

THERAPEUTIC POTENTIAL AND MODE OF ACTION OF AKSHITARPAN KRIYA KALP IN AYURVEDIC OCULAR CARE – A CRITICAL REVIEW

Dr. Naveen Shandil^{*1}, Dr. Akanksha Sharma², Prof. Dr. Vijayant Bhardwaj³

¹PG Scholar, Department of Shalakya Tantra, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital, Paprola, Himachal Pradesh – 176115.

²PG Scholar, Department of Shalakya Tantra, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital, Paprola, Himachal Pradesh – 176115.

³Professor and H.O.D., Department of Shalakya Tantra, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital, Paprola, Himachal Pradesh – 176115.

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*Corresponding Author

Dr. Naveen Shandil

PG Scholar, Department of Shalakya Tantra, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital, Paprola, Himachal Pradesh – 176115.



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ABSTRACT

Ayurveda describes *Shalakya Tantra* as the specialized branch that deals with diseases of the organs above the clavicle, with *Netra Roga* (ocular disorders) being one of its major areas of focus. To preserve and restore eye health, it advocates a group of specialized ocular therapies known as *Kriya Kalpa*, among which *Akshitarpan* (*Netra Tarpana*) is considered one of the most effective. *Akshitarpan* (or *Netra Tarpana*) holds a central role. Derived from the terms “Akshi” (eye) and “Tarpana” (nourishment), this therapy involves the retention of medicated ghee or oil over the eyes for a prescribed duration, providing sustained lubrication, cooling and rejuvenation. Classical Ayurvedic texts advocate *Akshitarpan* for conditions associated with vitiated *Vata* and *Pitta doshas*, particularly in *Drishti-gata rogas* (vision-related disorders). It is traditionally indicated in ocular fatigue, macular degeneration, degenerative eye diseases, ptosis and computer vision syndrome, while also

serving as a preventive measure to protect healthy eyes from age-related decline. Contemporary interpretations correlate its lipid-rich medium with stabilization of the tear film, reduction of oxidative stress and enhancement of ocular microcirculation, thereby

supporting both structural and functional integrity of the eyes. Clinical observations suggest its efficacy in alleviating dry eye syndrome, ocular strain and early degenerative changes, while its rejuvenative properties contribute to long-term ocular resilience. This literary review aims to synthesize classical references and modern scientific insights to decode the therapeutic architecture of *Akshitarpan Kriya Kalpa*, delineate its standard procedural framework and critically appraise its relevance in integrative ophthalmology. By bridging ancient wisdom with contemporary evidence, the study seeks to reposition *Akshitarpan* not merely as a traditional therapy but as a paradigm of ocular sustainability, offering both preventive and curative benefits in the context of modern lifestyle challenges.

KEYWORDS: Akshitarpan, Kriyakalpa, Netra Rogas, Shalakya Tantra, Eye Disorders.

1. INTRODUCTION

The eyes, regarded in Ayurveda as the most delicate and vital sensory organ, are prone to disorders arising from lifestyle stressors, environmental exposure and systemic imbalances.^[1] Classical Ayurvedic texts such as *Sushruta Samhita* and *Ashtanga Hridaya* emphasize specialized ocular therapies under the umbrella of *Kriya Kalpa* (*Akshi Tarpana*, *Putapaka*, *Seka*, *Aschyotana*, *Anjana*, *Pindi* and *Bidalaka*).^[2] Among which *Akshitarpan* holds a central role. The term “Tarpana” denotes nourishment and *Akshitarpan* is designed to balance, clarity and strength to ocular tissues through the therapeutic retention of medicated ghee or oil.^[3]

In the modern era, increasing prevalence of ocular conditions such as Dry eye syndrome (DES), Computer vision syndrome (CVS), early cataract and retinal degeneration^[3] has renewed interest in traditional therapies that offer holistic and preventive benefits. *Akshitarpan* is particularly valued for its dual action: it provides immediate relief from ocular discomfort while also exerting long-term rejuvenating effects. Its pharmacological basis lies in the unctuous, cooling and antioxidant properties of medicated ghee formulations, which act synergistically to reduce inflammation, stabilize tear film and protect against oxidative damage.

