

AYURVEDA AND MODERN ASPECT OF SURGERY; RECENT ADVANCEMENT IN  
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## ABSTRACT

The Ayurveda system described separate modality for surgical and para-surgical intervention named Shalya Tantra which is considered as surgical science of ancient Ayurveda. The Ayurveda Shalya karma offers therapeutic advantages in several pathological conditions including Arsha, Jalodar Baddhagudodar, Mutrajvrudhi, Bhangandar, Kaphaj-lingnas and Mudhagarbha, etc. Shalya tantra offer Aasu kriya karanaath property, this branch involves utilization of Yantra, Sashtra, Kshara, Agni and Shlaka, etc. Sushruta the first surgeon of ancient time known as farther of classical surgery describes various approaches to perform surgical intervention for different therapeutic purposes. Sushruta develop cosmetic surgery and Sushruta Samhita is complete text which possesses information related to the problems of practical surgery. The post surgical measures of Ayurveda Shalya Tantra improves healing process and suppress chances of reoccurrence of surgical trauma therefore in many cases ancient Shalya karma provides complete relief. Present article emphasizes Ayurveda and modern aspect of surgery with recent advancement in surgical field.

**KEYWORDS:** Ayurveda, Shalya Tantra, Surgery, Shalya Karma.

## INTRODUCTION

*Shalyatantra* is branch of Ayurveda surgical medicine which works around surgical procedures for health maintenance purpose. *Shalyatantra* is ancient way of treating diseases by eliminating root cause of pathological problems through surgical and parasurgical procedures along with uses of medicines. *Shalyatantra* in Ayurveda occupied specific and important position amongst other branches due to its unique approaches and scientific expertise.<sup>[1-4]</sup>

The basis of ayurveda *Shalyatantra* merely belongs from the quotes and presentation of *Sushruta* in the form of *Sushruta Samhita*. The descriptions presented by *Sushruta* acts as an instruction manual for physicians to perform surgical interventions. It is evident that not only *Sushruta* but *Acharya Charaka* also advocated *Shalya Tantra* to treat some diseases which requiring immediate attention. *Bhagandar*, *Mudhagarbha* and *Arsha*, etc. are major pathological conditions which can be cured effectively using various modalities of *Shalya tantra*.

**Shalya Karma**

*Trividha Shalya Karma* involves *Purvakarma*, *Pradhana Karma* and *Paschat Karma*. *Purvakarma* describes

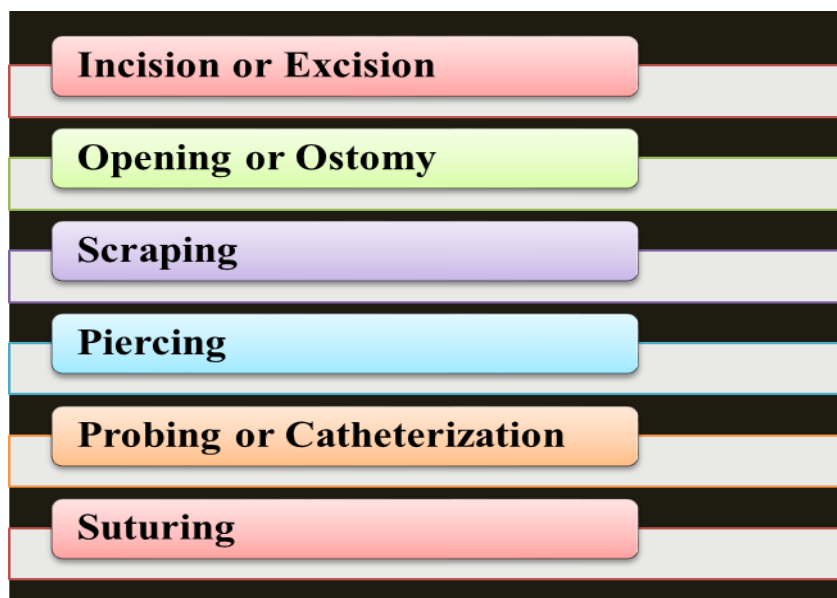
factors which deal with preoperative preparation; *Pradhana Karma* describes main operative procedures while *Paschat Karma* deals with post-operative measures.

In *Purvakarma* preparation made related to the surgical procedures including arrangement and sterilization of *Shalaka*, horns, cotton and *Sutra*, etc. Sterilization is requiring for *Thaila Paayana*, *Kshara paayana* and *Udaka Paayana*. Light food is advised to the patient before minor procedure while *Langhna* (fasting) advocated in case of serious complications e.g.; *Moodha garbha*, *Arshas*, *Ashmari*, *Udara*, *Mukha roga* and *Bhagandara*.

*Pradhana Karma* includes utilization of main surgical interventions i.e.; *Chedana*, *Bhedana*, *Lekhana*, *Vyadhana*, *Esana*, *Aharana*, *Visravana* and *Seevana*, etc. *Chedana* helps in *Bhagandara*, *Granthi* and *Arbuda*. *Bhedana* advised for *Vidradhi* and *Granthi*. *Lekhana* is indicated for *Upajihvika*. *Vyadhana* helps in *Bahuvidha sira* and *Mootra vridhhi*. *Esana* is good for sinuses and wounds while *Aharana* is useful for *Ashmari* and *Moodha garbha*. *Visravana* indicated for *Kushta* and *Palyamaya*. *Seevana* indicated for wound and suturing purpose.

