

## A COMPARATIVE REVIEW STUDY OF UDVARTANA VIS-À-VIS LYMPHATIC DRAINAGE MASSAGE

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### ABSTRACT

*Udvartana* is an effective and popular Ayurvedic procedure in which herbal powders or pastes are applied to the whole body or the affected part of the body in a direction that is opposite to the direction of growth of hair follicles. It is used in the treatment of obesity, skin disorders, diabetes mellitus, insect bites, stretch marks, psychological disorders and in undernourished individuals. *Udvartana* has multifold benefits like facilitating proper blood circulation of the body and relaxation of the mind, reabsorption of inflammatory products, relief from pain, spasms and stiffness of the muscles and joints. Manual lymph drainage is defined as a light massage therapy technique that involves moving the skin in particular directions based on the structure

of the lymphatic system. This helps encourage drainage of the fluid and waste through the appropriate channels. A brief survey of literature about both the procedures is done here to explore possibilities of further investigation for applying wisdom of both fields together. In fact, this is a review paper based on certain hypothesis which may be established or rejected factually by further researches.

**KEYWORDS:** *Udvartana*, Herbal Body Scrub, Lymphatic Drainage Massage.

### INTRODUCTION

*Udvartana*, being popularly known as Herbal Body Scrub or Lymphatic Cleansing Ayurvedic Powder Massage is gaining wide importance in India as well as outside India, due to its great therapeutic effects and non-invasive nature. *Udvartana* is a type of *Bahya Snehana* and a part of *Dinacharya* recommended by Ayurveda for the maintenance of health.<sup>[1]</sup> This is an

external and non-invasive procedure that can be done over a local area of the body or the whole body. *Udvardana* is also used as a cosmetic procedure as it improves the health of skin. There are different practices of *Udvardana* depending on the type of materials used and the intention for which it is used. It is indicated for both *Swastha* and *Atura*, emphasising its dual action of *Swasthya Rakshana* and *Vikara Prashamana*. Being cost effective and feasible with easily available drugs, one can perform this procedure without much difficulties. It is used in the treatment of obesity, skin disorders, diabetes mellitus, insect bites, stretch marks, psychological disorders and in undernourished. *Udvardana* has multifold benefits like facilitating proper blood circulation of the body, relaxation of the mind, reabsorption of inflammatory products, relief from pain, spasms and stiffness of the muscles and joints.

Lymphatic vessels carry lymph, which is largely water gathered from interstitial tissue spaces. The lymphatic circulation is devoid of any central pump. Lymph flow depends, predominantly, on local pressure effects and intrinsic contraction of the larger lymphatics. Any factor that increases the interstitial tissue pressure by 2 mm Hg tends to increase lymph flow in lymphatic vessels.<sup>[2]</sup> To achieve a continuous local lymph output, external intermittent compression of the lymphatics is essential from - contraction of muscles, movement of body parts, arterial pulsations; and compression of the tissues by forces outside the body. Lymphatic drainage massage helps increase the function of the lymphatic system. It increases the movement of the lymph flow by applying light pressure on the skin. The massage technique is performed in an upwards direction to help increase the drainage of excess fluid into the lymphatic nodes. Lymphatic drainage also increases cellular exchange. Increasing cellular exchange so that oxygen and nutrients are increased is vital to maintaining healthy tissues around the body.<sup>[3]</sup> Lymphatic Drainage massage is a massage type which encourages the natural removal of waste products from the body, which has similar procedure and benefits as that of *Udvardana*. A brief survey of literature about both the procedures is done here to explore possibilities of further investigation for applying wisdom of both fields together. In fact, this is a review paper based on certain hypothesis which may be established or rejected factually by further researches.

## MATERIALS AND METHODS

References regarding *Udvardana* and Lymphatic Drainage Massage were collected from various textbooks, published research papers and previous works done. Concept of *Udvardana* and Lymphatic Drainage Massage, and the procedure was studied in detail.

