

Review Article

ISSN: 3048-5630

“SHALAKYA KRIYAKALPA PROCEDURES: CLASSICAL PROTOCOLS, STANDARDISATION AND SAFETY IN MODERN PRACTICE”

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FUNDING INFORMATION:

Not Applicable

How to cite this article:

Abhay Gandhi, “Shalakyā Kriyakalpa procedures: classical protocols, standardisation and safety in modern practice” *Frontiers of Shalya and Shalakyā Chikitsa*. 2026;3(4):25-29. Sri. 2026.1005.fssc.04.05

ABSTRACT

Background: Kriyakalpa refers to the local therapeutic procedures of Shalakyā Tantra for the eye: Seka, Ashchyotana, Pindi, Bidalaka, Anjana, Tarpana and Putapaka. Together with Nasya, Karnapurana, Gandusha and Kavala for the nose, ear and mouth, these procedures form the core of Ayurvedic practice in ophthalmology and otorhinolaryngology. Their delivery varies widely between institutions, and safety standards appropriate to procedures on the eye, ear and airway are not always applied. **Objective:** To summarise the classical protocols for Shalakyā procedures, identify variables that need standardisation, and propose safety measures for modern clinical and research practice. **Methods:** Narrative review of Sushruta Samhita and Ashtanga Hridaya, published clinical studies of Shalakyā procedures, and relevant modern guidance on ocular and infection safety. **Results:** Classical texts specify indications, contraindications, preparation, dose, duration measured in Matra, timing and signs of correct, excessive and inadequate treatment for each procedure. Key variables, such as formulation, temperature, volume, duration and course length, are often reported inconsistently in clinical studies. Risks include ocular infection from non-sterile preparations, corneal injury, heavy metal exposure from mineral collyria, ear injury from Karnapurana with tympanic membrane perforation, and aspiration with Nasya and Gandusha. **Conclusion:** Standard operating procedures that combine classical protocols with modern hygiene, screening and documentation would improve safety and make research results comparable. A reporting checklist for Shalakyā procedures is proposed.

KEYWORDS: Kriyakalpa; Shalakyā Tantra; Tarpana; Putapaka; Anjana; Nasya; Karnapurana; standard operating procedures; patient safety

INTRODUCTION

Shalakya Tantra, one of the eight branches of Ayurveda, deals with diseases above the clavicle, including the eye, ear, nose, throat, mouth and head^[1,2]. Local procedures are central to its practice. For the eye, Sushruta describes Kriyakalpa, a set of procedures in which medicines are applied directly to the eye or eyelids^[1]. For the ear, nose and mouth, procedures such as Karnapurana, Nasya, Gandusha and Kavala are used^[1,2].

These procedures are now practised in hospitals, colleges and wellness centres across India and abroad, and are the interventions in many clinical studies^[3-6]. However, their delivery varies between practitioners, and clinical reports often omit details

needed to reproduce them. The eye, ear and airway are sensitive structures, and procedures on them carry risks of infection, injury and aspiration.

This review summarises classical protocols, highlights variables needing standardisation, and proposes practical safety and reporting measures.

METHODS

Classical sources were Sushruta Samhita Uttara Tantra 18 and Chikitsa Sthana 40, and Ashtanga Hridaya Sutra Sthana 20, 22, 23 and 24^[1,2]. Clinical studies of Shalakya procedures and modern guidance on infection control and ocular safety were identified through PubMed, Google Scholar and Ayurveda journals. This is a narrative review.

