

## EFFECT OF CHANKRAMAN (PADGAMAN-WALKING) VYAYAMA ON MEDA DHATU AND OVERALL BODY: AN AYURVEDIC REVIEW WITH MODERN CORRELATION

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### ABSTRACT

*Chankraman (Padgaman)*, a type of walking exercise (*Vyayama*) in Ayurveda, plays a crucial role in maintaining *Meda Dhatu* (fat tissue) equilibrium and overall body health. This review examines classical Ayurvedic perspectives from *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* on how regular walking exercise influences *Meda Dhatu* metabolism. According to Ayurvedic classics, *Vyayama* produces *Laghava* (lightness), *Deepana* (enhanced digestion), and *Lekhana* (fat-reducing) effects, primarily reducing *Kapha Dosha* and excess *Meda*. The article explores the pathophysiology of *Medovridhi* (fat accumulation) and how *Gaman vyayama* acts as a therapeutic intervention for *Sthaulya* (obesity). Modern studies correlate walking with reduced visceral adipose tissue, improved insulin sensitivity, and enhanced lipid metabolism. This review concludes that regular *Gaman vyayama*, performed according to Ayurvedic guidelines (half of body capacity, season-appropriate), effectively balances *Meda Dhatu* while promoting overall physical strength, stability, and metabolic health.

**KEYWORDS:** *Gaman, Vyayama, Meda Dhatu, Sthaulya, Kapha Dosha, Exercise.*

## INTRODUCTION

Ayurveda, the ancient Indian science of life, emphasizes the balance of *Dosha*, *Dhatu*, and *Mala* for maintaining health and preventing disease. Among the seven *Dhatu*s (body tissues), *Meda Dhatu* (fat tissue) plays a critical role in providing lubrication (*Snehana*), supporting sweat formation (*Sweda*), and nourishing bones (*Asthi Pusti*). However, excessive accumulation of *Meda Dhatu* leads to *Sthaulya* (obesity), a metabolic disorder classified under *Santarpanajanya Vyadhi* (diseases due to over nutrition) and considered one of the *Ashta Nindita Purusha* (eight undesirable body types) by Acharya Charaka.

The concept of *Vyayama* (physical exercise) is integral to Ayurvedic daily regimen (*Dinacharya*). Among various types of *Vyayama* described in classical texts, *Gaman* (also called *Padgaman*) refers to normal walking at regular times, distinct from *Chankraman* (strolling after meals) and *Adhva* (prolonged walking). Acharya Charaka and Acharya Sushruta have emphasized that appropriate *Vyayama* produces lightness in the body, enhances work capacity, provides stability, increases resistance to discomfort, and alleviates *Doshas*, particularly *Kapha*.

*Meda Dhatu*, represents the lubricous, fatty tissue in the body. Ayurveda describes two types: *Baddha Meda* (stored fat in depots like abdomen, buttocks, and breasts) and *Abaddha Meda* (circulating lipids like cholesterol, triglycerides, LDL, HDL). The *Mula* (root) of *Medovaha Srotas* (channels carrying fat tissue) is described differently by various Acharyas: Charaka mentions *Vrikka* and *Vapavahana* (kidneys and urinary tract), Sushruta states *Vrikka* and *Kati* (kidneys and waist), while *Ashtanga Hridaya* indicates *Vrikka* and *Mamsa* (kidneys and muscle).

The pathogenesis of *Sthaulya* involves multiple factors: excessive intake of *Guru* (heavy), *Madhura* (sweet), *Sheeta* (cold), and *Snigdha* (unctuous) foods; lack of physical exercise (*Avyayama*); daytime sleep (*Divasvapna*); and genetic predisposition. These factors cause *Agnimandya* (reduced digestive fire), leading to *Ama* (undigested toxins) formation and subsequent *Medovridhi*. The vitiated *Kapha Dosha* and excess *Meda* block *Medovaha Srotas*, creating *Margavarana* (channel obstruction) and preventing proper nourishment of other *Dhatu*s.

