

Unit 5: Other Body Systems Relevant to Therapists

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1) Respiratory System – breathing mechanics and relaxation

Core anatomy & mechanics - The respiratory system includes the **nose, pharynx, larynx, trachea, bronchi, and lungs**. Inhalation lowers intrathoracic pressure via **diaphragm descent** and **external intercostal lift**; exhalation is mostly passive recoil unless forced by abdominals and internal intercostals. Efficient breathing needs a mobile rib cage, supple thoracic spine, and relaxed scalene/SCM muscles.

Why it matters to therapy - Smooth nasal breathing drives the **respiratory pump**, improving venous and lymph return. Long exhalations bias the **parasympathetic** system, lowering heart rate and easing muscle tone. Many desk-bound clients adopt apical (chest-only) breathing that overworks neck muscles and limits rib motion.

Uzhichil applications -

- **Sternum palm hold** - slow, warm contact over the chest for 5-7 breaths encourages diaphragmatic descent.
- **Intercostal glides** - thumb/forearm strokes between ribs (superior→inferior on exhale) restore rib spring.
- **Back-rib release** - forearm ulnar sweeps along paraspinals free costovertebral joints, deepening inhalation.
- **Breath pacing** - cue “inhale 4, exhale 6” to lengthen out-breath during deeper work.

Safety notes - Avoid strong chest pressure in **unstable asthma**, recent rib fracture, uncontrolled hypertension, or post-surgical thorax. Keep clients slightly elevated if reflux is present.

Respiratory – summary table

Goal	Key Structure	Therapist Move	Expected Response
Deepen breath	Diaphragm/ribs	Sternum palm hold, intercostal glides	Slower pulse, longer exhale
Ease neck overuse	Scalenes/SCM	Gentle lateral neck strokes, rib mobility	Softer neck, easier inhalation
Improve venous return	Thoracic cavity	Press on exhale, release on inhale	Warmer hands/feet, lightness

2) Digestive System – gut health and abdominal massage benefits

Core anatomy & physiology - The **mouth→esophagus→stomach→small intestine→large intestine** process food; **liver, gallbladder, pancreas** supply enzymes and bile. Motility is governed by the **enteric nervous system** and the hormone-vagus axis; adequate **agni** (digestive fire) prevents fermentation, bloating, and fatigue.

Why it matters to therapy - Abdominal tension reflects stress and postural collapse. Gentle abdominal work can regulate motility, reduce sympathetic overdrive, and ease low-back strain via fascial connections.

Uzhichil applications -

- **Clockwise abdominal circles** - follow colon path; depth stays comfortable, never forceful.
- **Navel-center spirals** - small circles around **Nābhi** to balance *samāna vāyu* and relieve gas.
- **Side-lying liver sweep** - soft, broad palm under right ribs for sluggish, heat-free congestion.
- **Finish with breath** - three diaphragmatic breaths to “seal” gut calm.

Safety notes - No abdominal massage with **acute abdomen**, fever, unexplained severe pain, hernia exacerbation, first trimester pregnancy (unless minimal and approved), immediately after heavy meals, or post-operative without clearance.

Digestive – summary table



Issue	Sign	Stroke/Oil	Expected Response
Bloating/gas	Tense, tympanic abdomen	Clockwise circles, medium-warm sesame	Gentle borborygmi, ease
Sluggish bowels	Infrequent stool	Colon-path sweeps + short walks	Improved regularity
Reflux tendency	Heartburn on lying flat	Elevate head, minimal upper-abdomen pressure	Reduced discomfort

3) Endocrine System – hormones and stress response

Core network - The **hypothalamus-pituitary-adrenal (HPA) axis** regulates stress hormones (**cortisol, adrenaline**). The **thyroid** sets metabolic tempo; **pancreas** regulates glucose (insulin/glucagon); **gonads** modulate sex hormones; the **pineal** influences circadian rhythm (melatonin).

Why it matters to therapy - Chronic stress elevates cortisol, raising baseline muscle tone and disrupting sleep. Predictable, warm, slow touch can lower cortisol and promote **oxytocin/serotonin** shifts supportive of calm and bonding. Regular evening sessions help re-anchor circadian rhythm.

Uzhichil applications -

- **Hridaya palm rest** - vagal boost to damp HPA hyperarousal.
- **Scalp/crown feather touch** - quiets rumination before sleep.
- **Oil choice** - warm sesame-bala for wired/tired Vāta; coconut-manjistha to cool Pitta irritability.

Safety notes - In **diabetes**, watch for neuropathy and hypoglycemia signs; avoid strong heat over insulin sites. With **thyroid or adrenal disorders**, keep intensity moderate and sessions consistent, not sporadically intense.

