



Introduction to Anatomy

*Regional and Systemic Anatomy, the Anatomical Position, the Planes of the Body,
and the Language of Direction, Relationship, and Laterality*

Full-day session · 6–7 instructional hours · 55 slides



Session Roadmap

Six modules. Each closes with a practice set. Two breaks and one lunch.

I	Introduction to Anatomy	<i>Clinical, gross, regional, systemic</i>	45 min
II	Regional Anatomy	<i>Head, neck, trunk, upper and lower limbs</i>	70 min
III	Systemic Anatomy	<i>The nine major body systems</i>	60 min
IV	The Anatomical Position	<i>The reference frame; prone and supine</i>	60 min
V	The Body is 3D — Anatomical Planes	<i>Sagittal, frontal, transverse, oblique</i>	70 min
VI	Terms of Relationship and Laterality	<i>The working vocabulary of direction</i>	80 min



Learning Objectives

By the end of this lecture, students will be able to:

Distinguish clinical, gross, regional, and systemic approaches to anatomy.

Name the principal regions of the body and the nine major body systems.

Describe the anatomical position, and the prone and supine positions.

Identify the anatomical planes and what each divides.

Apply terms of relationship, comparison, and laterality to describe any structure.



Why Anatomy Needs a Contract

"Above the elbow" means nothing until we agree which way the arm is pointing. Anatomy solves this by agreeing, once, on a single starting position.

Without an agreed reference

- "The lump is above the wrist" — above when the arm is raised, or lowered?
- "Pain on the inside of the knee" — inside facing the other leg, or inside the joint?
- "Turn the palm up" — up relative to the floor, or to the body?
- Two clinicians describe the same finding and record two different things.

With the anatomical position

- Every description is made as though the body stands erect, facing you, palms forward.
- "Proximal to the wrist" is now unambiguous, whatever the arm is actually doing.
- The client may be prone on your table. The language does not change.
- One position, agreed by everyone, forever. That is the whole trick.



I

MODULE I

Introduction to Anatomy

- Clinical anatomy
- Gross anatomy
- Regional anatomy
- Systemic anatomy
- Two ways to study one body



Introduction to Anatomy

Four ways of describing the study of the body. They are not rivals; they are different lenses on the same material.

- Clinical Anatomy — the study of anatomy as it applies to the practice of medicine.
- Gross Anatomy — what we see with the naked eye.
- Regional Anatomy — studying the body by regions.
- Systemic Anatomy — studying the body by systems.



Clinical Anatomy — Anatomy That Answers a Question

Clinical anatomy is anatomy studied for the sake of practice, not for its own sake.

- It asks: what lies beneath my hands, and what will happen if I press here?
- It prioritises structures that are palpable, injurable, or clinically consequential.
- It explains why a finding in one place produces a symptom in another — a compressed nerve root in the lumbar spine producing numbness in the foot.
- It is the reason you learn the brachial plexus but not the microscopic architecture of the thymus.
- Every anatomical fact you learn this year should be attached to a clinical question. Facts without questions do not survive the exam, let alone the clinic.



Gross Anatomy and What Lies Below It

Gross anatomy is what we see with the naked eye. It sits at one end of a spectrum of scale.

Gross (macroscopic) anatomy

- Structures visible without magnification: muscles, bones, tendons, organs, vessels.
- The domain of dissection, palpation, and surface anatomy.
- This is the scale at which manual therapy operates.
- Surface anatomy — locating deep structures by external landmarks — is gross anatomy applied through skin.

Below the naked eye

- Histology — the microscopic study of tissues.
- Cytology — the study of cells.
- You will meet these when explaining why a tendon heals slowly, or why fascia behaves as it does under sustained load.
- Different scale, same body. The clinical question decides which scale you need.



Regional and Systemic — Two Ways to Study One Body

Both describe the same anatomy. They differ in how they cut the material up.

Regional Anatomy

Studying the body by regions

Systemic Anatomy

Studying the body by systems

Organising question

What is in the shoulder?

Organising question

Where does the nervous system go?

Strength

*Matches what your hands meet
at one site*

Strength

*Explains function across the whole
body*

An RMT thinks regionally when palpating and systemically when screening. Both are required; neither is sufficient alone.



Practice Set 1 — Which Lens?

For each task, name which approach to anatomy is primarily being used: clinical, gross, regional, or systemic.

