

Unit 1 — Śarīra & Nidāna Pañcaka of Netraroga

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This chapter builds the base for ophthalmology in Ayurveda. You will learn definitions, Ayurvedic anatomy and physiology of the eye, common causes, prodromal signs, pathogenesis, sāma-nirāma features, and the classical classification of eye diseases—tailored for BAMS examinations.

[Eye Anatomy 3D model](#)

A) Paribhāṣā of Shālākya Tantra

Shālākya Tantra is the branch of Āyurveda dealing with **Ūrdhvajatrugata** (above-clavicle) disorders—**karṇa (ear), nāsā (nose), akṣi/netra (eye), mukha-kaṇṭha (oral-throat)**—with a strong procedural core (kriyā-kalpa), including **añjana, aścyotana, tarpana, putapāka, seka**, and instrument-aided work (from which the word *śālākya*, “probe/rod-based,” gains its name). In the **Uttaratantra** of Suśruta, ophthalmology is laid out systematically across early adhyāyas, beginning with **netra śarīra** and **roga-vijñāniya**.

For exams, remember (mnemonic “KNaAM”): Karṇa, Nasā, Akṣi, Mukha (head-neck complex) = Shālākya scope.

B) Netra Racanāśarīra (Anatomy of Eye)

1) Maṇḍala-Sandhi-Pāṭala: the structural triad

Suśruta enumerates the macro-regions (maṇḍala), their junctions (sandhi), and layers (pāṭala) of the eye in one sweep:

मण्डलानि च सन्धीश्च पटलानि च लोचने ।
यथाक्रमं विजानीयात् पञ्च षट् च षडेव च ॥ (सु.उ. 1/14)

Meaning: In the eye there are **5 maṇḍalas**, **6 sandhis**, and **6 pāṭalas**.

- **Five Maṇḍala (concentric/encircling parts)**

Suśruta names them: पक्ष्मवर्त्मश्वेतकृष्णदृष्टीनां मण्डलानि तु ।

अनुपूर्वं तु ते मध्याश्चत्वारोऽन्त्या यथोत्तरम् ॥ (सु.उ. 1/15)

Maṇḍala What it denotes (Ayurveda) Broad modern correlate* **Pakṣma** Eyelashes margin Cilia line **Vartma** Eyelids

Palpebrae **Śveta** White part Conjunctiva-sclera complex **Kṛṣṇa** “Black” ring Clinically corneal zone (iris influence)

Dṛṣṭi Visual core Pupil/visual axis complex *Correlations are conventional for study use; Ayurveda uses functional-regional descriptions.

- **Six Sandhi (junctions)** पक्ष्मवर्त्मगतः सन्धिवर्त्मशुक्लगतोऽपरः ।

शुक्लकृष्णगतस्त्वन्यः कृष्णदृष्टिगतोऽपरः ।

ततः कनीनकगतः षष्टश्चापाङ्गगतः स्मृतः ॥ (सु.उ. 1/16)

Sandhi Junction 1 Pakṣma-Vartma 2 Vartma-Śveta 3 Śveta-Kṛṣṇa 4 Kṛṣṇa-Dṛṣṭi 5 **Kaninika** (inner canthus) 6

Apāṅga (outer canthus)

- **Six Pāṭala (layers/coats)**

Two are in **Vartma**, four in the **eye proper**: द्वे वर्त्मपटले विद्याच्चत्वार्यन्यानि चाक्षिणि ।

