



**CONCEPT OF SANDHANA KARMA W.S.R. TO KARNA SANDHANA, NASHA SANDHANA AND OSTASANDHANA**

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**ABSTRACT**

*Sandhan karma* is term mainly belongs from the Ayurveda branch of *Shalyatantra* elucidated by *Acharya Sushruta*. *Sandhan karma* is an ancient scientific discipline that can be compared to the plastic or reconstructive surgery of contemporary science. The traditional texts of Ayurveda also encompass descriptions on the reconstructive operation or plastic surgery. The various practice of the surgery mentioned by *Acharya Sushruta* in *Suhsruta Samhita* including descriptions of reconstructive surgery. *Suhsruta Samhita* also contains information about the other traditional approaches of surgical and para-surgical interventions. *Nasa Sandhan*, *Karna Sandhan* and *Oshtha Sandhan* are major approaches of *Sandhan karma* which described in details in present article.

**KEYWORDS:** *Ayurveda*, *Sandhan karma*, *Nasa Sandhan*, *Karna Sandhan*, *Oshtha Sandhan*.

**INTRODUCTION**

*Sandhan Karma* is a sophisticated discipline of Ayurveda that can be correlated with reconstructive surgery of modern science. Its roots trace back to the initial Rhinoplasty operation conducted by *Acharya Sushruta*, recognized as *Nasa Sandhan*. Additionally, *Acharya Sushruta* showcased concept of *Karna Sandhan* and *Oshtha Sandhan* as Lobuloplasty and Cheiloplasty respectively. The ancient practices of *Sandhan Karma* confirm the legacy of traditional approaches of Ayurveda science.<sup>[1-3]</sup>

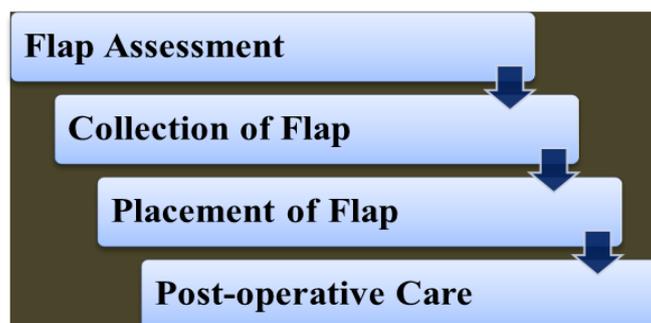
The term *Sandhana*, denotes the reconstruction of a body part, in this regard *Acharya Sushruta* detailed the principles of plastic surgery. *Ayurvedic* texts mentioned information about Rhinoplasty as *Nasa-Sandhana*, Auroplasty as *Karna Sandhana* and Lipoplasty as *Oshta-Sandhana*. The ancient practices of Indian surgery

contributed remarkably towards the field of plastic surgery. In times of war, the cutting of the body parts was a practice in ancient civilizations. Surgeons of those days rectified such issues by employing the skin flap to reconstruct the damaged body part.

Special emphasis was given to some unique procedures such as; *Nasa sandhana*, *Karna sandhana* and *Oshta sandhana*. Ancient *Acharya* elucidated various methods for reconstructing the damaged body parts. The reconstruction of nose, ear and lip were the major area of *Sandhana Karma*.<sup>[3-5]</sup>

***Nasa sandhana***

*Nasa Sandhana* involves four comprehensive procedures as depicted in **Figure 1**. These procedures performed sequentially for the reconstruction of damage nose or plastic surgery of nose.



**Figure 1: Steps of Rhinoplasty (*Nasa-Sandhana*).**

- ✓ Flap assessment involves utilization of a leaf for measurements, and then it placed on the *Gandaparshwa*.
- ✓ Collection of skin flap usually done by excised from *Gandaparshwa* based on the measurements done in earlier step.
- ✓ Placement of flap is performed over the recipient site. Skin flap is attached to the surface, followed by suturing.
- ✓ *Paschat Karma* of Rhinoplasty involves post-operative care in which *Avachoorana* with *Yastimadhu* and *Raktachandhana* is conducted. *Seka* of *Tila Taila* and *Snehapana* advises for early healing. The Flap is separated after healing gets completed and pedicle is detached.

The uses of a live pedicle flap with a local transposition technique, showcasing a higher flap acceptance rate and delivering a favorable cosmetic outcome. *Acharya Sushruta* provided guidelines for the reconstruction of a nose lost due to the trauma or disease. The portion of the nose measured and covered using a leaf. Piece of skin of measured size is dissected from the living skin of the cheek and reversed to cover the nose.