1. Palpating the borders of the scapula on a client's back.
2. Tracing the sciatic nerve from the lumbar plexus to the foot.
3. Deciding not to treat a warm, swollen calf.
4. Learning every structure that passes through the carpal tunnel.
5. Explaining to a client why their neck posture affects their headache.
6. Studying the microscopic structure of a healing tendon.

Most of these use more than one lens. Name them all, and say which one leads.



II

MODULE II

Regional Anatomy

- The principal regions
- Head
- Neck
- Trunk and its subdivisions
- Upper limbs
- Lower limbs



Regional Names

Several major regions are identified in the body. The most principal regions are:

- Head
- Neck
- Trunk — further subdivided
- Upper limbs
- Lower limbs

Each principal region subdivides further. The subdivisions are the working vocabulary of clinical charting.



Regions of the Head

The head divides into the cranium (which encloses the brain) and the face.

Region	Location	Clinical relevance to the RMT
Cephalic	The head as a whole	Cephalalgia — headache
Cranial	The braincase	Cranial sutures; suboccipital work
Frontal	Forehead	Frontalis muscle; tension headache
Orbital	Eye socket	Orbicularis oculi
Nasal	Nose	Sinus congestion referral
Buccal	Cheek	Buccinator; TMJ-related work
Otic	Ear	Referral pattern from the SCM
Occipital	Base of the skull, posteriorly	Suboccipital restriction; occipital neuralgia



The Neck — Cervical Region

A short region carrying an extraordinary density of structures. Precision here is a safety requirement, not a nicety.

- Cervical: the neck as a whole. Cervix is Latin for neck.
- The cervical spine comprises seven vertebrae, C1 to C7.
- Anterior triangle: bounded by the sternocleidomastoid, the mandible, and the midline. Contains the carotid artery and jugular vein.
- Posterior triangle: bounded by the sternocleidomastoid, the trapezius, and the clavicle. Contains the brachial plexus.
- Suboccipital region: deep to the upper trapezius, at the junction of the skull and the cervical spine.
- Nuchal: the posterior aspect of the neck. From the Arabic root that entered Latin anatomy in translation.

Clinical alert: the anterior triangle contains the carotid artery. Know where it is before you work anywhere near it.



The Trunk — Further Subdivided

The trunk is the largest principal region and the one that subdivides most. It comprises the thorax, the abdomen, the pelvis, and the back.

Anterior and lateral divisions

- Thoracic — the chest, enclosed by the ribs and sternum.
- Sternal — over the sternum. Costal — over the ribs.
- Abdominal — between the ribs and the pelvis.
- Umbilical — around the navel. Inguinal — the groin.
- Pelvic — the bony pelvis. Perineal — the pelvic floor.
- Axillary — the armpit. Mammary — the breast.

Posterior divisions

- Vertebral — over the spinal column.
- Scapular — over the shoulder blade. Interscapular — between them.
- Lumbar — the lower back, between the ribs and the hips.
- Sacral — over the sacrum.
- Gluteal — the buttock.
- The back is treated as a region of the trunk, not a separate principal region.



Mapping the Abdomen

Two mapping systems exist. Quadrants are used in rapid screening; the nine regions are used in detailed documentation.

Four quadrants

- RUQ — Right Upper Quadrant: liver, gallbladder.
- LUQ — Left Upper Quadrant: stomach, spleen.
- RLQ — Right Lower Quadrant: appendix, cecum.
- LLQ — Left Lower Quadrant: descending and sigmoid colon.
- Quadrants are named from the CLIENT's perspective, never the therapist's.

Nine regions

- Right hypochondriac · Epigastric · Left hypochondriac
- Right lumbar · Umbilical · Left lumbar
- Right iliac (inguinal) · Hypogastric · Left iliac (inguinal)
- Deep work over the epigastric region overlies the aorta. Palpate for pulsation before applying pressure.
- A pulsatile abdominal mass is a hard stop and an immediate referral.



Regions of the Upper Limb

The upper limb runs from the shoulder girdle to the fingertips. Note that "arm" has a precise meaning, not a colloquial one.

Region	Precise meaning	Landmark
Acromial	Point of the shoulder	Acromion process of the scapula
Brachial	The arm: shoulder to elbow	Biceps brachii, humerus
Antecubital	Anterior surface of the elbow	Cubital fossa; venipuncture site
Olecranal	Posterior surface of the elbow	Olecranon process of the ulna
Antebrachial	The forearm: elbow to wrist	Radius and ulna
Carpal	The wrist	Carpal tunnel; median nerve
Palmar (volar)	Anterior surface of the hand	Palmar fascia
Dorsum of the hand	Posterior surface of the hand	Extensor tendons

"Arm" means shoulder to elbow. The whole limb is the "upper limb." Charting "pain in the arm" when you mean the forearm is an error.



