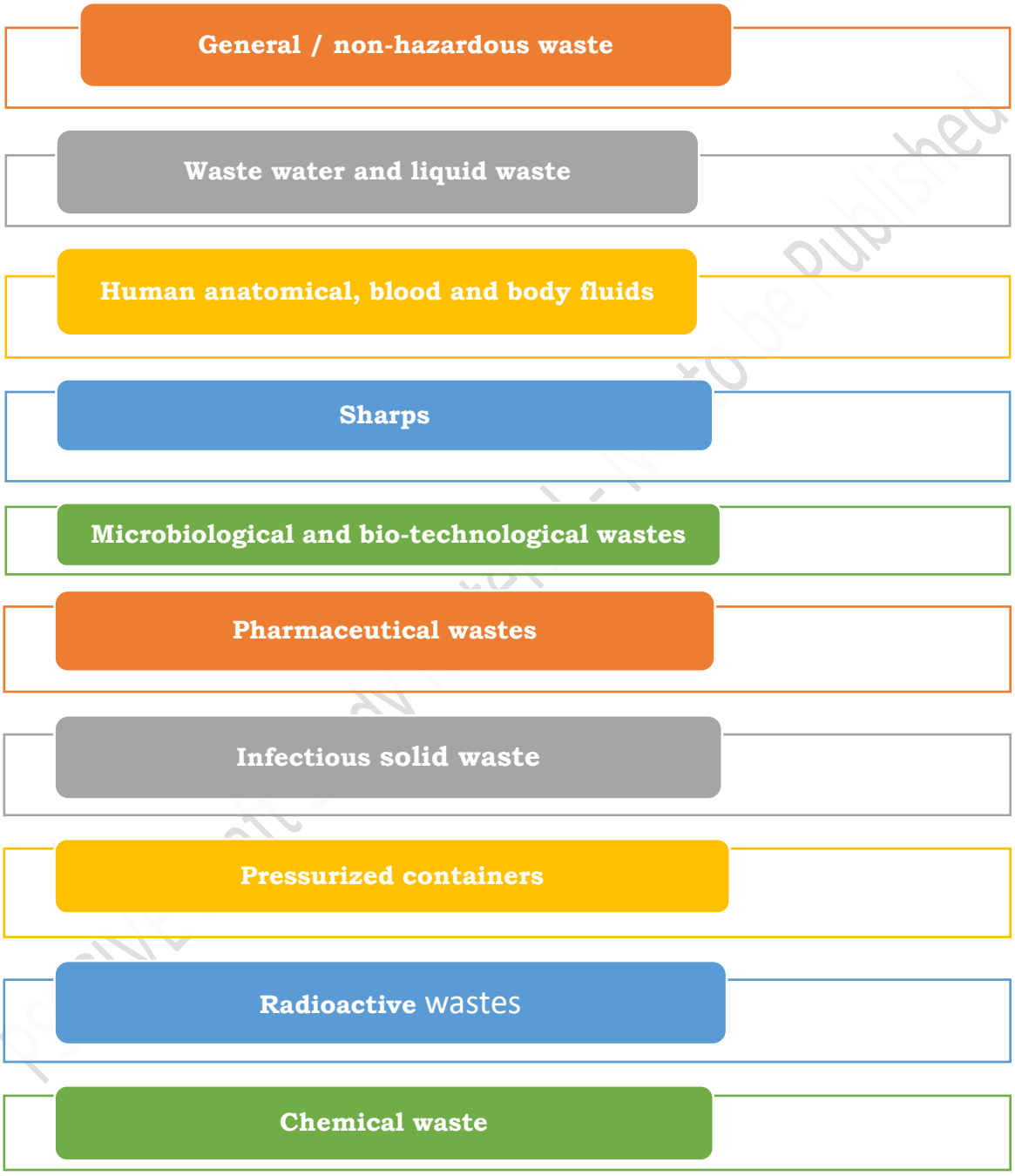

Fig. 4.7: Categories of waste disposal

Practical Exercise

1. Visit the nearest hospital and identify the different types and sources of biomedical waste and fill in the table below.

Name of garbage	Department generating waste
Human organ/tissue body fluids	
Sharp needle and instruments	
Infected dressing and bandage	
Plastic materials	

Check Your Progress

A. Multiple choice questions

1. Disposal of general non-hazardous waste for small quantities is done by which of the following methods -

a) Landfill
b) Use of pits
c) Composting
d) All the above

2. The following methods are used to dispose of large quantities of waste:

a) NADEP composting
b) Palletization technology
c) Biopress and manure
d) Pyrolysis
e) All the above

3. The Bio-Medical Waste Disposal Guidelines Standards are set out in Schedule V of the Bio-Medical Waste Rules -

a) Niti Aayog
b) Ministry of Health & Family Welfare
c) Ministry of Environment & Forest
d) None of the above

B. Tick the true and false in the following sentences:

1. The best disposal method of human organs, tissue, blood, and body fluids is incineration.
2. Radioactive waste is disposed of as per the guidelines issued by the Indian Atomic Energy Council.

