Emergency management and Research updates in Panchakarma and Upakarma

Unit: Emergency Management and Research Updates in Panchakarma & Upakarma

1. Introduction

In a Panchakarma unit, two competencies keep patients safe and outcomes strong: (a) **anticipatory emergency management** for procedure-related adverse events, and (b) **critical appraisal of research** so you can justify therapies and update protocols. This unit gives you both, in one place—concise algorithms for emergencies across Snehana, Swedana, Vamana, Virechana, Basti, Nasya and commonly used Upakarma; and recent evidence you can cite in viva and case sheets.

Two classical lines to recall (for head and neck procedures and their emergencies):
"ऊर्ध्वजत्रुविकारेषु विशेषान्नस्यमिष्यते।" — *Aṣṭāṅga Hṛdaya*, Sūtrasthāna 20/1.
"नासा हि शिरसो द्वारम्।" — *Suśruta Saṃhitā*, Cikitsāsthāna 40/21.

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2. Emergency Management in Panchakarma & Upakarma

2.1 Unit preparedness (before any procedure)

- **Readiness:** oxygen source, bag–valve mask (AMBU), suction, airways, pulse oximeter, BP monitor, glucometer, IV sets, crystalloids (NS/RL), ORS, basic emergency drugs (adrenaline, antihistamine, corticosteroid, bronchodilator inhaler, atropine, antiemetic), sterile dressings.
- **Team drills:** code-blue mock drills and crash-cart checks as per institutional SOPs; display emergency numbers and roles.
- **Pre-procedure screen:** vitals, comorbidities (CVD, COPD/asthma, diabetes), hydration status, fasting status (for Vamana), local lesions (for Basti/Nasya), pregnancy, anticoagulants.
- **Stop-criteria known to all staff:** dizziness, syncope, intense burning/heat, chest tightness, breathlessness, bleeding, uncontrolled purgation/emesis, severe pain.

> **Red flags for immediate escalation/transfer**: oxygen saturation < 92% on room air, syncope non-responsive to positioning, persistent hypotension (SBP < 90 mmHg), active GI bleeding, suspected aspiration, severe chest pain or new focal neurological deficit. (Adhere to local ACLS/PALS protocols via hospital policy.)

2.2 Procedure-wise emergencies & quick management

A) Snehana (Abhyantara & Bāhya)

Common issues: nausea, abdominal discomfort, loose stools, headache, urticaria, dizziness; rarely, aspiration risk if supine soon after heavy snehapāna.
Action: pause intake/application; seat upright; warm water sips; observe vitals; consider *dīpana–pācana* (e.g., warm ginger water) when indigestion is the cause; for mild urticaria—cold sponging; for systemic reaction or bronchospasm—activate emergency kit and physician orders (antihistamine/bronchodilator).
Prevention: correct dosing progression, assess *samyak-sneha lakṣaṇa* daily (vātānulomana, dīpta-agni, *mārdava*). (Use validated checklists where available.)

B) Swedana (Sāgni/Nirāgni)

Over-sudation (ati-sweda): excessive thirst, burning, giddiness, fatigue; transient BP/PR rise has been documented immediately post-sarvāṅga-swedana.
Action: stop heat; remove from cabin; lay supine with legs elevated if dizzy; oral rehydration (ORS); cool sponging; check

vitals; if hypotensive or persistent symptoms—IV fluids, medical review.
Prevention: pre-hydration; adjust duration/temperature; avoid in high-pitta, dehydration, uncontrolled HTN, pregnancy (unless customised).

C) Vamana

Risks: vasovagal syncope, dehydration/electrolyte imbalance, aspiration, prolonged retching.
Action: left-lateral, head-low posture; clear airway, suction; oxygen if required; stop *vamana-yoga*; small sips ORS once alert; if persistent vomiting/dehydration—IV fluids/electrolytes per physician; observe for aspiration pneumonia signs (cough, desaturation).
Prevention: strict fasting and *uṣṇa-jala* pre-procedure; trained airway support at hand; stop at *samyak-yoga* signs; recognise *ati-yoga/ayoga* early.