Regions of the Lower Limb

As with the upper limb, "leg" has a precise meaning: knee to ankle. The whole limb is the "lower limb."

Region	Precise meaning	Landmark
Coxal	The hip	Greater trochanter
Femoral	The thigh: hip to knee	Femur; quadriceps
Patellar	Anterior surface of the knee	Patella
Popliteal	Posterior surface of the knee	Popliteal fossa; do not compress
Crural	The leg: knee to ankle	Tibia and fibula
Sural	The calf	Gastrocnemius; screen for DVT
Tarsal	The ankle	Talus, calcaneus
Plantar	Sole of the foot	Plantar fascia
Dorsum of the foot	Top of the foot	Extensor tendons; dorsalis pedis pulse



Practice Set 2 — Name the Region

Rewrite each lay statement using the correct regional terminology.

1. "Pain at the point of the shoulder."
2. "Tenderness at the back of the knee."
3. "Tingling in the palm."
4. "Tightness between the shoulder blades."
5. "Aching in the calf, right side."
6. "Soreness at the base of the skull, both sides."
7. "Numbness on the top of the foot."
8. "Pain in the groin."

Then add laterality to each. "Right," "left," or "bilateral" is not optional in a chart.



III

MODULE III

Systemic Anatomy

- The nine major systems
- Musculoskeletal and integumentary
- Cardiovascular and respiratory
- Nervous and endocrine
- Digestive, urinary, reproductive
- Systems in interaction



Systemic Anatomy

Major systems of the body:

- Musculoskeletal system
- Cardiovascular system
- Nervous system
- Digestive system
- Urinary system
- Integumentary system
- Respiratory system
- Reproductive system
- Endocrine system



Musculoskeletal and Integumentary

The two systems an RMT contacts directly at every treatment. Everything else is screened, not treated.

Musculoskeletal system

- Bones, joints, cartilage, ligaments, muscles, tendons, fascia.
- Provides support, protection, movement, and mineral storage.
- Roots: oste/o (bone), arthr/o (joint), chondr/o (cartilage), my/o (muscle), ten/o (tendon).
- This is the system your treatment plan acts upon.

Integumentary system

- Skin, hair, nails, and associated glands. The largest organ of the body.
- Provides barrier, thermoregulation, sensation, and vitamin D synthesis.
- Roots: derm/o and dermat/o (skin), cutane (skin, Latin).
- This is the system through which every treatment is delivered, and the first place a contraindication appears.



Cardiovascular and Respiratory

The two systems that most often generate absolute contraindications. You screen these; you do not treat them.

Cardiovascular system

- Heart, blood vessels, blood. Transport of oxygen, nutrients, and waste.
- Roots: cardi/o (heart), angi/o (vessel), hem/o and hemat/o (blood).
- Screening terms: hypertension, ischemia, thrombosis, edema.
- Red flag: a warm, red, swollen, unilateral calf may indicate DVT. Absolute contraindication.

Respiratory system

- Airways, lungs, diaphragm, and the muscles of respiration.
- Roots: pneum/o and pulmon/o (lung), bronch/o (airway).
- Screening terms: dyspnea, tachypnea.
- Clinically relevant to positioning: a client with dyspnea may not tolerate prone.



Nervous and Endocrine

The two control systems. One communicates by electrical impulse, the other by hormone.

Nervous system

- Central: brain and spinal cord. Peripheral: cranial and spinal nerves.
- Roots: neur/o (nerve), encephal/o (brain), myel/o (spinal cord).
- Terms: radiculopathy, neuropathy, neuralgia, paresthesia, dermatome.
- A neurological finding — weakness, saddle anesthesia, bowel or bladder change — is a referral, not a treatment.

Endocrine system

- Glands secreting hormones: pituitary, thyroid, adrenal, pancreas, gonads.
- Regulates metabolism, growth, stress response, and reproduction.
- Clinical relevance: diabetes produces peripheral neuropathy and impaired healing.
- Impaired sensation means the client cannot reliably report pressure. Adjust accordingly.



