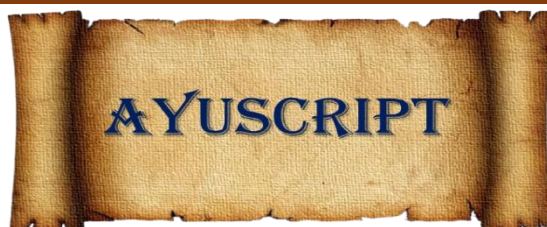


www.ayuscript.com

April-June: 2025

यन्मूल्यं द्वावकां समकल्पयन् ॥ १० ॥ विश्वकर्मा एमादुष्टपुरीहाटकनि
मर्तः ॥ तत्र योऽशसहस्रस्त्रीणां वैवराधिकसः ॥ ११ ॥ भवानिमनोत्ता
मीमध्विकल्पयन् ॥ पारिजातनरुं वैवतासोभोगाय कल्पयन् ॥ १२ ॥ य
यानां गृहास्तत्र दृष्टं वाशतकोटयः ॥ अन्येपि बहुलोलोकावसंनिविगत
राः ॥ १३ ॥ यन्मं विविधैः केशु सुंदरं तत्र दृश्यते ॥ सवाजितप्रसूनालो
नुयुष्मव्युत्तः ॥ १४ ॥ यन्मं पिनीमासायनं नमनस्कं याचसः ॥ सना
स्तपस्तेपस्सुभृदि एष बुद्धिमान् ॥ १५ ॥ अनिरस्य नैमल्यस्यैवं वदन्
तः ॥ प्रसन्नो भगवान् सनाजितं पुरीष्यतः ॥ १६ ॥ सनाजितोऽपि तुष्टावदष्टादिव
कश्यपः ॥ तत्राशतमस्तैलनमस्तैर्यतो मुखः ॥ १७ ॥ विश्वयापित्रमस्तै
मस्तैश्चरुपयः ॥ कुरूपयनमस्तैस्तै हरिद्वनमोस्तैः ॥ १८ ॥ शुक्राशतम
स्तैश्चरुपयः ॥ वेदत्रयनमस्तैस्तै सर्वद्वनमोस्तैः ॥ १९ ॥ प्रसीद
हि देव वासुदेवा मां दिवाकरः ॥ २० ॥ यन्मं यमानोऽष्टादिवदो दिवाकरः ॥ २१ ॥





International Journal for Empirical Research in Ayurveda

Critical review on Urinary System, Urine Formation, examination and Mutravikara in Ayurveda

Yadav D. R.

Assistant Professor, Department of Dravyaguna vigyan.

Shanti ayurvedic medical college and Hospital Majhauri, Ballia Uttar Pradesh.

Email: me_dharmendrayadav@rediffmail.com Mobile No. 63942 95574

ABSTRACT:

The Ayurvedic understanding of the urinary system, referred to as 'Mootravaha Srotas', represents a holistic and integrated framework that differs from, yet complements, modern anatomical and physiological interpretations. This review explores these classical Ayurvedic concepts in light of modern physiology, comparing them with the structure and function of the urinary system as described in contemporary medicine—specifically renal filtration, tubular reabsorption, and urinary excretion. It finds several parallel notions, even though the language and frameworks differ. Moreover, the review details ancient diagnostic techniques, particularly the 'Taila Bindu Pariksha', an observational method where a drop of oil placed on urine is analyzed for its movement and spread—interpreted to assess the underlying doshic imbalance and disease prognosis. Importantly, this analysis underscores the value of integrating Ayurvedic insights with modern nephrology, suggesting that traditional principles could contribute to a more individualized and preventive approach to kidney and urinary tract disorders.

Key words: Mutra, Mutrashaya, Urinary System, Urine Formation and Urine examination

CORRESPONDING AUTHOR:

Dr. Yadav Dharmendra Ramhoshila

Assistant Professor, Department of Dravyaguna vigyan.

Shanti ayurvedic medical college and Hospital Majhauri, Ballia Uttar Pradesh.