The nose prepare for attachment by cutting nasal stump swiftly, stitches the two parts, ensuring proper elevation of the skin by inserting tubes of *Eranda* into the nostrils for breathing purpose. The nose is enveloped in *Karpasa* and the patient is given *ghee* to drink and treated with purgatives. The adhesion becomes complete when the ulcer healed perfectly.<sup>[2-6]</sup>

#### **Karna sandhana (Otoplasty)**

There are various types of *Karna Banda Akruti*, associated with different types of ear injuries as causes of deformities of *Karna*. The indications of these methods of *Karna Sandhana* (Otoplasty) are as follows:

- **Nemi sandhanka:** Indicated for both fragments when each of equal in shape and size.
- **Utpala bhedyaka:** This used when the cut ear lobule fragments are equal in size and large.
- **Vallooraka:** Considered good practice for small and round cut fragments of ear lobules.
- **Aasangima:** Recommended when the proximal part of the cut ear lobule is larger.
- **Gandakarna:** This approach of *Karna Sandhana* (Otoplasty) used when the distal part of the cut ear lobule is larger.
- **Aaharya:** This technique is considered appropriate when both fragments of cut ear lobules are absent.
- **Nirvedhima:** Advised when fragments of cut ear lobules are absent from the root, with remaining part of tragus.
- **Vyayojima:** It is advised when one part of the cut fragment lobule is larger than the other.
- **Kapata sandhika:** Suitable for fragment of the cut ear lobule that is longer from the proximal side and the second part is smaller.

- **Ardha kappata sandhika:** It is indicated when the outer cut fragment of ear is larger in dimensions.

The first stage of *Karna Sandhana* involves analysis of *Karna Banda*, followed by the measurement of the required flap; subsequently *Uthpatana* of *Mamsa* from *Ganda Pradesha* is performed. *Pradhana Karma* encompasses the application of *Lekhana* over the recipient site. The live pedicle flap is carefully placed and sutured subsequently. Post operative care involves utilization of *Ama Taila Parisheka*, *Pichu* of *Amataila* and *Vardhana Chikitsa* after the healing of wound. *Siddha Sarsapa Taila* advises for *Abhyanga*, *Karna Sweda* and *Mardana* recommended followed by *Abhyanga* with *Shatvari*, *Eranda*, *Ashwagandha* and *Ksheera Taila*.<sup>[4-8]</sup>

#### **Oshtha sandhana**

*Oshtha Sandhana* means joining of a mutilated lip; this involves procedure similar to that used for *Nasa Sandhana* without the uses of *Erandanala*. The defect of the *Oshtha* is examined first; *Snehana* and *Swedana* performed followed by *Lekhana* over the defective surface of the *Oshtha*. This phase entails *Seevana Karma*, with the treatment of raw surfaces, followed by the application of *Shatadouthagrtha*. *Vranavath Chikitsa* is conducted for the joining of mutilated lip.<sup>[7-10]</sup>

#### **CONCLUSION**

*Sandhan karma* is Ayurveda approach expounded by *Acharya Sushruta*, this technique represents an ancient discipline that draws parallels with plastic and reconstructive surgery of modern science. *Acharya Sushruta's* pioneering Rhinoplasty operation, known as *Nasa Sandhan*, furthermore, Lobuloplasty described as *Karna Sandhan* and *Oshtha Sandhan* represents Cheiloplasty. Flap assessment, collection of fresh skin flap and placement of flap followed by suturing and post operative care, etc. are major approaches associated with *Sandhan karma*. The success of *Sandhan karma* mainly depends upon the *Lekhana*, *Seevana Karma* and *Vardhana Chikitsa*. The knowledge of ancient *Acharya* is unique with regards to the surgical practices and ancient practices of *Sandhan karma* empowered the wisdom of Ayurveda in the area of plastic surgery.

#### **REFERENCES**

1. Acharya JT, editor. Susruta Samhitha of Susruta, Sutrasthana; Karnavyadabandavidhi Adhyaya: Delhi: Chaukambha Sanskrit Sansthan, 2015; 16: 26 – 54.
2. Rana R E, Arora BS. History of plastic surgery in India. J postgrad Med, 2002; 48:76.
3. Acharya JT, editor. Susruta Samhitha of Susruta, Sutrasthana; Karnavyadabandavidhi Adhyaya: Delhi: Chaukambha Sanskrit Sansthan, 2015; 16, 12: 13 – 54.
4. Acharya JT, editor. SusrutaSamhitha of Susruta, Sutrasthana; Karnavyadabandavidhi Adhyaya:

- Delhi: Chaukambha Sanskrit Sansthan, 2015; 16, 27: 28 – 54.
5. Omkar Subhash Jyotik: Case Report: Sandhana Karma (Skin Grafting) As Vrana Karma for Wound Healing. International Ayurvedic Medical Journal, 2022; 22: 02.
  6. Acharya JT, editor. Susruta Samhitha of Susruta, Sutrasthana; Karnavyadabandavidhi Adhyaya: Delhi: Chaukambha Sanskrit Sansthan, 2015; 16, 14: 15 – 54.
  7. Sushruta Samhita (English translation) -Prof. K.R. Srikanth Murthy. Chaukhambha Orientalia, Varanasi, 2002; 1.
  8. World Vedic Heritage (A history of histories) - Institute for Rewriting Indian History Greater Kailash, New Delhi, 1984.
  9. SushrutaSamhita -KavirajAmbikadattaShastri, Chaukhambha Sanskrit Sansthan, Varanasi, 1997; 11.
  10. Acharya JT. Sushruta Samhita, Reprint. Shareera Sthana, In: Sushruta, editor. Varanasi: Chowkhambha Surabharati Prakashan, 1994; 288: 6 – 10.