D) Virechana

Risks: hypotension, excessive purgation (> aushadhi-yoga intended), cramps, rectal irritation.
Action: assess hydration; ORS frequently; if signs of severe depletion (tachycardia, hypotension, oliguria)—IV RL/NS; soothing sits bath for anal soreness; if rectal bleeding or severe abdominal pain—urgent medical evaluation.
Prevention: correct *saṃsarjana-krama*, avoid in dehydration, anaemia, pregnancy; stop after *samyak-śuddhi* grades.

E) Basti (Anuvāsana/Nirūha)

Issues: lower abdominal cramp, urge/pain, rectal discomfort, rare vasovagal episode; extremely rare trauma/bleed if improper technique.
Action: stop infusion; gentle abdominal massage clockwise; slow deep breathing; if vagal syncope—supine, legs elevated, airway check; if bleeding—withdraw catheter, compress, urgent evaluation.
Prevention: proper lubrication, correct *mātrā*, gentle insertion, asepsis, therapeutic temperature limits; avoid in acute abdomen, active proctitis/haemorrhoids flare, severe dehydration.

F) Nasya

Issues: nasal/throat irritation, cough, watering eyes, epistaxis, breathlessness if excess instilled.
Action: seat upright; slow breathing; wipe excess oil; pinch and cold compress for epistaxis; bronchodilator nebulization if bronchospasm as per orders; observe saturation.
Prevention: proper dose (drop count), patient seated with slight neck extension; avoid immediately after meals, in acute rhinitis with fever, or in children without supervision.

G) Upakarma highlights

- **Agnikarma burns:** cool running water (not ice), sterile dressing; classical applications like *śatadhūta-ghṛta*, *yaṣṭimadhu-ghṛta* for superficial burns; escalate deep burns.
- **Jalauka (leech) therapy issues:** persistent oozing—pressure, *haridrā/sphāṭika*; pruritus—soothing ghṛta; detach with *saindhava/haridrā* if needed.

Remember: document vitals, events, interventions, and disposition; debrief the team (micro-drill learning).

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3. Research Updates (what to say in exams, what to use in clinics)

3.1 Snehana

- **Internal oleation (snehapāna) and lipids:** An open-label randomized exploratory multicentre CCRAS study (n≈60) compared *go-ghṛta* vs *Mahatiktaka-ghṛta* as IO before Virechana in skin diseases. Lipid/LFT/RFT changes remained **within normal ranges**; no abnormal lipid surge was seen. Take-home: well-conducted IO **does not pathologically elevate lipids** in the short term; adhere to *saṃsarjana-krama*.

3.2 Swedana

- **Hemodynamics:** A pilot observational study on **Sarvāṅga Swedana** recorded an immediate rise in BP and pulse, with **subsequent reduction in systolic BP and PR** on continued sessions—implication: monitor high-risk patients, start low, go slow.
- **Nirāgni Sweda (exercise, sun, poultice, etc.):** recent reviews emphasize its role when Sāgni is contraindicated (e.g., *meda–kapha* bahulatā, *prameha*, *sthaulya*) and its feasibility in OPD/self-care with minimal equipment.

3.3 Vamana

- **Evidence status:** High-quality RCTs isolating Vamana are limited; mixed-modality studies often combine Vamana/Virechana with *śamana*. Learn to state this limitation. (Charaka's *samyak–ati–ayoga* framework guides safety and endpoints.)

3.4 Virechana

- **Psoriasis (kushṭha-pradhāna):** An RCT in *kitibha-kushṭha* compared classical **Virechana** (+ *śamana*) vs *śamana* alone and showed **better PASI/lesion outcomes** in the Virechana arm—supporting its role in dermatoses when done with proper *pūrva–paścāt karma*.