Email: me_dharmendrayadav@rediffmail.com Mobile No. 63942 95574

How to cite this Article:

Yadav D R, Critical review on Urinary System, Urine Formation, examination and Mutravikara in Ayurveda. AYUSCRIPT 2025;4(2):33-40

DOI: <http://doi.org/10.55552/AYUSCRIPT.2025.4204>

Introduction

The urinary system, known as 'Mootravaha Srotas' in Ayurveda, encompasses more than just the tract of organs visibly engaged in urine formation as understood in modern medicine. Ayurveda, an ancient science and Upaveda of Atharvaveda, posits a distinct view on this system. It emphasizes specific processes for urine formation, transport, and elimination, which are considered normal functions of any 'Srotas' (channels)¹. According to Ayurvedic principles, waste products, including urine ('Mootra'), are generated at the conclusion of metabolic activities ('Dhatuvyapar') within their respective 'Srotas'. A significant concept is 'Kleda' (waste metabolic product), which is produced by every 'Srotas' as the final part of its activities. This 'Kleda' is transported to the kidneys ('Vrikkas') by 'Udakdhatu' (water element), while a major portion of urine is formed as the liquid fraction of 'Kitta' (end product of digestion). Sushruta highlights a crucial relationship between the 'Pakvashaya' (large intestine and terminal ileum) and the urinary system. In 'Pakvashaya', useful ('Sar') and waste ('Kitta') components are differentiated, and the liquid fraction of 'Kitta' is absorbed by 'Mootravaha Nadis'. Modern medicine acknowledges the 'Pakvashaya' (colon) as a large water and electrolyte-absorbing structure.²

Ayurveda's understanding of the urinary system is also based on the 'Poshya-Poshak' concept, dividing the activity of substances into 'Poshaka' (precursor) and 'Poshya' (formed). The 'Poshaka' division of urine forms in the 'Pakvashaya', while the 'Poshya-Poshak' fraction is formed in the kidneys ('Vrikkas'). Kidneys are responsible for converting 'Poshya Mootra' into 'Poshaka Mootra', leading to the reabsorption of

1.

some 'Udakdhatu' into the bloodstream, akin to selective reabsorption in modern physiology. The subtle energies of Samana and Apana Vayu are deemed crucial for this transformation and for the excretion of substances.

Diet significantly influences urine quantity and quality. For instance, copious water intake directly increases urine flow, a principle useful in detecting conditions like Diabetes Mellitus (Prameha). Ayurvedic texts like Charaka Samhita detail numerous dietary etiological factors for 'Prameha', suggesting their primary role in its manifestation.³

Relationship between Urinary System and Pakvashaya⁴

While an apparent direct relationship between the urinary system and 'Pakvashaya' (colon) may not be immediately obvious from a modern anatomical perspective, contemporary research in colon physiology reveals an intriguing connection. If substances typically excreted by the kidneys are present in high concentrations in the blood, they may also be excreted by the intestines, such as magnesium phosphates and insoluble calcium. This suggests a functional similarity between tubular and intestinal activity, encompassing filtration and re-absorption¹⁹. The phenomenon of bile pigments imparting color to urine due to absorption from the intestines further exemplifies this relationship.⁵ Thus, Ayurveda proposes a definite, threefold relationship between the 'Pakvashaya' and the urinary system:

1. **Formation of Essential Constituents:** The 'Pakvashaya' is responsible for forming some essential constituents of urine.
2. **Water and Salt Absorption:** It absorbs water and salts from the 'Kitta'

(waste) portion and transmits them to the kidneys.

3. **Excretion of Excessive Salts:** The 'Pakvashaya' excretes excessive quantities of certain insoluble salts that would normally be excreted by the kidneys.

Role of Udaka and Kleda in Urine Formation⁶

The primary function of urine ('Mootra') is to eliminate 'Kleda' (waste) from the body. 'Kleda' is also associated with being retained by 'Sweda' (sweat). Sushruta Samhita attributes two key functions to 'Mootra': filling the 'Basti' (urinary bladder) and removing 'Kleda'⁷. The term 'Kleda', derived from 'to wet' (as per Amarkosha), refers to a substance in the body possessing wetting properties. Its exact interpretation suggests a substance that can render body tissues 'filthy'. A critical distinction exists between 'Udaka' (water), 'Kleda' (waste), and 'Mootra' (urine). 'Udaka' is considered the 'Poshaka Dhatu' (precursor element) of what will become 'Poshya Mootra' (formed urine). Some authorities interpret 'Udaka' as the 'Dhatavastha' (elemental state) of a substance, while 'Kleda' is its 'Malavastha' (waste state), signifying its readiness for excretion into the urine. Both 'Udaka' and 'Kleda' can be referred to as 'Apyamsha' (watery portion) of the body, along with certain waste products.⁸ Ultimately, 'Udaka' is affirmed as the portion of 'Mootra' that is reabsorbed. This reabsorption occurs from the 'Pakvashaya', where it circulates throughout the body, undergoing changes by participating in various functions related to nutrient supply and waste removal from 'Sharir Dhatus' (body tissues), eventually transforming into 'Kleda'. This 'Kleda' is then transported to the kidneys ('Vrikkas') to be converted into 'Poshya Mootra'. While some of this is filtered by glomeruli and

stored in the bladder, the majority is reabsorbed into the bloodstream.