C. Write down the methods and techniques used for the disposal of bio-medical waste.

Waste	Methods/techniques
General/non-hazardous waste	
Waste water and liquid waste	
Human anatomical, blood and body fluids	
Sharps needle and instruments	

Microbiological and bio-technological wastes	
Pharmaceutical wastes	
Infectious solid waste	
Chemical waste	
Radioactive wastes	
Pressurized containers	

D. Write the following questions' answers-

1. List the departments of hospitals that generate bio-medical waste.
2. Write the methods of disposal of non-hazardous waste.
3. Describe the method of disposal of microbiological wastes in hospitals.

Answer key:

A. MCQ: 1. d 2. e 3. c

B. True/False: 1. True 2. True

C. Methods/Techniques (Horizontal):

General/non-hazardous waste – Landfill / Composting / Pits
Waste water and liquid waste – Chemical treatment / Drainage system
Human anatomical, blood and body fluids – Incineration / Deep burial
Sharps needle and instruments – Autoclaving / Shredding / Encapsulation
Microbiological and bio-technological wastes – Autoclaving / Microwaving / Incineration Pharmaceutical wastes – Incineration / Secured landfill
Infectious solid waste – Autoclaving / Incineration / Shredding
Chemical waste – Neutralization / Chemical treatment
Radioactive wastes – As per Atomic Energy guidelines
Pressurized containers – Shredding / Recycling

Session 3:
Segregation and Transportation of Bio-Medical Waste

In this session, you will learn about segregation, packaging, transportation, and storage of bio-medical waste. You will study the color-coding criteria recommended by WHO for storing and disposing of different classes of biomedical wastes.

The following points should be remembered while segregating, packaging, transporting, and storing biomedical wastes:

1. Biomedical waste is to be kept separate from other wastes.
2. Segregate the bio-medical waste at the point of generation of waste (i.e, wards) and put it in labelled containers before transportation for treatment and disposal.
3. The container should be labelled properly when being transported to other premises for disposal.
4. Untreated biomedical waste to be transported in a government vehicle authorised by a competent authority.
5. Untreated biomedical waste is not to be stored for more than 48 hours; if necessary, permission is to be taken by an authorised person.

Fig. 4.8: Transportation of bio-medical waste

Color Coding and Type of Containers for Bio-medical Wastes

Color coding is recommended for developing countries by the WHO.

S. N.	Category of Waste	Recommended color code
1	General non-hazardous waste	Black bag
2	Sharps (whether infected or not)	Yellow bag
3	Infected waste (Not containing sharps)	Yellow bag
4	Chemical and pharmaceuticals (other than Cytotoxic drugs, radioactive waste, high-pressure containers)	Red bag
5	Clinical waste that requires autoclaving	Blue bag

Types and Colors of Containers for the disposal of biomedical waste (as per Ministry of Environment and Forest Guidelines)

Waste Category	Waste Class	Type of container	Colour code
Category No.1	Human anatomical waste	Plastic Bag	Yellow
Category No.2	Animal waste	Plastic Bag	Yellow
Category No.3	Microbiological and biotechnological waste	Plastic Bag / disinfected container	Yellow / Red
Category No.4	Sharp	Plastic Bag	Blue/White translucent
Category No.5	Discarded medicines and cytotoxic drugs	Plastic Bag	Black
Category No.6	Solid waste	Disinfected container /plastic bag	Yellow / Red
Category No.7	Solid Waste	Disinfected containers/plastic bag/puncture proof containers	Red / blue / White
Category No.8	Liquid waste	Not Applicable	Not Applicable
Category No.9	Incineration Ash	Plastic Bag	Black
Category No.10	Chemical Waste	Plastic Bag for solid	Black

Fig. 4.9: Colored containers for disposal of bio-medical waste

Transportation of Biomedical Wastes

Methods of transportation of biomedical wastes are internal and external transportation.

