

## 2.2. Shastra - Nirukti, Prakara, Guna, Prayog, Dosha, Karma, Anushastra and Relevant modern instruments

**Unit 2. Yantra & Śastra — Topic 2. Śastra (Sharp Instruments): Nirukti, Prakāra, Guṇa, Prayoga, Doṣa, Karma, Anuśastra & Modern Mapping**

### 1) Nirukti (Etymology) & Paribhāṣā (Definition)

**Nirukti:** Śastra derives from the Sanskrit root **śas—śiśāsana** (to discipline/operate). In **Śalyatantra**, Śastra denotes **tīkṣṇa-upakaraṇa**—sharp-edged instruments intended for cutting, incising, scraping, puncturing and allied surgical maneuvers. Suśruta treats Śastra as the primary agents of **pradhāna-śalyakarma** (principal operative steps), complemented by Yantra (blunt aids) and Anuśastra (substitute/auxiliary tools).

### 2) Prakāra (Types) — The Twenty Śastra of Suśruta (Sūtrasthāna 8)

Suśruta classically enumerates **20 sharp instruments** (Śastra). Names describe their **shape/function**—a powerful memory help for viva.

#	Sanskrit name (gloss)	Classical sense	Typical modern correlate
1	<b>Maṇḍalāgra</b> (round-tipped knife)	Circular/rounded edge for <b>incision &amp; scraping</b>	Scalpel no. 10/15 (rounder contour)
2	<b>Karapatra</b> (saw)	<b>Sawing</b> hard tissue	Bone saw / Gigli (principle)
3	<b>Vṛddhipatra</b> (razor/lancet)	<b>Chedana-Bhedana</b> (incision/excision)	Bard-Parker scalpel / razor
4	<b>Nakhaśastra</b> (nail-cutter)	Precise cutting	Nail clipper/special trimmer
5	<b>Mudrikā</b> (ring-knife)	Controlled <b>incision</b> in confined space	Ring knife / guarded knife
6	<b>Utpalapatra</b> (lotus-leaf knife)	Leaf-shaped <b>incision</b>	Leaf scalpel
7	<b>Arddhadhāra</b> (single-edged lancet)	Fine <b>incision/excision</b>	Lancet / beaver blade
8	<b>Śuci</b> (needle)	<b>Suturing</b> (Sīvya)	Needles (round/triangular/curved)
9	<b>Kuśapatra</b> (kūśa-grass blade)	Thin <b>secretion/scraping</b>	Micro-knife/sickle knife
10	<b>Ātemukha</b> (bird-bill knife)	Beak-like tip for <b>drainage</b>	Tenotomy/duck-bill tools
11	<b>Śarārimukha</b> (bird-bill scissors)	<b>Clipping/secretion</b>	Scissors/clipper
12	<b>Antarmukha</b> (semi-circular serrate)	<b>Saw-like</b> inner edge	Hand saw/raspatory type
13	<b>Trikūrchaka</b> (trocar)	<b>Secretion/aspiration</b>	Trocar & cannula
14	<b>Kuṭhārikā</b> (small axe)	<b>Puncture/osteotomy</b>	Osteotome/chisel
15	<b>Vrīhimukha</b> (rice-grain tip)	Serrated <b>puncture</b>	Toothed awl/spur needle
16	<b>Ārā</b> (awl)	<b>Puncturing</b>	Surgical awl
17	<b>Vetasapatraka</b> (reed-leaf knife)	<b>Puncture/incision</b>	Leafy micro-knife
18	<b>Vaḍīśa</b> (barbed hook)	<b>Extraction</b> (āharaṇa)	Surgical hook/fish-hook
19	<b>Danta-śaṅku</b> (dental extractor)	Extraction of teeth	Dental elevator/forceps
20	<b>Eṣanī</b> (probe/director)	<b>Eṣanā</b> —probing/directing	Probe/director

“शस्त्राणि— मण्डलाग्र, करपत्र, वृद्धिपत्र, नखशस्त्र, मुद्रिका, उत्पलपत्र, अर्धधार, शूचि, कुशपत्र, आतमुख, शरारीमुख, अन्तरमुख, त्रिकूर्चक, कुठारिका, ब्रीहीमुख, आरा, वेतसपत्रक, वडिश, दन्तशड्कु, एशनी— इति।” — *Suśruta Saṃhitā, Sūtrasthāna 8 (Śastrāvacharaṇīya)*

**How to write in exams:** Quote or paraphrase the list; then pick any **5** and state one **signature use** each (e.g., **Karapatra**—bone sawing).

