Chapter 12

APPENDICES
SOME DEFINITIONS AND MEANINGS OF 'SHOOL'

Definition: "शंकुस्फोटनवतो नस्त् यस्मात् तीव्रात्म बैद्यना:।
शुजः सक्तस्य रक्तयन्ते तरस्माच्छूलामर्मीतीच्यते ॥।" (सू. उ. ४२/८९)
"शंकु स्फोटनवतः कीलकाटननवतः तीव्रा बैद्यना:।" (इल्ला)

Shool is a type of severe pain; similar to the pain produced by penetrating a nail or any pointed or conical object.

Synonyms of Shool:
1) अंगशुल्ल: अंगामर्द, अंगायाय शूल (व. वि. ३/२४४)
   Generalised body pain, bodyache

2) निस्तिनोद्द: निष्ठन ब्रह्मवर्तसूक्त, निस्तीनोद्व भेदी विचित्रन तु शूलम (आध. सू. १२/२०)

3) ऊनान: ऊना शूलम् (सु. लानी: २१६६ - मलधीक रिखा)

4) उद्धण्ड: सतते शूलम् (अ. द. सू. २२४८ - सबनुकुंड रिखा)
   Continuous pain

5) आर्ि: पीडा: शूलम् (च. चि. १६८८) (सु. लानी: ३६१६)

6) बैद्यना: बैद्यना शूलम् (सु. लानी: १६३६ - आयुर्चारिका)

7) अनुश्रुत शूल: प्रस्तान; स्मात्वेन शूल युलम।
   (च. चि. १२१६)
VEDANA

Definition: वेदना सुख दुःखीपलाभीः। (सुधा: ४१५ वंड़ाः)

Vedana means feeling or bearing - may be pleasant or unpleasant.

Types of Vedana: “दिविधः सुखदृ: खानो वैदनानां प्रवर्तकः।” (सुधा: ४१५)

There are two types of Vedana viz. - 1. Sukha, 2. Duhkha

I) Sukha - “अनुकुल वैदनीयं सुखम्।” (पाणिन्य योग)

Agreeable or pleasant feeling is called as Sukha.

II) Duhkha - “प्राणिकुल वैदनीयं दुःखम्।” (पाणिन्य योग)

Disagreeable or unpleasant feeling is called as Duhkha.

Another meaning of Sukha & Duhkha:

Sukha - Su = Avikrut i.e. normal or natural working; kha = Srotas.

Duhkha - Du = Vikrut or vinguna i.e. abnormal, defective; kha = Srotas.
"CONSOLIDATED MEANING OF SHOOL"

Any type of 'Pratikool Vedana' i.e. disagreeable feeling - pain anywhere in the body; may be generalised or localised; acute or chronic, continuous or intermittent, mild - moderate or severe; is considered as SHOOL.

"DEFINITION OF PAIN"

Pain is one of the most distressing features of disease - a protective mechanism for the body. It occurs whenever any tissues are being damaged and it causes the individual to react to remove the pain stimulus.
**Vedanadhishthan (Site of Pain)**

वेदनानामः अधिहारनामः मनो देहक्ष्य संदृष्टिः।

केसालोम नाखायाग्रतमल द्रव गुणः विना॥ (च.शा. १०३६)

All the body Manas & Indriyani (Excluding hairs, tips of the nails, faces and urine) is the site of pain.

एता: (त्वच:)पदंग शरीरम अवतत्व तिथिति॥ (च. शा. ७/४)

As vedana it is a manifestation of sparsha - Pratyaksha

Twacha is the main Adhishthan of Vedana, Twacha covers all the body externally i.e. Bahya Twacha as well as internally i.e. Abhyantara Twacha (Mensadhara Kala - May be epithelium)

खर द्रव चन उण्ठं भूजलानिल तेजसाम॥

आकार्यस्य अप्रतियोग दृष्टं हिंग यथार्थम॥

लक्षणं सर्वं साध्यं एतं स्थर्मं गोचरशम॥

स्पर्शनिद्रियवियः स्त्राः ही स विषयः॥ (च. शा. १२/२३)

स्पर्शनिद्रिय संस्पर्शः स्त्राः मानस एव च।

द्विचितं: सुखदुःखाभेदानाम् वेदनानाम् प्रवत्तकः॥ (च. शा. १०३३)

Sparshanendriya and its Adhishthan - Twacha both are mainly made up of Vayu. That is why according to Tulya-Yoni siddhant, both of them are recepters of Vishesh Guna of Vayu i.e. Sparsha and hence Vedana:

तैःक्स्पर्शनिद्रियं इंद्रियं व्यापकं चेत: समवानि,स्पर्शनिद्रियं व्यापिकं अभि च चेत॥(च. सू. ११/३८)

Is all the Indriyani and Manas are covered by Sparshendriya become Ashisthan of Vedana.
AETIOLOGY OF SHOOL

