

# The Indian Ancient Medical System with Special Reference to Surgery

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**Abstract:** *Ayurveda, the ancient medical tradition originating in the Indian subcontinent, offers a comprehensive approach to health that integrates preventive care, therapeutic techniques, and even surgical practices. This paper takes a deep dive into the historical journey, innovations, and ongoing significance of surgical practices in Ayurveda, with particular focus on the Sushruta Samhita. It is considered one of the important manuals of the ancient Indian medical system, presenting thorough knowledge of surgical tools and techniques from around the 7th Century BC, including the revolutionary method of rhinoplasty with the noble use of pedicle flap. The present study aimed to investigate the Byzantine advancement of surgical expertise within Ayurveda, throwing light on the precise educational and ethical standards embedded in traditional manuscripts for medical practitioners. This paper examines Sushruta's comprehensive narratives of surgical techniques, instruments used, training programmes, and postoperative care, by drawing on both primary sources and modern intellectual explanations. While acknowledging the historical challenges in identifying direct impacts, it also explores the legacy and influence of Ayurvedic surgical techniques on contemporary medicine. The conversation emphasizes the value of respecting the distinct epistemological frameworks of Ayurveda and biomedicine, the limitations of ancient medical archives, and the need for evidence-based ancient comparisons. The paper concludes by highlighting the lasting significance of Sushruta's contributions to the history of surgery worldwide and the ongoing inspiration they provide for contemporary surgical innovation and education.*

**Keywords:** Ayurveda, Indian medical practices, Sushruta Samhita, surgical techniques

## 1. Introduction

Ayurveda, which means "knowledge of life," has developed over centuries in South Asia into a complete system that addresses everything from toxicology and herbal medicines for nutrition and lifestyle, and even surgical methods. The Caraka Samhita, which focuses on internal medicine, and the Sushruta Samhita, which concentrates on surgical procedures, are the two primary manuscripts most frequently cited. The Sushruta Samhita, which provides comprehensive information on surgical techniques, instruments, pre- and post-operative care, and surgeon training, is largely acknowledged as the foundation of ancient India's surgical manual. Over 300 surgical techniques and a variety of devices, many of which were documented long before comparable surgical writings appeared in other civilizations, are credited to Sushruta by contemporary researchers (Wikipedia).

## 2. Methodology

This research draws on key primary and secondary materials-translated texts and modern scholarly interpretations-aiming to highlight Sushruta's contributions and assess their significance in the present day.

## 3. Result and Discussion

### Historical context:

Let's examine the extensive history and authorship associated with classical Ayurvedic texts. The timeline and authorship of these writings can be quite intricate, as they have undergone many stages of composition, revision, and commentary. Traditionally, Sushruta is recognized as a significant figure linked to Kashi (Varanasi) (Kansupada &

Sassani, 1997; Saraf & Parihar, 2006). However, contemporary scholars, employing philological and historical techniques, suggest that the Sushruta Samhita evolved over several centuries, generally dating from the first millennium BCE to the early centuries CE. This text absorbed earlier oral traditions and regional surgical expertise, which subsequent editors compiled and expanded upon. Although it's challenging to pinpoint an exact date, the surgical portions of the Sushruta Samhita reveal a cohesive collection of operative techniques and a well-structured surgical curriculum, highlighting a firmly established tradition of clinical practice (Dave et al., 2024).

