



## Review Article

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### SPECIFIC THERAPEUTIC PANCHAKARMA PROCEDURE IN PEDIATRIC PATIENTS: A CLASSICAL REVIEW

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#### ABSTRACT

Ayurveda is the science of life in which treatment is branched into two wings namely; shodhana chikitsa (detoxification therapy) and shaman chikitsa (curative therapy). Shaman therapy includes deepan (appetizer), pachana (digestive) etc. and shodhana therapy includes panchakarma. Panchakarma is a set of five therapies delineate mainly for cleansing the body toxins to achieve balanced state of body that facilitates rejuvenation. Ayurveda considers that the purification of the body is important before the commencement of any other therapy. Shodhana chikitsa is considered superior to shamana chikitsa because disease treated with shodhana therapy will never recur, whereas the disease treated with shaman therapy may recur in due course of time. In paediatric patients, panchakarma procedures are equally effective as they are in adult, but must be given due consideration. In present situation, there is difficulty in administering panchakarma in children because of lack of knowledge of the doses, methodology and complications. This pioneer approaches gives utility of specific therapeutic panchakarma procedure and their methodology in paediatric patients to strengthening immune system, restoring balance and wellbeing.

**Keywords:** Deepana, detoxification, panchakarma, shaman chikitsa, shodhana chikitsa.

#### INTRODUCTION

Shodhana chikitsa (detoxification therapy) includes panchakarma which is the ultimate mind body healing experience for detoxifying the body, strengthening the immune system, restoring balance and wellbeing. It is one of the most effective healing modality in ayurvedic treatment. It promotes detoxification and rejuvenation.

Fivefold procedure comprised as Panchakarma are: <sup>1</sup>

1. Vamana (Therapeutic Emesis)
2. Virechana (Therapeutic Purgation)
3. Basti (Medicated Enema)
4. Nasya (Nasal Insufflations)
5. Raktamokshana (blood cleansing and purification therapy)

Prior to panchakarma, purva karma (preparatory measures) like deepana and pachana (appetiser and digestive) snehana (oleation) and swedana (sudation) are given to the patient. After the panchakarma, samsarjana krama (a special diet regimen) is advocated as post operative measures. Panchakarma therapy is an integral part of ayurveda which helps to achieve balanced state of body, mind and consciousness through detoxification and rejuvenation. Ayurveda considers that the purification of the body is important before the commencement of any other therapy. Shodhana chikitsa is considered superior to shamana chikitsa because disease treated with shodhana therapy will never recur, whereas the disease treated with shaman therapy may recur in due course of time. <sup>2</sup>

Childhood is very crucial period where child pick up growth and development with respect to physical, mental and social aspect. In paediatric patients; dosha (bio-elements), dushya (blood, bones etc) and malas (waste product of body) which

responsible for different vyadhis (diseases) are same as found in adult. They differed in their quantity which is small in children based on body weight, age and strength of child. <sup>3</sup> Panchakarma procedures are equally effective in a paediatric patient as they are in adults; only measure should be taken in the prevention of complications. Dhatri stanya dushti (vitiation of milk in wet nurse) play main role for causing diseases in ksheerada avastha balaka (milk sucking babies). Hence, in such condition shodhana should be done both in dhatri (wet nurse) as well as shishu (infant).<sup>4</sup> Some classical texts consider balyavastha (childhood period) as anarha (contraindicated) for panchakarma therapies up to ten years of age but Kashyapa being paediatrician advises panchakarma from first year of life. <sup>5</sup> In present situation there is difficulty in administering panchakarma in children because the lack of knowledge about posology, methodology, and complications. Considering all these an effort will be made in this article to discuss regarding the application of specific therapeutic panchakarma procedure in paediatric patients.