### 3) **Guṇa (Desirable Qualities) of Śastra**

Suśruta emphasises geometry, tempering and finish:

- **Material & make:** pure, strong iron/steel; **well-shaped; well-ground; keen, even edge; good point; secure handle and balance.**
- **Edge-task matching:**
  - **Bhedana** (excision): edge as thin as **muṣura-dāl** husk.
  - **Lekhana** (scarification/scraping): **half** as thin as bhedana edge.
  - **Vyādhana/Visrāvāṇa** (puncture/evacuation): edge **as fine as hair.**
  - **Chedana** (incision): **half** as thin as vyādhana.
- **Tempering:** **kṣara (alkali)** for cutting arrows/bone/foreign bodies; **jala (water)** for flesh-cutting; **taila (oil)** for vein/nerve work.
- **Protection:** edges sheathed; instruments whetted on proper stones; safe storage.

**Authoritative gist (Su. Sū. 8):** a surgical instrument **well-ground, well-shaped, keen-edged, with convenient handle** alone deserves use; rough/jagged/uneven, too thick/thin/long/short are **rejected**.

### 4) **Doṣa (Defects) of Śastra — What to Avoid**

From Su. Sū. 8 (defective traits):

- **Vakratā** (undue curvature/off-axis), **Kuṇṭhatā** (bluntness), **Viṣamadhārā** (uneven edge), **Khara-dhārā** (rough/jagged edge), **Ati-sthūlatā** (too thick), **Ati-kṛśatā** (too thin), **Ati-dīrghatā** (too long), **Ati-hrasvatā** (too short).
- **Applied prevention:** correct sharpening protocol; **pre-use inspection** (hinges, serrations); retire deformed edges; match blade profile to tissue.

Use this list to argue instrument rejection in *viva* and to justify changing blades mid-case.

### 5) **Prayoga (Clinical Use) — Map Śastra to Steps**

- **Incision/Excision (Chedana-Bhedana):** Maṇḍalāgra, Vṛddhipatra, Arddhadhāra for **skin/fascia** work; Karapatra/Kuthārikā for **bone** exposure where indicated.
- **Scarification (Lekhana):** Maṇḍalāgra/Karapatra for **indurated margins**, sinus-lip; precise **edge-thickness** per Su. Sū. 8.
- **Puncture (Vyādhana):** Trikūrchaka, Ārā, Vṛihīmukha, Vetasapatraka, Śūci—for **hydrocele/ascites veins** etc.
- **Evacuation (Sravya/Visrāvāṇa):** Kuśapatra, Śarārimukha, Ātemukha, Antarmukha—opened and **drained** with hair-fine edge, then Nādī-yantra for sustained drainage.
- **Extraction (Āharaṇa):** Vaḍīśa, Danta-śāṅku—solid foreign bodies/teeth; **probe (Eṣanī)** for direction before extraction.
- **Suturing (Sīvya):** Śūci (**needles**)—round, triangular, or semicircular per site (joint skin, scrotum/abdomen, marma-proximate tissue) as guided in Su. Sū. 25 (sivana-vidhi).

## 6) Śastra-karmāṇi (Eight Operative Actions) — Ashtavidha with Indications

Suśruta's operative doctrine is the **eightfold Śastra-karma**—learn the Sanskrit names **and** one-liner indications.