Vatadosh (Aggravated) is main cause of all the types of Shool. While answering the question of ‘Agnivesh’, about the cause of Vedana; ‘Atreya Maharshi’ says that -

“धीरूतिस्तुतिविस्मिता: संप्राचलि: कालकर्मणाम। असात्म्यायायैत्यशेषिन्तत्त्वायुः ख्येतुः॥”

Disfunctions of ‘Dhee’ (Intelectual), ‘Dhriti’ (Potential) and ‘Smriti’ (Memory); ‘Kala samprapti’ (Ritwadi Season) and ‘Karma samprapti’; Asatmya - Indriyartha samyog - These are the basic causetive factors of Vedana (Pratikool).

Disfunctions of Dhee, Dhriti, and Smriti are also termed by ‘Charak’ as “Pradnyaparadha”.

‘Samanya Hetu’ of Shool described by Sushruta are as follows -

“वातमुख्यप्रीच्याणां निष्ठाहातिस्तोह्रणात्।
असरीयाभिधानायासारस्यक्षेपिन्त्वे सेवनात्॥
पानीपनात् सुल्काले विरुहाना च सेवनात्॥
पित्रानुरुक्षिप्तानासुपयोगालक्ष्येव च॥
एवं विधानं द्रव्यामल्येवं चौपसेवनात्॥” (सु. ४११७)
Aetiology of Vataja Shool

A) Aharaja hetu: Rasa - Kashaya, Tikta, Katu
   Properties - Excess sheet, Ruksha, Laghu,
   Specifications - Excess fasting ir starvatopm. Viruddha sevan.
   Adhyashana (again and again eating), Shimbi - Viroodha (dicotyl cereals especially germinated), dried meat, dried vegetables.

B) Viharaja hetu: Over physical stress, over exercise, travelling, falling, over laughing, excessive talking or loudly talking, excess sexual intercourse, suppressing the natural urges like defeacation, micturation, flatus, ejaculation etc. awaring at night.

C) Manas hetu: Mental stress, Sorrowness, fobia, anxiety.

D) Kalaja hetu: Greeshma & Varsha Ritu, Dump & cloudy eather, cold, weather, last 1/3 part of day and night, last phage of digestion, old age.

E) Pradhanik hetu: Abhighat (Trauma)
Aetiology of Pittaja Shool

A) Aharaja hetu: Rasa - Katu (Pungent), Amla (Sour), Lavan (Salty),
Properties - Ati Teekshan (irritant) Ati - Ushna (hot), Vidahi, Oily
Specifications - Seesame, groundnuts, fermented foods, see food like fishes, kanji, Alcoholic drinks, virruddhaahar, curd, excess fasting, irregular diet.

B) Viharaja Hetu: Over exposure to hot sun rays, working near the fire, excess sexual intercourse, over physical exersion, sleeping at day time.

C) Manas hetu: Excessive anger.

D) Kalaja hetu: Varsh, Sharad and Greeshma ritu, Madhyam vaya i.e. Middle age, middle 1/3 part of day and night, Abhukta kala (empty stomach) second phage of digestion.

E) Pradhanic hetu: Consumption of Atieekshna & Ati Ushna Substances, Kshara (alkalies and acids) & irritant poisons like Dhatura, Gunja, Jayapal etc.
Aetiology of Kaphaja Shool

A) Aharaja hetu : Rasa : Madhur, Amla, Lavan.
   Specifications : Sea foods, like fishes, Meat of the animals from Anoop desh (Costal area) Curd, Milk and its products like Kilat, Rabadi, curd, Sugar cane Products like sugar and Jaggery etc. starchy substances like potato, sago, sesame, excessive oily and fatty substances heavy food, over eating again and again eating.
B) Viharaja hetu : Day dreams, Sedentory work.

C) Kalaja hetu : Early age (Childhood), Shishir & Vasant ritu, First 1/3 part of the day and night, Just after eating the food and first phage of the digestion of food.

D) Manas Hetu : Not specific except no tension, no exnity.

E) Pradhanik hetu : Ati Snigdha, Atigurr and viruddha sevan.
Types of Pain i.e. Causative Factors (Modern View)

- Mechanical stimulations to Nerve endings.
- Tissue under tension or stretched.

Cutting Pain

Breaking Pain - Injuries to Nerves.

Itching - Histamine - A chemical mediator produced by the process of Inflammation.

Burning Pain - Serotonin and Bradykinin - Chemical mediators produced by the process of inflammation.

Pain - Prostaglandin, Prostaglandin E2 - Chemical mediators produced by the process of inflammation.

(Both also potentiate the ability of histamines and kinins to cause pain)

Pain - Perenteral administration of hypertonic or hypotonic solution (Especially potassium chloride)

Headache: Dilatation or stretching of Intracranial vessels.

