Skeletal system

Dance 7–12

cervical spine

scapula (shoulder blade)

thoracic spine

rib cage

radius

ulna

pelvis

sacrum

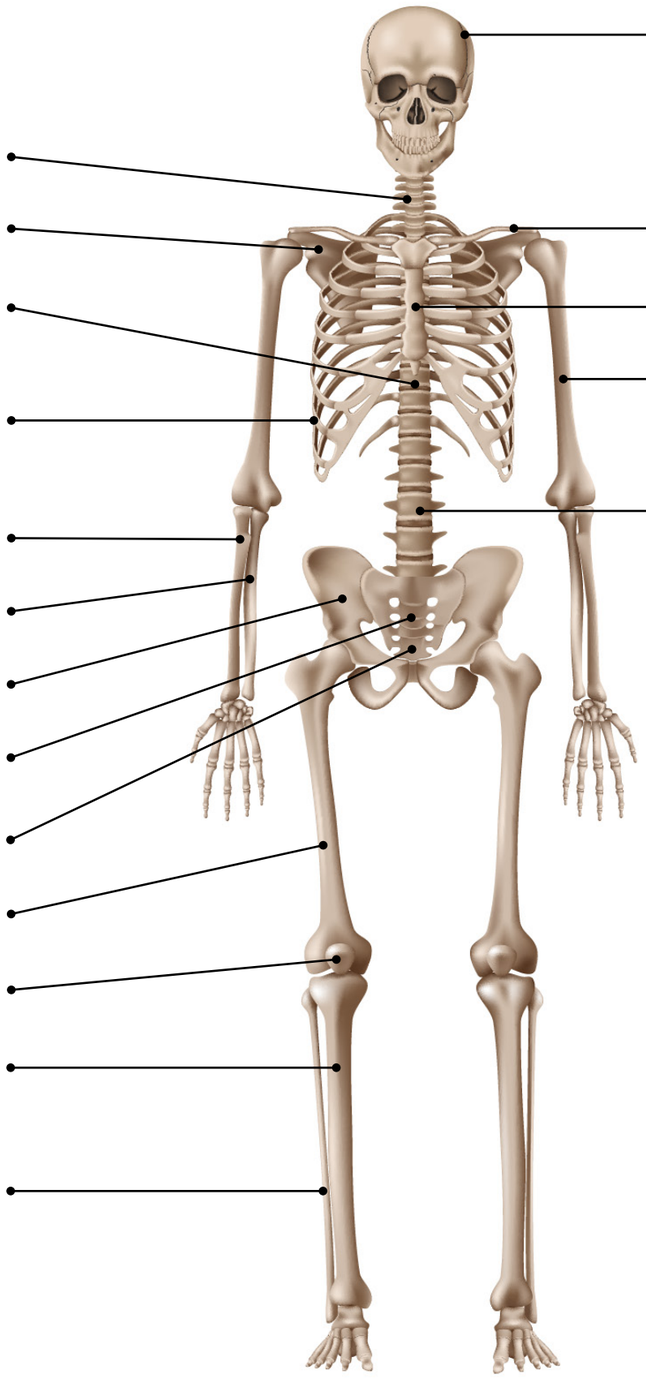
coccyx (tail bone)

femur (thigh bone)

patella (knee cap)

tibia (shin bone)

fibula



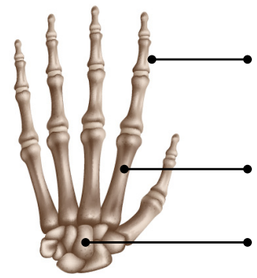
cranium

clavicle (collarbone)

sternum

humerus

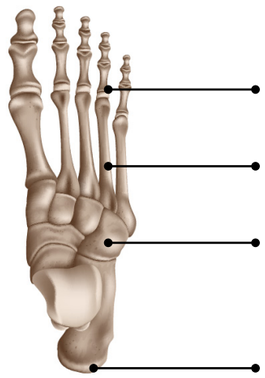
lumbar spine



phalanges (fingers)

metacarpals

carpals



phalanges (toes)