1. **Chedana** (चेदन) — *Incision* to open; **Chedyā** lesions listed (e.g., bhagandara, arbuda, arśa).
2. **Bhedana** (भेदन) — *Excision / cutting out* (many translators swap the English words; keep the Sanskrit clear). Useful in **vidradhi, vṛddhi, granthi, nādī-vṛṇṭa**, etc.
3. **Lekhana** (लेखन) — *Scarification/scraping of hard, thick, elevated margins/in durated tissue.*
4. **Vyādhana** (व्याधन) — *Puncture/aspiration*, e.g., **dakodara** (ascites), **mūtra-vṛddhi** (hydrocele), controlled **śirā** work.
5. **Eṣaṇā** (एषणा) — *Probing/exploration*, esp. **sinus/foreign body** tracts.
6. **Āharaṇa** (आहरण) — *Extraction/drawing out* — stones, foreign bodies, impacted stool/foetus (obstetric extraction references).
7. **Śravana/Visrāvana** (स्रावण/विस्रावण) — *Evacuation/secretion* in **vidradhi/kuṣṭha**, inflamed swellings, ear-lobe disease, etc.
8. **Sīvana** (सीवन) — *Suturing of clean* wounds after proper debridement; **needle-shapes** chosen by site (round/triangular/semicircular).

### Suturing specifics (Su. Sū. 25):

- **Threads:** cotton, aśmantaka/hemp fibres, aṭasī/mūrvā/gudūcī, leather strips, horsehair, or sinews.
- **Suture patterns:** **Gophana, Tunna-sevanī, Rju-granthi**—selected by **shape/position** of the wound.
- **Needles:** round (two-āṅgula) for joints/thin tissues; trihedral (three-āṅgula) for fleshy parts; semicircular for scrotum/abdominal skin/marma zones.

## 7) Anuśastra (Inferior/Substitutes) — What to Use When the Knife is Unsuitable

Suśruta lists substitute instruments to **incise/excise/extract/secrete/probe** when patients are **too young, fearful**, or when **proper instruments are unavailable** (Su. Sū. 8):

- **Bamboo skin (vetasa-valka), crystal (sphaṭika), bits of glass (kāca), kuruvinda (corundum/quartz)** — for **incision/excision** in select contexts.
- **Nails (nakhāḥ)** — in feasible **incision/extraction** scenarios.
- **Leeches (jalaukā), fire (agni), alkali (kṣāra)** — as **Anuśastra-karmāṇi** for **visrāvana/chemo-thermal actions** (detailed in Su. Sū. 11-13).
- **Leaves (gojī, śephalika, śākapatra)** — **secretion/evacuation** in mouth/eyelid disorders.
- **Hair (keśa), corn-sprout (aṅkura), fingers (aṅguli)** — **probing (eṣaṇā)** in absence of a probe.

“वत्क-स्फटिक-काच-कुरुविन्दा जलौका-अग्नि-क्षार-नसा— गोजी-शेफालिका-शाकपत्र-अङ्कुर-केश-अङ्गुलयः— एते अनुशस्त्रसङ्ग्रहाः।”  
— Suśruta Saṃhitā, Sūtrasthāna 8 (sense of list)

## 8) Modern Mapping — Quick Tables for OT Practice

### A) Śastra → Core action → Modern substitute

Śastra	Signature action	Modern
Maṇḍalāgra / Vṛddhipatra / Arddhadhāra	<b>Chedana-Bhedana</b>	Scalpels, lancets

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<b>Śastra</b>	<b>Signature action</b>	<b>Modern</b>
Karapatra / Antarmukha	<b>Sawing/secretion</b>	Bone saws, serrated knives
Kuṭhārikā / Ārā	<b>Puncture/bone entry</b>	Osteotomes, awls
Trikūrchaka	<b>Vyādhana/aspiration</b>	Trocars-cannula
Kuśapatra / Śarārimukha / Ātemukha	<b>Visrāvāṇa</b>	Scissors, drains entry
Vaḍīśa / Danta-Śāṅku	<b>Āharaṇa</b>	Hooks, elevators, forceps
Śuci	<b>Sīvana</b>	Surgical needles (round, 3-edged, semicircular)
Eṣanā	<b>Eṣanā</b>	Probes/directors

### B) Edge preparation (Su. Sū. 8) — what's "thin enough"?

- **Excision (Bhedana):** edge ~ muṣura husk.
- **Scraping (Lekhana):** ½ of the above.
- **Puncture/Secretion (Vyādhana/Visrāvāṇa):** hair-fine.
- **Incision (Chedana):** ½ of hair-fine.