*Vyayama*, particularly *Gaman* (walking), acts through multiple mechanisms in managing *Medovridhi*. It produces *Ushma* (heat) in the body, which enhances *Jatharagni* and

*Medodhatvagni* (fat tissue metabolic fire), liquefies excess *Kapha*, and burns *Ama*. According to *Charaka Samhita*, *Vyayama* removes excess *Meda* through the excretory system and creates *Aptarpan Karma* (reducing effect) and *Laghu Karma* (lightness effect). *Sushruta Samhita* elaborates that regular *Vyayama* makes enemies unable to defeat the person, provides lightness (*Laghavatvam*), increases digestive fire, reduces *Vata Dosha*, decreases fat levels, improves body tone and posture, enhances circulation, and increases firmness of limbs.

The importance of *Gaman vyayama* is particularly significant in the current era where sedentary lifestyles have become predominant. Modern research confirms that daily walking reduces visceral adipose tissue areas and improves insulin resistance in obese individuals. Exercise induces favourable metabolic changes in white adipose tissue, preventing obesity through decreased markers for adiposeness, inflammation, and extracellular matrix accumulation. Long-term exercise increases fatty acid oxidation in human white adipose tissue, up regulating lipid metabolism.

Ayurvedic guidelines for *Vyayama* emphasize performing it according to "*Balardha*" (half of body capacity) and adjusting intensity based on seasons: avoided in *Varsha Ritu* (monsoon), half-strength in *Hemant Ritu* (winter), regular practice in *Vasant Ritu* (spring), and only mild exercise in *Grishma Ritu* (summer). Contraindications include emaciation from excessive sexual activity or walking, anger, grief, fear, exhaustion, childhood, elderly age, *Vatika Prakriti*, and hunger/thirst.

This review systematically examines classical Ayurvedic perspectives on *Gaman vyayama's* effect on *Meda Dhatu* from *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, correlates these with modern scientific understanding of walking exercise and adipose tissue metabolism, and discusses the pathophysiological mechanisms through which regular walking maintains *Meda Dhatu* equilibrium and overall body health.

### Objectives

1. To evaluate the effect of *chankramana (Padgaman) vyayama* on *Meda Dhatu* (fat tissue) balance.
2. To correlate the Ayurvedic understanding of walking exercise's impact on *Meda Dhatu* establishing the relevance of *chankraman vyayama* in contemporary lifestyle disorder management.

## MATERIAL AND METHODS

This narrative review employed classical literary analysis of Ayurvedic texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*) alongside systematic search of contemporary peer-reviewed literature (2018–2026) from PubMed, Google Scholar, and Ayurvedic journals.

### Review of Literature

Acharya Charaka, in *Sutrasthana* 21/4, describes *Sthaulya* as one of the *Ashta Nindita Purusha* (eight undesirable body types), stating that in fatty persons, other *Dhatu*s don't grow adequately. In *Sutrasthana* 23/3-5, Charaka defines *Vyayama* as physical action bringing stability and strength to the body, with *Samyaka Vyayama* (proper exercise) characterized by perspiration, enhanced respiration, body lightness, and inhibited heart beat.

*Charaka Samhita*, *Sutrasthana* 7/31, elaborates that *Vyayama* practice under *Vihara* (daily regimen) gives lightness (*Laghava*), capacity to work (*Kshamata*), steadiness (*Sthirata*), pain resistance (*Ayanga*), and alleviation from *Doshas*, especially *Kapha*. The text explicitly states that *Vyayama* removes excess *Meda* from the body through the excretory system and enhances compactness through *Aptarpan Karma* (reducing), *Laghu Karma* (lightening), *Deepan Karma* (digestive), and *Medoghna Karma* (fat-destroying).

In *Nidanasthana* 4/7, Charaka describes *Nidana* (etiological factors) of *Sthaulya*, including *Vishista Ahara* (special diet): *Guru*, *Madhura*, *Sheeta*, *Snigdha*, *Shleshmala* foods, and *Viharaja Nidana* such as *Avyayama* (lack of exercise), *Divaswapa* (day sleep), and *Asyasukha* (comfort-seeking). Charaka mentions that *Meda* is *Ashraya* (container) and *Kapha* is *Ashrayee* (content), establishing their intimate relationship.

Acharya Sushruta, in *Sharira Sthana* 4/12-13, defines the *Mula* of *Medovaha Srotas* as *Vrikka* and *Kati* (kidneys and waist), differing from Charaka's view. In *Sushruta Samhita*, *Sutrasthana* 15/7, Sushruta states that the functions of *Meda Dhatu* are *Sneha* (lubrication), *Sweda* (sweat formation), and *Asthi Pusti* (bone nourishment).