### Scope of surgical techniques described in Sushruta's texts:

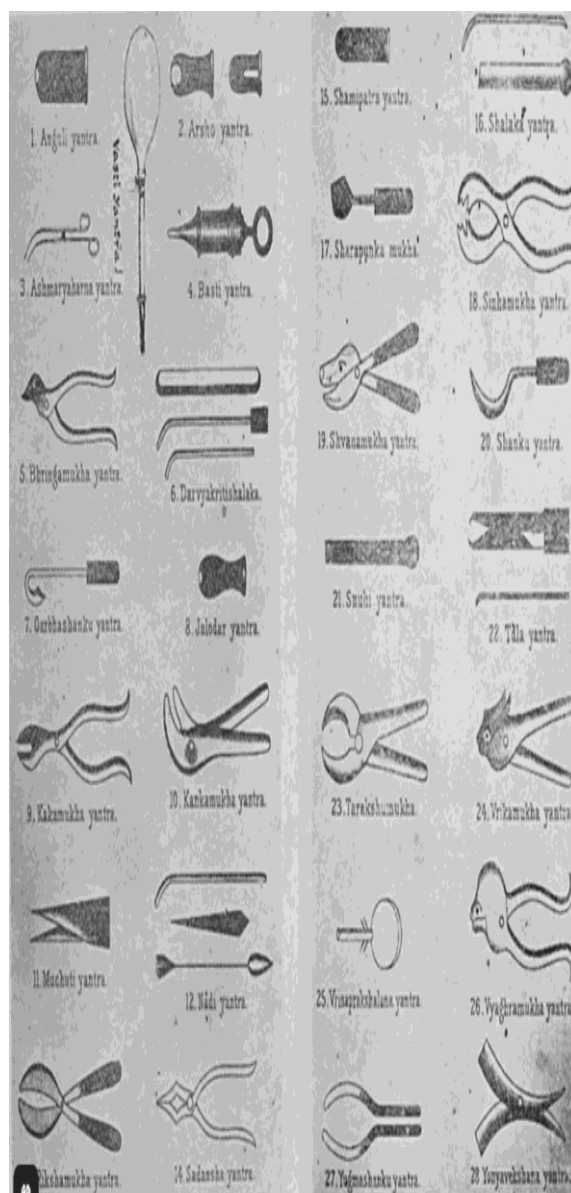
The Sushruta Samhita encompasses a broad array of surgical fields, such as soft-tissue procedures, amputations, obstetric surgeries, urological and genitourinary operations, ophthalmic procedures (including couching for cataracts), dental and oral surgeries, lithotomy (removal of urinary stones), management of fractures and dislocations, and reconstructive surgeries like rhinoplasty (Bhishagratna, 1907). The text categorizes surgical instruments into those that are sharp and those that are blunt (for instance, scalpels, curettes, hooks, dilators, and forceps) and provides details about their dimensions, shapes, and materials. It also outlines the aseptic techniques of that era, methods for controlling hemorrhaging, wound management, and postoperative recommendations (including dietary and medicinal advice) aimed at recovery and avoiding complications.

One of Sushruta's significant contributions is his comprehensive account of nasal reconstruction utilizing local flaps-generally a flap sourced from the forehead or cheek. This pioneering technique established a bridge of

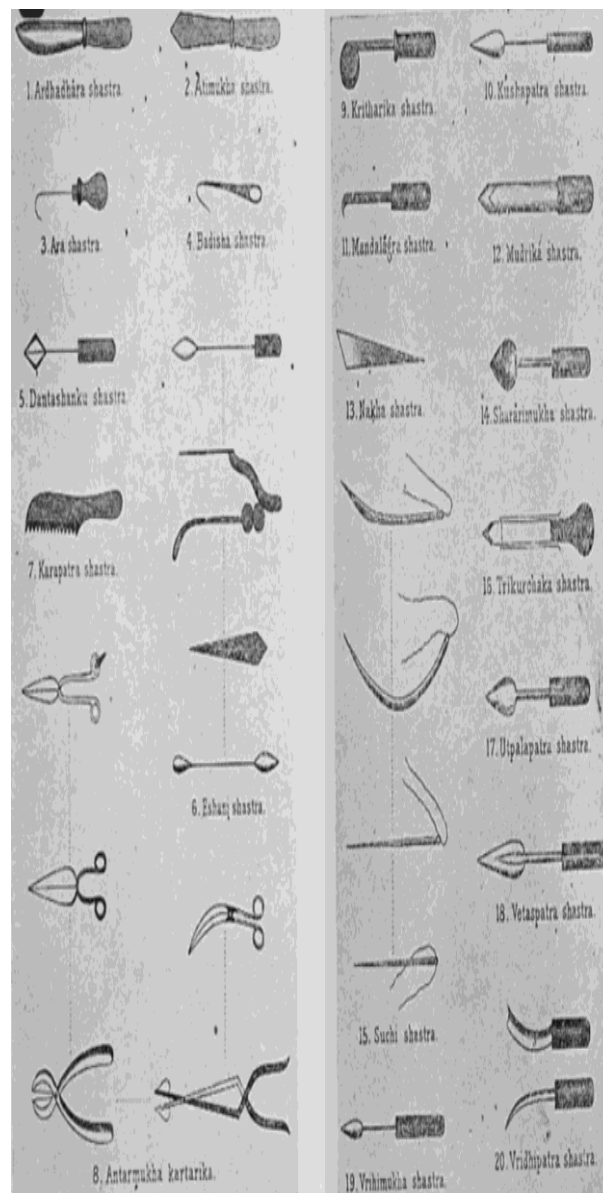
living tissue to aid in the reconstruction of portions of the nose that had been excised. The method, recognized as a pedicle or rotation flap, is extensively documented with accurate measurements, sequential operative procedures, and directions for postoperative management. Historically, it is commonly referred to as the “Indian technique” of rhinoplasty. The core principles of this method—including using a vascularized flap, executing staged separations, and ensuring meticulous shaping—are closely aligned with reconstructive principles that remain crucial in contemporary plastic surgery (Sorta-Bilajac & Muzur, 2007; Shaye, 2021). There has been some discussion regarding how flap techniques migrated from South Asia to the Mediterranean and ultimately to Europe; nonetheless, during the Renaissance, European surgeons explicitly compared their practices to those found in Indian texts.