### 9) Technique Pearls (from Su. Sū. 8 & 25)

- **Grips & handling:** Vṛddhipatra for scraping—with **palm slightly supinated**; **Vrihimukha**—handle concealed in palm, blade held by **thumb-index**; **Ara/Karapatra/Eṣanā**—held at **roots**; **Kuṭhārikā**—supported on left, **tapped** with right (thumb & third finger).
- **Patient factors:** In kings/children/timid/delicate, prefer **Trikūrchaka** for evacuation—**less traumatic**.
- **Suturing:** Respect **marma** proximity; choose **needle body** and **pattern** accordingly; never sew **unclean** wounds—do **śodhana** first.

### 10) Safety — Errors (Vyāpada) and How to Prevent Them

हीनातिरिक्तं तिर्यक् च गात्रच्छेदनमात्मनः ।  
एताश्चतस्त्रोऽस्त्रविषे कर्मणि व्यापदः स्मृताः ॥ — Su. Sū. 25/30

- **Hīna (under):** inadequate cut/evacuation → **re-do** with correct edge & plane.
- **Atirikta (over):** excessive cut → **hemostasis, layer-wise control**.
- **Tiryāṇ (oblique):** off-plane incision → **re-mark**, stabilize tissue.
- **Ātma-chedana (self-injury):** poor ergonomics → **correct grip**, neutral wrist, guarded blades.

**General rule:** Never incise, suture or evacuate **without eṣanā** (probing) when tracts are uncertain; **match edge** to tissue; **temper** blades for task.

### 11) Self-Check Recap (High-yield)

- **20 Śastra names** with one-liner uses (Su. Sū. 8).
- **Guṇa vs Doṣa:** keen, even edge & good handle **vs** curvature, bluntness, uneven/jagged, mis-sized (Su. Sū. 8).
- **Aṣṭavidha Śastra-karma:** **Chedana, Bhedana, Lekhana, Vyādhana, Eṣanā, Āharaṇa, Sravana/Visrāvāṇa, Sīvana** (Su. Sū. 25).
- **Anuśastra:** bamboo skin, crystal, glass, kuruvinda, nails, leaves, hair, finger; **leech-fire-alkali** as special substitutes (Su. Sū. 8; Su. Sū. 11-13).
- **Vyāpada (errors):** **hīna/atirikta/tiryāṇ/ātma-chedana** (Su. Sū. 25/30).

- **Edge-task rule & tempering**—quote from Su. Sū. 8 in viva.

## 12) Assessment

### A) MCQs (Single best answer)

1. **Edge for Vyādhana/Visrāvāṇa** should be:  
a) As thick as a nail b) As thin as **hair** c) As thin as *muṣura* husk d) As thick as paper  
**Ans:** b (Su. Sū. 8)
2. **Karapatra** corresponds most closely to:  
a) Lancet b) **Bone saw** c) Trocar d) Awl  
**Ans:** b (Su. Sū. 8)
3. **Trikūrchaka** is primarily used for:  
a) Suturing b) Excision c) **Puncture/evacuation** d) Scraping  
**Ans:** c (Su. Sū. 8)
4. **Anuśastra** suitable for probing when probe is absent:  
a) **Hair/corn-sprout/finger** b) Tourniquet c) Retractor d) Bandage  
**Ans:** a (Su. Sū. 8)
5. **The four common errors** in Aṣṭavidha Śastra-karma include all **except**:  
a) Hīna b) Atirikta c) **Vivecana** d) Ātma-chedana  
**Ans:** c (Su. Sū. 25/30)
6. **Sūci** selection: a **semicircular** needle is ideal for:  
a) Joint capsule b) **Scrotal/abdominal skin/marma-proximate** c) Fleshy thigh d) Nail bed  
**Ans:** b (Su. Sū. 25)
7. **Doṣa** of Śastra that risks false tract:  
a) **Vakratā** b) Mṛdutā c) Sthūlatā d) Dīrghatā  
**Ans:** a (Su. Sū. 8)
8. **Vadiśa** is used chiefly for:  
a) **Extraction** b) Incision c) Suturing d) Cauterisation  
**Ans:** a (Su. Sū. 8)
9. **Lekhana** is preferred in:  
a) Acute clean wounds b) **Indurated/elevated margins** c) Acute hydrocele d) Bone fracture  
**Ans:** b (Su. Sū. 25)
10. **Tempering with alkali** is indicated when cutting:  
a) Skin b) **Bone/arrow/foreign body** c) Vein d) Nerve  
**Ans:** b (Su. Sū. 8)

### B) SAQs (3-5 lines; cite Suśruta)

1. Enumerate **20 Śastra** with one function each (Su. Sū. 8).
2. Write **Guṇa** and **Doṣa** of Śastra (Su. Sū. 8) with one preventive step.
3. Define and indicate **any four** of the **Aṣṭavidha Śastra-karmāṇi** (Su. Sū. 25).
4. What are **Anuśastra**? Give **five** examples and their uses (Su. Sū. 8).
5. Explain **four vyāpada** and their prevention (Su. Sū. 25/30).