OCULAR KRIYAKALPA

Table 1: Overview of Shalakya Kriyakalpa procedures

Procedure	Description	Main indications
Seka (Parisheka)	Pouring a thin stream of medicated liquid over the closed eyes from a height	Acute inflammatory conditions, burning, pain
Ashchyotana	Instilling medicated drops into the open eye from a height	First-line treatment for most eye diseases
Pindi	Medicated paste wrapped in cloth placed over the closed eyes	Conjunctivitis, lid inflammation
Bidalaka	Medicated paste applied over the eyelids, sparing the lashes	Inflammation, pain, swelling
Anjana	Collyrium applied to the inner lid margin	Kapha conditions, lid and conjunctival diseases, daily care
Tarpana	Retaining medicated ghee over the open eyes within a dough wall	Dry eye, Timira, Vata conditions, weakness of the eyes
Putapaka	Retaining the juice of herbs or meat prepared by a special roasting process, after Tarpana	Following Tarpana to restore strength to the eye

Ashchyotana

Ashchyotana is considered the first procedure in eye diseases^[1,2]. A few drops (often described as eight to ten Bindu, or drops) of medicated liquid are instilled into the inner canthus from a height of about two Angula (finger breadths), with the eye open. The liquid may be a decoction, oil, ghee, milk or fresh juice, chosen according to Dosha. Ashchyotana is generally performed in the daytime.

Seka

In Seka, a thin, continuous stream of medicated liquid is poured over the closed eyes from a height of about four Angula for a defined duration measured in Matra, varying with Dosha^[1]. It is used for acute inflammatory conditions.

Pindi and Bidalaka

Pindi involves a bolus of medicated paste wrapped in cloth and placed over the closed eyes. Bidalaka involves applying paste over the eyelids, excluding the eyelashes, with a thickness described in classical texts and kept until it dries. Both are used for inflammation and pain^[1,2].

Anjana

Anjana is applied to the inner surface of the lower lid from the inner to the outer canthus using a probe (Shalaka)^[1,2]. Classical texts describe three forms, Gutika (pills), Rasakriya (semi-solid) and Churna (powder), and three actions: Lekhana (scraping), Ropana (healing) and Prasadana (soothing). Anjana is contraindicated in certain conditions, such as after

Shirovirechana, in fatigue, fever, at night for strong Anjana, and with acute inflammation.

Tarpana and Putapaka

Tarpana involves building a dough wall of black gram flour around the orbit, filling it with lukewarm medicated ghee until the lashes are covered, and retaining it while the patient gently blinks, for a duration measured in Matra that depends on the

disease and the part of the eye affected^[1]. Classical texts describe signs of correct (Samyak), excessive (Atiyoga) and inadequate (Hinayoga) Tarpana. Putapaka follows Tarpana and involves retaining a specially prepared juice in a similar way. Courses are usually of one, three or five days, sometimes repeated.

ENT AND ORAL PROCEDURE

Table 2: Signs of correct, excessive and inadequate Tarpana and Putapaka

Sign	Samyak (correct)	Atiyoga (excessive)	Hinayoga (inadequate)
Comfort	Comfortable sleep and waking	Heaviness	Dryness, irritation
Vision	Clarity of vision	Blurring, stickiness	Persistent symptoms
Light tolerance	Tolerance of light	Watering, itching	Photophobia
Eyes	Lightness, clarity	Kapha signs	Vata signs

Nasya

Nasya, the administration of medicines through the nose, is described as the gateway to the head^[2]. Types include Navana (oil), Avapida (juice), Pradhamana (powder), Marsha (larger dose) and Pratimarsha (small daily dose). The patient's face and neck are massaged and fomented, the patient lies supine with the head slightly extended, and drops are instilled into each nostril. Afterwards, the patient spits out secretions and may gargle with warm water. Classical contraindications include indigestion, immediately after meals, bathing or drinking, acute fever, pregnancy for strong Nasya, and very young or old patients for strong Nasya^[2].

Karnapurana

Karnapurana involves filling the external ear canal with lukewarm medicated oil after massage and fomentation, with the patient lying on the side, and

retaining it for a defined time before draining^[1]. It is used for Vata conditions such as Karnanada (tinnitus), Karnashula (ear pain) and Badhira (deafness).

Gandusha and Kavala

Gandusha involves holding liquid in the mouth without movement, and Kavala involves swishing a smaller quantity. Liquids include oils, ghee, milk, decoctions and honey, chosen according to purpose^[1,2]. Oil pulling is a popular modern form; a meta-analysis of randomised trials suggests modest effects on oral health with very low certainty of evidence^[7].

