Unit 4: Early Detection and Response to Injury

PAPER 8 — Injury Prevention

Unit 4: Early Detection and Response to Injury

(Early signs of strain/overuse • First aid & rest protocols • Referral strategy • Communication for injury reporting)

Recognizing early signs of strain or overuse

Injuries rarely "appear out of nowhere." Most telegraph themselves as **patterned warnings**. Your job is to notice **what is new, asymmetric, persistent, or escalating**.

By tissue type (what you'll feel/see):

- **Muscle:** local ache or tight band that **eases with gentle warm-up** but returns at speed or end-range; painful, weak end-range contraction; mild swelling after hard sets.
- **Tendon:** morning/start-up stiffness, **pain at the first reps** that warms, then **rebounds later**; tenderness exactly at a bony attachment; pain on **slow lowering** (eccentric).
- **Ligament/joint:** sharp "pinch" with twist/valgus, sense of giving way; swelling or warmth **within hours** of a twist; joint feels better in mid-range, worse at extremes.
- **Bone stress (early): dull, focal** pain that **builds with impact** and eases at rest; hop or percussion on that spot reproduces pain.
- **Nerve/entrapment:** tingling, shooting lines, or "electric" pain with end-range stretch or compression; symptoms change with neck or limb position.
- **Skin/soft-tissue from therapies:** unusual redness, itch, burning with new oil/heat; patchy hives.

Workload & context clues:

- **Load spikes:** +>20% weekly jump in volume or intensity; new drill/weapon; longer treatment days.
- **Environment:** cold room, hard floor, slick surfaces; new shoes or none.
- **Recovery:** poor sleep, dehydration, low fuel, high stress = **lowered tissue tolerance**.

Self-checks (60-second screen):

- **Knee-to-wall** (ankle dorsiflexion); compare sides.
- **Single-leg squat**: knee tracks 2nd–3rd toe? pain?
- **Hop test** (bone stress red flag if sharp focal pain).
- **Grip-and-release** (forearm fatigue/pain in 10–15 reps).
- **Neural glide feel** (ankle pumps with straight knee; stop if numb/tingly).

Rule of three: if a **new pain** persists >3 sessions, **worsens**, or **alters movement**, treat it as an **injury in progress**—modify now.

Basic first aid and rest protocols

Think **PEACE → LOVE** adapted for Kalari/Uzhichil.

Immediately (first 24–72 h) — "PEACE"

- **Protect:** stop the provoking drill/technique; no testing "to see if it's still there."
- **Elevate:** if swollen; short, frequent bouts.

- **Avoid heat & deep pressure** on acutely hot/swollen tissue and **all agni marmas** (Hṛdaya, Nābhi, Basti, Ādhipati).
- **Compress** if helpful and safe (no numbness/tingle).
- **Educate:** pain ≠ weakness, but **dose must drop**; outline the plan.

Soon after (24 h onward) — "LOVE"

- **Load (relative):** pain-guided activity. Acceptable zone = **0–3/10 during**, back to **baseline by next day**.
- **Optimism & pacing:** short wins beat heroic sessions.
- **Vascular work:** easy cardio, distal-to-proximal returns, breathing (4-in/6-out).
- **Exercise:** gentle **isometrics** for tendons (5 × 30–45 s holds), **range-within-comfort** for joints, and **eccentrics** reintroduced later.

For Uzhichil/Kalari contexts:

- **Acute hot**: oil-free or neutral medium; no kizhi/steam; work **at distance** (proximal drains), broad feather contacts only.
- **Sub-acute cool/stiff**: reintroduce **warm sesame thin film**, traction > compression, brief regional heat **around** (not on) the tender field.
- **Home:** sleep 7–9 h, hydration, protein with vitamin C; light walking.

Referral strategies for severe or persistent injuries

Refer now (urgent):

- Chest pain, shortness of breath, fainting.
- **Severe deformity**, audible pop with inability to bear weight or lift.
- **Progressive numbness/weakness**, bowel/bladder changes.
- **Red-flag infection**: fever + hot swollen joint/wound.
- **Suspected DVT/PE**: calf swelling + warmth + tenderness; sudden chest pain/rapid breath.