Sushruta Samhita, *Chikitsasthana* 24/28, describes *Vyayama* as work involving bodily exertion, recommending gentle pressing of the body all over after exercise. In *Chikitsasthana* 24/38-47, Sushruta elaborates that regular *Vyayama* practitioners cannot be defeated by enemies; body receives *Laghavatvam* (lightness), digestive fire increases, physical strength

for work develops, *Vata Dosha* reduces, fat levels decrease, body tone and posture improve, nourishment occurs, limb firmness increases, circulation enhances, and *dhatu* tone and vigor improve.

Sushruta Samhita, Sutrasthana 21/18-35, describes the six stages of disease pathogenesis (*Shatkriya Kala*) in *Sthaulya*: *Sanchaya* (accumulation of *Kapha* in *Meda*), *Prakopa* (liquefaction and *vitiation*), *Prasara* (*spread to other areas*), *Sthana Samshraya* (localization in *Medovaha Srotas*), *Vyakti* (manifestation of symptoms), and *Bheda* (chronicity leading to complications like atherosclerosis, myocardial infarction, cerebral strokes).

### Ashtanga Hridaya

Acharya Vagbhata, in *Ashtanga Hridaya*, Sutrasthana 11/4, states that the karma (function) of *Meda Dhatu* is *Snehana* (lubrication). In Sutrasthana 2/10-11, *Ashtanga Hridaya* describes *Vyayama* as part of *Dinacharya* (daily regimen), essential for maintaining lifestyle disorders, producing lightness, work ability, stability, discomfort resistance, and *Dosha* alleviation (mainly *Kapha*) while increasing digestive power.

*Ashtanga Hridaya*, Sutrasthana 14/20-21, classifies *Sthaulya* into three types: *Adhika* (severe), *Madhya* (moderate), and *Hina* (mild) for better management during *Langhana Upakrama* (reducing therapy). *Vagbhata* considers *Karshya* (weight reduction) superior to *Sthaulya* treatment since *Sthaulya* lacks proper cure, classifying *Sahaja Medoroga* (genetic obesity) as *Asadhya* (incurable).

*Ashtanga Hridaya* describes *Meda-Kapha* relationship as *Ashraya-Ashrayee* (container-content), with both sharing common *Gunas*: *Snigdha* (unctuous), *Drava* (fluid), and *Guru* (heavy). The text states that increased *Medo Dhatu* produces features similar to *Mamsa Dhatu* and causes fatigue, dyspnea on exertion, drooping of buttocks, breast, and abdomen.

### Other Classical References

*Madhava Nidana*, Chapter 34/1-9, was the first work to use the term "*Medo Roga*," later adopted by *Sharangadhara Samhita* and *Yogaratanakara*. *Yogaratanakara*, Chapter 40/1-2, explains that lack of exercise, daytime sleep, and *Kapha*-increasing diet cause sweet food juices to convert into *Sneha* (fatty acids), leading to fat increase. It also states that increased *Meda* blocks channels, preventing proper nourishment of other *Dhatus*, further increasing fat and causing physical incapacity.

Bhavaprakasha, *Sthoulyaadhikara* Chapter 39, defines *Sthula* as a person with excessive and abnormal increase of *Meda Dhatu* along with *Mamsa Dhatu*, resulting in pendulous buttocks, belly, and breasts, where increased bulk doesn't match energy increase.

## DISCUSSION

The pathogenesis of *Medovridhhi* and its management through *Gaman vyayama* follows the classical six-stage disease process (*Shatkriya Kala*):

**Sanchaya (Accumulation):** Excessive intake of *Guru, Madhura, Sheeta, Snigdha* foods prolongs *Madhuravasthapaka* (sweet digestion phase) in *Amashaya*, causing quantitative increase (*Dravyatah Vriddhi*) of *Kapha Dosha* at *Meda Dhatu* site.

**Prakopa (Provocation):** *Kapha Dosha* becomes more vitiated through liquefaction, adding morbidity at *Medodhatu* location. The *Ashrayashrayee* relationship between *Kapha* and *Medodhatu* means *Kapha* deficit impairs *Medodhatu*.