Digestive, Urinary, and Reproductive

The three systems of the ventral cavity. An RMT rarely treats them directly, but must know what lies beneath the abdominal wall.

- Digestive system: mouth, oesophagus, stomach, intestines, liver, gallbladder, pancreas.
 - *Roots: gastr/o (stomach), enter/o (intestine), hepat/o (liver).*
- Urinary system: kidneys, ureters, bladder, urethra.
 - *Roots: nephro/o and ren/o (kidney), cyst/o (bladder).*
- Reproductive system: gonads and associated structures.
 - *Consent for any work near these regions must be explicit and separately obtained.*
- Clinical link: deep abdominal pressure crosses organs, not just muscle. The spleen sits deep to the lower left ribs; the kidneys lie deep to the posterior abdominal wall.
- Visceral referral patterns can mimic musculoskeletal pain. Pain that does not change with position or palpation is a referral, not a trigger point.



Practice Set 3 — Which System, and So What?

For each finding, name the system involved and state what it changes about your treatment.

1. Client reports numbness in both feet and a diagnosis of type 2 diabetes.
2. Client's right calf is warm, red, and swollen.
3. Client cannot lie prone without becoming short of breath.
4. Client reports sharp pain radiating from the low back to the foot.
5. Client has an open, weeping lesion over the area you planned to treat.
6. Client reports abdominal pain unchanged by movement or position.

In four of these six, the correct action is to modify or to refer, not to proceed as planned.



IV

MODULE IV

The Anatomical Position

- Basic anatomical terminology
- The anatomical position
- Prone and supine
- Navigating from a landmark
- Other clinical positions



Basic Anatomical Terminology

Common language referring to body structures and their functions.

- Anatomists use standard anatomical position and special vocabulary in relating body parts.
- The vocabulary is not decorative. It exists because ordinary language is ambiguous about space.
- "Up," "down," "in front," and "behind" all depend on how the body is oriented at the moment of speaking.
- Anatomical terms do not. They are fixed to the body itself, not to the room.
- This is why an RMT can chart a finding with the client prone, and a surgeon can read it with the patient supine, and both mean the same thing.



The Anatomical Position

Six defining features. Every directional term in anatomy assumes this position.

- | | |
|---|--------------------------------------|
| 1 | Body upright. |
| 2 | Standing erect, facing the observer. |
| 3 | Head and eyes facing forward. |
| 4 | Feet flat on the floor and forward. |
| 5 | Upper limbs to the sides. |
| 6 | Palms turned forward. |



The Position Is a Contract, Not a Posture

The anatomical position is never how a client actually lies on your table. That is not a problem; it is the entire design.

- The body is described as if it were in the anatomical position, regardless of its actual position.
- A client prone on your table still has an anterior surface — it faces the floor.
- The palms-forward detail fixes the forearm in supination. This is why the radius is lateral and the ulna is medial, always.
- If the forearm were pronated, the radius would cross the ulna and "lateral" would change meaning. The contract prevents this.
- Left and right are always the CLIENT's left and right. Never yours, whatever direction you are facing.

The most common student error in this course: describing a structure relative to how the client is lying, rather than relative to the anatomical position.



Anatomical Position — Prone and Supine

Two terms describe how the body is lying. They describe the client's position; they do not change directional language.

- Prone — body is lying face down.
 - *The ventral/anterior surface of the body is face down.*
- Supine — body is lying face up.
 - *The ventral/anterior surface is face up.*
 - *Think 'sup' is 'up.'*
- The anatomic position will be very useful for you when stating how you get to the requested structure.
- For example: from the clavicle I will move laterally to the acromion and inferiorly to the humerus.
- Notice that this route is described in anatomical terms, and works whether the client is standing, prone, or supine.



Navigating From a Landmark

The practical use of the anatomical position: giving directions to a structure, from a structure you can already find.

The method	Start at a bony landmark you can palpate with certainty. State each move as a directional term. Arrive at the target.
Worked example	From the clavicle I will move laterally to the acromion and inferiorly to the humerus.
Second example	From the sternal notch, move inferiorly along the sternum to the xiphoid process, then laterally along the costal margin.
Third example	From the medial border of the scapula, move laterally across the infraspinatus fossa to the lateral border.
Why it works	Every instruction is fixed to the body, not to the room. The client can be prone, seated, or standing, and the route is unchanged.



Other Positions You Will Use

Prone and supine are the two anatomical terms. These others describe how a client is placed for treatment.

