

Unit 3: Physiological Effects of Massage and Application in Medical Conditions

Subject: Massage & Acupressure

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(*Systems Physiology • Laws/Principles of Massage • Condition-wise Applications*)

3.1 Overview: what massage changes—and how

Massage is **planned, manual contact** that influences the body through four overlapping pathways:

1. **Mechanical:** tissue glide, fascial shear, venous/lymphatic return.
2. **Neurophysiological:** modulation of nociception and tone via cutaneous and deep receptors; reflex effects.
3. **Circulatory:** local hyperemia; redistribution of surface blood flow.
4. **Psychoneuroendocrine:** parasympathetic tilt, stress reduction → improved sleep and mood.

Dose matters (pressure, pace, duration, area). Light+slow tends to **down-regulate**; brisk+percussive **stimulates**. Always adapt to **age, comorbidities, and consent**.

3.2 Effects by body system

3.2.1 Heart & circulatory system

Likely effects

- Mild ↓ in heart rate and blood pressure (relaxation response).
- ↑ venous return with **centripetal gliding**; assists capillary/venous drainage in limbs.
- Local skin temperature ↑ (hyperemia).

Practice notes

- Semi-reclined or side-lying is often comfortable in **hypertension**; avoid strong tapotement and long compressions over the **carotid sinus**.
- **Absolute cautions:** suspected **DVT/PE**, uncontrolled cardiac conditions—**no massage**; refer.

3.2.2 Muscular system

Likely effects

- ↓ muscle guarding through **Golgi tendon** and **muscle spindle** modulation; improved **length-tension** comfort.
- Perceived ↓ in stiffness/DOMS after unaccustomed load (best with gentle petrissage + effleurage).
- Improved movement comfort via fascial glide.

Practice notes

- Use **petrissage, kneading, wringing** on large bellies; **cross-fiber friction** (short, graded) near chronic tendon adhesions; always re-soothe afterward.

3.2.3 Lymphatic system

Likely effects

- Enhanced lymph transport from **skin to proximal nodes** with very light, rhythmic, centripetal strokes.

Practice notes

- For true **lymphoedema**, specialized **manual lymph drainage (MLD)** training is required.
- **Cautions:** active infection, cardiac/renal edema—**avoid**; seek medical input.

3.2.4 Digestive system

Likely effects

- Parasympathetic shift → improved **gastric/colonic motility**.
- Gentle **clockwise abdominal massage** may ease simple constipation and gas.

Practice notes

- **No abdominal work** in acute abdomen, hernia, pregnancy without specific training, early post-operative states, severe pain.

3.2.5 Respiratory system

Likely effects

- ↓ accessory-neck muscle overuse when paired with **diaphragmatic breathing**.
- Gentle **cupping/clapping** (tapotement) may help mobilize secretions in select cases (non-fragile chest).

Practice notes

- Avoid percussion in **osteoporosis**, rib fractures, bleeding risk.
- Fragrance sensitivity/asthma: use **unscented** oils; avoid strong menthol/camphor.

3.2.6 Kidneys (renal)

Likely effects

- **Indirect** benefits via relaxation and circulation; massage does **not** increase filtration directly.

Practice notes

- Avoid heavy pounding over **kidney area**; edema due to renal failure is a **contraindication** for routine massage (seek clearance).

3.2.7 Skin (integument)

Likely effects

- ↑ stratum corneum hydration and pliability; desquamation with gentle friction; improved barrier feel with emollient oils.

Practice notes

- **Avoid** contagious dermatoses, open lesions, active flares. Choose **hypoallergenic** bases; record ingredients; **patch-test**.

3.2.8 Skeletal system

Likely effects

- **Indirect**: better posture and load sharing through soft-tissue balance; pain relief around joints via periarticular work.

Practice notes

- **Fragile bone (osteoporosis)** → no strong tapotement/deep friction on bony prominences; use props and low force.