Pitfalls and Future Directions in the Ayurvedic View

Despite its comprehensive framework, the Ayurvedic view of the urinary system has certain perceived limitations from a modern perspective:

1. **Kidney's Role in Urine Formation:** 'Vrikkas' (kidneys) have not been explicitly related to the primary process of urine formation in classical texts.
2. **Ambiguity of 'Basti':** The term 'Basti' has been used loosely at various instances, potentially referring to the urinary bladder or enema procedures.
3. **Lack of Strict Terminology:** Due to an emphasis on clinical application, there is not always strict adherence to consistent terminology.

Nevertheless, Ayurveda has adequately recognized the urinary system as 'Mootravaha Srotas' in its fundamental texts. Detailed descriptions of various diseases like 'Ashmaree' (calculi), 'Ashthila' (prostate enlargement), and 'Mootraghat' (dysuria) are found in works by Charaka, Sushruta, and Vagbhata, complete with treatments and dietary regimens. Even the suppression of the urge to micturate ('Mootravega') is considered detrimental, leading to various ailments.

Different scholars have interpreted the verses of Sushruta Nidanasthana (3/18-24) from diverse angles, suggesting the complexity and room for varying interpretations within the Ayurvedic tradition. It is imperative to integrate existing modern knowledge of the urinary system with a re-arrangement and re-orientation of Ayurvedic concepts into clear, descriptive language to resolve ambiguities and foster a unified understanding.

Ayurvedic Concepts on the Urinary System

1. The Ayurvedic concept of the urinary system ('Mootravaha Srotas') is broader than the modern perspective, encompassing both physiological and clinical dimensions⁴⁶.
2. 'Vrikka' (kidneys) and 'Pakvashaya' (large intestine) are considered equally important; the latter is active in 'Poshaka Mootra' (precursor urine) formation, while the former is responsible for 'Poshya Mootra' (formed urine).
3. The 'Pakvashaya' is identified as the site of 'Poshaka Mootra' formation, a fact with therapeutic implications for chronic conditions like renal failure.

Urine Examination According to Ayurveda⁹

Urinary ailments have been a persistent challenge for humanity, with both modern science and Ayurveda striving to find solutions. Ayurvedic physicians historically diagnosed urinary disorders through clinical examination and pathological investigations described in

classical texts, offering affordable alternatives to modern pathological tests. Ayurveda employs visual examination of urine, particularly its color, and a specialized test called 'Taila Bindu Pariksha' (oil drop test) as described by Yogratnakar. Urine examination is crucial for diagnosing urinary disorders, including 'Mootrakricchra' (dysuria) and 'Mootraghat' (anuria/oliguria), which often involve vitiation of 'Vata', 'Pitta', 'Kapha', or 'Rakta'. The color and characteristics of urine provide insights into the vitiated 'Doshas', while the 'Taila Bindu Pariksha' offers prognostic information. Ayurveda also specifies the time for urine collection, recommending a mid-stream sample taken 96 minutes (4 'Ghatikas') before sunrise, similar to modern practice. Daily examination until recovery is advised.

Physical Examination of Urine

Ayurveda describes various urine colors and characteristics corresponding to different 'Dosha' imbalances and conditions:

Condition	Color of urine	Other characteristics
Vata Dosha increased	Pale, brownish with bluish tinge	Less viscous
Pitta Dosha increased	Blood-like red yellowish	Slightly oily
Ama Pitta increased	Brownish	Like mustard oil
Kapha Dosha	Whitish	Foamy, oily, dirty
Sannipata	Smoky, black red or mixed color	Foamy
Vata + Pitta	Smoky, whitish red	Hot and dilute
Vata + Kapha	White	Foamy with solid precipitated like Sourak Kanji
Pitta + Kapha	Reddish	Dirty, oily, yellowish
Indigestion		Like rice water
Early stage of fever	Smoky	
Chronic fever	Yellowish Red	

Taila Bindu Pariksha (Oil Drop Test)¹⁰

Yogratnakar detailed the 'Taila Bindu Pariksha' for prognosis and 'Dosha' detection in urinary disorders. A drop of oil

is gently placed on the urine surface in a breeze-free room, and its behavior, direction of spread, and shape are observed.