Position	Description	When used
Prone	Lying face down; anterior surface down	Posterior work: back, gluteals, hamstrings
Supine	Lying face up; anterior surface up	Anterior work: chest, anterior neck, quadriceps
Side-lying (lateral recumbent)	Lying on one side	Pregnancy; hip and lateral trunk access
Seated	Upright in a chair or on the table edge	Dyspnea; cervical and shoulder work
Semi-reclined (Fowler's)	Supine with the trunk raised	Clients who cannot lie flat
Standing	The anatomical position itself	Postural assessment

Positioning is a clinical decision and belongs in the chart. "Treated side-lying, right, due to client discomfort in prone" is a complete entry.



V

MODULE V

The Body is 3D — Anatomical Planes

- A three-dimensional coordinate system
- Sagittal
- Frontal / coronal
- Transverse / horizontal
- Oblique
- Planes, axes, and sections



The Body is 3D

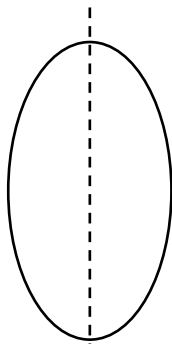
Movement of the body can best be described using a 3D co-ordinate system.

- Anatomical Planes: these planes are imaginary sectioning of the body for descriptive purposes.
- Imaginary flat surfaces that pass through the body parts.
- There is no plane in the body. There is no line drawn on the tissue. The plane is a description we impose in order to speak precisely.
- Three planes are mutually perpendicular. A fourth — the oblique — is any plane that is not one of the three.
- Once you can name the plane a movement occurs in, you can name the movement.



Anatomical Planes

Three mutually perpendicular planes. Each divides the body in a different way, and each hosts a different family of movement.

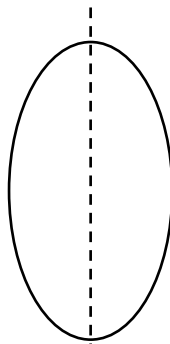


Anterior view

Sagittal

Divides right and left.

Flexion / Extension occur here.

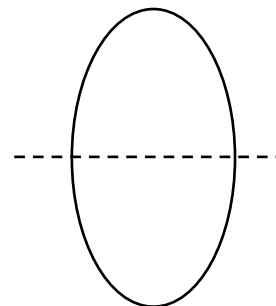


Lateral view

Frontal (Coronal)

Divides anterior and posterior.

Abduction / Adduction occur here.



Anterior view

Transverse

Divides superior and inferior.

Rotation occurs here.

A fourth plane, the oblique, passes through the structure at an oblique angle — it is any plane that is not one of these three.



The Sagittal Plane

A vertical plane that divides the body or organ into right and left sides.

- Midsagittal (even) — passes exactly through the midline, producing equal right and left halves. Also called the median plane.
- Parasagittal (uneven) — any sagittal plane offset from the midline, producing unequal right and left portions.
- "Medial" means toward the midsagittal plane. "Lateral" means away from it. The plane defines the terms.
- Movements in the sagittal plane: flexion, extension, dorsiflexion, plantarflexion.
- The sagittal plane is the plane of walking, of a sit-to-stand, and of a forward bend.

The word derives from the Latin sagitta, an arrow — the plane an arrow would travel through, front to back.



The Frontal or Coronal Plane

Divides the body or an organ into anterior (front) and posterior (back) portions.

- It is a vertical plane, like the sagittal, but perpendicular to it.
- It runs from side to side, and from top to bottom — the plane of a wall you might stand against.
- Movements in the frontal plane: abduction, adduction, lateral flexion of the spine, inversion and eversion of the foot.
- "Coronal" derives from corona, a crown — the plane along which a crown would sit across the head.
- A star jump occurs in the frontal plane. A jumping jack is abduction and adduction, nothing else.



The Transverse Plane and the Oblique Plane

The third cardinal plane is horizontal. The fourth is everything else.

- Transverse or Horizontal plane — divides the body or an organ into superior (upper) and inferior (lower) portions.
- It is the only cardinal plane that is horizontal. It is the plane of a CT slice.
- Movements in the transverse plane: rotation, pronation and supination, horizontal abduction and adduction.
- Oblique Plane — this plane passes through the structure at an oblique angle.
- Most real human movement is oblique. Reaching across the body to a seatbelt occurs in no single cardinal plane.
- The cardinal planes are a description system, not a description of how people actually move.