Tension Headache - Rigitidy of Neck muscles, Emotional distrubances.
▼ Samprapti (Pathogenesis) of Shool

General pathogenesis of any disease or diseased condition is described by Sushruta as follows:

कुपितांहि दोषाणं शारीरे परिधानताम्।
यत्र संगठि वैगुण्यात् व्याधि: तत्र उपजायते॥ (मु. शु. २४/१०)

Aggravated doshas (Prasaravastha) + defective dushya = Disease.
Sushruta has described the pathogenesis of Shool, very shortly as follows:

वातु: प्रकृतिः कोरे शूलं संजन्येत् भृगम्।

Vishesh Samprapti of ‘Shool’ is also shortly described in Madhav-nidan; as follows:

a) Vataja Shool: वातु: प्रज्वलो जनयेकिले शूलं हृद्यार्थम् पृष्ठ त्रिक बस्ति देशे। (मा. नि. २६/४)

b) Pittaj Shool: ............पितु प्रकृत्याशु करोति शूलं। (मा. नि. २६/७)

c) Kaphaja Shool: ............क्लेष्या प्रकृतिमु पुष्पाम्य करोति शूलं। (मा. नि. २६/९)
\[ \text{\textbullet \ "Samprapti - Pata" of Shool} \]

1) Dosha - Pradhan - Vata, Apradhan - Pitta & Kapha

2) Dushya - All strotasas & dhatu especially Mans, Asthi, Majja, Twacha, Sandhi, Snayu, Kandara

3) Udbhava Sthan (Origin) : Kosthha i.e. Pakwashaya.  
   वायुः प्रकृति: कोश्ठा शूलं सजनयेत् भूराम्।  
   As vatadosh is originated from pakwashaya and main site of it.

4) Vyaktisthan : All over the body (Except hairs, nails, faces etc); as -  
   वेदनानामू अधिवानाम प्रमो देहरूच सैक्तियव।  
   केशालेख नखायार्य मल इव गुणेः विना॥ (च.शा. १/२६)  

5) Vyadhimarga : All the three i.e. Abhyantara, Bahya & Madhyam.

6) Swabhav : Visham (due to Vat - Pradhanya).

May be Ashukari on Chirakari.

May be Mrudu, Madhyam or Darun.

Stages : a) Production of Shool
b) Transmission of Shool.
Vatadosh Plays an important role in the pathogenesis of shool.

It can be proved as follows:
A) Twacha (External & Internal) - which covers all the body, as well as all other
Indriyani (Adhishtan) is main site (Adhishtan) of vedana and it is also a main site of
Vata dosha.
B) All the Indriyani and manas are beared & controlled by Vayu (Pran-Vayu)

C) By linking Twacha - Sparshanendriya - Menas and Atma; shool is transmitted to
the Atma by Pran Vayu only.
D) Shool is mainly produced by the aggravated Ruksha and Sheet property of Vata
dosha.
E) If we see comparatively the symptoms having different types of Vedana, the dis-
eases or diseased conditions produced by aggravated vata are quite more in number
E.g. vata prakop, Vata vridhdi, Vatakshaya, Samavata, Avaruta, Vat, Nanatmaja Vata
vikar etc.
Production of Shool

As per general pathogenesis of any disease or diseased condition “Shool” may be as disease or a symptom from any other disease; is produced by “Dosha - Dushya Sammooorchhana” i.e. a pathological fusion of that much aggrevated dosha (in the stage of Prasaravstha). & vigan i.e. defective Dushya.

- दोष दुष्प्रभूतिना जनितो व्याधि :।
- कुपिताः हि दोषाणां गरीरे परिष्ठाताम् ।

यद्र संग ख वैण्यात् व्याधी: तत्र उपजापते॥(मु. मृ. २४/१०)
-ख वैण्यात् एति खोतो वैण्यात् ...............॥(डल्हन)

Production of Shool:
Prakr̥ṣīta Doshas (Prasaravashtha) + Vigun (defective) Dushya

Pradhan - Vayu
Apradhan - Pitta
- Kapha

Pradhan - Twacha
External or Internal
(skin) (Epithelium)
Apradhan - Mansa
Asthi
Majja
Snayu
Kandara
Sandhi

(Pathological Fusion)
\textbf{\textcolor{red}{\textbullet} Role of Vata dosha in production of Shool}

* Vata is the main dosh in pathogenesis of shool.
* Vata is the only responsible factor for the transmission of shool.
* Vata is the main dosh in the production of “Shool”.
* The properties of vata dosh - Sheet and Rooksha produces shool mainly.

वायो: पात्रस्यात कोषो मार्गस्य आवेण वा। (च.चि २८/५६)

There are 2 types of Vata prakop. viz.

A) Dhatukshayajanya & B) Margavarodhajanya

A) Dhatukshayajanya Vataprakop:
It occurs due to

1) Malnutrition - Starvation of dhatus - Inadequate on improper diet, Over fasting.