#### PURVA KARMA (PREPARATORY PROCEDURE)

##### Deepana and Pachana: <sup>6</sup> (Appetiser and Digestive)

Prior to panchakarma procedure deepana and pachana should be done for obtaining niramavastha of doshas. Hot water boiled with piece of dry ginger or dry coriander can be used in paediatric patient, it relieves ama (toxic accumulation) at the level of koshta (abdomen)

##### SNEHANA (OLEATION)

Snehana is the process of oleation of the body by using medicated oils and ghee internally and externally. It is an important preparatory procedure for Panchakarma. Snehana

dravyas are classified in to four types namely ghrita (ghee), taila (oil), vasa (fat) and majja (bone marrow). Out of these ghrita is considered as the best.<sup>7</sup>

**Material required:** Medicated ghee or oil according (mahatiktaka ghrita, ksheera bala taila etc.), measuring glass and hot water for drinking (boiled with dry ginger and dry coriander)

**Procedure:** Snehapana is given to the patient early in morning in the prescribed dose. The dose of Sneha dravya can be assessed by ascertaining agnibala (digestive power) of the

patient, nature of disease, condition of the body etc. Hrasiyasi matra (digested within two hours) is preferred in patient with unknown doshas, agni etc.<sup>8</sup> On first day usual dose of sneha dravya (tail or ghrita) is 10 to 20 ml, second day and onwards dose should be fixed after assessing the time taken to digestion. Snehapana continue up to samyaka snigdha lakshanas (symptoms of desired oleation) are observed and usually it is obtained within 3 to 7 days. After snehan karma patient should advice to take hot water to enhance the digestion, adequate rest, avoid day sleep.<sup>9</sup>

**Table 1: Indications and contraindications of snehana**<sup>10</sup>

Indications	Contraindications
Prior to panchakarma (bio-cleansing therapy)	Kshirad avastha (breastfeed babies), chardi (vomiting),
Rukshata (Roughness all over body)	Jvara (fever), galamaya (throat disorder)
Krishna balaka (Emaciated child)	Chardi (vomiting), Atisara (Diarrhoea)
Vatarogas (hemiplegic, cerebral palsy)	Raktapitta (Bleeding disorders)
Darun pratibodhan (difficulty in eye opening)	Kaphaja vikara- sthoulya (obesity)
Hikka (Hiccough)	Dhatri (wet nurse)

### Complications and management

Paediatric patients suffer from minor complication such as nausea, vomiting, anorexia, headache, etc. In which snehana karma should be discontinued and hot water boiled with peace of dry ginger and dry coriander is given.

### Scientific observation

Snehan karma pacifies vata, regularise bowel movements, and improves digestion, strength and complexion.

### SWEDANA (SUDATION)

It is a process where sweating (sudation) induced artificially by which it relieves heaviness, stiffness and coldness of the body.<sup>11</sup>

**Types:** Kashyapa mentioned 8 types of swedana karma - hast, pradeha, nadi, prastara, sankar, upnaha, avgaha and parisheka.<sup>12</sup>

- Hasta sweda- up to 4 months of age
- Pata sweda- after 6 years of age

### SHASHTIKA SHALI PINDA SWEDA (SANKAR SWEDA)<sup>13</sup>

This is the common method of swedana used in paediatric patients in which specific part or whole body made to perspire by the application of shashtika shali (a variety of rice) in the form of pottalis (boluses tied in a cotton cloth)

**Materials and Equipments:** Panchakarma droni, gas stove, vessels, cotton pieces (1ft x 1 ft), cotton thread, medicated oils for abhyanga (ksheera bala taila), medicated decoction (dashmoola kwatha), cow milk-1 litres, shastika shali (special variety of rice)-500gm

### Procedure

Shashtika shali (A variety of rice) is cooked with milk and decoction of dashamoola. This cooked rice is to be kept in pieces of cloth to make pottalis (boluses tied in a cotton cloth). Remaining decoction and milk should be mixed and heated in low temperature to dip the boluses for warming the Pottali. After creating pottalis, patient should be massaged with suitable warm oil and then warm pottalis gently applied. One must ensure that the heat of the boluses is a bearable to the patient by touching them over the dorsum of their foot. The procedure takes about half to one hour. After all procedure, body should be wiped off with dry soft towels and patient advice to take rest for at least half an hour and then take a bath with warm water.