**UDVARTANA****REVIEW OF LITERATURE**

*Udvartana* is one among the *Bahih Parimarjana Chikitsa* explained by Charaka<sup>[4]</sup>, which acts on the principles of based on the drugs used and method of application, it achieves the benefits of both *Snehana* and *Rukshana*. *Snehana* helps to achieve *Snigdghata*(unctuousness), *Vishyandata*(liquefaction), *Mardavata*(smoothness), *Kledata*(Moistening).<sup>[5]</sup> *Rukshana* helps in bringing about *Raukshyata*( dryness), *Kharatva*( roughness) and *Vaishadyata*(coarseness).<sup>[6]</sup>

*Nirukti*

उत् + वृत् + णिच् + भावे करणे वा ल्युट् refers to Going up, Rising, Ascending<sup>[7]</sup>

*Paribhasha* - Definition

1. ऊर्ध्वं वर्तनमुद्वर्तनम् | The process of application in upwards direction is called as *Udvartana*.<sup>[8]</sup>
2. उद्वर्तनं-कषायादिचूर्णैर्गात्रोद्धर्षणम् | The process of rubbing the body with *Kashaya* and *Churnas* is called as *Udvartana*.<sup>[9]</sup>
3. शरीरनिर्मलीकरणगन्धद्रव्यादि –The process of cleansing the body using aromatic substances is called as *Udvartana*.<sup>[10]</sup>
4. गन्धद्रव्यमसूराद्यैः कृतमुद्वर्तनं स्मृतम् | The process of rubbing the body using aromatic substances or those substances which improve the complexion of skin like *Masura*, is called as *Udvartana*.<sup>[11]</sup>

*Paryaya* - Synonyms

1. शरीरपरिमार्जनम् – परिमार्जनमुद्वर्तनं<sup>[12]</sup>
2. मृजा – मृजा उद्वर्तनम्<sup>[13]</sup>
3. उत्सादन - उत्सादनम् उद्वर्तनम्<sup>[14,15,16]</sup>
4. गात्रमर्दनम् - उद्वर्तनं गात्रमर्दनम्<sup>[17]</sup>
5. उद्वर्तने उत्सादने द्वे समे – अमरकोष<sup>[18]</sup>

*Bheda* – Types

1. Charaka Samhita- Context of *Karshya Chikitsa*
  - *Snigdha Udvartana* – *Udvartana* done using fats and medicinal powder, for *Ati Krisha*<sup>[19]</sup>

- *Ruksha Udvartana* – *Udvartana* done using only medicinal powders, for *Ati Sthoola*.<sup>[20]</sup>
- 2. *Sushruta Samhita* – context of *Anagatabadha Pratishedha Adhyaya*
- *Utsadana* - सस्नेहकल्केनोद्धर्षणमुत्सादनम् – Process of rubbing the body using paste of medicinal powder and medicated fat like *Taila*, *Ghrita* etc, Benefit – त्वक्स्थस्याग्नेस्तेजनमुत्सादनेन – *Utsadana* helps in improving the *Tejas* or *Agni* present in the skin which can be inferred as *Bhrajaka Pitta*.<sup>[21]</sup>
- *Udgharshana* - उद्धर्षणम् अस्नेहौषधचूर्णादिभिर्घर्षणम्, उद्धर्षस्त्वनभ्यङ्गपूर्वकः - Process of rubbing the body with powder of medicinal drugs without adding any medicated fat to it. Benefit – सिरामुखविविक्तत्वमुद्धर्षणेन – *Udgharshana* brings about opening of skin pores.<sup>[22]</sup>
- 3. *Vatsyayana Praneeta Kamasutra* – *Jayamangala tika Vidyasamuddeshiya Prakarana*
- *Utsadana* – *Mardana* or deep massage using feet.
- *Kesha Mardana* – Process of *shiro abhyanga* or oil massage to head, using hands.
- *Samvahana* – *Mardana* or deep massage to rest of the body parts with hands.<sup>[23]</sup>
- 4. *Rajavallabha Nighantu*
- *Haridra Udvartana* – Helps in conditions of itching, discolouration and dryness of skin
- *Tila Udvartana* – Helps in conditions of itching, discolouration and skin diseases in general.<sup>[24]</sup>

#### POORVAKARMA

- 1) Collection of necessary equipment - *Sambhara Sangraha*
- 2) Preparation of medicaments – *Dravya Siddhata*
- 3) Preparation of patient – *Atura Siddhata*