### Surgical instruments and Methods of Operations:

Sushruta’s surgical guide is notable for its meticulous attention to surgical instruments and educational techniques. It enumerates an impressive variety of tools—reportedly “20 sharp” (Shastras) and “101 blunt” (Yantras) by some counts—along with instructions on how to create and utilize them. This encompasses early iterations of scalpels, probes, dilators, extraction forceps, scissors, and suturing needles. Equally important is the focus on education: prospective surgeons (Sisay) are required to learn anatomy through dissection and to practice making incisions and sutures on substitute vegetables, animal parts, and leather—effectively an early method of simulation training. The guide describes the phases of apprenticeship, necessary skills, and ethical duties concerning patient care and confidentiality. Collectively, these components indicate a well-defined structure for surgical education and professional conduct (Gandhi and Patil, 2024).



1(a)



1(b)

Fig. 1. (a) Yantras (Blunt instruments) and 1(b) Shastras (Sharp instruments) used by Sushruta (Source: screenshot from Sushruta: The Father of Surgery and Ancient Medical Innovations by Gandhi and Patil, 2024).

### Clinical Guidelines of Sushruta:

The Sushruta Samhita addresses various aspects of patient care, including the selection of patients, preoperative cleaning, and the detailed use of both topical and internal remedies to ready patients for surgery. It also covers surgical techniques such as managing bleeding, cauterization, and precise placement of incisions, along with postoperative management, which includes medicinal pastes, purging, rest, and dietary recommendations. The text integrates ideas related to prognosis, asepsis as comprehended in earlier times, pain relief through both herbal and mechanical approaches, and rehabilitation. Although these concepts are based on Ayurvedic principles (such as the balance of doṣa and the ideas of dhatu and mala), the practical approaches aim to minimize complications and facilitate the restoration of function (Singh, 2017).

### Heritage and influence on contemporary surgical practices:

Suśruta's contributions to flap techniques, suturing, surgical instruments, and education methods have been recognized by historians as some of the earliest bases for plastic and reconstructive surgery. Currently, many scholars view Sushruta as a pioneering figure—often called the “father of surgery”—for his role in structuring surgical knowledge and training. Various institutions and modern surgical discourses acknowledge the Indian surgical tradition for its early innovations, including pedicle flaps, cataract operations, and obstetric methodologies. Although these techniques are fundamentally connected to Ayurvedic principles, they have significantly influenced the development of surgery on a global scale. Nevertheless, historians caution against making simplistic assertions of direct lineage without substantial evidence of continuous transmission; instead, the true significance lies in the

exceptional technical abilities and procedural detail evident in these ancient texts (Singh, 2017; Dave et al., 2024).

#### Concerns, restrictions, and historiographical warnings:

This discussion should cover several key points. Firstly, issues involving the dating and transmission of texts complicate the ability to make definitive conclusions about priority and influence. Secondly, even though Sushruta describes procedures that are evidently surgical, it is difficult to assess success rates, morbidity, or mortality based purely on the texts. Thirdly, some historical narratives have overstated the direct connections between ancient Ayurvedic surgery and contemporary European surgical practices; rigorous comparative scholarship underscores the necessity for careful, evidence-supported reconstruction of intellectual exchanges. Finally, combining Ayurvedic theoretical ideas (such as *doṣa* and *dhatu*) with modern biomedical models demands a careful approach—each system emerges from distinct epistemological backgrounds.

#### 4. Conclusion

The surgical practices of Ayurveda, particularly as detailed in the Sushruta Samhita, demonstrate the remarkable technical and educational advancement of early operative medicine in South Asia. The comprehensive accounts by Sushruta regarding surgical instruments, procedural methodologies, reconstructive techniques, and educational approaches mark an important segment in the history of surgery worldwide. Although there are ongoing discussions among scholars about dates and cultural exchanges, the practical expertise evident in these texts—such as the method of rhinoplasty using pedicle flaps—is irrefutable. Modern medicine can look to these historical practices for inspiration, serving both as a catalyst for technical innovations and as a reminder of humanity's persistent endeavor to heal, restore, and reduce suffering.

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