**Table 2: Indications and contraindications of swedana**<sup>14</sup>

Indications	Contraindications
After snehana and prior to panchakarma	Dagdha (burnt), Acute fever, Kamala (jaundiced)
Shwas (asthma), kas (cough), pratishyaya	Pittarogi, madhumehi (diabetic)
Jadya, kathinya and ruksha sharira (heaviness, stiffness, dryness of body)	Karshya (emaciated)
Vata rogas (hemiplegic, cerebral palsy)	Chhardi (Vomiting), Trishna (dehydrated)
Rheumatic and degenerative conditions	Raktapitta (Bleeding disorders)
Obstruction to Mala(stool), Mutra (urine) and Shukra (semen)	Hridaya Rogas (Cardiac Diseases), vishart (poisoned)

### Scientific explanation

During the procedure of Shasti shalik panda sweda; heat, massage, and pressure are provided which nourishes muscles and stimulate nerve endings.

### VAMANA (THERAPEUTIC EMESIS)

Vamana is a bio-cleansing procedure used for the elimination of doshas (mainly Kapha) accumulated in the upper gastro intestinal tract.<sup>15</sup> Kashyapa mentioned that, babies who emit vitiated milk from stomach repeatedly will never suffers from diseases.<sup>16</sup>

**Materials and Equipments:** Comfortable seat (vamana peetha), bucket, vessels [mug, glass, bowl, towels, sphygmomanometer, weighing scale, ECG machine, thermometer, measuring glass etc.]

**Vamana dravya and dosage:** (As per Kashyapa)<sup>17</sup>

- Vaman drug given in a quantity which equal to vidanga phala (fruit of *Embelia ribes*) - Kashyapa.
- 2-3 seeds of Apamarga (*Achyranthes aspera*) with honey and sugar- Vaideha janaka
- 11/2, 2 or 3 Pala (60 to 120 ml) - Vriddha kashyapa
- Others- milk: 750ml, yashthimadhu kwatha (decoction of *Glycyrrhiza glabra*): 750ml, lavanodaka (salted water): 500ml

**Procedure**<sup>18</sup>

After all preparatory procedure, the patient advised to sit comfortably in a chair (vaman peetha) then mixture of milk or yashthimadhu kwatha (vamanopaga dravya) is to be given full stomach. The medicines for vama should be administered in proper quantity, according to the age, strength, season etc. Bouts of Vamana start within 10-15 minutes after giving the medicine. During bouts of vama the masseur should massage back and chest of patient in upward direction to stimulate the urge for the bouts of vomiting. If not vomited out the pharynx may be gently irritated with a finger or Kamalanala (stem of lotus). Ascertain samyak vama lakshana (desired sign of emesis) and advice to the patient take complete rest followed by Samsarjana karma (Controlled diet and lifestyle). Assessment criteria of vama procedure are mentioned in the classics. (Table 3)

**Table 3: Assessment criteria of vama procedure**<sup>19</sup>

Lakshana (signs)	Vaegiki pariksha (bouts)	Maniki pariksha (measure)
Jaghanya (mild)	4 vegas (bouts)	1 prastha (640ml)
Madhyama (moderate)	6 vegas (bouts)	1 ½ prastha (960ml)
Pravara (excellent)	8 vegas (bouts)	2 prastha (1280ml)

**Table 4: Indications and contraindications of vama**<sup>20</sup>

Indications	Contraindications
Gastric problems - ajeerna (indigestion)	Acute peptic ulcer
Kasa (Cough), Shwasa (bronchial Asthma)	Atikrisha (Emaciated body)
Madhumeha (Diabetes),	Bala (young children)
Unmada (Schizophrenia),	Shranta (Exhausted)
Kushtha (Skin diseases)	Pipasita (Thirsty)
Peenasa (Sinusitis)	Kshudhita (Hungry)
Shlipada (Filariasis)	Hridroga (Cardiac disorders)

**Complications of Vamana therapy**<sup>21</sup>

Weakness, dryness of throat, giddiness, vatarogas (neuro-muscular disorders), fresh bleeding.