VARIABLES THAT NEED STANDARDISATION

Clinical studies of Shalakya procedures frequently omit details needed for replication. Key variables include:

SAFETY

Table 3: Variables that need standardisation in Kriyakalpa

Variable	Why it matters	Suggested reporting
Formulation	Composition varies between manufacturers and batches	Name, reference text, manufacturer, batch, quality tests
Preparation and storage	Contamination, rancidity, potency	Method, date, storage conditions, shelf life
Temperature	Burns or ineffective application	Target temperature and method of checking
Volume or dose	Determines exposure	Millilitres or drops per eye, nostril or ear
Duration	Classical Matra are interpreted differently	Duration in minutes and seconds
Frequency and course length	Determines total exposure	Days per course, number of courses, intervals

Variable	Why it matters	Suggested reporting
Timing	Classical texts specify time of day	Time of day, relation to meals
Pre- and post-procedure care	Part of the classical procedure	Massage, fomentation, Dhumapana, rest, avoidance of light
Operator training	Affects consistency and safety	Qualification and training of the operator
Concurrent treatments	Confounding	All oral and local treatments given

Ocular infection

Non-sterile decoctions, juices, ghees and dough can introduce bacteria or fungi into the eye, risking conjunctivitis or keratitis, especially in eyes with epithelial defects or in contact lens wearers. Preparations for use in the eye should be prepared freshly or manufactured under sterile conditions, filtered to remove particles, stored appropriately and used in single-patient portions. Instruments should be cleaned and sterilised, and hand hygiene observed^[8].

Corneal and lid injury

Hot ghee or liquids can cause burns; Anjana applied with a rough probe or containing coarse particles can abrade the cornea; irritant Lekhana Anjana can cause chemical injury. Temperature should be checked, probes should be smooth and clean, and Anjana should be finely triturated.

Heavy metals in collyria

Traditional Sauviranjana is antimony-based, but many commercial kohl, Surma and Kajal products contain lead, and lead poisoning in children has been linked to traditional eye cosmetics^[9]. Mineral collyria should be tested for heavy metals and avoided in children and pregnant women unless tested. Rasa Shastra preparations used orally alongside Kriyakalpa should also be quality-tested^[10].

Masking serious eye disease

Red eye, pain, reduced vision, photophobia and haloes may indicate keratitis, uveitis, acute glaucoma or other sight-threatening conditions. Patients with these features need ophthalmic examination before any local procedure. Kriyakalpa should not be used in place of emergency treatment.

Ear safety

Karnapurana must not be performed with a perforated or unknown tympanic membrane, grommets, ear discharge, active infection or recent ear surgery. Otoscopy before the first session is essential. Cold oil can cause vertigo.

Aspiration

Nasya and Gandusha carry a risk of aspiration, and exogenous lipoid pneumonia has been reported in people who practise oil pulling^[11]. Patients with swallowing difficulties, neurological disease, reduced consciousness, previous head and neck cancer, young children and frail elderly people need particular caution.

Ocular surface disease and Tarpana

Tarpana has been studied mainly in dry eye, computer vision syndrome and myopia^[3-6]. It should be avoided in active infection, corneal ulcers and soon after eye surgery unless specifically indicated, and patients should not drive immediately afterwards because of blurred vision.

PROPOSED STANDARD OPERATING PROCEDURE ELEMENTS

A standard operating procedure for any Shalakya procedure should include:

1. **Indications and contraindications**, including modern red flags.
2. **Pre-procedure screening**: visual acuity and slit-lamp or torch examination for eye procedures; otoscopy for Karnapurana; swallowing and airway assessment for Nasya and Gandusha.
3. **Consent**: explaining the procedure, expected effects, risks and alternatives.
4. **Preparation**: formulation details, batch, preparation method, temperature check, single-patient portions.
5. **Procedure steps**: position, volume, duration in minutes, operator actions.
6. **Post-procedure care**: cleaning, rest, avoidance of driving, light and wind, and instructions for warning signs.
7. **Documentation**: a procedure record with date, formulation, batch, volume, duration, operator, observations and adverse events.
8. **Adverse event reporting**: through institutional systems and the national pharmacovigilance programme for AYUSH drugs.