Clinical implication: a client who moves well in each cardinal plane may still be unable to perform the oblique movement that hurts them.



Every Plane Has an Axis

Movement occurs in a plane and around an axis. The axis is perpendicular to the plane in which the movement occurs.

Plane	Axis of movement	Movements	Example
Sagittal	Frontal (side to side)	Flexion, extension	Nodding "yes"; a biceps curl
Frontal	Sagittal (front to back)	Abduction, adduction	A jumping jack; lateral flexion
Transverse	Vertical (longitudinal)	Rotation, pronation, supination	Shaking the head "no"
Oblique	Oblique	Combined movements	Reaching diagonally across the body

The counterintuitive part: movement in the sagittal plane occurs around a frontal axis. The axis is the pin the movement turns on, not the surface it travels along.



Practice Set 4 — Name the Plane

Perform each movement, then name the plane it occurs in and the axis it occurs around.

1. Cervical flexion (nodding forward)
2. Shoulder abduction to 90°
3. Cervical rotation to the left
4. Ankle dorsiflexion
5. Lateral flexion of the lumbar spine
6. Forearm supination
7. Circumduction of the shoulder
8. Reaching behind you to fasten a seatbelt

Items 7 and 8 are the interesting ones. Neither occurs in a single cardinal plane.



VI

MODULE VI

Terms of Relationship and Laterality

- A new language
- Depth: superficial, intermediate, deep
- Medial and lateral
- Anterior and posterior
- Superior, inferior, proximal, distal
- Terms of laterality



Terminology

Now that we understand that the body is a 3D structure, we need to understand how to describe the position and movement of the body with respect to the 3D system.

- Essentially you will be learning a 'new' language.
- The vocabulary is small — roughly twenty words.
- The words come in opposing pairs. Learn them as pairs; never learn one alone.
- Every term is relative. Nothing is "proximal" on its own; it is proximal to something else.
- The elbow is proximal to the wrist and distal to the shoulder. Both statements are true at once.



Terms of Relationship and Comparison — Depth and Midline

The first three terms describe how deep a structure lies, and how close it lies to the midline.

- Superficial / intermediate / deep: describes depth of the structure in relation to the surface of the body.
- Medial: describes the structure being closer to midline of the body (i.e. pinky/5th digit).
- Lateral: describes the structure being further from midline (i.e. thumb or little toe).
- Note that "midline" means the midsagittal plane. The plane you learned in Module V defines these two terms.
- Depth example: skin is superficial to muscle; bone is deep to muscle. The intermediate layer sits between them.

Note the trap in the source material's examples: in the anatomical position the thumb is lateral, and so is the little toe. The pinky finger is medial. The palms-forward rule is what makes this true.



Terms of Relationship and Comparison — Front and Back

The second family describes the front and back of the body, with special terms for the hand and the foot.

- Anterior or ventral: describes the structure being closer to the front of the body (i.e. the nose, palms).
- Posterior or dorsal: describes the structure being closer to the back of the body (i.e. heel or spine).
- For the hand we say "palmar" for the anterior and "dorsum" for the posterior aspect.
- For the foot we say "dorsum" for the top of the foot and "plantar" for the sole of the foot.
- "Dorsum" therefore names the posterior surface of the hand and the superior surface of the foot. The word follows the embryology, not the geometry.

Ventral and dorsal are essential when discussing the nervous system: the dorsal root of a spinal nerve is sensory, the ventral root is motor.



Terms of Relationship and Comparison — Head, Feet, and Limbs

The third family describes position along the long axis of the body, and along the length of a limb.

- Superior or cephalad: describes structures being closer to the head.
- Inferior or caudad or caudal: describes structures further from the head, toward the feet.
- Proximal: describes the structure being closer to the origin or trunk.
- Distal: describes the structure being further from the origin or trunk.
- Prone: the ventral/anterior surface of the body is face down.
- Supine: the ventral/anterior surface is face up.

Proximal and distal apply to the limbs. Superior and inferior apply to the trunk and to the body as a whole.



The Directional Pairs, Collected

Cover the right-hand columns. Recite each pair and its meaning before you check.

Superior (cephalad) *Closer to the head*

Inferior (caudad) *Toward the feet*

Anterior (ventral) *Closer to the front*

Posterior (dorsal) *Closer to the back*

Medial *Closer to the midline*

Lateral *Further from the midline*

And: Proximal / Distal (closer to / further from the trunk) · Superficial / Intermediate / Deep (surface / between / internal).