Table 1 Conclusion on behavior of the oil drop:

Behavior of the oil drop	Conclusion
If the oil drops spreads quickly	Disease is curable
If the oil drop does not spread quickly	Curable with difficulty
If the oil drops sink into the water	Incurable

Table 2 Conclusion on direction of the spread of the oil drop:

Direction of the oil drop	Conclusion
Towards East	Patient will recover quickly
Towards South	Patient will recover slowly
Towards North	Patient will recover definitely
Towards North East	Patient will die within month
Towards West	Patient will recover with ease
Towards South East	Patient will die within a month
Towards South West	Patient will die definitely
Towards North West	Death is certain

Table 3 Conclusion as per shape of the oil drop:

Shape of the oil drop	Conclusion
Like serpent	Vata Dosha
Like an umbrella	Pitta Dosha
Like a pearl	Kapha Dosha
Like a human figure	Bhoota Dosha or germs
Like swan, elephant, fan, lotus	Patient will definitely recover
Like plough, tortoise etc.	Patient will not recover
Like blackish bubble	Ama + Pitta aggravated
Like mustard oil	Amapitta
Like Souvira Kanji	Vata + Kapha aggravated

Urine in Various Urinary Disorders^{11,12,13}

Ayurvedic classics describe specific urine characteristics for various diseases. Charaka details 20 types of 'Prameha' (urinary disorders, including diabetes), each with a distinct urine color and characteristic.

Table 3. Urinary Disorders

Prameha	Color and Characteristics of urine
Udakmeha (hydruria)	Transparent, cold, white, and with no smell
Ikshuvalikameha (Glycosuria)	Like sugarcane juice, sweet, cold, slightly saline, and turbid. Viscosity increases overnight.
Sandremeha (Chyluria)	
Sukrameha	Like semen
Suklameha (Gravalluria)	Having smell and hard particles.
Sitameha (Phosphaturia)	Cold
Siktameha (Graveluria)	Having small and hard particles

Sanairmeha	Slime-like phlegm and is full of threads
Alalameha (Pyuria)	
Ksarameha (Alkaliluria)	Small, color, taste, and touch like those of Alkalis.
Kalameha (Melanuria)	Black color.
Nilameha (Indigouria)	Sour taste, color like the feather of the 'casa' bird (Blue jay).
Raktameha (Hematuria)	Red color, saline taste, smell like raw fish.
Manjisthameha (Hemoglobinuria)	Smell like raw fish and color like Manjistha juice.
Haridrameha (Urobilinuria)	Color like Haridra juice.
Vasameha (Lipuria)	Color like Vasa (muscle, fat).
Majjameha (Myelouria)	Color like Majja (Bone marrow).
Hastimeha (Diabetes Insipidus)	Patient passes large amount of urine.
Madhumeha (Diabetes Mellitus)	Sweet and astringent in taste, pale in color and unctuous.

Charaka Samhita and other Ayurvedic classics also describe urine characteristics in specific diseases beyond 'Prameha':

Table 4 Urinary Disorders: Color and characteristics of urine

Diseases	Color and characteristics of urine
Adhoga Raktapitta (Hemorrhagic disorder)	Red color urine
Vatik Jwar (Fever)	Reddish urine
Paitik Jwar (Fever)	Yellowish or greenish color of urine
Slaishmik Jwar (Fever)	White color urine
Kamla (Jaundice)	Yellowish color of urine

Table 5 Herbs Used in Urine Formation (Mutra Utpatti)

Herb (Botanical Name)	Sanskrit Name	Key Actions
Coriandrum sativum	Dhanyaka	Mutrala, Deepana
Tribulus terrestris	Gokshura	Mutrala, Shukrala
Cynodon dactylon	Durva	Mutrala, Raktasthambhaka
Phyllanthus niruri	Bhumyamalaki	Mutrala, Pitta-Shamak
Boerhavia diffusa	Punarnava	Mutrala, Shothahara
Crataeva nurvala	Varuna	Mutrala, Ashmarihara

Table no 6. Herbs for Mutravikara (Urinary Disorders)

Herb	Sanskrit Name	Indications
Boerhavia diffusa	Punarnava	Mutrakricha, Shotha
Tribulus terrestris	Gokshura	Mutraghata, Ashmari
Phyllanthus niruri	Bhumyamalaki	Prameha, Ashmari
Crataeva nurvala	Varuna	Ashmari, Mutrakricha

Cucurbita maxima seeds	Kushmanda Beej	Mutraghata
Berberis aristata	Daruharidra	Prameha, Raktapitta
Vetiveria zizanioides	Usheera	Burning micturition, Pitta disorders