### C) LAQs

1. **Śastra doctrine of Suśruta:** Nirukti → 20 Śastra (Su. Sū. 8) with geometry, edge & temper rules → **Guṇa-Doṣa** with prevention → **Aṣṭavidha Śastra-karma** (Su. Sū. 25) with indications & vyāpada → **Anuśastra** and modern mapping.
2. **From śloka to OT:** Show how **edge-task matching & tempering** (Su. Sū. 8) plus **suturing rules** (Su. Sū. 25) translate into present-day scalpel/needle selection, safe drainage and wound closure protocols.

## Additional reading - Su.Su. Ch. 8

### Opening & Intention (1)

अथातः शस्त्रावचारणीयमध्यायं व्याख्यास्यामः ॥१॥

Now, then, we shall expound the chapter on the handling of surgical instruments.

### Authority of Dhanvantari (2)

यथोवाच भगवान् धन्वन्तरिः ॥२॥

Thus spoke the Worshipful Lord Dhanvantari.

### Twenty Sharp Instruments (3)

विंशतिः शस्त्राणि, तद्यथा- मण्डलाग्रकरपत्रवृद्धिपत्रनस्त्रमुद्रिकोत्पलपत्रकार्धधारसूचीकुशपत्राटीमुख-  
शरारिमुखान्तर्मुखत्रिकूचककुठारिकात्रीहिमुखारावेतसपत्रकवडिशदन्तशड्कवेषण्य इति ॥३॥

There are twenty sharp instruments, namely: **maṇḍalāgra**, **karapatra**, **vṛddhipatra**, **nakhaśastra**, **mudrikā**, **utpalapatra**, **ardhadhārā**, **sūcī**, **kuśapatra**, **ātimukha**, **śarārimukha**, **antarmukha**, **trikūrcaka**, **kūṭhārikā**, **vṛihimukha**, **ārā**, **vetasapatra**, **badiśa**, **dantaśāṅku**, and **eṣaṇī**.

### Eight Operative Uses (4)

तत्र मण्डलाग्रकरपत्रे स्यातां छेदने लेखने च, वृद्धिपत्रनस्त्रमुद्रिकोत्पलपत्रकार्धधारणि छेदने भेदने च, सूचीकुशपत्राटी(टा)मुखशरारिमुखान्तर्मुखत्रिकूचकानि विस्रावणे, कुठारिकात्रीहिमुखारावेतसपत्रकाणि व्यधने सूची च, वडिश दन्तशड्कुशचाहरणे, एषण्येषणे आनुलोम्ये च, सूच्यः सीवने ; इत्यष्टविधे कर्मण्युपयोगः शस्त्राणां व्याख्यातः ॥४॥

Of these: **maṇḍalāgra** and **karapatra** are for cutting and linear incising; **vṛddhipatra**, **nail-knife**, **ring-knife**, **lotus-leaf blade**, and **half-edged blade** are for cutting and piercing; **needle**, **grass-leaf blade**, **ātimukha**, **arrow-head blade**, **inward-curved blade**, and **trikūrcaka** serve for letting out (blood/fluids); **small axe**, **rice-grain tip**, **awl**, and **willow-leaf blade** are for puncturing—so too the **needle**; **barbed hook** and **tooth-probe** are for extraction; the **searching probe** is for probing and following the natural tract; needles are for suturing. Thus the use of instruments in the eight classes of operative actions is declared.