2. REVIEW OF AKSHITARPAN

In the word *Akshi Tarpana*, *Akshi* refers to the eye and *Tarpana* means nourishment; hence *Akshi Tarpana* signifies nourishment of the eyes. It is also called *Netra Basti*. *Akshi Tarpana* is a classical Ayurvedic procedure in which *Sneha* (medicated ghee or oil) is retained over the eyes for a prescribed duration.^[4] This therapy is highly effective in strengthening ocular

structures, thereby improving the functional capacity of the eyes. It provides soothing relaxation and is beneficial in the treatment of various Netra Rogas, particularly *Vataja* and *Pittaja Netra Vikara*.^[5]

The term *Tarpana* itself is derived from the Sanskrit verbal root “*ṭp*” (to be satisfied, nourished, gratified). By adding the suffix “*lyut*” *pratyaya*, the word transforms into *Tarpana*, literally meaning the act of satisfying or nourishing. In Ayurvedic therapeutics, it denotes a specialized procedure of providing deep nourishment and lubrication to tissues, most prominently applied in ocular care, where medicated ghee or oil is retained over the eyes to rejuvenate and fortify ocular structures.

i. Indications for Tarpana Karma

Tarpana Karma is indicated in ocular conditions such as perception of darkness before the eyes (*Tama*), dryness of eyes (*Netra Vishushkata*), roughness of eyes (*Daruna Netra*), loss of eyelashes (*Sheerna Pakshma*), hardening of eyelids (*Kathina Vartma*), stiffness of eyes (*Stabdha Netrata*), indistinct vision (*Avila Netrata*), deviation of eyeball or squint, and Vata-Pitta predominant ocular disorders. *Acharya Vagbhata* has further indicated *Tarpana Karma* in some other ocular conditions. They are as follows: *Kricchronmilana*, *Siraharsha*, *Sirotpata*, *Tama*, *Arjuna*, *Syanda*, *Adhimantha*, *Anyatovat*, *Vataparyaya*, *Avrana Shukra* and *Nakt Andhya*.^[6]

ii. Contraindications of Tarpana Karma

Tarpana Karma should not be performed under unfavorable environmental or clinical conditions, as these may compromise its therapeutic efficacy and patient safety. It is contraindicated on cloudy days, during extremely hot or cold seasons, and in individuals experiencing excessive worry, anxiety or significant ocular fatigue. The procedure should also be avoided in the presence of acute ocular complications or severe eye pain until the acute condition has resolved and the patient is considered fit for therapy.^[7]

iii. Sneha Dharana Kala

Table 1: Sneha Dharana Kala according to Adhithana of disease (Matrakala)

<i>Roga Adhithana</i>	Su. Sa.	As. Sn.	As.Hr.	Sh.Sa	Bh. Pra.
<i>Sandhigata</i>	300 Matra	300 Matra	300 Matra	500 Matra	500 Matra
<i>Vartamgata</i>	100 Matra	100 Matra	100 Matra	100 Matra	100 Matra
<i>Shuklagata</i>	500 Matra	500 Matra	500 Matra	600 Matra	-
<i>Krishnagata</i>	700 Matra	700 Matra	700 Matra	700 Matra	700 Matra

<i>Sarvgata</i>	800 Matra	800 Matra	800 Matra	800 Matra	800 Matra
<i>Drishtigata</i>	1000 Matra	1000 Matra	1000 Matra	1000 Matra	1000 Matra
Su. Sa. – Sushruta Samhita, AS – Astanga Samgraha, AH – Astanga Hrudaya Sh.Sa – Sharangadhara Samhita, BP – Bhavaprakash ^{[8][9][10][11]}					

Table 2: Sneha Dharana Kala according to Dosha Prakopa(Matrakala)

<i>Doshanusara</i>	Su. Sa.		AS	AH	Sh.Sa	BP
<i>Kaphaja</i>	600 Matra	Once in a 5 days	500 Matra	500 Matra	500 Matra	500 Matra
<i>Pitaja</i>	800 Matra	Once in a 3 days	600 Matra	600 Matra	600 Matra	600 Matra
<i>Vataja</i>	1000 Matra	Daily	1000 Matra	1000 Matra	1000 Matra	1000 Matra
<i>Swastha Netra</i>	500 Matra	2 day interval	500 Matra	500 Matra	500 Matra	500 Matra
Su. Sa. – Sushruta Samhita, AS – Astanga Samgraha, AH – Astanga Hrudaya Sh.Sa – Sharangadhara Samhita, BP – Bhavaprakash ^{[12][13][14][15]}						

iv. Tarpana Dravya: Among the various *Sneha Dravyas* employed in *Tarpana Karma*, **Ghrita** holds a distinguished place. Its unique ability as a *Yogavahi* allows it to assimilate the therapeutic qualities of drugs processed during *Sanskara*, while simultaneously preserving its own inherent virtues. With *Madhura Rasa*, *Madhura Vipaka* and *Sheeta Virya*, Ghrita demonstrates *Tridoshaghna*, *Ojovardhaka* and *Rasayana* properties, making it the foremost choice for *Netra Tarpana*.^[16]