Refer soon (within 24–72 h):

- Suspected **fracture or stress reaction** (focal bone pain that worsens with hop/percussion).
- **Locking/catching** joint; true **instability**.
- Pain that **does not improve** after **7–10 days** of modified load and basic care.
- **Recurrent** same-site pain despite good technique and load management.
- Worsening **skin reactions** to oils/heat.

Scope & documentation:

- Stay within scope (no diagnosis labels if you're not licensed to diagnose).
- Record **onset, mechanism, location, severity, what helps/worsens, actions taken**, and **referral given**.

Communication skills for injury reporting

Clear talk prevents confusion and speeds help. Use **SBAR** for coaches, seniors, or clinicians; and **plain, non-judgmental** language with clients.

SBAR template (concise):

- **S—Situation:** "Right knee pain after low stance drills; now 5/10 when descending stairs."
- **B—Background:** "Load up 30% this week; previous minor sprain 1 year ago."
- **A—Assessment:** "Tender at medial joint line; no swelling; single-leg squat painful; stopped drills; compression

helps."
- **R—Recommendation:** "Request physio review; will reduce stance depth 2 weeks; continue easy cardio and isometrics."

With clients/students:

- Validate: "You noticed it early—that's good."
- Set expectations: "We'll keep pain in the **0–3/10** range and reassess in **48–72 h**."
- Give one or two **clear actions** (e.g., "skip high kicks; add 5 × 30-s isometrics; walk 10 min").
- Confirm understanding and **consent** before any hands-on modification.
- Document and **follow up**.

Summary Tables (LMS quick-reference)

A) Early warning signs — by tissue

Tissue	Typical early signs	Quick screen	Immediate change
Muscle	Tight band, better after warm-up, returns with speed	Painful end-range contraction	Shorten range; slower eccentrics
Tendon	Morning/start-up stiffness, tender at attachment	Pain on slow lowering	Isometrics; reduce plyometrics
Ligament/joint	Pinch with twist, sense of give	Valgus/rotation provokes	Align, traction, ring-work; brace if needed
Bone stress	Dull focal pain with impact	Hop/percussion painful	**Stop impact; refer soon**
Nerve	Tingling/electric with stretch	Neural glide symptoms	Decompress; avoid end-range stretch

B) Field protocol — first 72 hours

Step	Do	Avoid
Protect	Stop provoking drill/technique	"Testing" pain repeatedly
Elevate/Compress	As tolerated	Over-tight wraps → numbness
Medium	Neutral; broad feather contacts only	Heat, deep pressure, stacked heat+pressure
Movement	Pain-free ROM; easy cardio	Long static stretches

C) Return-to-load guide (pain-scaled)

Pain during task	Action	Next-day check
0–3/10	Continue; short sets; watch form	Back to baseline → progress 10–15%
4–5/10	Reduce depth/speed/volume immediately	If still > baseline → unload 24–48 h
≥6/10 or sharp	Stop; first-aid protocol	If persists or swelling → **refer**

D) Referral decision snapshot

Situation	Timeline	Where
Red-flag (cardio-resp, neuro, infection, DVT/PE)	Immediate	Emergency/urgent care
Suspected fracture/stress reaction; true instability	24–72 h	Sports med/ortho/physio
Non-improving overuse	7–10 days despite load modification	Physio/medical

E) Communication templates

Context	Use	Example
Coach/clinician	**SBAR**	"S: R knee pain; B: 30% load spike; A: tender MJL; R: physio + modified stance."

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Context	Use	Example
Client/student	**One-page plan**	“What to stop, what to keep, what to add; pain 0–3/10; check-in in 72 h.”
Records	**S.O.A.P.**	S: symptoms; O: findings; A: risk/plan; P: actions & referral

Key take-aways

1. Catch patterns early: **new, focal, persistent, escalating** = modify now.
2. Acute hot tissues get **PEACE** (protect, no heat) before **LOVE** (graded load, blood flow, exercise).
3. **Refer** for red flags, suspected bone/joint instability, or **no progress** in 7–10 days.
4. Communicate with **SBAR** and simple, written plans; document everything.
5. In Uzhichil/Kalari, safety means **no heat + pressure on high-risk marmas**, traction over compression at joints, and **dose control** of training and touch.