3.5 Basti

- **Sandhigata Vāta (OA knee):** A 2023 randomized comparative clinical study (n=30) found both **Mātrā-basti** and **Jānu-basti** (with *Sahacarādi taila* and *Ādityapāka Guggulu*) improved VAS and WOMAC scores, with **Mātrā-basti outperforming Jānu-basti** on pain and disability. No serious AEs reported.

3.6 Nasya

- **Allergic rhinitis:** An ongoing RCT protocol compares **Anu Taila Nasya** plus classical formulations vs **fluticasone** spray; methodology is sound, outcomes include symptom scores and nasal endoscopy indices. (Protocol publication—useful to cite feasibility and equipoise.)
- **COVID-19 era insights:** Reviews and preclinical work proposed **Anu Taila** as a "biological mask"; animal models suggested reduced pulmonary pathology with intranasal Anu-oil versus sesame oil alone, but **human evidence remains preliminary**. Use cautiously and only as **adjunct** to public-health guidance.

3.7 Upakarma (selected)

- **Kukkutāṇḍa-piṇḍa-sweda & adjunct Nasya** have small pilot reports in *ardita* (Bell's palsy) suggesting benefit; however, sample sizes are small and controls limited—quality upgrading is needed.

How to present in exams: "Evidence is emerging, mostly small and exploratory; safety is favourable when SOPs are followed. The **signal** is strongest for Basti in OA-knee and Virechana in psoriasis; Snehapāna shows no pathological lipid surge; Swedana has measurable hemodynamic effects that require monitoring."

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4. Swedana & Nasya: Karmukata (Mechanism) in one glance

- **Swedana:** ushna–tīkṣṇa qualities oppose *śīta–guru–sthira* of Vāta/Kapha; vasodilation improves perfusion, softens tissues, reduces *stambha–gaurava–śīta*, facilitates *śākhā→koṣṭha* dosha movement—preparing for śodhana. Modern work shows acute cardiovascular responses to passive heat.
- **Nasya:** "nose—the gateway to the head"; drugs reach *śṛṅgāṭaka marma* and distribute to *mūrdhā, netra, śrotra, kaṇṭha* pathways; clinically, expect decongestion, neuromodulation, and local anti-inflammatory effects.

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5. Quick Algorithms You Can Memorise

5.1 Dizziness/faintness during any therapy

1. Stop procedure → 2) Supine, legs elevated → 3) Vitals & SpO_2 → 4) ORS if alert; IV fluids if hypotensive → 5) Oxygen if SpO_2 low → 6) Escalate per code-blue SOP if non-responsive.

5.2 Excessive heat/burning (Swedana, Agnikarma, dhāra)

1. Stop heat, remove to cool area → 2) Cool sponging, oral fluids → 3) For local burns: sterile dressing, classical soothing ghṛta/lepā (superficial only) → 4) Assess vitals; refer if blistering/deep area or systemic signs.

5.3 Prolonged Vamana/Virechana

1. Stop drug; assess *samyak-yoga* vs *ati-yoga* → 2) ORS; if tachycardia/hypotension—IV fluids → 3) Physician evaluation; monitor urine output, electrolytes → 4) Begin *saṃsarjana* early once stable.

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6. Classical Lines to Quote (for viva)

- **Nasya:** "ऊर्ध्वजत्रुविकारेषु विशेषान्नस्यमिष्यते।" (*A.H.* Su. 20/1) — Prefer Nasya in diseases above the clavicle.
- **Shiro-gateway:** "नासा हि शिरसो द्वारम्।" (*Suśruta*, Chi. 40/21) — Nose is the gateway to the head.

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7. Student tasks (self-check)

- Can you list **five stop-criteria** during Swedana?
- How will you differentiate *samyak* vs *ati* responses in Vamana/Virechana and act within 5 minutes?
- Which two studies would you cite to justify Snehapāna safety and Basti efficacy?