metatarsals

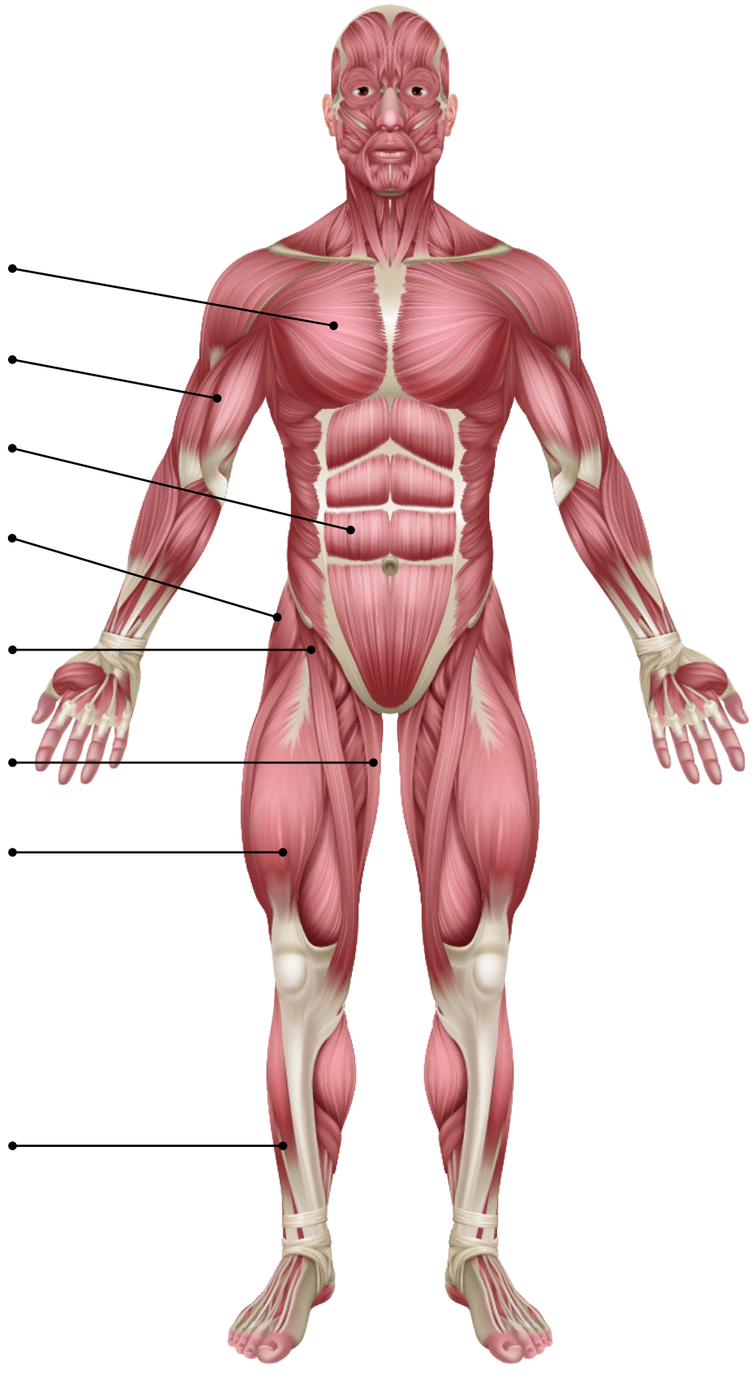
tarsals

calcaneus (heel bone)