*Paschat Karma* is post operative measures which include dressing of wounds, suturing, use of fumigation for disinfection purpose and antimicrobial medicines to prevent further infections. The fumigation of *Ashtanga dhupas* helps to maintain aseptic condition in surgical room before and after surgery. Suturing as *Paschat Karma* utilizes *Sutra* of silk, in post operative measures cotton, *Snayu* and jute, etc. also used. In *Paschat Karma* Ayurveda advocated various types of sutures including *Rujugranthi*, *Anuvellita*, *Gophanika* and *Tunna sevani*, etc.<sup>[4-8]</sup>

The major surgical processes associated with surgical interventions depicted in **Figure 1**. As per Ayurveda *Chinna*, *Bhinna*, *Viddha Prana*, *Kshata*, *Pichchita* and *Ghrsta*, etc. are various terminologies associated with *Shalya tantra*. Complete severance of a part of limb described as *Chinna*, deep injury to hollow region by piercing object is described as *Bhinna*, while *Viddha Prana* means puncturing without a hollow, *Kshata* resembles uneven injuries i.e., laceration, *Pichchita* means crushed injury due to a fall and *Ghrsta* indicates abrasion of the skin.



**Figure 1: Major Surgical Interventions.**

#### Equipments/Instruments

This branch of Ayurveda for surgical interventions utilizes different instruments/equipments or materials made from wood, stone, leaves, branches of trees, metals and other natural materials, etc. This branch utilizes surgical tools obtained from animals or birds including skin, teeth and horn, etc. Ayurveda advised uses of creeper or climbing plant instead of ligatures. Instruments also described for extracting *Shalya* which helps to extract foreign or extraneous substances from their place to prevent further pathogenesis. The names of *Shalya* instruments also given on the basis of their shapes or similarity with animals or parts of animals e.g., instruments look like lion forceps is termed as *Simhamukha* while *Shararimukha* look like *Sharari* bird. *Samdamsa Yantras* are common in modern surgery i.e.; spring forceps, dissection forceps and dressing forceps.

#### Recently Ayurveda incorporate much advancement in the field of surgery which includes:

- ✓ Development of training module
- ✓ Expansion of surgical procedures for different pathological conditions
- ✓ Innovation in less invasive technique which even require lesser time of suturing
- ✓ Utilization of modified instruments/equipments

- ✓ Novel suturing materials and innovation in *Bandhan* techniques
- ✓ Sterilization techniques of surgical equipments to avoid contamination
- ✓ Maintenance of aseptic condition while performing surgical intervention where chances of infections are more.
- ✓ Modification of *Shalyagar* to acquire patient and physician comfort
- ✓ Informed consent form is another feature of modern surgery in which patients or family members made aware about the procedures and complication of therapy
- ✓ Advancement in post-operative measure provides early healing effects and patient can join his/her work as earliest.
- ✓ Diagnostic instruments like *Nadiyantra* based on the principle of modern diagnostic tools.
- ✓ *Anushastra* with minimal invasive surgical measures i.e.; *Agnikarma* and *Jalaukavcharan*, etc.
- ✓ Novel system of drug delivery (nanotechnology) improves drugs bioavailability.
- ✓ Now a day's *Lepas* applied locally after pretreatment of skin due to which penetration of drug increases and effectiveness of drug also improved.

- ✓ *Panchakarma* acts as less invasive bio-cleansing procedure for surgical diseases.
  - ✓ Cosmetic surgery and adaptation of surgical ethics are major advancement of novel surgeries.
  - ✓ *Nasa-Sandhana* means rhinoplasty which is advanced forms of Ayurveda surgery and considered as reconstructive surgery.
  - ✓ *Karna-Sandhana* is reconstructive surgeries of ear lobules which can be performed in case of congenital anomalies or injury related to ear. Ayurveda described technique to repair ear using flap of cheek.
  - ✓ *Ostha Sandhana* means repairing of lip, this practice performed rarely.
  - ✓ Unique surgical techniques such as *Langalaka* and *Ardhalangalaka* helps to remove fistulous tract, while perineal lithotomy used to remove urinary stones and modern suturing technique to arrest bleeding.
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### Sterilization & Antiseptic Procedure

Sterilization & antiseptic procedures are advocated before and after surgical procedures using heat, steam and radiation, etc. *Sharangadahara* describes disinfection of sick room using fumes of *Neem*, *Pepper*, *Asafoetida*, *Jatamamsi* and *Shalmali*, etc. The modern surgery advise surgeon to cut short their hair and nails so to avoid any unwanted injury to the patient due to the hair or nails. It is also advised to wear white sterilized clothes while performing surgery.<sup>[7-11]</sup>

### CONCLUSION

*Shalya Chikitsa* performed under the heading of *Shalya Tantra* branch of Ayurveda which mainly provides therapeutic benefits in *Bhagandara*, *Arsha*, *Charmakeela*, *Kadara* and *Kshara*, etc. Different types of *Yantra* and *Upayantra*, etc. play vital role in *Shalya Chikitsa*, these *Yantra* and *Upayantra* made from natural materials, metals and animal belongings, etc. Ayurveda *Shalya Chikitsa* utilizes various procedures including *Chedya*, *Lekhya*, *Vedhya*, *Esya*, *Ahrya*, *Vsraya* and *Sivya* for therapeutic purposes.

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