### Grasp & Handling (5)

तेषामथ यथायोगं प्रहणसमासोपायः कर्मसु वक्ष्यते- तत्र वृद्धिपत्रं वृन्तफलसाधारणे भागे गृह्णीयात्, भेदनान्येवं सर्वाणि, वृद्धिपत्रं मण्डलाग्रं च किञ्चिदुत्तानेन पाणिना लेखने बहुशोऽवचार्यं, वृन्ताये विस्रावणानि, विशेषणे तु बालवृद्धसुकमारभीरुनारीणां राजां राजमापुराणां च त्रिकूचकेन विस्रावयेत्, तलप्रच्छादितवृन्तमङ्गुष्ठप्रदेशिनीभ्यां त्रीहिमुखं, कुठारिकां वामहस्तन्यस्तामितरहस्तमध्यमाङ्गुल्याङ्गुष्ठविष्टव्याङ्गुष्ठमिहन्यात्, आराकरपत्रैषण्यो मूले, शेषाणि तु यथायोगं गृह्णीयात् ॥५॥

Now their grasp and handling, appropriate to each task, will be told. The **vṛddhipatra** should be held at the junction of stalk and blade; similarly all piercing instruments. The **vṛddhipatra** and **maṇḍalāgra**, with the hand slightly raised, should be frequently steadied for linear incisions. For blood-letting, grasp at the tip of the stalk; and especially in children, the aged, the delicate, the timid, women, and kings/princes, let blood with the **trikūrcaka**. Drive the **vṛihimukha** with the stalk covered by the palm between thumb and index; the **kūṭhārikā**, placed in the left hand, is struck/driven using the middle finger and thumb of the other hand. Hold the **awl**, **karapatra**, and **probe** near their base; the others as suited.

### Form Implied by Names (6)

तेषां नामभिरेवाकृतयः प्रायेण व्याख्याताः ॥६॥

For the most part, their very names indicate their shapes.

### Standard Lengths (7)

तत्र नस्त्रस्त्रैषण्यावस्त्राङ्गुले, सूच्यो वक्ष्यन्ते, (प्रदेशिन्यग्रपर्वप्रदेशप्रमाणा मुद्रिका, दशाङ्गुला शरारिमुखी सा च (या सा) कर्तरीति कथ्यते)। शेषाणि तु षड्ङुलानि ॥७॥

Here, the **nail-knife** and **searching probe** are eight aṅgulas in length; **needles** will be described later. The **mudrikā** is measured by the terminal region of the index finger; the **śarārimukhī** is ten aṅgulas and is also called **kartarī** (scissor-type). The remaining instruments are six aṅgulas.

### Qualities of Good Instruments (8)

तानि सुग्रहाणि, सुलोहाणि, सुधाराणि, सुरूपाणि, सुसमाहितमुखाग्राणि, अकरालानि, चेति शस्त्रसम्पत् ॥८॥

Excellence consists in being easy to grasp, made of good metal, well-tempered, well-shaped, with well-set tips, and not fearsome in appearance.

### Defects & the Karapatra Exception (9)

तत्र वक्रं, कुण्ठं, स्पण्डं, स्वरधारम्, अतिस्थूलम्, अत्यत्प्लम्, अतिदीर्घम्, अतिहृस्वम्, इत्यष्टौ शस्त्रदोषाः ।  
अतो विपरीतगुणमाददीतः, अन्यत्र करपत्रात् ; तद्धिं स्वरधारमस्थिच्छेदनाथम् ॥१॥

Eight defects are: crooked, blunt, broken, rough-edged, too thick, too small, too long, too short. Choose the opposite qualities—**except** for **karapatra**, which should be rough/serrated for bone cutting.

### Edge Thickness Standards (10)

तत्र धारा भेदनानां मासूरी, लेखनानामधमासूरी, व्यधनानां विस्रावणानां च कैश्की, छेदनानामधकैश्कीति ॥१०॥

For edges: piercing—*masūra*-thick; linear incising—half *masūra*; puncturing and letting out—hair-fine; cutting—half hair-fine.

### Hook, Tooth-Probe & Probe Tip (11)

वडिणं दन्तशङ्कुशचानताये ।

तीर्ण्यकण्टकप्रथमयवपत्रमुख्येषणी (गण्डपदाकारमुखी च) ॥११॥

The **barbed hook** and **tooth-probe** are bent at the tip. The **searching probe** has a very sharp thorn-like, barley-leaf-shaped mouth (also described as worm-shaped).