Discussion:

The Ayurvedic view of the urinary system provides a comprehensive yet holistic outlook, merging anatomical, physiological, and pathological insights. While the role of 'Vrikkas' is well acknowledged in Ayurveda, their exclusive responsibility in urine formation, as detailed in modern nephrology, remains somewhat understated in classical texts. Nevertheless, the understanding of 'Kleda', 'Udaka', and their transformation into 'Mootra' reveals a sophisticated physiological theory comparable to renal filtration and reabsorption. The relationship between 'Pakvashaya' and urine formation finds modern parallels in gut-kidney axis theories, especially in electrolyte and fluid balance.¹⁴ Ayurvedic urine examination, especially through the 'Taila Bindu Pariksha', provides unique prognostic tools. These traditional methods, although lacking quantitative precision, offer insight into systemic imbalances through qualitative observations, which modern science is beginning to validate. Future research should aim to bridge gaps between traditional diagnostics and evidence-based nephrology, especially for early diagnosis and management of chronic urinary disorders.¹⁵

Conclusion:

Ayurveda provides a scientific and detailed approach to urine examination for diagnosing urinary disorders. The described tests are simple and can be performed in a clinical setting. Modern scientific research has corroborated the logic and applicability of these Ayurvedic

examinations for various urinary conditions.

References:

1. Sharma R, et al. Critical review on Urinary System, Urine Formation and Urine examination in Ayurveda. *J Ayurveda Integr Med.* 2023;:1-10.
2. Susruta Samhita by Sharma .P.V., Sharir Sthan, 6/7, Choukhambha Vishvabharti, Varanasi, Reprint Year, 2010
3. Sharma P.V., Charaka samhita of agnivesha, English translation, V1 edition, vol 1 sutra sthana, twenty chapter 22 slok Choukhambha orientalia, Varanasi, 2001
4. Sarangdhara Samhita, Purva Khanda 6/49, by Himasagara. P., Murthy Chandra, Choukhambha Sanskrit Series Office, Varanasi. Edition I, 2001
5. Susruta Samhita by Sharma .P.V., Sharir Sthan, 4/26, Choukhambha Vishvabharti, Varanasi, Reprint Year, 2010
6. Adhamalla commentary on Sarangdhara Samhita, Purva Khanda 2/2, by Himasagara. P., Murthy Chandra, Choukhambha Sanskrit Series Office, Varanasi. Edition I, 2001
7. Kaviraj Ambikadutta Shastri, Sushruta Samhita (Hindi translation) Vol. 1, Varanasi: Choukhambha Sanskrit Sansthan, 2011; 314
8. Singh A, Devi S. A comprehensive review on the urinary system (Mootravaha Srotas) in Ayurveda. *Int J Ayurvedic Med.* 2022;13(1):153-160.

9. Ayurvediya Kriya Sharir Vigyan, Dr Gyanendra Kumar Gupta, Editor Print, Meerut: Utkarsha Prakashan, 2016; 144
10. Prasad PV, et al. Taila Bindu Pariksha: An Ayurvedic diagnostic technique for urinary disorders. *J Res Tradit Med.* 2021;7(2):89-94.
11. Kumar S, Prakash A. Integration of Ayurvedic principles with modern nephrology: A review. *Ayushdhara.* 2020;7(4):12-18.
12. Vasant L. *Ayurvedic Healing: A Comprehensive Guide.* Lotus Press; 2000.
13. Sharma PV. *Caraka Samhita: Text with English Translation.* Chaukhambha Orientalia; 2018.
14. Dash VB, Sharma RK. *Materia Medica of Ayurveda: Based on Madanpal Nighantu.* Chaukhambha Sanskrit Pratishthan; 2017.
15. aviraj Ambikadutta Shastri, Sushruta Samhita(Hindi translation) Vol. 1, Varanasi: Chaukhamba Sanskrit Sansthan, 2011; 31

Authors Contribution: All authors have contributed equally.

Financial Support and Sponsorship: None declared

Conflict of Interest: There are no conflicts of interest.

Declaration of Generative AI and AI Assisted Technologies in the writing process: The author has not used generative AI/AI assisted technologies in the writing process.

©2025 AYUSCRIPT (International Journal for Empirical Research in Ayurveda)

An Official Publication of ARCA- AYURVEDA RESEARCH & CAREER ACADEMY

Website: <https://ayuscript.com/>

Email: ayuscriptjournal@gmail.com

IIFS Impact Factor: 2.125

International Journal for Empirical Research in Ayurveda