#### 1) COLLECTION OF NECESSARY EQUIPMENTS- *SAMBHARA SANGRAHA*

- i) Raw drugs/ ingredients for *Udvartana*

#### (1) Commonly Used *Churna* - (Quantity ~ 300gm/day)

- ❖ *KolaKulatthadi Churna*
- ❖ *Triphala Churna*
- ❖ *Karpuradi Churna*
- ❖ *Samudra Phenā*

- ❖ *Mocharasa*
- ❖ *Ishtika Churna*
- ❖ *Chanakapishtam* (Gram Flour)

(2) Commonly used *Taila* for *Utsadana* – (approx 80-100 ml)

- ❖ *Murchita Tila Taila*
- ❖ *KsheeraBala Taila*
- ❖ *Mahanarayana Taila*
- ❖ *Balshwagandhadi Taila*
- ❖ *Sahacharadi Taila*
- ❖ *Pinda Taila*
- ❖ *Chandanadi Taila*
- ❖ *Kumkumadi Taila*

(3) *Utsadana Kalkas* (~200-300 gm/day)

- ❖ *Sheeta pitta: Kalka* of *Siddharthaka, Rajani, Punnaga, Tila* mixed with *Tila Taila*<sup>[25]</sup>
- ❖ *Pama : Nisha, Sudha, Aragvadha, Kakamachi Patra, Darvi* mixed with *Katu Taila* and *Takra*<sup>[26]</sup>
- ❖ *Kushta : Kalka* of *Aragvadha* and *Kakamachi* triturated in *Takra*<sup>[27](a,b)</sup>
- ❖ *Kshaya : Kalka* of *Ashwagandha, Apamarga, Nakula, Gaurasarshapa, Tila, Bilwa*<sup>[28]</sup>

ii) Equipment

- ❖ Bowls
- ❖ Spoon
- ❖ Towel
- ❖ Pan
- ❖ Stove
- ❖ Sterile cotton pad
- ❖ *Droni*
- ❖ *Swedana Yantra* – *Bashpa Swedana yantra* or *Nadi swedana Yantra* according to requirement

iii) Masseurs – 2 in number

2) PREPARATION OF MEDICINE

- i) *Churna* suitable to the disease condition is selected and sieved with sieve of size no. 120 or using a muslin cloth, to obtain *sookshma churna* (fine powder).

ii) *Udvartana Churna* – heated (upto 2 deg C above body temperature ~ 39 deg C)

### 3) PREPARATION OF PATIENT

- i) Patient is thoroughly examined to obtain the *Prakriti* and *Vikriti* in detail. Suitability of the procedure to the patient and the disease, is assessed.
- ii) Patient is asked to pass natural urges of urine and stool and must be in empty stomach.

### PRADHANA KARMA

1. The patient is made to lie down comfortably on the massage table. *Ekanga* or *Sarvanga Abhyanga* is given based on the disease condition. Generally a gentle massage is given for about 10 minutes prior to *snigdha udvartana* only.
2. Temperature of the *churna* is checked and rubbed on the body in a reverse direction i.e opposite to direction of hair follicles, from below upwards.
3. This has to be simultaneous and in synchronous manner by two masseurs.
4. It is carried out in all 7 positions as followed in *Abhyanga*, the only difference being the direction of massage for *Udvartana* is opposite to hair follicles.
5. The strokes in different parts of the body has to be carried out in the following ways:
  - ❖ Upper limbs – Powder is rubbed from hands upwards towards shoulders, covering forearms and arms.
  - ❖ Lower limbs – Powder is stroked from foot upwards towards the hip covering legs, thighs and buttocks.
  - ❖ Over the abdomen – Powder is massaged synchronously over the abdomen in clockwise direction, altered with anticlockwise direction. Rubbing from below upwards ( pubic area to lower border of rib cage), left to right and right to left are intervened for better results.
  - ❖ Over the chest – Powder is stroked from below upwards from lower border of rib cage to sternal notch, intervened with side to side strokes, for better results.
  - ❖ Over the back – Powder is rubbed upwards from sacro iliac region up to shoulders, passing through mid- back. Side to side strokes can be given with gentle pressure in spaces between the vertebrae
  - ❖ Over the neck – light strokes are given between collar bones to chin and shoulder blade to lower border of occiput. *Udvartana* on neck should be done carefully to avoid excess pressure over vessels of neck.
6. *Utsadana* - It is gentle form of *Udvartana* specifically for beautification process and increasing the lustre of skin. It is performed by pastes of drugs which have *Varnya*

properties like *Chandana*, *Tunga*, *Padmaka*, *Usheera*, *Madhuka*, *Manjishta*, *Sariva*, *Payasya*, *Sita*, *Lata*, *Haridra*, *Ela*, *Kumkuma* etc.