Assessment

A. MCQs (Single best answer)

1. Immediate management of dizziness during Sarvāṅga-Swedana is:
   A. Continue with reduced heat B. Trendelenburg + ORS/IV fluids as needed C. Give cold bath D. Proceed to Virechana
   Ans: B. (Stop, position, rehydrate, monitor.)
2. Which is **most correct** about internal oleation and lipids?
   A. Always raises LDL above normal B. Transient changes within normal limits are reported in trials C. Causes acute hepatitis D. Prohibited in all skin diseases
   Ans: B.
3. During Vamana, the safest posture at the first sign of aspiration risk is:
   A. Prone B. Left-lateral, head-low C. Sitting erect D. Trendelenburg with neck flexion
   Ans: B.
4. In OA knee (Sandhigata Vāta), a 2023 trial showed greater improvement in VAS/WOMAC with:
   A. Jānu-basti only B. Mātrā-basti + Ādityapāka Guggulu C. Traction only D. Abhyanga only
   Ans: B.
5. For nasal bleed during Prati-mārśa Nasya, first aid includes:
   A. Hot fomentation B. Neck hyperextension C. Pinch nose + cold compress D. Lie prone
   Ans: C.
6. A firm indication for Nirāgni Sweda is:

A. Dehydration B. *Prameha/Sthaulya* where Sāgni is unsuitable C. High Pitta fever D. Third-trimester pregnancy
Ans: B.

7. A red flag requiring urgent escalation is:
A. Mild burning at Agnikarma site B. SpO_2 91% on room air C. One loose stool after Virechana D. Transient nasal irritation after Nasya
Ans: B.
8. Which statement on Swedana hemodynamics is accurate?
A. Always lowers BP immediately B. Initially raises PR/BP; repeated may reduce SBP/PR C. No CV effect D. Causes persistent hypertension
Ans: B.
9. In Virechana, **primary** fluid of choice for hypovolemia in the unit is:
A. Dextrose 25% B. NS/RL as per physician C. Hypertonic saline D. No fluids
Ans: B.
10. For Jalauka continuous oozing, use:
A. Turmeric or alum + pressure dressing B. Ice + tourniquet C. Hot oil D. Incision & drainage
Ans: A.
11. The classical rationale for Nasya's central action is best captured by:
A. "Nasa hi śiraso dvāram" B. "Agnimāndya nidāna" C. "Āma doṣa" D. "Rakta-mokkṣa hita"
Ans: A.
12. Evidence quality across Panchakarma today is best described as:
A. Many large blinded RCTs in every therapy B. Mostly pilot/small RCTs; safety favourable with SOPs C. Only animal studies exist D. Entirely anecdotal
Ans: B.

B. Short Answer Questions (60–80 words each)

1. Enumerate the emergency cart/equipment and drugs essential in a Panchakarma unit. How do drills reduce response time?
2. Define *samyak–ati–ayoga* for Vamana/Virechana with two clinical signs each and immediate actions.
3. Summarise the JRAS study on internal oleation and lipid profile. Clinical takeaway?
4. Explain Swedana's hemodynamic effects and their implications for hypertensive patients.
5. Outline first aid for epistaxis during Nasya and its classical rationale.
6. Present the key findings of the 2023 OA-knee basti study and discuss applicability to Sandhigata Vāta.

C. OSCE-style Stations

- **Station 1:** A patient in steam chamber reports giddiness. Perform the next **five** steps in order, verbalising monitoring and rehydration. (Examiner assesses sequence and safety.)
- **Station 2:** Prepare and brief a junior therapist on managing **vagal syncope** during Niruha Basti. Include positioning, airway, and when to call code-blue.
- **Station 3:** Counsel a psoriasis patient on why Virechana is planned, the *pūrva* and *paścāt karma*, and what evidence supports benefit.

D. Viva Prompts

1. Quote two classical lines justifying Nasya in *ūrdhvajatru* disorders and explain their practical import.
2. Give three **stop-criteria** for Swedana and two measures to prevent *ati-sweda*.
3. What is your evidence-based talking point for Snehapāna safety in a patient anxious about cholesterol?
4. Compare mechanisms of **Mātrā-basti** vs **Jānu-basti** in OA-knee, linking to the 2023 findings.