Internal Transportation

The sanitation staff from the centralized waste management unit will transport the different colored polythene bags in garbage bins from the sluice room and different areas of the hospital. Push carts and garbage trolleys are designed for the purpose only to be used; the waste is to be routed by the main ramp to the ground floor, then to the area of the incinerator/mortuary. The General waste (in black polythene bags) is to be unloaded at the municipal dumps, opposite the mortuary, adjacent to the incinerator site. The sanitation inspector has to be informed in case of leakage or spillage, as they take responsibility for cleaning and disinfection of the trolleys.

External Transport

On request placed by the hospital authorities, the Municipal authority will send the vehicle to collect and transport the general waste packed in black colored plastic bags.

Fig. 4.10: Internal transportation of hospital waste

Treatment and Disposal of Hospital Waste

General Waste: About 80% waste generated in the hospitals is general waste, which is like the domestic waste; this is non-hazardous. The contents of this waste are peels of fruits, paper packages of tea/coffee, food articles, polythene bags, and wraps of disposable materials. This waste is emptied into black polythene bags that are disposed of in Municipal dumps, and subsequently, Municipal authorities collect the waste for final disposal.

Incineration: The waste carried in yellow bags is carried away for disposal in an incinerator.

Autoclaving and Shredding: This procedure is adopted for waste collected in blue gabs to the site where an autoclave facility is available.

Radioactive Waste: This waste is generated in radiological and imaging procedures in the Department of Radiotherapy. The solid waste as syringes, absorbent paper, and clothing, is stored in a drum/container for decay. The liquid radioactive waste is diluted and drained into sewers. The gaseous waste is diluted and dispersed in the atmosphere.

Liquid and Chemical Wastes: This type of waste is disinfected by 1% sodium hypochlorite solution, then emptied into the drainage or sewer.

Role of Panchakarma Assistant

The Panchakarma assistant plays a crucial role in infection control and waste management. The assistant ensures cleanliness of therapy areas before and after procedures, follows hand hygiene, uses personal protective equipment, assists in sterilization of equipment, handles waste safely, reports unsafe practices, and educates patients regarding hygiene.

Practical Exercise

Visit a nearby hospital and observe the segregation process of bio-medical waste. Do not forget to wear personal protective equipment. Identify the type of biomedical waste and fill in the table given below:

Color code	Class of waste	Type of container	Waste category

Activity

Design a chart with diagrams illustrating the segregation and transportation of biomedical waste for educational use.

Check Your Progress

A. Fill in the blanks

1. Waste collected in _____will be transported to the site of autoclaving and shredding for treatment.
2. _____ is generated during the process of imaging the body part.
3. Transportation of bio-medical wastes can be divided into _____and_____ transport.
4. Liquid and Chemical Wastes must be disinfected with at least _____ chemical solution.

B. Multiple Choice Questions

1. In which colour bags is the waste collected taken to the incineration site?
   a) Red bag
   b) Yellow bag
   c) Blue bag
   d) Black bag

2. In charge of coordinating waste disposal between the hospital and municipal authorities.
   a) Waste Officer
   b) Municipal Officer
   c) Sanitation Officer
   d) None of the above

C. Provide answers to the following questions:

1. What should be kept in mind while transporting and storing biomedical waste?

2. Explain the colour code for the following types of waste:
   a) General non-hazardous waste
   b) Sharps
   c) Infected waste
   d) Chemicals
   e) Human anatomical waste

3. Define bio-medical waste in the context of Panchakarma practice.

4. List any four types of waste generated in a Panchakarma centre.

5. What are nosocomial infections?

6. Why is waste segregation important in Panchakarma therapy rooms?

7. Describe the role of a Panchakarma assistant in waste management.

Practical Exercise

Visit a nearby Panchakarma centre or Ayurvedic hospital. Observe the waste generated during different therapies such as Abhyanga, Swedana, or Vasti. Identify the types of waste produced and classify them according to biomedical waste categories. Record your observations in the table below:

Waste Category	Example from Panchakarma Practice
Category No.1	
Category No.2	
Category No.3	
Category No.4	
Category No.5	
Category No.6	
Category No.7	
Category No.8	
Category No.9	
Category No.10	

Activity

Prepare a color-coded waste segregation chart for a Panchakarma therapy room. Label different containers based on the type of waste generated (for example, used cotton, oils, sharps, and general waste). Demonstrate the correct method of segregating waste at the point of generation.

A. Fill in the Blanks

1. Bio-medical waste is generated during _____, therapeutic, and research activities.
2. Waste capable of spreading infections is called _____ waste.
3. Needles and blades are categorized as _____.
4. The preferred method of disposal for human anatomical waste is _____.
5. Untreated bio-medical waste should not be stored beyond _____ hours.
6. Segregation of waste should be done at the _____ of generation.