7. *Udgharshana* - The materials used for rubbing the body are *Ishtika Churna*, *Samudra Phena* and the pressure applied is more, compared to *Udvartana*.
8. The procedure is conducted for 25-30 minutes or till there is lightness of body.

#### PASCHAT KARMA

1. Body of the patient is cleansed with sterile cotton pad to remove the powder or paste of *Udvartana*. (After wiping off the medicaments, the patient is smeared with a thin coat of medicated oil and prepared for steaming – to prevent skin rashes.)
2. *Swedana* - Patient is made to sit in the *Bashpa Swedana Yantra* for 10-15 minutes till sweat appears on forehead.
3. Patient is advised to relax for a while and to avoid exposure to wind, excessive heat and cold weather.
4. *Snana* - After resting for a while, the patient is instructed to take hot water bath.

#### PRECAUTIONS

1. Before *Udvartana*, bladder and bowel should be emptied.
2. It is to be done in the direction opposite to that of the hair follicles.
3. Type of massage on different parts of the body and position of the patient during the procedure should be followed strictly.
4. Tender areas like face should be avoided for *Udvartana*.
5. Precaution should be taken while dusting the powder over the body. It is advisable to protect face, nose and eyes to prevent irritation.
6. *Udvartana* should not be performed in areas where surgical procedures like skin graft have been performed previously.

#### COMPLICATION AND MANAGEMENT

1. Since treatment is non-invasive in nature, not many complications are recorded.
2. Patient may present with mild skin rashes or irritation due to hypersensitivity to some of the *dravyas* used or as a result of friction due to rubbing in highly sensitive skin.
3. In such conditions, patient can be managed symptomatically using *Shatadhauta Ghrita*, *Kumari Haridra Lepa* etc and the treatment has to be stopped till the symptoms are relieved. And later, it can be started with due precautions like use of mild drugs for *Udvartana*, rubbing using mild pressure and for lesser duration.



## DURATION

1. Each part of the body, in their respective positions is massaged for 3-5 minutes. Usually the duration of *Udvardana* is 25-35 minutes. It can be followed for a period of 7-14 days according the condition. It can also be practised daily as a part of *Dinacharya*.
2. It has to be performed on empty stomach, preferably in morning hours. Even in the classical texts, the procedure is explained after *Abhyanga* and before taking bath under the context of *Dinacharya*. Also Rajavallabha Nighantu explains the procedure of *Udvardana* under *Poorvahnika Prakarana* – those activities to be performed in the morning hours.

## THERAPEUTIC INDICATIONS

### A. *Udvardana* in *Swastha*

1. In *Dinacharya*: In context of *Matrashiteeya Adhyaya*, concept of *shareera parimarjana* is explained, which is a synonym of *Udvardana* as mentioned by the commentator, Chakrapani. It is defined as a procedure which is performed after *abhyanga* in a direction opposite to hair follicles is called as *Udvardana*.<sup>[12]</sup>
2. In *Ritucharya*: In context of *Vasanta Ritucharya*, *Utsadana* followed by *snana* is indicated.<sup>[29]</sup>
3. In *Rasayana*: In context of *Triphala Rasayana*, the *Dwiguna Kala Parihara* is indicated where the person has to follow diet of *Yavagu*, *Yusha* prepared with *Shashtika Shali*, *Ghritha* and *Ksheera*, and must follow *Vihara* like *Abhyanga* with *Ghritha* followed by *Udvardana* with *Yava Churna*.<sup>[30]</sup>