2) Faulty digestion as in Ajeerna Jatharagnimadya and Dhatvagni manyya and
malabsorption as in Grahani.

3) Specific diet - Rasa - Tikta, katu, kashaya
   Properties - Laghu, Ruksha
   Specifications : Karela, Methi, Chilly, Jwar, Bajara, Kodrav, Nagli,Toast, fried grains, dried vegetables, dried fishes, drier meat, shimi dhanya etc.
Role of Vata - dosha in Production of Shool
Dhatukshayajanya Vata Prakop

4) Behaviour (Vihar) Excessive acts like - walking, running, swimming, jumping, travelling, fighting, falling, talking or singing loudly, doing exercise, physical stress.
- Vegavarodh (Supression of natural urges like defoecation, micturation)
- Pravat (direct air flow from fan, coolers etc)
- Excessive shodhan therapy, i.e. Atiyog of Vaman, Virechan etc.

5) Psychologically -
- excess sexual desire, anxiety, sorrowness, fobia, mental stress.

6) Naturally - Old age, Adan kal, Greeshma & Varsha ritu, last 1/3 part of the day and night, katu-avasthapak i.e. fianl stage of digestion, Jangal desh, Vata Prakruti etc.

7) Aghat : trauma or blow on dhatu.

8) Ab-Dhatu Kshaya (Dehydration) : due to atisar, pravahika, visuchika, chhardi, Teekshnavegi jwar (high grade fever) Ushmaghat, Dagdha Vrana (Burns). etc.

9) Sakshat Dhatukshaya - As Rasakshaya due to Atisar, Chhardi etc. Raktakshaya - due to Pandu, Raktapradar, Raktapitta, Traumatic haemorrhage, Maleria.

Mans - Medokshaya due to karshya, Rajayukshma Asthikshaya due to Asthi Saushiryia, Asthimardavata, Majja Kshaya due to Jarashosh and shakra skryas due to ati vaya (excess sexual act) etc.

10) Excess shodhan therapy - Ab-dhatu kshaya and sakshat Dathukshaya both.
Role of Vata-dosha in Production of Shool

Pathogenesis of Shool due to Dhatukshayajanya Vata Prakop

<table>
<thead>
<tr>
<th>Aggravated Properties</th>
<th>Pathological Manifestations</th>
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<tbody>
<tr>
<td>Ruksha, Khara, Parush,</td>
<td>Dryness, friction, dysfunctions</td>
</tr>
<tr>
<td>Ruksha + Sneet</td>
<td>shool, (diff. types of pains)</td>
</tr>
<tr>
<td>Laghu + Ruksha</td>
<td>Distruption of body elements, saushirya</td>
</tr>
<tr>
<td>Seeta</td>
<td>Stambhan, Sankoch (Contraction)</td>
</tr>
<tr>
<td>Chala</td>
<td>Trimbling, pulsating, tremours,</td>
</tr>
<tr>
<td>Chala + Ruksha</td>
<td>Dysfunctions, friction, pains.</td>
</tr>
</tbody>
</table>
Role of Vata - dosh in production of shool

B) Margavarodhajanya Vata Prakop:

It occurs due to obstruction in the pathway of the vayu (mainly Rasavaha Dhamani). The cause of obstruction may be internal or external. These are as follows:

1) Internal Causes:

1) Sang: i.e. static action of aggravated vayu as -

2) Sankoch: i.e. Contraction - narrowing of vessels - a action of aggravated Vayu (by Sheetaguna)

3) Pichchhilatva: i.e. stickyness due to - i) aggravated kapha dosh and ii) Ama.

4) Styanatva: i.e. excess stickyness due to Sansarga of Pichchhil guna of Kapha or Ama and Ruksha gunu of Vayu.

5) Ama: By its properties like Bahu, Pruthu, Asamyukta.

6) Gatisanga: due to aggravated properties of Kapha like Guru and Mand.

7) Meda dhatu: Coating of Samamdeda in the pathway of Vayu; as described in pathogenesis of Medoroga. मेदसा ५५ वृत्त भार्यत्वात् वायुः कोऽहेतु विषेशतः। (वा.पू. २९/६)

8) Asthi dhatu: Coating of Ashtai - Asthidhatu in vessels or pathway of vayu creates Dhamani Kathinya (Arteriosclerosis).

9) Kleda: It means minute excreta Produced in the process of metabolism. It is similar to Ama. Saturation or deposition of kleda produces obstruction in the pathway of Vayu.

आयूष्मा अक्षरसं केविन्त, केवित तु मलसंचयम्।
Role of Vata - dosh in production of shool

10) Sookshma Mala: i.e. minute excreta - bi-products of metabolism, Excess formation of Sookshma mala in the body (as in Rajayakshma & Prameha etc). or saturation in the body due to Malasanga as saturation of Nasamala, Akshimal, Khamala, etc. create obstruction in the pathway of Vayu.