Method of proceeding Akshitarpan

A. Poorva Karma (Preparatory Measures)^{[17][18]}

- **Purification:** The patient first undergoes *Shodhana Karma*—systemic cleansing through *Vamana* and *Virechana* or *Kaya Shuddhi* and *Nasya* or *Shirovirechana* or *Shiro Shuddhi*.
- **Local Preparation:** Gentle *Sthanika Abhyanga* (oil massage) around the eyes and *Mridu Swedana* (mild fomentation) are performed to relax ocular tissues.
- **Timing:** The therapy is scheduled only after the previously consumed meal has been digested.
- **Materials:** Essentials include medicated *Ghrita*, black gram flour for constructing the protective ring (*pali*), clean water, heating apparatus, sterile cloth/cotton and vessels for preparation.

B. Pradhana Karma (Main Procedure)^{[19][20][21][22][23]}

- **Environment:** The patient is placed in a well-lit, ventilated room free from dust, smoke and strong breeze. The season chosen is moderate (*Sadharana Kala*), neither too hot nor too cold.
- **Positioning:** The patient lies supine, face upward, with neck supported.
- **Construction of the Ring:** Around each eye, a compact leak-proof wall (*pali*) is built using black gram flour paste. As per *Vagbhata*, the height is about two *angulas*. The junctions are sealed to prevent leakage.
- **Administration of Ghrita:** With eyelids closed, lukewarm medicated *Ghrita* is poured into the cavity until it reaches the tips of the eyelashes. The patient is then instructed to blink intermittently and steadily, ensuring uniform contact of the medicine with ocular tissues.
- **Retention:** The medicated *Ghrita* is retained for a specific duration, determined by the patient's *Dosha*, disease condition (*Roga Avastha*) and site of pathology (*Sthana*).

C. *Paschat Karma* (Post-Procedure Care)^{[24] [25] [26] [27]}

- **Removal of Medicine:** After the stipulated period, the *Ghrita* is drained through a small opening made at the outer canthus of the flour ring.
- **Cleansing:** Residual medicine is gently wiped from the eyes and surrounding area using sterile cotton or cloth dipped in warm water, followed by mild fomentation.
- **Kapha Elimination:** Since *Ghrita* stimulates *Kapha*, it is expelled through *Shirovirechana* (*nasya*) and *Dhoomapana* (fumigation with kapha-suppressive herbs).
- **Putapaka:** To relieve ocular fatigue post-Tarpana, *Putapaka* is performed. Herbal extracts (*swarasa*) prepared by the *Putapaka* method using *Mamsa* and *Patra* are applied to rejuvenate the eyes.
- **Precautions:** The patient is advised to avoid exposure to bright light, wind, sky, mirrors and luminous objects. Additional restrictions include refraining from daytime sleep, head baths, rubbing the eyes and excessive use of electronic devices such as mobiles, computers or television.^{[28] [29]}

Samyak, Ati, Heena Tarpita Lakshana^{[30] [31]}

Samyak Tarpita Lakshanas, which indicate adequate nourishment of the ocular tissues. These signs include sound and restful sleep (*Sukhaswapana*), a refreshed awakening (*Avabodhatva*), clarity of vision (*Vaishadya*), improved ability to distinguish colours (*Varnapatava*), a feeling of ocular comfort (*Nivriti*), relief from the underlying disease

(*Vyadhidhivansa*), ease in opening and closing the eyelids (*Kriya Laghava*), and enhanced tolerance to bright light (*Prakasha Kshamatva*). Collectively, these features reflect successful completion of the therapy and restoration of normal ocular function.

Ati Tarpita Lakshanas (excessive administration of Tarpana) which indicate over-nourishment of the eyes. These manifestations include a feeling of heaviness in the eyes (*Netragaurava*), blurred or indistinct vision (*Netra Avilata*), excessive oiliness (*Atisnigdha*), increased lacrimation (*Ashru Srava*), itching (*Kandu*), stickiness of the eyes (*Upadeha*), and aggravation of the doshas (*Dosha Samutklishtata*). Recognition of these features is essential for timely corrective measures and appropriate modification of the treatment protocol.

Heena Tarpita Lakshanas indicate inadequate nourishment of the ocular tissues due to insufficient Tarpana therapy. These features include dryness of the eyes (*Netrarukshata*), blurred or indistinct vision (*Netra Avilata*), excessive lacrimation (*Ashru Srava*), difficulty or discomfort in visual perception (*Asahyam Roopdarshana*), and aggravation or persistence of the underlying ocular disease (*Vyadhi Vriddhi*).