### B. *Udvardana* In *Atura*

1. *Karshya Chikitsa*: In context of *Ashtauninditeeya Adhyaya*, *Snigdha Udvardana* is indicated in *Karshya*.<sup>[19]</sup> In context of *Shosha Pratishedha Adhyaya*, Acharya Sushruta explains the use of *Ashwagandha*, *Yava*, *Punarnava* for *Udvardana*. Dalhana clears that though these drugs are *Vilekhana* in nature, they have the property of *Brimhana* when used for *Bahya Upakrama*, and hence they are indicated for *Udvardana* in *Shosha*.<sup>[31]</sup>
2. *Rajayakshma Chikitsa*: For enhancing *Pushti*, *Varna* and *Bala* of the patient suffering from *Rajayakshma*, one has to follow *Udvardana* with a paste of *Makshika* mixed with *Jeevantiyadi* drugs added with 3 parts of *Yava Churna*.<sup>[32]</sup>



3. Treatment of *Twak Dosha* in *Ati Santarpita Purusha*: In context of *Santarpaneeya Adhyaya*, Acharya Charaka indicates the use of *Musta*, *Aragvadha*, *Devadaru*, *Nimba*, *Khadira*, *Vatsaka* etc drugs for *Udvartana* and *Udgharshana*.<sup>[33]</sup>
4. *Prameha Chikitsa*: Acharya Charaka explains that the people suffering from *Prameha* should be advised to follow *Vyayama*, *Pragadha Udvartana*, *Lepana* of *Twak*, *Ela*, *Agaru*, *Chandanadi* drugs for immediate cure of the disease.<sup>[34]</sup> *Ruksha*, *Gaadha Udvartana* using drugs which are *Kapha Medohara* in nature have to be used for *Udvartana* in *Prameha*.<sup>[35]</sup>
5. *Kushta Chikitsa*: Various *Churnas* for *Lepa* and *Udvartana* for management of different types of *Kushta* is explained, some of which are *Kutaja*, *Brihati*, *Karaveera*, *Kaseesa*, *Nimba*, *Kampillaka*, *Devadaru* etc.<sup>[36]</sup> For the management of *Sidhma Kushta*, *Udvartana* is indicated using the drugs like *Chakramarda*, *Sanjarasa*, *Mulakabeeja* added with *Kanji*.<sup>[37]</sup>  
*Udvartana* is also indicated in *Kikkisa* to prevent *Kandu* during the 7<sup>th</sup> month of pregnancy.<sup>[38]</sup>
6. *Unmada* and *Apasmara Chikitsa*: While explaining *Bahya Upakrama* for *Vata-Kapha Pradhana Unmada*, Acharya Charaka explains the use of *Siddharthakadi Agada* for *Udvartana*, *Anjana*, *Nasya* etc. which is believed to be beneficial in *Apasmaara*, *Visha*, *Unmada*, *Agantuja Jwara* and also helps in psychological stability.<sup>[39]</sup>  
 Acharya Vagbhata advises the use of *Udvartana* using burnt ashes of *Kharasthi*, *Hasti Nakha*, *Gopuccha*, *Basta Roma* mixed with *Mutra* of any of the above mentioned animals in such conditions.<sup>[40]</sup>
7. *Visha Chikitsa*: In context of treatment of *Ucchitinga Visha*, Acharya Charaka indicates use of *Abhyanga* with *Ghrita* and *Lavana* followed by *Udvartana* with paste of warm water and sand.<sup>[41]</sup>
8. *Visuchika Chikitsa*: *Udvartana* is also indicated for treatment of *Visuchika*, where paste is prepared using *amla dravya* mixed with *churna* of *Twak*, *Ptra*, *Rasna*, *Agaru*, *Shigru*, *Kushta*, *Vacha* and *Shatahva*.<sup>[42]</sup>

It is also considered as *Shreshta* for *Anna Shraddha Jananam* in context of *Agrya Sangrahaneeeya Adhyaya*.<sup>[43]</sup>

## BASICS OF LYMPHATIC DRAINAGE MASSAGE

### 1. Introduction to Lymphatic System and Drainage

The lymphatic system is a network of vessels, nodes and organs that work as part of the immune system to carry lymph fluid that is rich in white blood cells throughout the body, while also helping the body to get rid of waste products and excess fluid. In addition to the nodes and vessels, the tonsils, thymus and spleen are all part of the lymphatic system. Via the circulatory system, blood delivers oxygen, nutrients and hormones to cells and also collects waste products. This exchange takes place in the interstitial fluid, surrounding the cells. About 90 percent of this interstitial fluid returns to the circulatory system as venous blood. That remaining 10 percent is lymph fluid, which travels through the body via lymph vessels, passing through lymph nodes, where excess fluid and waste products are filtered out. Lymphatic drainage is unidirectional, - upwards, towards the neck, where it re-enters the circulatory system via the subclavian veins. Unlike the blood circulation, which relies on the pumping of cardiac muscles, lymph fluid depends on muscle contractions in the surrounding skeletal muscles to drain through the lymphatic vessels. The average person has approximately 600 to 700 lymph nodes.