B. Match the Following

Column A	Column B
1. Sharps	a. Chemicals used in cleaning
2. Chemical waste	b. Needles, blades
3. Infectious waste	c. Contaminated cotton and dressings
4. General waste	d. Paper and food waste

Short Answer Questions

1. Define bio-medical waste in the context of Panchakarma practice.
2. List any four types of waste generated in a Panchakarma centre.
3. What are nosocomial infections?
4. Why is waste segregation important in Panchakarma therapy rooms?
5. Describe the role of a Panchakarma assistant in waste management.

Answer Key

UNIT - 1

Session - 1

Fill in the Blanks

1. Kriyakala
2. Sanchaya
3. Chaya
4. Prakopa
5. Prasara
6. Sthana Samshraya
7. Vyakti
8. Bheda
9. Purvarupa
10. Chaya
11. Pitta
12. Kapha
13. Prasara
14. Dosha-dushya samurchana

Match the Following

I. 1–c, 2–e, 3–b, 4–d, 5–a, 6–f
II. 1–b, 2–c, 3–a, 4–d,5–e, 6–f
III. 1–b, 2–c, 3–a, 4–d, 5–e, 6–f

Session - 2

Fill in the Blanks

1. Purva
2. Madanaphala
3. Samyak
4. Akantapana
5. Kapha
6. Pitta
7. Vata
8. Pitta
9. 768ml
10. Kavala

Session - 3

Fill in the Blanks

1. Pitta
2. Sharad
3. 3-7 days
4. Two

5. Kaphanta Virechana
6. Jeera
7. 768ml
8. Pitta

Session - 4

Fill in the Blanks
1. Vata
2. Ardha Chikitsa
3. Vasti Putaka
4. Vasti Netra
5. Five
6. Sneha (oil/ghee)
7. Urethral or Vaginal
8. 48 minutes

Session - 5

Fill in the Blanks
1. letting off
2. localized
3. Ardha
4. Pitta
5. 540

Session - 6

Fill in the Blanks
1. nasal
2. Shringataka
3. medicated smoke
4. Shiro
5. mouth

UNIT - 2

Session - 1

Fill in the Blanks

1. 7 days
2. watery (clear liquid)
3. thin gruel
4. Laja (puffed rice)
5. Akruta

Match the Following
1–b, 2–d, 3–a, 4–c, 5–e

Session - 2

1. Straining
2. not strained
3. thick
4. Akruta
5. Swachha
6. meat

UNIT - 3

Session - 1

Fill in the Blanks

1. Hand hygiene
2. Gloves
3. Sterilised
4. Towels
5. Aseptic
6. Appropriate/labelled
7. Fumigation
8. Patient
9. Oils/herbal preparations
10. Cleaning/disinfection

Session - 2

Fill in the Blanks

1. Sodium hypochlorite
2. Aparajitha Dhoopa Choornam
3. consent
4. hand hygiene
5. 70%
6. biomedical waste

Session - 3

Fill in the Blanks
1. Dirt/soil
2. Reduce/minimise
3. Diarrhoeal
4. Resident
5. Non
6. 10–15
7. Cuts/open wounds

8. Better/effective
9. Vulnerable/susceptible
10. Patient

UNIT - 4

Session - 1

Match the following
1-E, 2-C, 3-A, 4-B, 5-D

Session - 2
MCQ
1-d, 2-e, 3-c
True/False:
1. True 2. True

Methods/Techniques (Horizontal)
General/non-hazardous waste – Landfill / Composting / Pits
Waste water and liquid waste – Chemical treatment / Drainage system
Human anatomical, blood and body fluids – Incineration / Deep burial
Sharps needle and instruments – Autoclaving / Shredding / Encapsulation
Microbiological and bio-technological wastes – Autoclaving / Microwaving / Incineration Pharmaceutical wastes – Incineration / Secured landfill
Infectious solid waste – Autoclaving / Incineration / Shredding
Chemical waste – Neutralization / Chemical treatment
Radioactive wastes – As per Atomic Energy guidelines
Pressurized containers – Shredding / Recycling

Session - 3

Fill in the Blanks
1. Diagnostic
2. Infectious
3. Sharps
4. Incineration
5. 48
6. point

Match the Following

1 – b (Sharps – Needles, blades)
2 – a (Chemical waste – Chemicals used in cleaning)
3 – c (Infectious waste – Contaminated cotton and dressings)
4 – d (General waste – Paper and food waste)

List of Credits

Tarunay Singh : *1.1, 1.2, 1.3, 1.4, 1.5. 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 1.23, 1.24, 1.25, 1.26,1.27, 1.28, 3.1, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8*

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