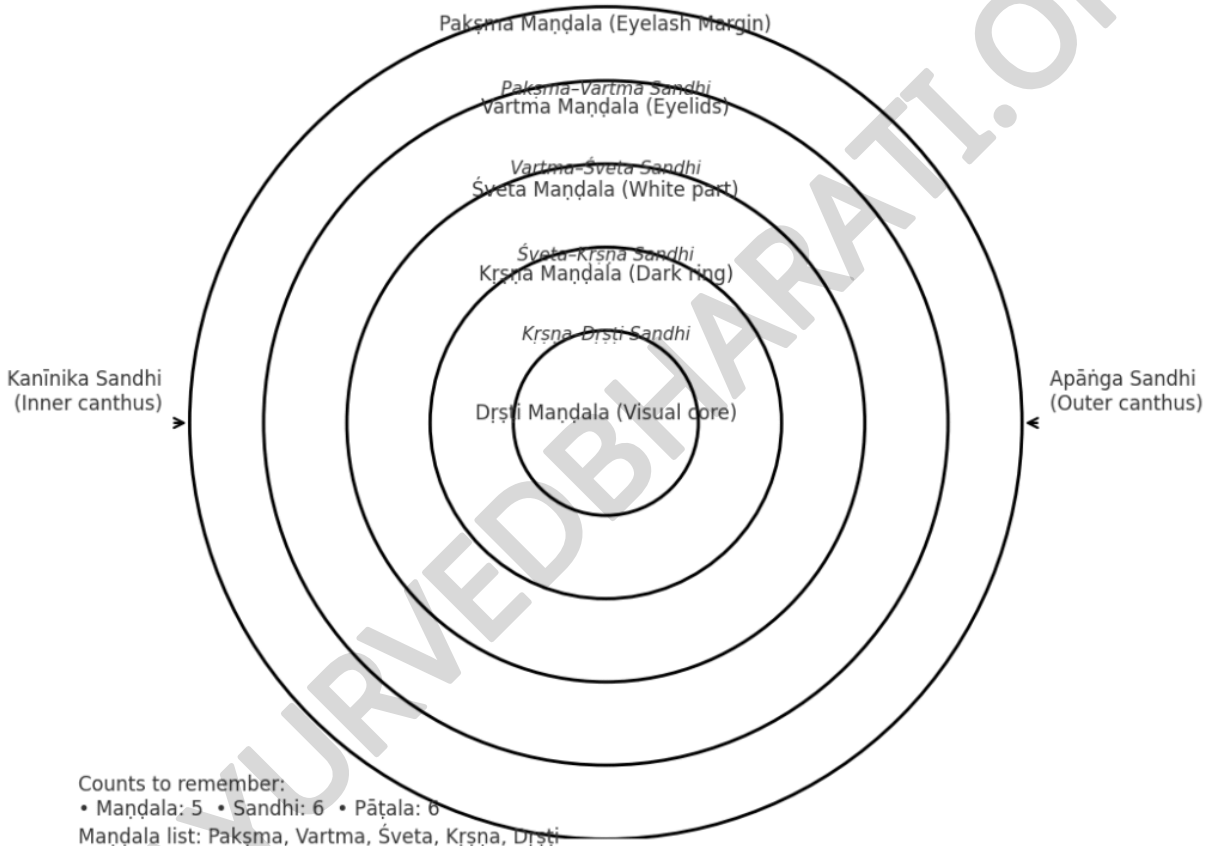
जायते तिमिरं येषु व्याधिः परमदारुणः ॥ (सु.उ. 1/17)

Clinical pearl: *Timira* (early visual obscurations) arises when inner pāṭalas are involved.

2) Other structural points worth quoting

- **Dṛṣṭi size & centrality:** Dṛṣṭi occupies a fraction of Kṛṣṇa-maṇḍala and is the seat of vision; (see Su. Saṃ. Uttara 1 opening description for measurements and five-element constitution).
- **Pañca-bhūta contribution:** Pṛthvī → māṃśa; Agni/Tejas → rakta; Vāyu → kṛṣṇa-bhāga dynamics; Jala → śveta/lucid parts; Ākāśa → āśru-mārga (channels).

Netra: Maṇḍala-Sandhi Map (Suśruta Uttara Tantra 1:14-17)



Counts to remember:

• Maṇḍala: 5 • Sandhi: 6 • Pāṭala: 6

Maṇḍala list: Pakṣma, Vartma, Śveta, Kṛṣṇa, Dṛṣṭi

Sandhi list: Pakṣma-Vartma, Vartma-Śveta, Śveta-Kṛṣṇa, Kṛṣṇa-Dṛṣṭi, Kanīnika (inner), Apāṅga (outer)

Netra: Pāṭala (Layer) Schema — Vartma (2) + Akṣi (4) = 6 (Suśruta Uttara Tantra 1:17)

Clinical pearl: Timira arises when inner Akṣi pāṭalas are involved; unchecked progression may lead to Kaca and Liṅganāśa.