11) Vegavarodh: i.e. suppression of natural urges like micturation, defeccation, ejaculation etc. As these excrete not expelled out time to time, obstruct the pathway of Vayu.

12) Shoth: Inflammation or swelling of the walls of vessels or pathway of vayu narrows the lumen and causes obstruction e.g. thrombopyleitis.

13) Siragranthi: e.g. Air emboli, thrombosis in vessels cause obstruction.

14) Vruddhi: i.e. Neoplasm may be benign on maligilent in the canal or ducts or pathway of vayu e.g. Ca - oesophagus, Ca- Rectum etc.

15) Ashmari: Body fluids like urine, semen, pitta, kapha etc. become dried, solid and calculas form due to ruksha gune of vayu and ushna guna of pitta is create obstruction in pathway of vayu e.g. pittashmari, mutrashmari etc.

16) Fibrosis: Trauma due to over manipulation, instrumentation, burns etc. produces tissue damage followed by fibrosis and constriction which creates obstruction e.g. urethral stricture after repeated catheterization.

17) Foreign bodies: They obstruct the pathway of vayu e.g. bolus of food in larynx etc.
\textbf{Role of Vata-dosh in Production of Shool}

\textbf{B) Margavarodhajar ya Vataprakop}

II) External Causes: These causes remain outside the vessels or pathway and create lot of pressure on that; thus become cause of obstruction. These are as follows:

1) Massive Inflammation of a organ nearest to pathway of vayu e.g. obstructive jaundice due to haepatitis.

2) Hypertrophy of the nearest organ e.g. enlarged tonsils; enlarge prostate etc.

3) Enlarged lymph node: e.g. specific or non specific lymph adenopathy is in tuberculosis, hodgkins disease, non hodgkins lymphoma, Infection etc.

4) Neoplasms: may be benign or malignet e.g. anurea produced by rectual carcinoma.

5) Normal or abnormal growths: e.g. normal - oedema on feet in pregnancy
   abnormal - Oedema on feet in Ascitis

6) Hemination, Protrusion on Prolaps.
Role of Vata - dosh in production of Shool
Pathogenesis of shool due to Margavarodhaja Vataprakop.

External Cause

Pressure on the walls of Pathway

Internal Cause.

Pressing the walls

(Direct)

Obstruction (May be partial or total)

Accumulation of substance circulating from pathway.

More accumulation

More the pressure and irritation of the walls of pathway.

Vimargaman of that substance

Shool.

Shool (Pail) due to pressure syndrome

Rupture of the walls of the pathway.

(e.g. Cerebral haemorrhage due to severe hypertension)

↓

Shool
ROLE OF PITTA DOSH IN THE PRODUCTION OF 'SHOOL'

PROPERTIES: → "पित्तस्य सत्तेवालानुभोग्य कछु विश्वे तरं प्रवाह।" (चु.सू. ११५)
"पित्तस्य दीप्तां द्रवं पुनः प्रति नीलं पीतं नर्त्यैव च।
उल्लों कुर्कु रसं चेम्बर विदविधं अम्लमैव च।।" (सू.सू. २१२२)

<table>
<thead>
<tr>
<th>Aggravated Properties</th>
<th>Pathological Acts</th>
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<tbody>
<tr>
<td>Ushna</td>
<td>Jwar, Ushma, Daha, Araktata</td>
</tr>
<tr>
<td>Ushna + Teekshna</td>
<td>Tod, Osha, Plosh, Choisha, Kwathitata, Darana, Ulcers, Cutting pain,</td>
</tr>
<tr>
<td>Inflammation</td>
<td>Kshobha, Trushna</td>
</tr>
<tr>
<td>Ushna + Teekshna + Drava</td>
<td>Pus formation, Kotha (Gangreen), Vistragandha, excess perspiration, excess</td>
</tr>
<tr>
<td></td>
<td>discharge</td>
</tr>
<tr>
<td>Drava</td>
<td>Nausea, Vomiting, Burning pain at throat and chest</td>
</tr>
<tr>
<td>Ushna + Rooksha (of vayu)</td>
<td>Ati-trushna, Twak-Darana</td>
</tr>
</tbody>
</table>
**Pecularity:** Pain gets aggravated during empty stomach and second phase of digestion of food i.e. Amla avashthapak.