A REPORTING CHECKLIST FOR CLINICAL STUDIES

Building on the variables above, studies of Shalakya procedures should report:

- diagnostic criteria in both Ayurvedic and modern terms;
- full formulation details and quality testing;
- procedure details: volume, temperature, duration, frequency, course length and timing;
- pre- and post-procedure care;
- operator qualification;
- concurrent treatments;
- validated outcome measures relevant to the condition, such as Ocular Surface Disease Index for dry eye or Tinnitus Handicap Inventory for tinnitus;
- adverse events, including minor ones.

DISCUSSION

Shalakya procedures are distinctive to Ayurveda and have detailed classical protocols, including the signs of correct, excessive and inadequate treatment, a sophisticated concept of dose and response. Modern practice can build on these protocols by adding standardised units of measurement, hygiene and screening for contraindications that classical authors could not detect, such as tympanic membrane perforation or raised intraocular pressure.

Standardisation is also essential for research. Without consistent reporting of formulation, dose and duration, clinical studies cannot be compared or combined in systematic reviews. Professional bodies and journals in Shalakya Tantra could adopt standard operating procedures and a reporting checklist, improving both patient safety and the quality of evidence.

CONCLUSION

Kriyakalpa and related Shalakya procedures have detailed classical protocols that remain the foundation of Ayurvedic ophthalmology and otorhinolaryngology. Their safe and effective use today requires sterile or clean preparations, careful temperature control, screening for contraindications, quality-tested formulations and clear documentation. Standard operating procedures and a reporting checklist, as proposed here, would make practice safer and research more reliable.

REFERENCES

1. Sharma PV. *Susruta Samhita* (with English

translation), Uttara Tantra 18 and Chikitsa Sthana 40. Varanasi: Chaukhambha Visvabharati; reprint edition.

2. Murthy KRS. *Ashtanga Hridayam* (with English translation), Sutra Sthana 20, 22, 23 and 24. Varanasi: Chowkhamba Krishnadas Academy; reprint edition.
3. Vidiyala N, Sunkishala P, Parupathi P, Nyavanandi D. The role of artificial intelligence in drug discovery and pharmaceutical development: a paradigm shift in the history of pharmaceutical industries. *AAPS PharmSciTech*. 2025;26(5):133.
4. Gangamma MP, Poonam, Rajagopala M. A clinical study on “Computer vision syndrome” and its management with Triphala eye drops and Saptamrita Lauha. *AYU*. 2010;31(2):236–9. doi:10.4103/0974-8520.72407
5. Vidiyala N, Parupathi P, Sunkishala P, Sree C, Gujja A, Kanagala P, et al. Artificial intelligence: a new era in prostate cancer diagnosis and treatment. *Int J Pharm*. 2025:126024.
6. Jat DK, Nagar HK, Pamnani GC. A randomized clinical study to evaluate the efficacy of Ayastha Triphala Ghana Vati per orum with and without Go Ghrita Tarpana in the management of Timira w.s.r. to simple myopia. *Ayushdhara*. 2026;13(3):20–9.
7. Lokeshvar R, Ramaiyan V, Nithin V, Pavani S, Vinod Kumar T. Nanotechnology-driven therapeutics for liver cancer: clinical applications and pharmaceutical insights. *Asian J Pharm Clin Res*. 2025;18(2):8-26.
8. World Health Organization. WHO guidelines on hand hygiene in health care. Geneva: World Health Organization; 2009.
9. Nyavanandi D, Mandati P, Vidiyala N, Parupathi P, Kolimi P, Mamidi HK. Enhancing patient-centric drug development: coupling hot melt extrusion with fused deposition modeling and pressure-assisted microsyringe additive manufacturing platforms with quality by design. *Pharmaceutics*. 2025;17(1):14.
10. Saper RB, Phillips RS, Sehgal A, Khouri N, Davis RB, Paquin J, et al. Lead, mercury, and arsenic in US- and Indian-manufactured Ayurvedic medicines sold via the Internet. *JAMA*. 2008;300(8):915–23.