CONCEPTUAL REVIEW OF SHODHASH SROTAMSI W.S.R. TO CHANNELS

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ABSTRACT:
Srotas, meaning channels or pores, are present throughout the visible body as well as at the “invisible” or subtle level of the cells, molecules, atoms, and subatomic strata. It is through these channels that nutrients and other substances are transported in and out of the body. Vata, Pitta, Kapha moves inside the Srotas to perform, their normal function at different places. Similarly things which are beyond perception of sensory organ like mind etc. move inside the Srotas & are located in sentient portion of the body. Healthy Srotas perform their normal function as a result body is free from diseases & unhealthy Srotas become root cause for the development of pathogenesis. In Ayurvedic classics various Acharyas have classified Srotas into different types. Present article is aimed to describe accepted number of Srotas, their functions, Moolsthana, Viddha Lakshana (Symptoms of injuries), Dusti Hetu (Causes of Vitiations) & Dusti Lakshana (Symptoms of Vitiations). Srotas is one of the most controversial points, but of course important too, as it is recognized as the structural & functional unit of the body.

Keywords: Srotas, Vata, Pitta, Kapha, Moolsthana, ViddhaLakshana, Dusti Hetu, Dusti Lakshana.

INTRODUCTION: Srotamsi of the body comprise of channel of different kinds. They may be Sthula, Sukshma or Anu. In general usage the term Srotamsi comprehends all channels big & small, perceptible & imperceptible - that compose the internal transport system of the body which provide platform for activities of the other important bio-factors like Tridosha, Saptadhatu, Oja, Agni etc. In Ayurvedic classics the term Srotas is used as dynamic inner transport system of body mind-spirit organization in addition to circulatory system. Bodily humours Vata, Pitta, Kapha move inside the Srotas to perform their normal function at different places. Things which are beyond perception of sensory organ like mind move inside the Srotas located in sentient portion of the body. The term Srotas is derived from the root word 'susravano' means which exude, ooze, filter, and permeate. The Srotas are also called Marga, Ayana, Panthana, meaning passage, channels or gateway. Srotas have predominance of Akash Mahabhoot. Each Srotas have their special function, the work of one particular Srotas cannot be done by another Srotas. Srotas are those in which Manas, Prana, Anna, Jala, Dosha, Dhatu, Updhatu, Dhatumala, Mutra, Purish are circulating & these are innumerable.[1] All metabolic activities take place in the concerned Srotas.[2] Dhatus being functional tissues, Mala being excretory products and Prana, Anna and Udaka is being the vital entities or Bahyaprana, have their own Srotas or separate functioning channels.[3] Srotas is recognized as the structural &
functional unit of the body. It is prerequisite for the maintenance of good health. Healthy Srotas perform their normal function as a result body is free from diseases & unhealthy Srotas become root cause for the development of pathogenesis.\[4\] Without Srotas no body part can grow and develop or degenerate. Srotovaigunya plays vital role for the Sammurchhana of Dosa & Dusya at a particular site as a result disease manifests inside the body.\[5\]

SYNONYMS
Srotas Many Synonyms Listed Below:\[6\]
Srotamsi- Channels, Sira- Veins, Dhamani- Arteries, Rasayani- Lymphatics, Rasavahini- Capillaries, Nadi- Tubular Conduits, Panthanasi- Passages, Marga- Pathways, SharirChhidra- Body Orifices, Samvruta asamvrutani- Open ,Closed, Sthanas- Sites,Locus, Ashayas- Repositories, Niketas- Resorts

CLASSIFICATION:
Acharya Charaka had classified the Srotamsi into “Sthula” and “Anu”, meaning, ‘Gross’ and ‘Subtle’ respectively. In VimanaSthana he had classified the SthulaSrotamsi into 13 types. They are: Pranavaha, Udakavaha, Annavaha, Rasavaha, Raktabaha, Mamsavaha, Medavaha, Asthivaha, Majjavaha, Shukravaha, Purishavaha, Mutravaha, and Swedavaha Srotamsi.\[7\] Sushruta, on the other hand, had explained 11 pairs Sthula Srotamsi. He had not included Asthivaha, Majjavaha and Swedavaha Srotamsi, while he had, in addition, has included Artavavaha Srotamsi.\[8\] Another way of classifying the Srotamsi has been Bahirmukha (those channels that open to exterior) and Antarmukha (those channels that do not open to exterior).\[9\]

Among thirteen Srotas, three Srotas connects the individual to the external environment, by bringing air, food, and water into and out of the body. Seven Srotas are associated with the seven bodily tissues (SaptaDhatus). Another three Srotas direct wastes out of the body. However three additional Srotas related to lactation, menstruation, and the flow of thoughts through the mind is also described. This brings the total number of Srotas to sixteen which is the accepted description.