6. Akṣi Pāṭala IV (Innermost)	• Kaca → Liṅganāśa risk if untreated
5. Akṣi Pāṭala III	• Timira begins (visual obscurations)
4. Akṣi Pāṭala II	• Abhishyanda progression; increased discharge
3. Akṣi Pāṭala I (Outer ocular coat)	• Śveta/Kṛṣṇa interface; early surface changes
2. Vartma Pāṭala II (Inner eyelid lamina)	• Meibomian/tarsal involvement; foreign body sensation
1. Vartma Pāṭala I (Outer eyelid lamina)	• Eyelid-related disorders (Blepharitis spectrum)

Total Pāṭala: 6 → Vartma 2 + Akṣi 4

Use: Identify depth of pathology to guide Kriyā-kalpa & Śamana

C) Netra Kriyāśarīra (Physiology of Eye)

Ayurveda explains vision as a **tridoṣa-sāmyak** function with specific **sub-doṣas**:

- **Pitta** — **Ālocaka Pitta (seat: dṛṣṭi)**: Enables **darśana** (seeing), discrimination of forms and colours; functionally comparable (conceptually) to light-processing in the visual axis.
- **Kapha** — **Tarpaka Kapha (ocular nourishment)**: Unctuousness, tear film stability, comfort, *netra-tarpana* target.
- **Vāta** — **Prāṇa/Vyāna sub-doṣa roles: Nimeṣa-Unmeṣa** (blink-open cycles), extra-ocular movements, pupillary dynamics (via doṣic balance).

Exam tip (AKTU): “Seat-Function” grid — *Ālocaka-darśana, Tarpaka-tarpana/snehana, Prāṇa/Vyāna-nimeṣa/unmeṣa & saccades.*

D) Sāmānya Hetu (Nija & Āgantuja) of Netraroga

Nija (endogenous) causes

Doṣa aggravation by **āhāra-vihāra** that directly strain ocular homeostasis:

- **Āhāra**: Excess **amla/kaṭu/lavaṇa; śukta, āranāla** (fermented gruels); **māṣa, kulattha**; adhyśana (overeating); *ati-uṣṇa/ati-tikṣṇa* foods.
- **Vihāra**: **Ati-dūra-darśana, sūkṣma-darśana** (sustained fine work), **divā-svapna, rātri-jāgarāṇa, ātapa-jalakeli** alternation, **śoka-krodha-śrama**, suppression of tears, exposure to **dhūma/rajaḥ**. All these are explicitly listed in Suśruta’s opening chapter on eye diseases.



Āgantuja (exogenous/traumatic) causes

- **Bāhya abhigāta:** foreign body, blunt/penetrating trauma, burns, corrosives, caustic smoke. Suśruta keeps **two traumatic entities** distinct in overall counts.

Path note: These hetus vitiate doṣas **ascending via śīras/srotas** to the ocular site → local saṅga/srava/śoṭha → **abhishyanda-ādi** expressions.

E) Pūrvārūpa (Prodromal Signs) of Netraroga

Classically observed **incubatory features** include:

- **Āvila-darśana** (cloudy/blurred vision), **dāha/toda/śūla** (burning-prick-ache), **āśru-srava** (watering), **piśīta/śleṣma-sañcaya** (mucus), **gurutā/āyāsa** (heaviness/fatigue), **rakta-varṇa/aruṇa-varṇa** changes; **śūka-kaṇṭhaka-vat** sensation on lids in earlier *vartma-inflammations*.

Why care? Early recognition avoids deeper **pāṭala-anubandha** (e.g., timira → liṅganāśa sequence in dṛṣṭi-pāṭalas).