3.3 “Laws” / Core Principles of Massage

Principle	Practical meaning	Why it matters
From superficial → deep → superficial	Warm with effleurage, do specific work, then re-soothe	Protects tissues and nervous system
Centripetal stroke for return flow	Glide toward the heart/nearest nodes	Supports venous/lymph drainage
General → local → general	Start with the whole region, then focus, then integrate	Promotes system-wide comfort
Pressure, pace, duration = dose	Light/slow calms; brisk/percussive stimulates	Matches autonomic goal
Proximal before distal (when swollen)	Clear the “base” (proximal) prior to distal strokes	Prevents fluid trapping
Maintain contact & communication	Explain, check pressure (0-10 scale), watch non-verbals	Safety, consent, efficacy
Respect red flags	Fever, DVT signs, acute trauma, uncontrolled disease	When in doubt— do not treat

3.4 Techniques in specific conditions

(The syllabus lists historical terms such as “neurasthenia” and “madness.” Modern, respectful equivalents are used below. Massage is **adjunctive**, not curative. Work within scope and with medical clearance where needed.)

How to read each table

Goals = therapeutic aims • **Helpful techniques** = typical choices • **Avoid/modify** = safety • **Notes** = brief rationale.

3.4.1 Insomnia / poor sleep

Goals	Helpful techniques	Avoid/modify	Notes
Down-regulate arousal; improve sleep onset	Slow effleurage , gentle petrissage , scalp/foot work; breathing-paced holds ; evening sessions; warm, medium-viscosity oil	Strong tapotement, late heavy meals/scent overload	Track with simple sleep diary; pair with nasal/long-exhale breathing

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3.4.2 “Neurasthenia” (historic) → stress-related fatigue/overwhelm

Goals	Helpful techniques	Avoid/modify	Notes
Calm + gentle stimulation	Begin with stroking/effleurage , add kneading/wringing at moderate pace; brief vibration	Deep friction; very long sessions initially	Pacing prevents post-treatment fatigue

3.4.3 “Madness” (historic) → acute severe psychiatric illness (e.g., psychosis)

Goals	Helpful techniques	Avoid/modify	Notes
Safety, sensory comfort (only if appropriate and consented)	If stable and cleared: very brief , light contact (hand/forearm), predictable routine	No work in acute agitation; avoid triggers, scent; never replace psychiatric care	Touch may not be appropriate; prioritize consent and presence of care team

3.4.4 High blood pressure (hypertension) — stable/controlled only

Goals	Helpful techniques	Avoid/modify	Notes
Parasympathetic tilt; peripheral ease	Light-moderate effleurage , slow rhythm; side-lying/supine; gentle neck/shoulder work	Strong tapotement; prolonged holds over carotid sinus ; intense heat; breath-holds	Measure comfort; stop if headache, chest pain, or dizziness

3.4.5 Polio / post-polio sequelae (with medical guidance)

Goals	Helpful techniques	Avoid/modify	Notes
Comfort, circulation, joint protection	Gentle petrissage, effleurage, passive ROM within tolerance; positioning/bolsters	Fatiguing deep work; overstretch of weak muscles	Energy conservation is key; watch for cold sensitivity

3.4.6 Obesity (adiposity)

Goals	Helpful techniques	Avoid/modify	Notes
Comfort, venous/lymph return, joint ease	Broad forearm effleurage, compression, wringing ; side-lying for comfort; unscented oils	Excessive heat; deep abdominal work; small tables (safety)	Screen DVT risk; elevate limbs briefly for return flow

3.4.7 Underweight / frailty

Goals	Helpful techniques	Avoid/modify	Notes
Warmth, skin protection, gentle tone	Light oiling, stroking, gentle kneading ; shorter sessions; warm room	Aggressive tapotement/friction; cold room	Fragile skin—use jojoba or sesame; check pressure often

3.4.8 “Beautification of female” (historic) → aesthetic and well-being concerns (all genders)

Goals	Helpful techniques	Avoid/modify	Notes
Skin hydration, posture ease, calm affect	Effleurage, facial lymph-style strokes (very light), scalp work; hypoallergenic oils	Strong scents/actives; deep facial pressure	Frame as skin health + relaxation ; inclusive language

3.4.9 Skin disease

Goals	Helpful techniques	Avoid/modify	Notes
Comfort around unaffected areas; barrier support	Perilesional effleurage , unscented emollients; brief sessions	No work on contagious , weeping, or infected lesions; avoid triggers	Patch-test; coordinate with dermatology where needed

