

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



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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