F) Samprāpti (Pathogenesis) of Netraroga

Canonical flow (write this exactly in exams):

1. **Hetu-sevana** (listed above) → **doṣa-prakopa** (vāta/pitta/kapha; often with **rakta**).
2. **Ūrdhva-gati** of doṣas through **śīras-srotas** to **netra-sthāna** (maṇḍala-sandhi-pāṭala specific lodgement).
3. **Sthāna-saṁśraya** → **srotorodha/ati-pravṛtti** → **abhishyanda** (foundational ocular inflammation) or localized **vartma/sandhi/śveta/kṛṣṇa/dṛṣṭi-gatas**.
4. According to depth: **Timira** (pāṭala-1...4) → **kaśa** → **liṅganāśa** (progressive obscuration to loss of functional vision), with doṣa-specific **varṇa-viparyaya** (colour-perception shifts) described by Suśruta in **Dṛṣṭi-gataroga vijñāniya**.

Schematic (remember: H-D-U-S-V): Hetu → Doṣa → Urdhva-gati → Sthāna-saṁśraya → Vikāra.

G) Sāma vs. Nirāma Lakṣaṇas in Netraroga

Sāma (with Āma involvement):

- **General:** ālasya, āvaraṇa-bhāva, mandāgni signs.
- **Ocular:** **guru-rukṣa-staimitya** (heaviness, sticky mucous), **āśru-srava** thick/stringy, **dṛṣṭi-āvila**, intolerance to light, relief with **lāghava/laghu-pācana** therapies (e.g., rukṣa-seka initially).
- **On exam:** conjunctival **mala-sañcaya**, lids feel **kathina/bahala**; benefits from **dīpana-pācana** before local kriyā-kalpa.

Nirāma:

- Cleaner tear film, **less stickiness**, pain localised/clear; patient tolerates gentle **snehana-tarpana** as per indication; signs align with **śuddha doṣa-prakopa** rather than āma-saṅga.

Exam handle: Start with **āma-apakarṣaṇa** if sāma features dominate; *never* jump to heavy snehana/tarpana in unmistakably sāma states.

H) Classification of Netraroga

1) By Doṣa (Suśruta) — total 76

- Vātaja 10, Pittaja 10, Kaphaja 13, Raktaja 16, Sannipātaja 25, Āgantuja (traumatic) 2.

2) By Site (Maṇḍala focus)

Suśruta totals **74 nija** diseases distributed as: **Vartma 21, Sandhi 9, Śveta 11, Kṛṣṇa 4, Dṛṣṭi 12, Sarvagata (entire eyeball) 17**, plus **2 āgantuja** → **76**.

“इत्येते नयनगता ... षट् च सप्ततिश्च” — Suśruta wraps the count of ocular diseases as **76** before detailing adhyāyas by location/prognosis.

3) By Treatment Modality (operative logic)

Suśruta also divides by **cedya (incision), lekhyā (scarification), bhedyā (excision), vyādhyā (sirā-vyadha), yāpya (palliative), asādhyā** etc., guiding surgical decision-making.

One-glance exam table

Basis	Buckets (with Suśruta's numbers)
Doṣa	Vātaja 10 • Pittaja 10 • Kaphaja 13 • Raktaja 16 • Sannipātaja 25 • Āgantuja 2
Site	Vartma 21 • Sandhi 9 • Śveta 11 • Kṛṣṇa 4 • Dṛṣṭi 12 • Sarvagata 17 (+ Āgantuja 2)
Modality	Cedya 11 • Lekhyā 9 • Bhedyā 5 • Vyādhyā 15 • Anupakrama (no op.) 12 • Yāpya 7 • Asādhyā 15 (Su. Utt. 8)

Assessment

A. Long Essay (answer any 1; 10 marks)

1. **Describe Netra Racaṇā** with Suśruta's **maṇḍala-sandhi-pāṭala** scheme. Add a diagrammatic description and clinical correlations with **Timira-Kaca-Liṅganāśa** sequence.
2. **Explain the Nidāna-Pañcaka of Netraroga**: sāmānya hetu (nija & āgantuja), pūrvārūpa, rūpa, upaśaya-anuśaya, and samprāpti with a neat flowchart.