**VIRECHANA (THERAPEUTIC PURGATION)**

It is the procedure where vitiated doshas (mainly pitta) are eliminated from lower gastro-intestinal tract through the anal route.<sup>22</sup> Therapeutic purgation administer very cautiously in paediatric patients because their chances of severe complication like dehydration.

**Material and Equipments:** Attached toilet (lavatory) is a must, Towels, Bed sheets etc.

**Medicines:** Following single and compound preparation can be used in paediatric patient. Kashyap mentioned that errand tail (castor oil) and shankhini tail (euphorbia oil) superior for virechana karma.<sup>23</sup> Preparation of Jayapala (purging croton) should be avoided in paediatric patients for purgation. (Table 5)

**Table 5: Single and compound preparation used for purgation**

Single drugs	Compound preparations
Trivrit ( <i>Operculina turpethum</i> )	Kalyanak Guda
Aragvadha ( <i>Cassia fistula</i> )	Trivrutta Ghrita
Eranda Tail (Castor oil)	Mishraka sneha
Shankhini Taila (Euphorbia oil)	Avipattikara Churna

**Procedure**

After preparatory procedure, purgative medicine for purgation is to be given in early morning on empty stomach to the patient. Dose of purgative medicine depends upon age, sex, strength of the patient and state of disease. Purgation will start after three hours of taking medicine. Warm water may be given when the patient feels thirsty or the urge for evacuation is not felt

sufficient. When the evacuation of bowel is complete as per the lakshanas (features) described for Samyak Virechana (desired purgation). After virechana karma patient is advised to take complete rest and follow Samsarjana karma. Assessment criteria of Virechana procedure are mentioned in the classics.<sup>24</sup> (Table 6)

**Table 6: Assessment criteria of virechana karma**

Lakshana (signs)	Vaegiki pariksha (bouts)	Maniki pariksha (wighing)
Jaghanya (mild)	10 Vegas,	2 prastha (1280 ml)
Madhyama (moderate)	20 Vegas,	3 prastha (1920ml)
Pravara (Excellent)	30 Vegas	4 prastha (2560ml)

**Table 7: Indications and contraindications of Virechana** <sup>25</sup>

Indications	Contraindications
Constipation, Krimi (Worm infestation), Kamala (Jaundice), chronic fever	Navajwara (Acute fevers)
Eczema, Allergic dermatitis etc.	Krishna (Emaciated patients)
Pakshaghat (Hemiplegic),	Rajayakshma (Tuberculosis)
Madhumeha (Diabetes), Arbuda (Tumour),	Garbhini (Pregnant women)
Tamak Shwasa (Bronchial Asthma),	Hridroga (Cardiac problems)
Galganda (Goitre),	

**Complications:** Malena, prolapsed rectum, dehydration, giddiness, shock.

#### Benefits of shodhana: <sup>26</sup>

A Shodhana (vamana & virechana) procedure provides clarity to the mind, strength to the sense organs, stability to the tissues, improves digestion, slowing down of ageing process.

#### VASTI (MEDICATED ENEMA)

It is the procedure where the medicines in suspension form are administered through rectum or genitourinary tract using Vastiyatra (Specific apparatus). Among all therapeutic procedures, vasti is superior because it is like amruta (nectar) in child patient and the most appropriate remedial measure for vata dosha. <sup>27</sup>

**Equipments:** Vastiputaka (polythene bag having 1 lt. capacity), vasti netra (nozzle), lavatory facilities, others (thread, vessels, churner, heating apparatus, table/ bench, towel, hot water for bath etc.)

**Ingredients of vasti:** Medicated oils for vasti, kwatha (decoction) & kalka (paste) made from prescribed medicines, madhu (honey), saindhava (rock-salt)

#### Types of Vasti (Classified into many ways): <sup>28</sup>

1. **Astthapana/Kashaya/ Niruha Vasti** - Decoction based enema
2. **Anuvasana/ Sneha Vasti/ Matra vasti** - Oil based enema
3. **Uttar basti** - If above bastis given by genitourinary route then called uttar basti.