Edema is body's general response to injury or inflammation which occurs as a result of fluid leak from blood vessels into nearby tissues. This fluid accumulates and causes the tissue to swell. Edema is generally acute, and occurs from strain, sprain or recent injury.

Lymphedema is a condition that is most commonly caused by the removal or damage to the lymph nodes, often as a result of cancer treatment or infection. Swelling occurs as the lymphatic-rich or protein-rich fluid is unable to drain appropriately. Lymphedema consists of an excess load of fluid, water and protein molecules. Mild ache, discomfort, hardening or thickening of the skin can also be signs of lymphedema. In order to address stagnant lymph or impaired lymph dynamics, administration of Manual Lymphatic Drainage Massage to the limbs has been proposed to aid transport of lymph from the extremities. Furthermore, complementary lymphatic pump techniques are thought to augment lymph passage through larger, more extensive lymphatic channels in the thorax for the filtration and removal of pathological fluids, inflammatory mediators, and waste products from the interstitial space. Studies have been conducted and it was found that there was greater thoracic duct flow as well as leukocyte count respectively in canine model with abdominal and thoracic lymphatic pump techniques.

## 2. Definition of Lymphatic Drainage or Manual Lymphatic Drainage Technique

It is a systemic, rhythmic method of purposefully stretching the skin to produce an increase in the volume of flow of the lymph fluid through the filtering system of the body.<sup>[44]</sup> Manual lymphatic drainage techniques are gentle and rhythmic soft tissue techniques that stimulate the lymphatic structures without promoting erythema or inflammation, while supporting the absorption of excess fluid, protein, and waste products. MLD stimulates alternative drainage pathways, therefore its use in the early postoperative period can reduce the stagnation of proteins in the interstitial space and the risk of increased limb volume resulting from inflammation secondary to surgical damage, which generally interferes with the lymphatic drainage of the upper limb. The main benefits of MLD is to reduce edema and inflammation and prevent lymphedema—the latter being of particular importance as there currently is no cure for lymphedema.

## 3. Types of Lymphatic Drainage Massage

There are four types of lymphatic drainage massage commonly practiced. These include.

- Vodder - Different kinds of hand motions are used on the body depending on the part being treated. It also includes treatment of fibrosis.
- Foldi - Based on the Vodder technique, this method lays emphasis on thrust and relaxation. It helps in management of edema through encircling strokes.
- Casley-Smith - This method involves use of small and gentle effleurage movements with the side of the hand.
- Leduc - It involves use of special enticing and reabsorption movements which reflect how lymph is absorbed first in the initial lymphatics and then into larger lymphatics.<sup>[45]</sup>

All these techniques function on the same principle. They all use gentle movements to stretch the skin in the direction of lymph flow. The procedure will typically last between 15 to 60 minutes.

## 4. Procedure of MLD

- Usually performed with the patient in the lying position
- Starts and ends with deep diaphragmatic breathing
- The unaffected lymph nodes and region of the body are treated first
- Moves distal to proximal to drain the affected areas
- Performed with slow and rhythmical movements
- Uses gentle pressure

## 5. Indication for MLD

- Primary or secondary lymphedema
- Lipedema
- Phlebo-lymphostatic edema
- Postoperative edema
- Posttraumatic edema
- Chronic venous insufficiency
- Palliative care: Provision of comfort and pain relief when other physical therapies are no longer appropriate
- This technique may be used as a complement in therapies for patients with stress.
- May be effective for reducing intracranial pressure in severe cerebral diseases.