### Threefold Quenching (12)

तेषां पायना विविधा क्षारोदकतैलेषु ।

तत्र क्षारपायितं शरशल्यास्थिच्छेदनेषु, उदकपायितं मांसच्छेदनभेदनपाटनेषु, तैलपायितं सिराव्यधनस्नायुच्छेदनेषु ॥१२॥

Tempering is threefold—in **alkali**, **water**, and **oil**: alkali-tempered for cutting arrow-foreign bodies and bone; water-tempered for cutting muscle, piercing, and splitting; oil-tempered for venesection and cutting tendons.

### Testing & Edge Maintenance (13)

तेषां निशानार्थं श्लक्षणशिला माशवर्णः धारासंस्थापनार्थं शाल्मलीफलकमिति ॥१३॥

Use a smooth stone of black-gram color to test sharpness; use a silk-cotton (*sālmalī*) board to set/maintain the edge.

### Guiding Maxim (14)

भवति चात्र—

यदा सुनिशितं शस्त्रं रोमच्छेदि सुसंस्थितम् ।

सुगृहीतं प्रमाणेन तदा कर्मसु योजयेत् ॥१४॥

“When the instrument is sharpened enough to cut a hair, properly set, and properly grasped, then it should be applied to procedures.”

### Auxiliary Implements (15)

अनुशस्त्राणि तु त्वक्सारस्फटिकाचकुरुविन्दजलौकोग्निक्षारनसगोजीशफालिकाशाकपत्रकरीरबालाङ्गुलय इति ॥१५॥

Auxiliaries: tough hide, crystal, glass, **kurvinda** (red stone), leeches, fire, alkali, the nail, and the leaves of **gojī**, **śephālika**, **śāka**, **karīra**, and the tender shoots of **bālāṅgulī**.

### When to Prefer Auxiliaries (16)

शिशूनां शस्त्रभीरुणां शस्त्राभावे च योजयेत् ।

त्वक्सारादिचतुर्वर्गं छेद्ये भेद्ये च बुद्धिमान् ॥१६॥

For children, those fearful of instruments, and when instruments are lacking, the intelligent physician should use the four groups beginning with tough hide for cutting and piercing.

### Use of Nail; Others Described Later (17)

आहार्यच्छेदयेषु नखं शक्येषु योजयेत् ।

विधिः प्रवक्ष्यते पञ्चात् क्षारवहनिजलौकसाम् ॥१७॥

For extractable, cuttable, or pierceable items, use the nail wherever feasible. The procedures with alkali, cautery, and leeches will be described later.

### Oral & Eyelid Conditions (18)

ये स्युमुखगता रोगा नेत्रवर्त्मगताश्च ये ।

गोजीशफालिकाशाकपत्रविर्विसावयेत् तान् ॥१८॥

Diseases in the mouth and those in the eyelids should be made to discharge using leaves of **gojī**, **śephālika**, and **śāka**.

### If Probe Is Unavailable (19-a)

एष्येष्वेषण्यलाभे तु बालाङ्गुल्यङ्कुरा हिताः ॥१९॥



In explorations, if a probe is not available, the tender sprouts of **bālāṅgulī** are beneficial.

**Forging & Metalsmith (19-b)**

शस्त्राण्येतानि मतिमान् शुद्धशैक्यायसानि तु ।

कारयेत् करणप्राप्तं कर्मारं कर्मकोविदम् ॥१९॥

A wise person should have these made of pure steel and iron by a blacksmith skilled and properly equipped for such work.

**Mastery Through Practice (20)**

प्रयोगजस्य वैद्यस्य सिद्धिर्भवति नित्यशः ।

तस्मात् परिचयं कुर्याच्छस्त्राणां ग्रहणे सदा ॥२०॥

Success constantly attends the physician skilled in practice; therefore always cultivate familiarity with the grasp and handling of instruments.

**Chapter End**

इति सुश्रुतसंहितायां सूत्रस्थाने शस्त्रावचारणीयो नामाष्टमोऽध्यायः ।

Thus ends, in the **Suśruta-saṃhitā**, Sūtrasthāna, the eighth chapter named **Śastrāvacāraṇīya** ("On the Handling of Surgical Instruments").