**ROLE OF KAPHA DOSH IN THE PRODUCTION OF ‘SHOOL’**

**Properties:**

\[ "\text{गुरु भ्रीम शुद्ध परिष्कार मधुर स्वेद बिधित :} | | \] (कस: ७१६१)

**Kapha prakop**

<table>
<thead>
<tr>
<th>Sheet</th>
<th>Snigdha</th>
<th>Guru</th>
<th>Manda</th>
</tr>
</thead>
</table>

Guru, Pruthu, Sthool, Pichchhila, Manda

- Agnimandya
- Ajeerna
- Amotpatti

- Margavarodha
- Vataprokop
- Shool

**Pecularity:** Chronic, Mild, Associated with heavyness. Get aggrevated just after meals, early in the morning and after heavy oily Abhishyandi food.
ROLE OF KAPHADOSH IN THE PATHOGENESIS OF 'SHOOL'

<table>
<thead>
<tr>
<th>Aggravated properties</th>
<th>Pathological acts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sheet, Snigdha, Guru, Manda, Madhura</td>
<td>Agnimandya - Ajeerna - Amotpatti - Margavarodha - Shool</td>
</tr>
<tr>
<td>2. Guru, Chool, Pruthu, Manda, Panchchhil</td>
<td>Margavarodha - Shool</td>
</tr>
<tr>
<td>5. Panchchhil + Manda + Sandra</td>
<td>Upalepa - Dhamanipratichaya</td>
</tr>
<tr>
<td>6. Panchchhil + Sheet + Klinna</td>
<td>Kandu (Itching)</td>
</tr>
<tr>
<td>7. Panchchhil + Rooksha (Vayu)</td>
<td>Styans - Margavarodha, Shwas, Kasa etc.</td>
</tr>
<tr>
<td>8. Mrudu</td>
<td>Shlathangatwa (looseness or pumbness)</td>
</tr>
<tr>
<td>10. Guru + Sthir + Sanhat + Manda</td>
<td>Hypertrophy, Obesity, Kriyasang</td>
</tr>
</tbody>
</table>
Transmission of Shool

Atma is a receptor of any kind of sensation (may be Anukul or Pratikul) & this process is known as "Pratyakshanubhuti".

First of all a wish of that particular sensation creates at the Atma then the following link is established.

Atma ⇒ Manas ⇒ Indriya ⇒ Adhishthan ⇒ Vishayartha

Then returning by the same route sensation reaches to the Atma i.e.

Vishayartha ⇒ Adhishthan ⇒ Indriya ⇒ Manas ⇒ Atma

But while thinking: transmission of Pain without any wish it is transmitted to the Atma as follows:

Shool ⇒ Sparshanendriya ⇒ Manas ⇒ Atma ⇒ Twacha

There is Vayu (Pran-Vayu); who links these stations in the transmission of Shool.

वायु: तत्त्वंतरगतं: ............अवृत्तं चैव च चेताकारानाम, नियतं प्रजेता च मनसः;
सवैद्रियाणामुद्धोजकं, सवैद्रियाध्याऩामभिविधा: ...........।(च. सू. १२/८)

..........प्राणो अत्र पूर्णं:।
उर: कंठचरो हुष्टि: हर्देश्विर चित्र पृक्त।। (अ. ह सू. १२/४)
DUSHYA VIKRUTI IN THE PATHOGENESIS OF 'SHOOL'

**Dushya:** Dhatu, Updhatu, Srotas, Mala etc.


We can get a symptom - Shool in following pathological conditions

1. Kshaya: Dhatu - Rasa, Rakta, Mansa, Meda, Asthi, Majja, Shukra
   Mala - Purish, Mootra, Swed
2. Vriddhi: Dhatu - Rasa, Rakta, Mansa, Meda, Majja
   Mala - Purish, Mootra, Swed
3. Dushti: Srotodushti - Pranavaha, Rasavaha, Raktavaha, Asthivaha, Majjavaha, Pur...vaha, Moortavaha, Swedvaha
   Dushyagata Vata - Twaggatavata, Raktagatavata, Mansagatvata, Medogatvata, Asthimajagatavata,
   Snayugatavata, Siragatavata, Sandhigatavata, Amashhayagatavata, Akwashhayagatavata,
   Koshthagatavata, Gudagatavata, Sarvangkupitvata.
4. Dushyavrita Vata - Raktavritavata, Mansavritavata, Asthyavritavata, Majjavritavata, Annavritavata,
   Moostravritavata, Malavritavata.
Control of Shool According to Transmission

Twacha, Sparshanendriya, Manas and Atma these are the main stations in the transmission of Shool while Vayu - Pran Vayu is a linking agent. Treatment effective on each of these factors may discontinue the link and prohibits the transmission of shool to Atma and thus controls the Shool.

1) **Twacha** : Local anaesthetic drugs like Xylocain.
   - Snehan, Swedan, Lep, Parishek, Abhyang, Local anti inflammatory drugs
   - Some diseases like leprosy, diabetes melitus etc.

2) **Sparshanendriya** : General anaesthesia.
   - Diseased conditions like Syncope, coma, Arishta Lakshan.