Here is a list of the sixteen Srotas:
Three Srotas connect the individual to the external world: by bringing air, food, and water into and out of the body.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Srotas</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pranavaha</td>
<td>The channels carrying Prana, the breath</td>
</tr>
<tr>
<td>2.</td>
<td>Annavaha</td>
<td>The channels transporting solid and liquid foods</td>
</tr>
<tr>
<td>3.</td>
<td>Udakavaha</td>
<td>The channels transporting water</td>
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Seven Srotas represent channels to and from the tissues (Dhatus):

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<thead>
<tr>
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<tbody>
<tr>
<td>4.</td>
<td>Rasavaha</td>
<td>The channels carrying plasma and lymph</td>
</tr>
<tr>
<td>5.</td>
<td>Raktabaha</td>
<td>channels carrying blood cells and specifically haemoglobin</td>
</tr>
<tr>
<td>6.</td>
<td>Mamsavaha</td>
<td>The channels carrying muscle nutrients and wastes</td>
</tr>
<tr>
<td>7.</td>
<td>Medavaha</td>
<td>The channels supplying the various adipose tissues of the body</td>
</tr>
<tr>
<td>8.</td>
<td>Asthivaha</td>
<td>The channels bring nutrients to the bones and transporting</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Srotas</td>
<td>Function</td>
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<tr>
<td>9.</td>
<td>Majjavaha</td>
<td>The channels supplying the bone marrow and nerves including the brain</td>
</tr>
<tr>
<td>10.</td>
<td>Sukravaha</td>
<td>The channels carrying the sperm and ova and supplying their nutrients</td>
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**Three Srotas regulate the elimination of metabolic waste products:**

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<tbody>
<tr>
<td>11.</td>
<td>Purishavaha</td>
<td>The channels which carry the faeces</td>
</tr>
<tr>
<td>12.</td>
<td>Mutravaha</td>
<td>The channels which carry the urine</td>
</tr>
<tr>
<td>13.</td>
<td>Swedavaha</td>
<td>The channels which carry perspiration</td>
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</tbody>
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**Two Srotas are specific for women:**

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<th>Function</th>
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<tbody>
<tr>
<td>14.</td>
<td>Artavavaha</td>
<td>The channels which carry the menstrum</td>
</tr>
<tr>
<td>15.</td>
<td>Stanyavaha</td>
<td>The channels carrying the breast milk during lactation</td>
</tr>
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**One Srotas is associated with the mind (Mana):**

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<tr>
<td>16.</td>
<td>Manovaha</td>
<td>The channels which carry thoughts, ideas, emotions, and impressions</td>
</tr>
</tbody>
</table>

**MOOLASTHANA (Main Seat) OF SROTAS:** Chakrapani had described Moolas PrabhavSthanadar[10] means the anatomical seat of respective Srotas, main seat of pathology of that Srotas or principal seat of manifestation of the diseases of that Srotas. The cause of morbidity of Srotas and their manifestations first strikes the Moolasthana of the respective Srotas. This morbidity slowly spreads throughout the body by Law of functional connectivity. 