Endocrine – summary table

Target	Hormonal Angle	Technique	Session Timing
Stress downshift	Lower cortisol, raise vagal tone	Slow full-body glides, chest/abdomen holds	Late afternoon/evening
Sleep support	Melatonin rhythm	Crown/brow feather touch	End-of-day
Metabolic steadiness	Reduce swings	Predictable cadence, avoid overstimulation	Same time each visit

4) Urinary System – fluid balance and toxin elimination

Core anatomy & function - **Kidneys** filter blood via ~1 million **nephrons** each; they regulate **fluid, electrolytes, acid-base** and produce **erythropoietin** and **renin**. **Ureters** → **bladder** → **urethra** transport and store urine. Edema can reflect venous/lymph stasis, renal/cardiac issues, or local inflammation.

Why it matters to therapy - Properly sequenced strokes assist **venous/lymph clearance**, lightening peripheral edema due to immobility or minor injury. Hydration and breathing help renal perfusion indirectly.

Uzhichil applications -

- **Lymph-first sequencing** - clear inguinal/axillary “gates” lightly, then guide distal fluid proximally.
- **Leg elevation post-session** - 2-3 minutes to enhance return.
- **Abdominal breath cue** - mild pressure changes support renal blood flow.

Safety notes - Avoid strong heat or deep work in **renal failure, active UTI, kidney stones, uncontrolled hypertension**, and late pregnancy edema; **refer** when edema is new, hot, painful, or asymmetric with DVT signs.

Urinary – summary table

Goal	Area	Technique	Caution
Reduce dependent edema	Lower limbs	Light distal→proximal glides + elevation	Rule out DVT/infection



Goal	Area	Technique	Caution
Support fluid balance	Trunk	Diaphragmatic breathing, brief steam if cleared	Avoid overheat in cardiac/renal disease

5) Integumentary System (Skin) – layers, touch receptors, and oil absorption

Layers - Epidermis (stratum corneum barrier), **dermis** (collagen/elastic, vessels, nerves), **hypodermis** (fat, insulation). Barrier integrity depends on lipids and corneocyte “bricks.”

Touch receptors -

- **Merkel discs** (steady pressure), **Meissner corpuscles** (light flutter), **Pacinian corpuscles** (vibration/deep), **Ruffini endings** (skin stretch), **hair follicle receptors** (movement). Slow, warm strokes optimally stimulate C-tactile afferents linked to comfort and safety.

Oil absorption - Lipid-soluble actives pass mainly via the **stratum corneum** and **hair follicles**. **Temperature** ($\approx 38-40^\circ\text{C}$), **duration**, and **massage movement** improve penetration; rancid or overheated oils irritate and impair barrier function.

Uzhichil applications -

- **Warm film, then depth** - spread a thin warm coat to soften the barrier; build to therapeutic pressure.
- **Match oil to skin/dosha** - sesame-bala for dry Vāta skin; coconut-manjistha for hot, reactive Pitta; lighter ginger-infused for Kapha heaviness.
- **Hygiene** - clean linens, short nails, patch-test sensitive clients; discard old oil.

Safety notes - Avoid broken skin, dermatoses flare-ups, unexplained rashes, active fungal infections; modify for fragile elderly skin and steroid-thinned areas.

Integument – summary table

Aim	Receptor/Layer	Technique/Oil	Outcome
Calm & comfort	C-tactile, Merkel	Slow warm glides, steady palm	Relaxation, lowered guard
Deep release w/o irritation	Dermis/ECM	Warm film + forearm glide	Better glide, less friction burn
Barrier care	Stratum corneum lipids	Quality oil, gentle heat, no over-scrub	Softer, resilient skin

Global Contraindications & Modifications (Circulatory tie-ins)

Condition	Action
Suspected DVT, acute infection, unstable cardiac/renal disease	Do not treat; refer immediately
Varicose veins	Avoid deep local pressure; use gentle surrounding glides
Uncontrolled hypertension	Defer; once controlled, keep sessions calm and shorter
Pregnancy (esp. 1st trimester)	Avoid deep abdominal/inguinal work; position side-lying; light lymph strokes only if cleared

Key take-aways

1. **Breath drives the pumps**—pair strokes with exhalation to amplify relaxation and fluid return.
2. **Gut calm equals whole-body calm**—clockwise, gentle abdominal work plus diaphragmatic breathing steadies



the nervous and immune systems.

3. **Touch nudges hormones, not just muscles**—predictable, warm cadence softens stress chemistry.
4. **Light first for lymph**—clear proximal basins and respect medical red flags.
5. **Skin is a living sensor and barrier**—use clean, warm, dosha-matched oils and let receptors guide pressure.

Use these system-wise principles to make every session safer, more specific, and more restorative—perfect for self-study learners turning knowledge into confident practice.

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