## 6. Contra indication for MLD

### A. Absolute Contra indications

- Decompensated cardiac insufficiency
- Untreated Congestive heart failure (CHF - cardiac edema)
- Acute inflammation caused by pathogenic germs (bacteria, fungi, viruses). The germs could be spread by the manual lymph drainage, with resulting blood poisoning (sepsis).
- Acute renal failure
- Acute deep venous thrombosis (DVT)

Condition stated above must not be treated with manual lymph drainage.

### B. Relative Contraindication:

- Malignant lymphedema caused by active cancer
- Renal dysfunction

## DISCUSSION

*Udvaartana* is a unique treatment where patient is subjected to powder massage using herbal or herbo-mineral preparations. Because of the rubbing action during the procedure, the body part sweats and this opens up the skin pores. This helps in relieving the inflammation and stiffness of underlying muscles. The treatment also allows movement of elements through the channels. Rubbing has the quality to excite the nerve endings and thus improve tactile sensibility. Primary dilation of capillary vessels is seen due to the vasomotor nerve influence.

It also improves the strength of striated voluntary muscles. It is widely practised in obesity, cosmetic purposes, sports injuries etc.

### Procedural Effect

In *sthoulya* there is increase in *vikrutmedadhatu* which increases *kleda*. Due to *kleda*, *srotas* get obstructed and *abaddhamedadhatu* is formed. This may lead *dhatvagnimandya* of *medadhatu*. *Gharshana* of drug to *twacha* leads to increase in *ushmata*, due to which *siramukh viviktatva* and *vishodhan* occurs. *Twaktastha agni* gets stimulated. This leads to absorption and digestion of the drug and further *pravilayana* of *medha dhatu* (liquefaction of subcutaneous fat) below *twacha* may occur. Due to *ruksha guna* of *dravya* and *ruksha udvartana*, *kleda* gets absorbed. (*Yasya Shoshane shaktihi Sa Rukshaha*<sup>[46]</sup>). Thus *abaddhatva* of *medha* and *kapha* might get reduced. Due to all these properties there may be increase in *medadhatvagni*. Thus, here *dravya* acts as *guna vishesha* (opposite properties of *dravya* and *medadhatu*). *Medadhatu* and *kapha* have *ashraya ashrayibhava*. If selected *dravyas* have *katu-tiktarasa*, *ushnavirya*, *ruksha*, *laghu*, *sukshma guna*, which are opposite to that of *medadhatu* and *kapha*, act effectively against both *medoroga* and *kapha*.

*Mamsa Rakta Prasadana*: Lymph contains proteins, aminoacids, fats, glucose, enzymes, salts, lymphocytes, etc. The nutrition is carried by the blood plasma to all cells and tissues. At the periphery, the nutrients are leaked out through the capillaries into the tissue spaces. All these products which are not utilized or the metabolic products of those tissues are then entered to the lymphatics and ultimately returned into blood stream again. The lymphatic movement is slow. If *Udvartana* or deep massages are done, these products may come to blood approximately 6 times more than the normal.<sup>[47]</sup> So the micro nutrients may be reutilized for the nourishment of all *dhatu*s. As a result, *Twaka*, *Mamsa*, *Rakta*, *Asthi*, etc. are nourished properly.

*Twak Prasadana* –Blood circulation increases due to friction. Due to this, the cutaneous cells are supplied with more oxygen, thereby improving the complexion of the skin. Opposite direction strokes that are performed in *Udvartana* helps to soften and exfoliate the skin and remove the dead cells from the skin, to give a lustrous glow on the skin.

*Gauravahara*, *Tandrahara* – *Udvartana* is *Kaphahara* and *Medohara* in nature. Since *Gaurava* and *Tandra* occur due to them, there will relief after *Udvartana*.

*Kanduhara* – By action of *sira mukha vivaktatva*, the *swedovaha sroto avarodha* is also relieved, thereby reduces itching.

#### Understanding the Mode of action

Mode of Action of *Udvardhana* can be understood mainly under these lines.