Terms of Laterality

Four terms describing which side, or how many sides, are involved.

- Ipsilateral: on the same side.
- Contralateral: on the opposite side of the body.
- Bilateral: both sides (i.e. we have 2 kidneys, therefore we have bilateral kidneys).
- Unilateral: one side only (i.e. we only have 1 spleen).
- In charting: laterality is never optional. "Hypertonicity, upper trapezius" is an incomplete finding. "B/L" or "right" completes it.
- Left and right always mean the client's left and right.

Clinical use: "Testing the contralateral limb for a healthy baseline." "Treating the ipsilateral shoulder."



Compounding Directional Terms

Directional terms combine to describe a position more precisely than either term alone.

Compound term	Meaning	Example use
Anterolateral	Toward the front and the side	Anterolateral thigh
Posteromedial	Toward the back and the midline	Posteromedial knee
Superolateral	Above and to the side	Superolateral border of the scapula
Inferomedial	Below and toward the midline	Inferomedial angle of the scapula
Proximomedial	Closer to the trunk and the midline	Proximomedial forearm
Dorsolateral	Toward the back and the side	Dorsolateral surface of the foot

The first term takes its combining vowel: anterior becomes antero-, posterior becomes postero-, superior becomes supero-.



Charting With Directional Terms

Every entry below uses only terms taught today. Compare the two columns.

Do not write

Write instead

"Pain in the shoulder"

"Pain, right acromial region, on abduction"

"Tight down the outside of the leg"

"Hypertonicity, lateral aspect of the right thigh"

"Sore at the back of the knee"

"Tenderness, right popliteal fossa"

"Numbness in the fingers"

"Paresthesia, medial two digits, left hand"

"Tension between the shoulder blades"

"Interscapular hypertonicity, bilateral"

"Tingling going down the leg"

"Paresthesia radiating to the distal left lower limb"

The right-hand column can be reproduced by another therapist, measured next week, and defended in an audit. The left-hand column cannot.



Practice Set 5 — Describe the Structure

Describe each structure's position using terms of relationship and laterality. Assume the anatomical position.

1. The radius, relative to the ulna.
2. The heart, relative to the sternum.
3. The elbow, relative to the shoulder and the wrist.
4. The skin, relative to the deltoid.
5. The great toe, relative to the little toe.
6. The thumb, relative to the index finger.
7. The kidneys, in terms of laterality.
8. The spleen, in terms of laterality.

Item 6 catches most students. Remember the palms-forward rule.



Terms That Are Confused, and Why

Each pair is a genuine source of error in student charting.

This	Means	Not this	Which means
Prone	Face down	Supine	Face up ('sup' is 'up')
Midsagittal	Equal right and left halves	Parasagittal	Unequal right and left portions
Arm	Shoulder to elbow	Upper limb	Shoulder to fingertips
Leg	Knee to ankle	Lower limb	Hip to toes
Dorsum of the hand	Posterior surface	Dorsum of the foot	Superior surface
Proximal	Closer to the trunk	Superior	Closer to the head
Ipsilateral	Same side	Contralateral	Opposite side
Bilateral	Both sides	Unilateral	One side only



Key Takeaways

Four ideas carry the whole day.

Anatomy has four lenses

Clinical, gross, regional, and systemic. You will use all four on the same client in the same hour.

The position is a contract

The body is described as if standing erect, palms forward — however the client is actually lying.

Planes describe, they do not exist

Imaginary flat surfaces passing through the body, imposed so that we can speak precisely about movement.

Every term is relative

The elbow is proximal to the wrist and distal to the shoulder. Nothing is proximal by itself.



Self-Check Before You Leave

Answer these without notes. If you can, you have met today's objectives.

1. Define clinical, gross, regional, and systemic anatomy.
2. Name the five principal regions of the body.
3. Name the nine major body systems.
4. List the six defining features of the anatomical position.
5. What is the difference between midsagittal and parasagittal?
6. Which plane does abduction occur in, and around which axis?
7. A client lies prone. Where is the anterior surface of their thorax?
8. Why is the thumb lateral and the pinky medial?

Bring your answers to the next session. We open Lecture 5 with this list.



One body. One position. One language.

The client will be prone, supine, side-lying, seated.

The language never moves.

Standing erect. Facing the observer. Palms turned forward.

Everything you say about the body is measured from there.

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