**Prasara (Spread):** Vitiating *Kapha* and *Pitta* expand beyond their locations through *Medovaha Srotas*, spreading to other body areas and producing incapacity.

**Sthana Samshraya (Localization):** Vitiating *Doshas* localize due to *Srotovaigunya* (channel pathology), creating *Dosha-Dushya* association. This prodromal stage shows *Purvarupa* symptoms like body heaviness, exercise dyspnoea, and indigestion.

**Vyakti (Manifestation):** Full symptoms appear: fatigue, paraesthesia, disorientation, shortness of breath, reduced lifespan, restricted movements, impotence, debility, bad odour, profuse sweating, excessive hunger/thirst.

**Bheda (Complication):** Chronicity leads to sub-acute or incurable conditions like atherosclerosis, myocardial infarction, cerebral strokes, *Prameha* (diabetes).

### *Gaman Vyayama's Therapeutic Action*

*Gaman vyayama* interrupts this pathogenesis through:

- **Deepana-Pachana:** Enhances *Jatharagni* and *Medodhatvagni*, burning *Ama*
- **Lekhana:** Reduces excess *Meda* through excretory system
- **Kaphahara:** Primarily-alleviates *Kapha Dosha*
- **Srotorodha Nashana:** Clears blocked *Medovaha Srotas*
- **Aptarpan:** Creates reducing effect on excess fat.

### Correlation

Modern research strongly validates Ayurvedic concepts of walking exercise (*Gaman vyayama*) and its effect on adipose tissue (*Meda Dhatu*). Daily walking significantly reduces visceral adipose tissue areas and improves insulin resistance in obese Japanese males, with visceral fat reduction being more influential than exercise capacity improvements. This correlates with Ayurvedic understanding that *Vyayama* removes excess *Meda* through excretory channels.

Exercise induces favourable metabolic changes in white adipose tissue (WAT), preventing high-fat diet obesity through significantly decreased markers for adipogenesis, inflammation, and extracellular matrix accumulation in both subcutaneous and epididymal adipose tissues. Long-term exercise increases fatty acid oxidation in human WAT, up regulating lipid metabolism in rodents and humans. This validates Charaka's statement that *Vyayama* creates "*Medoghna Karma*" (fat-destroying action).

*Surya Namaskar* and brisk walking, acting as *Vyayama* forms, increase metabolism, burn calories, and help reduce adipose tissue. Exercise burns unhealthy fat from the body through at least 30 minutes of daily gentle exercise like walking. Ayurveda's recommendation of 30 minutes brisk walking morning and evening aligns with modern guidelines.

The Ayurvedic concept of *Agnimandya* (reduced digestive fire) leading to *Ama* (toxins) and *Medovridhi* correlates with modern understanding of insulin resistance at hepatic/pancreatic levels or leptin resistance at hypothalamus level in obesity pathogenesis. *Vyayama's* ability to stimulate *Agni* matches exercise-induced metabolic rate enhancement.

Ayurvedic season-specific *Vyayama* guidelines (mild in summer, regular in spring, half-strength in winter, avoided in monsoon) correlate with modern exercise physiology recognizing seasonal temperature effects on metabolic rate and exercise tolerance. The "*Balardha*" (half body capacity) principle aligns with modern recommendations for moderate-intensity exercise (50-70% maximum heart rate).

*Medovaha Srotas* (fat channels) described by Acharyas correspond to modern adipose tissue vasculature and lymphatic systems. *Vrikka* (kidney) as *Mula* correlates with renal involvement in lipid metabolism and fat distribution patterns.

## CONCLUSION

*Gaman (Padgaman) vyayama*, as described in Ayurvedic classics, effectively balances *Meda Dhatu* and promotes overall body health. *Charaka*, *Sushruta*, and *Vagbhata* consistently emphasize that regular walking exercise produces lightness, enhances digestion, reduces *Kapha Dosha*, and removes excess fat through excretory systems. Modern research validates these claims, demonstrating walking's role in reducing visceral adipose tissue, improving insulin sensitivity, and enhancing lipid metabolism. Following Ayurvedic guidelines—performing *Gaman* at half body capacity, season-appropriate intensity, and avoiding contraindications—provides sustainable management of *Medovridhi* and *Sthaulya* while maintaining holistic health.

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