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<tbody>
<tr>
<td>1.</td>
<td>Pranavaha</td>
<td>Hridaya, MahaSrotas</td>
<td>Hridaya, Rasavahidhamani</td>
</tr>
<tr>
<td>2.</td>
<td>Annavaha</td>
<td>Amashaya, Vamaparshwa</td>
<td>Amashaya, Annavahidhamani</td>
</tr>
<tr>
<td>3.</td>
<td>Udakavaha</td>
<td>Talu, Kloma</td>
<td>Talu, Kloma</td>
</tr>
<tr>
<td>4.</td>
<td>Rasavaha</td>
<td>Hridaya, Dashadhamani</td>
<td>Hridaya, Rasavahidhamani</td>
</tr>
<tr>
<td>5.</td>
<td>Raktavaha</td>
<td>Yakrut, Pleeha</td>
<td>Yakrut, Pleeha, Raktavahidhamani</td>
</tr>
<tr>
<td>6.</td>
<td>Mamsavaha</td>
<td>Snayu, Twak</td>
<td>Snayu, Twak, Raktavahidhamani</td>
</tr>
<tr>
<td>7.</td>
<td>Medavaha</td>
<td>Vrukka, Vapavahan</td>
<td>Kati, Vrukka</td>
</tr>
<tr>
<td>8.</td>
<td>Asthivaha</td>
<td>Medas, Jaghan</td>
<td>-</td>
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Moolasthana of any Srotas can be determined by some logical points and been categorised[11] i.e.

1. Utpattisthana- seat for origin of that element (Dhatu Mala etc.)
2. Sangrahasthan- seat for storage.
3. Vahanasthana- seat of carriage or flow of bodily elements.
5. Chikitsatmaksthan- Moolasthana important in treatment of certain Srotas.
| 9. | Majjavaha | Asthi, Sandhi | - |
| 10. | Sukravaha | Vrushana, Shefas | Stana, Vrushana |
| 11. | Purishavaha | Pakwashaya, Sthoolguda | Pakwashaya, Guda |
| 12. | Mutravaha | Basti, Vankshana | Basti, Medhra |
| 13. | Swedavaha | Meda, Romakupa | - |
| 14. | Artavavaha | - | Garbhashayā, Artavavahidhamani |

**SROTAS VIDDHA LAKSHANA (Symptoms of injuries)**\(^{[14]}\), **DUSTI HETU(Causes of Vitiation)**\(^{[15]}\) & **DUSTI LAKSHANA(Symptoms of Vitiation)**\(^{[16, 17]}\):

1. **Pranavaha Srotas:**
   - **Srotas Viddha Lakshana-Aakroshana,** Vinamana, Mohana, Bhramana, Vepana, Maranam
   - **Srotas Dusti Hetu-Kshaya,** Sandhaaranaat, Roukshyaat, Vyayamaat Kshudhitasya, Anya daarinakaarya
   - **Srotas Dusti Lakshana-** Atissrushta, Atibaddham, Kupitam, Alpamalpam, Abheekshnam ,Sashabda & Sushalashwasam.

2. **Annavaha Srotas:**
   - **Srotas Viddha Lakshana-** Aadhmaana, Shula, Anna vidwesha, Chardi– Pipaasaa, Aandhya, Maranam
   - **Srotas Dusti Hetu-** Atimaatrasyaakaale, Ahitabhojana, Vaigunyaatpaavakasya
   - **Srotas Dusti Lakshana-** Anannaabhilasha, Arochaka, Avipaaka, Chardi

3. **Udakavaha Srotas:**
   - **Srotas Viddha Lakshana-Pipasa,** Maranam
   - **Srotas Dusti Hetu-** Ushnaaahaaravihara, Aam, Bhayaat, Paanaat, Shushkaannasevana, Trushnaapeedana.
   - **Srotas Dusti Lakshana-** Jihwa, Taalu, Oshta, Kantha & Kloma shosha; Atipraviddam pipaasaa

4. **Rasavaha Srotas:**
   - **Srotas Viddha Lakshana-** Shosha, Pranavaha Srotasviddha lakshana, Maranam.
   - **Srotas Dusti Hetu-** Guru, Sheeta & AtiSnigdhaAhara, AtimatraSamshana, Atichintanat.