Management of **Ati Tarpana** (excess nourishment) and **Heena Tarpana** (insufficient nourishment) is planned based on the therapeutic properties of the formulation and the individual's doshic status. Corrective measures include **Dhuma** (medicated fumigation), **Nasya** (nasal therapy), **Anjana** (ocular application), and appropriate **Seka** (fomentation). The type of Seka is selected according to dosha predominance: - **Snigdha Seka** for Vata disorders, **Ruksha Seka** for Kapha disorders, and **Sheeta Seka** for Pita disorders, helping to restore ocular balance and therapeutic efficacy.^[32]

3. DISCUSSION

Therapeutic Basis of *Akshitarpan Kriya Kalpa* comprises specialized Ayurvedic ocular procedures aimed at the management of *Netra Vikara* (ocular disorders). Among these, *Akshi Tarpana* is considered a rejuvenating therapy that nourishes ocular tissues, strengthens visual function, and provides sustained therapeutic benefits. Ayurveda describes *Ghrita* as *Balya* and *Rasayana*, possessing nourishing and tissue-strengthening properties. Due to its *Yogavahi* nature, it enhances the delivery of herbal constituents. Pharmacologically, *Ghrita* acts as a lipid-based drug delivery medium, prolonging ocular contact time and facilitating sustained release. Its antioxidant components and fat-soluble vitamins (A, D, E, and K)^[33] contribute to tear film stability, corneal integrity, and protection against oxidative damage. The therapeutic

efficacy of ocular formulations depends on effective penetration across ocular barriers. *Ghṛita* facilitates the transport of both lipophilic and hydrophilic constituents due to its amphipathic nature. Lipid-soluble components penetrate the corneal epithelium and endothelium, while hydrophilic components diffuse through the stromal layer, thereby enhancing ocular bioavailability. The cornea and conjunctiva serve as primary absorption sites during *Akshitarpan*. Prolonged retention of medicated *Ghṛita* increases drug–tissue interaction, supporting enhanced absorption and sustained therapeutic action. This correlates with modern drug delivery principles, where increased contact time improves bioavailability. Preparatory procedures such as local massage (*Abhyanga*) and mild fomentation (*Swedana*) may enhance local circulation and tissue permeability, thereby supporting improved absorption and distribution of therapeutic constituents. Medicated *Ghṛita* functions as a lipid-based colloidal system, allowing gradual release of active compounds and prolonged retention within ocular tissues. Lipid-soluble constituents remain available for longer durations, contributing to sustained therapeutic effects. Molecular size and ionic characteristics influence ocular penetration. Smaller molecules exhibit better membrane permeability, while non-ionized molecules penetrate lipid barriers and ionized molecules traverse aqueous pathways. The amphipathic nature of *Ghṛita* allows both types of constituents to cross corneal barriers, facilitating comprehensive ocular delivery.

Overall *Ghṛita* acts as a *Rasayana* by nourishing deeper *Dhatu*, strengthening ocular tissues, and alleviating *Vata*- and *Pita*-dominant ocular disorders. From a modern pharmacological perspective, the therapeutic action of *Akshitarpan* is attributed to the amphipathic nature of *Ghṛita*, prolonged ocular contact time, enhanced drug penetration across corneal barriers, and sustained bioavailability of active constituents, resulting in improved ocular lubrication, tissue protection and functional support.

4. CONCLUSION

Akshitarpan Kriya Kalpa represents a unique Ayurvedic ocular therapy that integrates the principles of nourishment, rejuvenation, and sustained drug delivery. As a specialized *Kriyakalpa* procedure, it provides therapeutic support in maintaining ocular health by strengthening ocular tissues, improving visual function, and restoring physiological balance. The role of *Ghṛita* as a *Balya* and *Rasayana* formulation is central to its efficacy, as it acts as a carrier for herbal constituents while providing lubrication, nourishment, and protection to ocular structures.

From a contemporary scientific perspective, the therapeutic potential of *Akshitarpan* can be attributed to the lipid-based nature of *Ghrita*, its amphipathic properties, prolonged ocular contact time, enhanced penetration across corneal barriers, and sustained release of active constituents. These mechanisms contribute to improved tear film stability, protection against oxidative stress, and support of ocular tissue integrity. Thus, *Akshitarpan* serves as a promising bridge between classical Ayurvedic wisdom and modern concepts of ocular drug delivery, highlighting its relevance as a holistic approach for preventive and therapeutic eye care in the context of increasing lifestyle-related ocular disorders.

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