**Table 8: Matra (dose) of Vasti dravyas** <sup>29</sup>

Age	Sneha basti matra	Niruha basti matra
1-3 y	3 karsha (30ml)	9 Karsh (90ml)
4y	1 pala (40ml)	3 pala (120ml)
6y	1 prasruta (80ml)	3 prasruta (240ml)
12y	2 prasruta (160ml)	6 prasruta (480ml)
>16y	4 prasruta (320ml)	12 prasruta (960ml)

**Table 9: Basti netra size according to the age** <sup>30</sup>

Age	Size in Angula (finger)	Increment per year	Size of the proximal opening
1-6 y	6	--	Mudgavahi (passes green gram)
7-12 y	8	1/3	Kalayvahi (passes green peas)
13-20 y	12	½	Kolasthivahi (pass jujube seed)

#### Procedure<sup>31</sup>

The patient is advised to lie down in left lateral position. Small amount of oil is applied on patient's anus and vasti netra. The vasti netra (nozzle) is gently inserted into the anal canal up to a specific length and vastiputaka containing mixture (vasti dravya) is pressed with a uniform pressure. The pressure is continued till only small quantity of fluid remains in the bag to avoid air insertion. Then the nozzle is removed gently and the patient is allowed to lie down on supine position till he feels urge to excrete. The maximum time specified for retention of vasti dravya is 48 minutes. After evacuation of the bowel; the patient may take hot water bath and follow samsarjan kram. Niruha vastis are not to be give alone wherever required must be given alternatively with sneha vasti. Arrangement of sneha vastis in

the beginning, niruha vastis and sneha vastis alternatively later followed by sneha vastis in the last is done in three specific patterns according to total number of vastis, the severity of disease and condition of the patient etc. These are: (as per Kashyapa) <sup>32</sup>

- **Karma Vasti** 30 in number (6 Niruha, 24 Sneha)
- **Kala Vasti** 15 in number (3 Niruha, 12 Sneha)
- **Yoga Vasti** 8 in number (3 Niruha, 5 Sneha)
- **Chaturbhadra kalpa** 12 in number (4 Sneha + 4 Niruha + 4 Sneha)

**Commonly used Vasti Yogas:** Madhutaikika vasti, bala guduchyadi vasti, patolanimbadi vasti, vaitarana vasti, mustadi yapana basti, tikta kshira basti

**Table 10: Indications and contraindications of Vasti** <sup>33</sup>

Indications	Contraindications
Vat rog (hemiplegic, muscular dystrophy)	Krishna (Emaciated body)
Amavata (Juvenile Rheumatoid Arthritis)	Amatisara (acute diarrhoea)
Ashmari (kidney stone, bladder stone)	Chhardi (Vomiting)
Jeerna jvara (Chronic Fever)	Kasa (Cough), Shwasa (Asthma)
Rajonash (Secondary Amenorrhoea)	Madhumeha (Diabetes)
Niram atisar (chronic diarrhoea)	Shoona Payu (Inflamed Anus)
(cerebral palsy, delayed mile stones)	Kritahara (Immediately after taking food)

**Matra Vasti**<sup>34</sup>

It is the type of sneha vasti in which medicated oil given in a small dose, and it can be given daily with no risk. Matra vasti can be used irrespective of age and not much precautionary measures are required. The usual dosage is 60 ml.

**Table 11: classification of Matra Vasti according to dose**<sup>35</sup>

Lakshana (signs)	Matra (dose)
Uttam (excellent)	2 Prakuncha (80ml)
Madhyam (moderate)	1 ½ Prakuncha (60ml)
Hina (mild)	1 Prakuncha (40ml)

If shishu (infant) who not suck breast milk then matra basti given in quantity of ½ prakunch/pala matra (20 ml).