3.4.10 Fracture (healing phase only, after clearance)

Goals	Helpful techniques	Avoid/modify	Notes
Pain relief around immobilized area; swelling control	Proximal effleurage, lymph-style light strokes ; gentle ROM of adjacent joints	No local work over fracture until united; avoid traction/percussion	Document stage and surgeon's guidelines

3.4.11 Sprain (ligament injury)

Stage	Helpful techniques	Avoid/modify	Notes
Acute (0-72 h)	No massage ; protect, rest, cold, compress, elevate	—	Rule out grade III/instability
Subacute	Light effleurage proximal→distal for edema, pain-free ROM , later short cross-fiber near ligament	Heavy friction/tapotement	Progress gradually; stop with increase in heat/swelling

3.5 Quick decision chart

Red flags? (fever, DVT signs, uncontrolled disease, acute psychosis) → Do NOT treat → Refer
 ↓
 Goal? (calm / mobilize / drain / desensitize)
 ↓
 Dose? (pressure + pace + duration) matched to age & condition
 ↓
 Plan region order: general → local → general; superficial → deep → superficial
 ↓
 Re-assess & document; give simple home-care (hydration, gentle ROM, breath)

Unit Summary

Massage influences the body through **mechanical, neural, circulatory, and stress-modulating** pathways. System-wise, it can **ease muscle guarding**, aid **venous/lymph return**, support **breathing and bowel comfort**, and **hydrate the skin**, while its effects on the **kidneys and bones** are **indirect** through relaxation and load sharing. Safe, effective practice rests on **clear principles**: superficial→deep→superficial; centripetal strokes; dose matching; proximal clearing before distal; and strict respect for **red flags**. In clinical scenarios—from insomnia or hypertension to sprain or fracture healing—massage is **adjunctive**, technique-specific, and always **individualized** within scope.

Key Terms

- **Centripetal stroke** • **Hyperemia** • **Parasympathetic tilt**
- **Petrissage** • **Cross-fiber friction** • **Tapotement** • **Vibration**
- **Manual lymph drainage (concept)** • **Proximal clearing**
- **DOMS** • **Guarding** • **Red flags** • **Contraindication**
- **Perilesional** • **Passive ROM** • **Tendon adhesion**

Self-Assessment

A. MCQs

1. The **most reliable** autonomic effect of **light, slow effleurage** is:
a) Sympathetic activation b) Parasympathetic shift c) Increased bone density d) Renal filtration boost
2. For **venous/lymph return** in a swollen limb, the best stroke direction is:
a) Distal → distal b) Centrifugal c) **Centripetal toward proximal nodes/heart** d) Random
3. In **controlled hypertension**, a safer choice is:
a) Prolonged carotid sinus compression
b) Strong pounding over back
c) **Side-lying, light-moderate effleurage with slow pace**
d) Breath-holding during strokes
4. **Cross-fiber friction** is most appropriate in:
a) Acute grade-II ankle sprain (first 24 h)
b) **Chronic tendon adhesion**
c) Unhealed fracture site
d) General relaxation start
5. Which is a **contraindication** to routine limb massage?
a) DOMS after exercise
b) **Suspected deep-vein thrombosis**
c) Controlled diabetes without neuropathy
d) Old, stable scar

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

B. Short Answer

1. List **four core principles ("laws")** of massage and illustrate each with one clinical example.
2. Explain how massage can assist the **respiratory system** and name **two cautions** for chest work.
3. Outline a **10-minute insomnia protocol** (regions, techniques, pace, oil choice).
4. Differentiate massage planning for **obesity vs underweight** clients (positioning, oil, pressure, pacing).
5. Describe stage-wise care for a **ligament sprain** (acute → subacute), including what to avoid.

C. Reflective/Application

1. Write a **SOAP note** after a subacute ankle-sprain session (5–6 lines).
2. A client with **post-polio weakness** requests deep leg work. How will you **educate and adapt** the plan to avoid overwork weakness?
3. Draft a one-paragraph **informed-consent script** for a person with controlled hypertension before a relaxation-focused session.



End of Unit 3: Physiological Effects of Massage and Application in Medical Conditions

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