- Physical
  - Physiological
  - Psychosomatic
1. Physical: Rubbing helps in the absorption of effusions, relief of blood stasis and carrying away the morbid products in the system. Deep pressure massage helps the interchange of tissue fluids by increasing the circulation in the superficial vein and lymphatic. It removes fatigue, carrying away the increased products of combustion. It has got great influence on the muscles. It gives them a mechanical stimulation causing them to contract. It also increases circulation mainly in the veins. The alternate pressure and relaxation brings fresh blood to the part. By this, there is local raise of temperature. It increases elimination of waste products. Also helps in the reabsorption of inflammatory products and absorption of fat in fatty tissues.
  2. Physiological: The pressure of deep massage exerts a simultaneous influence upon all the tissue of the body. Lymph contains histaminases, approximately 30 times more than blood. Histaminase breaks down histamine that is responsible for itching, lethargy, acidity, allergic response, nasal obstruction, and redness of eyes etc. By these therapies, more histaminase comes into blood. It increases the cutaneous circulation and it improves the condition of the nervous system by stimulating the cutaneous nerve endings. Rubbing diminishes the blood pressure without increasing the activity of the heart. The blood vessels are relaxed, distended and stretched by this. Rubbing is an excellent form of passive exercise. It is a part of physiotherapy, which will relieve pain, improves the strength and mobility. The increased venous flow helps to remove inflammatory products, which are the main cause of pain. Deep strokes has the effect of blocking the pain impulse to the spinal cord by stimulating the secretion of natural pain killers (endorphins).
  3. Psychosomatic: *Udvardhana* increases the secretion of serotonin that is responsible to combat depression, schizophrenia, anxiety, irritability etc. As a result euphoria is obtained. Melatonin is secreted by pineal gland of the brain and it is responsible for sleep.

It is formed from the serotonin. Thus indirectly, it also helps in improving the quality of sleep.

The theoretical bases for using modes of manual therapy for lymphatic drainage are founded on the following concepts.

1. Stimulating the lymphatic system via an increase in lymph circulation,
2. Expediting the removal of biochemical wastes from body tissues,
3. Enhancing body fluid dynamics, thereby facilitating edema reduction, and
4. Decreasing sympathetic nervous system responses while increasing parasympathetic nervous tone yielding a non-stressed body-framework state.<sup>[48]</sup>

The passive contractions embody the same mechanism of pumping, as the cardiac chambers. Ejection fraction, which describes how much of the initial volume is ejected during a contraction, can reach an impressive 80% in isolated segments of rat mesenteric collecting lymphatic vessel. Lymphatic drainage also increases cellular exchange. Cellular exchange allows an increase of oxygen and nutrients to be filtered into the tissues. As oxygen and nutrients increase, metabolic wastes are removed so that muscles reduce in tension and tightness. Increasing cellular exchange so that oxygen and nutrients are increased is vital to maintaining healthy tissues around the body.

The currently proposed criteria for successful management of most acute or chronic edematous conditions in allopathic-based orthopaedic sports medicine and rehabilitation have traditionally implemented cryotherapy, elevation, compressive dressings, suitable range-of-motion exercises, and applicable therapeutic modalities. This commonly prescribed standard of care for injury to musculoskeletal tissues is often supplemented with bouts of oral anti-inflammatory analgesic medications. These medications typically constitute non-steroidal anti-inflammatory drugs, which have been the subject of increasing scrutiny and caution with the recent discovery of occasionally fatal side-effects. Evidence-based practice is a common agenda in medical and allied health sciences, which serves to optimize rendering of health care services through the investigation of treatment interventions that yield positive patient outcomes for establishing clinical practice guidelines. Use of MLDTs to improve functionality and maintain homeostasis of the lymphatic system is a topic that warrants critical appraisal for determining efficacy in sports medicine and rehabilitation.



## CONCLUSION

1. The procedure of *Udvaartana* has a scope of innovative treatment planning based on disease condition and *Dosha Avastha*. Mode of action of *Udvaartana* is based on the medicine taken for treatment along with procedural effects, and an area where in detail research works can be further carried out.
2. Use of MLDTs to improve functionality and maintain homeostasis of the lymphatic system is a topic that warrants critical appraisal for determining efficacy in sports medicine and rehabilitation.
3. Thereby with the combined drug effects, the procedural benefit of *Udvaartana* can be utilised in such conditions, to obtain a better efficacy and faster action.
4. Hence, this systematic review has been done to present similarities in the procedure and mode of action of *Udvaartana* and Lymphatic Drainage Massage, and its application as well as to discuss current evidence that scrutinizes its efficacy various conditions.

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