**Complications:** Local anal injury, GIT symptoms like pain in abdomen, vomiting etc.

**NASYA (NASAL INSUFFLATIONS)**

It is the process of administration of medicines through nostrils. Nasya is indicated mainly in aggravated and accumulated doshas (disease causing factor) of head and neck.<sup>36</sup>

**Materials:** Chair, panchakarma table, gokarna (a type of vessel), oil for massage, towel.

**Table 13: Indications and contraindications of Nasya**<sup>40</sup>

Indications	Contraindications
Shirahshula (Headache)	Nav pinasa (acute rhinitis)
Urdhwajatrugata- Roga (E.N.T. disorders)	Ajjerna (indigestion)
Ardita (Facial paralysis)	Immediately after taking food, water
Pakshaghat (Erbs palsy)	Kas (cough).
Vat rog (Delayed mile stone)	Shwas (bronchial asthma)
Vyanga (Hyper pigmentation)	After blood letting

**JALAUKACHARANA (LEECH THERAPY)**

It is one of the types of raktamokshan (blood cleansing and purification therapy) which is included in panchakarma (five bio- purification procedures) by vagbhata. Jalouka (leech) commonly used for the purpose of raktmokshana in child patients, old peoples, ladies and those who are rich, fearful and sophisticated.<sup>41</sup>

**Material:** Vessel of water, leeches, powdered cow dung, mustard and turmeric paste, milk, wet cloth, powdered rice, and salt powder.

**Procedure**<sup>42</sup>

The leeches should be grasped and paste of mustard with turmeric in water should be applied all over body of leech. After that leeches kept in vessel of water for a period of muhurta (48min) till they get rid their tiredness. Following that try to attach leeches to desired site of body if they don't stick then pour drop of blood/milk or scratching may be done to withdraw some blood by which leech easily stick to that site. When leech mouth gets suck and its middle portion gets elevated assuming the horse shoe shape indicates that leech sucking well and should be cover with wet cloth. Leech withdrawn from application site if patient feels pricking pain or itching which indicates leech start to suck pure blood. After leech fallen away its body should be massaged by dry rice powder, oil, salt powder for easy to carry then its hind portion held by the left hand in the between thumb and finger and gently squeezed out by right hand till the completely emptying.

**Medicine:** Panchendriyavardhan taila, dhanvantara taila, anu taila, shadbindu taila, shunthi churna for pradhamana nasya.

**Types of Nasya:** Kashyapa mentioned two types of nasya; namely Brihana (Purana) nasya and Karshana (Shodhana) nasya.<sup>37</sup>

**Table 12: Dose of Marsha Nasya and Pratimarsha Nasya**<sup>38</sup>

Marsha Nasya	Matra (dose)
Uttama matra (maximum dose)	10 drops
Madhyam matra (medium dose)	8 drops
Hriswa matra (mild dose)	6 drops
Pratimarsha nasya	2 drops

**Procedure**<sup>39</sup>

The patient should sit or lie down in a comfortable posture, then applied gentle massage over the head, forehead and face followed by mild swedana. Slightly warm oil should be instilled in the prescribed dose in each nostril. After that gentle massage is to be performed on the plantar and palmer regions, shoulder and back. The patient is allowed to spit if patient feels discomfort due to oil in the throat. After all procedure, oil on the face is to be wiped off and advice to patient for gargling with warm water.

**Indication:**<sup>43</sup> Vidradhi (abscess), gulma (lump), arsha (piles), kushta (skin disorders), vatarakta (sclerosis), visharpa (pemphigus), vichrchika (eczema), netraroga (eye disorders), shiroroga (headach),. kantharoga (throat disease), ahiputana (napkin rash)

**Complication:** Infection, Anaemia, Leech migration, Allergic reaction.

**Scientific observation:** Hirudin a potent anticoagulant found leech saliva inhibits conversion of fibrinogen to fibrin thus preventing blood clotting.<sup>44</sup>

**CONCLUSION**

By explaining the above all Panchakarma procedures (five bio-cleansing therapies) one can understand that importance of Panchakarma procedures as well as consider these procedure in paediatric patients. It is highly individualized based on the doshic imbalance (imbalance of bio-elements), age, digestive strength, immune status and other factors. Panchakarma remove the toxic elements from the body, strengthens immune system and increase acceptability of body to various therapeutic regimen. In paediatric patients, Panchakarma procedure are equally effective as they in adult but must be given due consideration. It is most important when doing panchakarma procedure in paediatric patient measures should be taken in the prevention of complications.

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