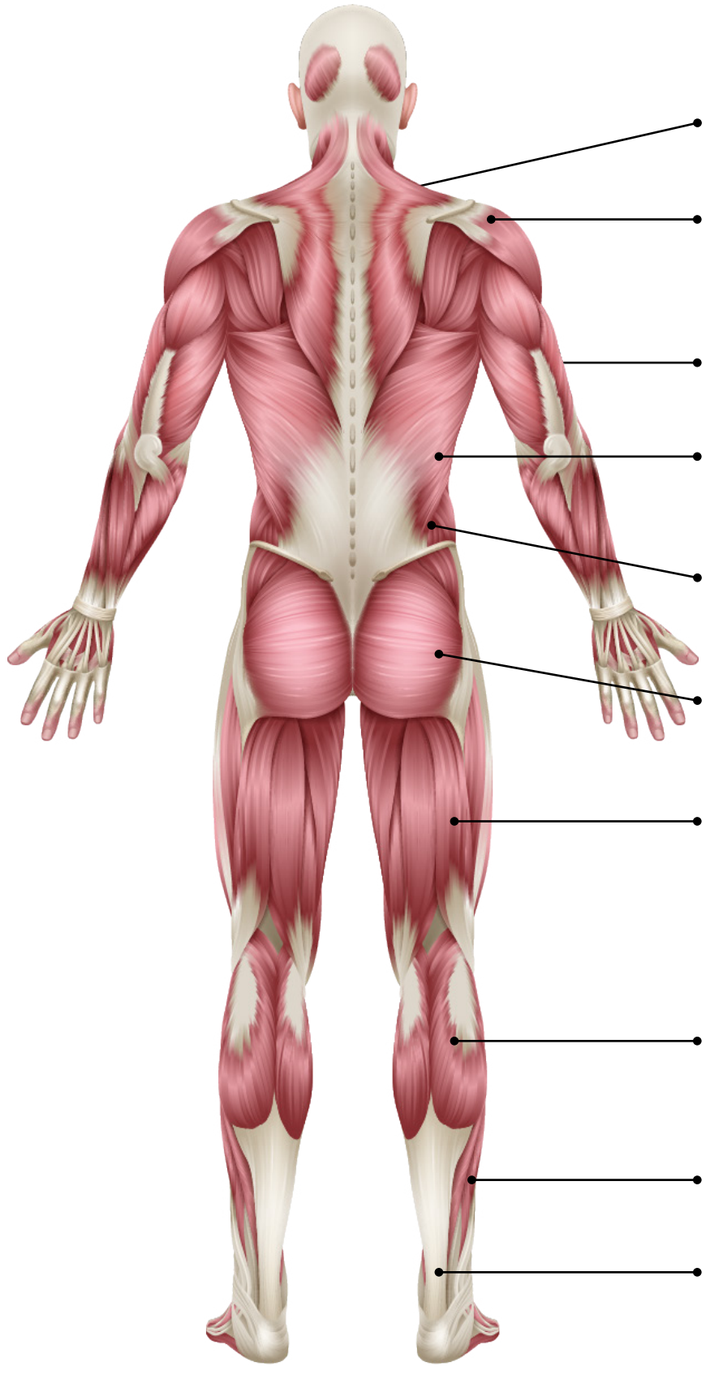
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Muscular system

Dance 7–12



- pectorals
- biceps
- abdominals
- abductors
- iliopsoas (hip flexor)
- adductors
- quadriceps
- tibialis anterior



- trapezius
- deltoid
- triceps
- latissimus dorsi
- quadratus lumborum
- gluteal muscles
- hamstrings
- gastrocnemius
- soleus
- achilles tendon

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The ankle

Skeletal structure

- The ankle is a hinge joint.
- The bones that make up the ankle joint are the **tibia**, **fibula** and **talus**.
- Movements the ankle joint can perform include:
  - plantarflexion (pointing the foot)
  - dorsiflexion (flexing the foot).