B. Short Essays (write any 3; 5 marks each)

1. Role of **Ālocaka Pitta** and **Tarpaka Kapha** in ocular physiology.
2. **Sāma vs. Nirāma** features in conjunctival inflammations (Abhishyanda-spectrum).
3. **Suśruta's site-wise classification**—tabulate numbers and give two examples from each site.
4. **Kriyā-kalpa** as local therapeutics in the early **pūrvārūpa** stage—rationale and cautions.

C. Short Notes (any 4; 3 marks each)

- **Kanīnika** and **Apāṅga** sandhi
- **Vartma-pāṭala** versus **Akṣi-pāṭala**
- **Doṣa-specific varṇa-viparyaya** in Dṛṣṭi disorders
- **Āgantuja netraroga**—clinical approach
- **Abhishyanda** as mūla of netraroga

**D. MCQs (5 × 1 = 5 marks)**

- Total **maṇḍala-sandhi-pāṭala** in netra are (respectively):
a) 5-6-6 b) 6-5-6 c) 5-5-6 d) 6-6-5
- Kanīnika** refers to: a) outer canthus b) inner canthus c) pupil margin d) limbus
- Total netrarogas (Suśruta)**: a) 72 b) 74 c) 76 d) 78
- Traumatic (āgantuja) eye diseases (Suśruta)**: a) 2 b) 4 c) 6 d) 8
- Doṣa-wise largest group**: a) Vāta b) Pitta c) Kapha d) Sannipāta

Answer key: 1-a, 2-b, 3-c, 4-a, 5-d.

Quick Review (1-minute)

- **5/6/6** = Maṇḍala/Sandhi/Pāṭala.
- **Pūrvārūpa** = āvila-darśana, dāha, toda, āśru-srava, gurutā.
- **Samprāpti** = Hetu→Doṣa→Ūrdhva-gati→Sthāna-saṃśraya→Vikāra; Abhishyanda is foundational.
- **Sāma** eyes are sticky-heavy; **nirāma** allows śamana/snehana as indicated.
- **76** total (Suśruta): **74** nija by site + **2** traumatic.

Selected Ślokas to cite in answers

- Structural triad & counts**
“मण्डलानि च सन्धीश्च पटलानि च लोचने । यथाक्रमं विजानीयात् पञ्च षट् च षडेव च ॥ (सु.उ. 1/14)”
- List of five maṇḍalas**
“पक्ष्मवर्त्मश्वेतकृष्णदृष्टीनां मण्डलानि तु... (सु.उ. 1/15)”
- Six sandhis**
“पक्ष्मवर्त्मगतः सन्धिवर्त्मशुक्लगतोऽपरः... कनीनक... अपाङ्ग... (सु.उ. 1/16)”
- Pāṭala distribution (2 in vartma; 4 in akṣi)**
“द्वे वर्त्मपटले विद्याच्चत्वार्यन्यानि चाक्षिणि... (सु.उ. 1/17)”
- Total disease count**
“इत्येते नयनगता ... षट् च सप्ततिश्च” — total **76**.

References (study use; cite in exam answers as text sources)**Classical**

- **Suśruta Saṃhitā, Uttara Tantra**: Adhyāya 1 (*Nayana-śarīra & netraroga overview*), Adhyāya 3 (*Vartmagata*), Adhyāya 7 (*Dṛṣṭigata roga vijñānīya, timira-kaca-liṅganāśa sequence*).
- **Aṣṭāṅga Hṛdaya**, Sūtrasthāna (pañca-pitta including **Ālocaka**), Uttarasthāna (netraroga topics).

Standard modern/academic aids

- **K.S. Dhiman** — *Śālākya Kriyā-Kalpa Vijñāna*.
- **Shiv Nath Khanna** — *Śālākya Tantra*.
- Wisdomlib (Bhīṣagratna's English translation of **Suśruta Uttara-tantra**) for distribution by site and treatment modalities.
- Conceptual papers on **Ālocaka Pitta** and **Netra Śarīra** (use judiciously for viva).