3) **Manas** : Prawar Satwa.
   - Hypnotics & depressent drugs like Ahiphen-Khurasani, Ajavayan, Barbi turates, opeates, diagepam, Pethidine, Morphin, Fortwin etc.
   - Hypnotism.
   - Occupational therapy.
   - Yoga Therapy (खित्र बृहि निरोध : )
   - Satvavjay Chikitsa

4) **Atma** - Adhyatma, Moksha (च.शा. १/१३२)

5) **Vayu** - Vatanashan, Vatanuloman, Pranayam etc.
Types of Shool

A) According to site :
   i) Ekanga (Localised)  ii) Sarvanga (Generalised)

B) According to Onset :
   i) Ashukari (Acute)    ii) Chirakari (Chronic)

C) According to severity :
   i) Teevra (Severe)     ii) Madhyam (Moderate) iii) Manda (Mild)

D) According to Persistance :
   i) Nitya shool (continues) ii) Vichchhinna (Interminant)

E) According to characteristics :
   e.g. Toda, Bheda, Chchhedan, Udvestan, Sfutun, Sada, Shool, Peedan etc.
### 'SHOOL' - CLINICAL MANIFESTATION

<table>
<thead>
<tr>
<th>Dhatukshayaja</th>
<th>Margavrodhaja</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synonyms:</strong> Nirupstabhita, Niram</td>
<td>Upstambhit, Sama</td>
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<tr>
<td><strong>Aggravated by:</strong> Early in the morning - just after sleep, heavy and Abhisayandi diet, internal or external use of oils, by pressing the affected parts, in cloudy weather after more rest.</td>
<td>At the evening, by fasting and Rooksha, Katu, Teekta Rasa, over exertion, physical stress.</td>
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<tr>
<td><strong>Relieved by:</strong> Movements, afternoon. swedana</td>
<td>After a rest or sleep by pressing the affected parts, by internal or external use of oils.</td>
</tr>
<tr>
<td><strong>Specification:</strong> Pain moderate to severe, swelling common, heavy-staimitya, movements mostly restricted</td>
<td>Pain mild to moderate, swelling rare, emptiness, dryness, movements painful &amp; sashabda.</td>
</tr>
</tbody>
</table>
Review of the groups of Pain controlling drugs from CHARAKA SAMHITA

I) Shool Prashaman Gana:

Most of the drugs from this groups are katu-katu Ushana by accordingly Rasa vipak and veerya and having properties like laghu ruksha, Teekshna, Kaphavataghna and Vatanuloman.

II) Anagamarda Prashaman Gana

Rasa - Madhur Tikta, Vipak - Madhur / Katu, Veerya Anushana sheet
Properties - Laghu, Rukshya, Brunhana, Snigdha.

III) Vedanasthapans Gana:

Rasa - Kashaya - Tikata, Vipak - Katu, Veerya - Sheet
Properties - Ruksha, Laghu, Teekshna.
Review of the groups of Pain controlling drugs from SUSHRUT SAMHITA

I) Vidaringandhadi Gana:

Properties:

II) Varunadi Gana:

Properties:

III) Veeratarvadi Gana:

Properties:

IV) Pippalyadi Gana:

Properties:

V) Brihatyadi Gana

Properties:
<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
<th>BOTANICAL NAME</th>
<th>RASA</th>
<th>VIPAK</th>
<th>VEERYA</th>
<th>GUNA</th>
<th>KARMA</th>
<th>ROGAGHNATA</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pippali</td>
<td>Piper longum Linn</td>
<td>Katu</td>
<td>Madhura</td>
<td>Anusha-</td>
<td>Teekshna</td>
<td>Vatakaphahara, Deepan,</td>
<td>Jwara, Shwas, Kasa,</td>
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<td>sheeta</td>
<td>Laghu Snigdha</td>
<td>Pachan, Vrishya</td>
<td>Gulma, Shool, Arsha,</td>
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<td>Hikka, Prancaha,</td>
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<td>Kushtha</td>
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<td>2.</td>
<td>Pippalimool</td>
<td>Piper longum Linn</td>
<td>Katu</td>
<td>Madhura</td>
<td>Ushna</td>
<td>Laghu Rooksha</td>
<td>Vatakaphahara, Deepan,</td>
<td>Udara, Anah, Gulma,</td>
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<td></td>
<td>Pachan, Bhedan, Pittakar</td>
<td>Pleeha, Krimi, Shwas,</td>
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<td>Kshaya</td>
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<td>3.</td>
<td>Chavya</td>
<td>Piper retroflectum</td>
<td>Katu</td>
<td>Katu</td>
<td>Ushna</td>
<td>Laghu Rooksha</td>
<td>Kaphavataghna, Deepan,</td>
<td>Shool, Shwas, Kasa,</td>
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<td>Pachana, Vatanuloman</td>
<td>Kshaya, GaraVish,</td>
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<td>Kaphavataghna, Deepan,</td>
<td>Krimi</td>
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<td>Pachana, Vatanuloman,</td>
<td>Shool, Krimi, Grahani</td>
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<td>Lehana, Bhedan, Grahi</td>
<td>Shoth, Pandu, Udara,</td>
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<td>Shwitra, Kasa, Kushtha</td>
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<td>4.</td>
<td>Chitrak</td>
<td>Plumbago zeylanica</td>
<td>Katu</td>
<td>Katu</td>
<td>Ushna</td>
<td>Laghu Rooksha</td>
<td>Kaphavataghna, Deepan,</td>
<td>Shool, Krimi, Kasa,</td>
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<td>Pachana, Vatanuloman,</td>
<td>Shoth, Udara, Hridrog,</td>
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<td>Lehana, Bhedan, Grahi</td>
<td>Anah, Arsh, Slipad,</td>
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<td>Ajarsna, Kamala, Hikka</td>
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<td>5.</td>
<td>Nagar</td>
<td>Zingiber officinale</td>
<td>Katu</td>
<td>Madhura</td>
<td>Ushna</td>
<td>Laghu Snigdha</td>
<td>Kaphavataghna, Deepan,</td>
<td>Shool, Krimi, Kasa,</td>
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<td>Pachana, Vatanuloman,</td>
<td>Shoth, Udara, Hridrog,</td>
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<td>Grahi</td>
<td>Anah, Arsh, Slipad,</td>
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<td>Ajarsna, Kamala, Hikka</td>
</tr>
</tbody>
</table>
SAMPRAPTIBHANG BY PANCHAKOL