5. **Raktavaha Srotas:**
   - **Srotas Viddha Lakshana-Jwara,** Daha, Panduta, Shonitaagamana, Raknanetrata
   - **Srotas Dusti Hetu-** Snigdha, Ushna & Drava Ahara; Atapa, Analasevan
   - **Srotas Dusti Lakshana-** Guda,Medhra & Aasyapaka, Pleehaa,Gulma, Vidradhi, Neelikaa, Kamala, Vyangaha piplavaha tilakaalakaha, Dadru, Charmadalama, Shvitram, Pama, Kotha, Asramandalama

6. **Mamsavaha Srotas:**
   - **Srotas Viddha Lakshana-Shwayathu,** Mamsashoshia, Siragranthi
   - **Srotas Dusti Hetu-** Abhishyandi, Shhula & Guru Bhojan; Bhuktwa cha Svapatamdiwa.
   - **Srotas Dusti Lakshana-** Adhimaamsa, Arbudam, Keelam, Gala shalooka,
Gala shundike, Pootimamsa, Galaganda, Gandamala, Upajihwika

7. Medavaha Srotas:
   - Srotas Viddha Lakshana - swedaagamanam, snigdhaangata, talushosha, shhula, shphata, pipasa
   - Srotas Dusti Hetu - Avyaayyaamaat, diva svapnata, medyanam cha atibhakshanam, varunyahaati sevana
   - Srotas Dusti Lakshana - Ashtanindita purushas, Prameha purvarupavat

8. Ashthivaha Srotas:
   - Srotas Viddha Lakshana - not mentioned
   - Srotas Dusti Hetu - Vyaayaama, AtiSankshobha, AsthiVighattana, VatalAharaSevan

9. Majjavaha Srotas:
   - Srotas Viddha Lakshana - not mentioned
   - Srotas Dusti Hetu - Utpeshat, Atiabhishyandana, Abhighaataat, Prapeedanaat, ViruddAhara
   - Srotas Dusti Lakshana - Parvaruk, Bhrama, Murcha, Tamo Darshana, Arumshi, Sthulamula of Parva.

10. Shukravaha Srotas:
    - Srotas Viddha Lakshana - Kleebataa, Chiraat Praseka, Rakta Shukrata.
    - Srotas Dusti Lakshana - Klaibyam ,Aharshahanam, Na cha jaayategar bhaha, Rogivakleebam, GarbhahaPatati, Prasravati.

11. Purishavaha Srotas:
    - Srotas Viddha Lakshana - Aanaaha,Durgandha,Grathita Antrata.
    - Srotas Dusti Hetu - Sandhaar anaat, AtiAshana Ajeeamat, Adhyashanat, DurbalaAgni, Krushha.
    - Srotas Dusti Lakshana - Kruchharena, Alpam Alpam, SaShabdam, Sa-Shulam, AtiDravam, AtiGrathitam, AtiBahu.

12. Mutravaha Srotas:
    - Srotas Viddha Lakshana - AanaddhaBasti, MutraNirodha, Stabdha Medhrata.
    - Srotas Dusti Lakshana - Ati-Srushtam, Ati-Baddham, Alpam, Bahalam, Sashulam

13. Sweda Vaha Srotas:
    - Srotas Viddha Lakshana - not mentioned

14. Artavavaha Srotas:
    - Srotas Viddha Lakshana - Vandhyata, Maithuna Asahishnuta, Aartava Nasha.

15. Manovaha Srotas:
    - Manovaha Srotas when occupied by morbid Dosha, one could experience bad dreams.
    - ManovahaSrotas when afflicted by morbid Dosha and get obstructed, mental diseases like Unmada (insanity) get manifested.

CONCLUSION:
Srotas is recognized as the structural & functional unit of the body. It is prerequisite for the maintenance of good health.
Together with knowledge of the *Doshic* imbalances, the *Dhatus* (tissues) involved, the state of the *Agni* (digestive fire), and other diagnostic means, assessment of the *Srotas* is one of the means in Ayurveda by which diseases can be distinguished. By knowing which *Srotas* are affected and the nature and extent of their disturbance, one can understand a great deal about the disease process.

Improper foods, erratic behaviour & such other things which are not conducive to the body bring abnormality in *Srotas* leading to manifestation of diseases. Adoptance of normal conducive foods & actions leads to happiness & sound health.

A physician with the proper knowledge of *Srotas*, their roots of origin, their end points, the materials they carry, the kind of deformity or damage or vitiation occurring in them is the best in identifying the disease and site of pathology. So, the knowledge of *Srotas* not only helps in learning about the anatomy of transport system of the body but also to understand their physiology and pathology which is the key for success in the treatment.

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