*Dravyaguna:* Name - Panchakol [ Pippali, Pippalimool, Chavya, Chitrak, Shunthi]
Rasa  - Katu
Vipak - Madhur [Pippali, Pippalimool, Shunthi]
Katu [Chavya, Chitrak]
Veerya - Ushna [Except Pippali - Anushnasheet]
Properties - Laghu, Rooksha [Except Pippali & Shunthi - Snigdha] Teekshna [Chitrak]
Doshaghanata - Kaphavatnashak - Vatanulomak, Slight Pittaprapokap
Action - Deepan, Pachan, Shoolghana, Rochak, Grahi, Krimighna, Vatanuloman, Amapachan etc.
Rogaghnata - Shool, Shwas, Kasa, Shoth, Krimi, Gulma, Pratishyay, Pleeha, Udar, Anah,

**Koshthagata**

Vata.

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ushna, Snigdha</td>
<td>Vatashamana, Vatanuloman</td>
</tr>
<tr>
<td>Ushna, Teekshna, Katu, Rooksha</td>
<td>Agnideepan, Amapachan, Kaphanson</td>
</tr>
<tr>
<td>Ushna, Teekshaa</td>
<td>Margavarodhanashan, Lekhan, Srotoishdhan</td>
</tr>
<tr>
<td>Katu, Ushna</td>
<td>Krimighna</td>
</tr>
<tr>
<td>Madhur Vipak (Pippali, Pippalimool, Shunthi)</td>
<td>Minimises Pittaprapok</td>
</tr>
<tr>
<td>Slight Snigdha (Pippali &amp; Shunthi)</td>
<td>Minimises Rookshata</td>
</tr>
</tbody>
</table>
"Chikitsadhikrut Purush"

Twacha ↓ Sparshanendriya ↓ Manas ↓ Atma ↓ Shool!

An Ayurvedic Concept of the Anudhooti of Shool.
The anterior and lateral division of the anterolateral pathway.
Transmission of both acute sharp and slow chronic pain signals into and through the spinal cord on the way to the brain stem.
Transmission of pain signals into the hind-brain, thalamus and cortex via the fast pricking pain pathway and the slow burning pain pathway.
Mechanism of referred pain and referred hyperalgesia.
The analgesia system of the brain and spinal cord, showing inhibition of incoming pain signals at the cord levels.
1. Plant of *Pippali* (Piper longum) with fruits.
2. Plant of *Pippali* - (*Piper longum*) with roots.
3. Plant of *Chitrak* (Plumbago zeylanica)
4. Plant of *Chitrak* (Plumbago zeylenica) with roots.
5. Plant of *Shunthi (Ardrak)* (Zingiber officinale) with rhizome.
6. Dried fruits of *Pippali*

7. Dried & cut roots of *Pippali* i.e. *Pippali mool*.
8. Dried roots & stems of Chyavak (Piper retrofractum)
9. Dried roots of *Chitrak* (Plumbago zeylenica)
10. Dried Rhizomes of *Shunthi*.
11. *Panchakol Yavagoo - Sadhan Draya.* (A coarse power of *Panchakol* - used as a *Sadhan Dravya* for *Panchakol Yavagoo* in Gr. B.)

12. *Panchakol Choorna* (A fine power of *Panchakol* - A drug given for Gr. A.)