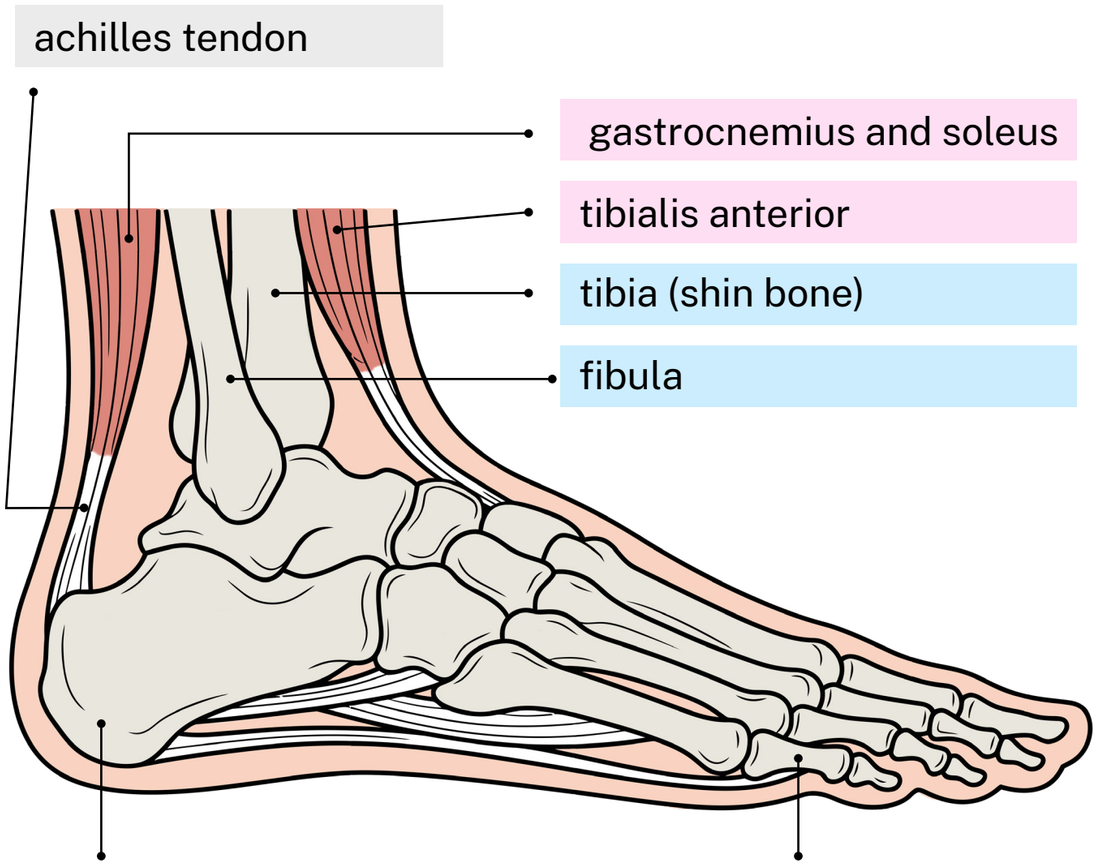
Major muscle groups

Muscles that cause:

- plantarflexion include the **gastrocnemius** and **soleus** (calf muscles)
- dorsiflexion includes the **tibialis anterior**.

An example of safe execution

Correct alignment of the foot is maintained by avoiding unwanted pronation (rolling in) and supination (rolling out).



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The knee

Skeletal structure

- The knee is a hinge joint.
- The bones that make up the knee joint are the **tibia**, **femur** and **patella**.
- Movements the knee joint can perform include:
  - flexion (bending the knee)
  - extension (straightening the knee).

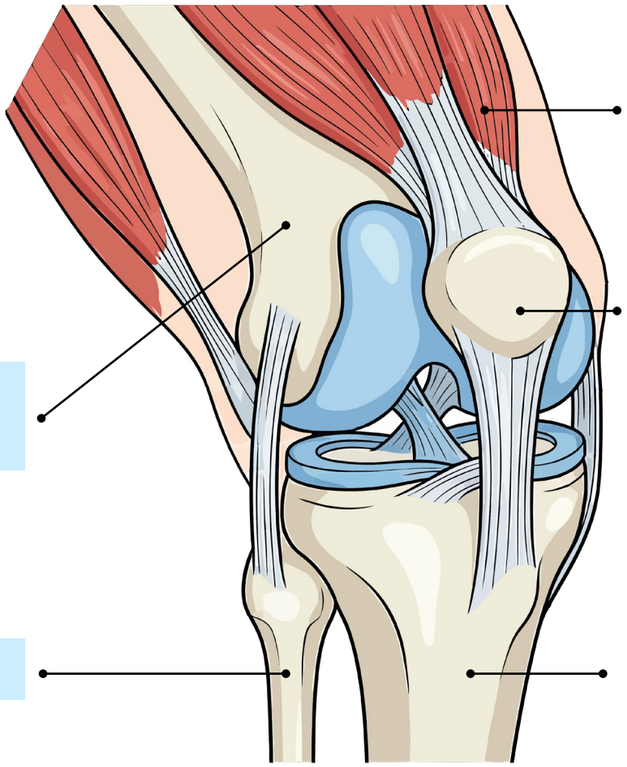
Major muscle groups

Muscles that cause:

- knee flexion include the **hamstrings**
- knee extension include the **quadriceps**.

An example of safe execution

Correct alignment of the knee is maintained by avoiding unwanted rotation of the knee joint and ensuring knees are over the toes in bent positions.



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The hip

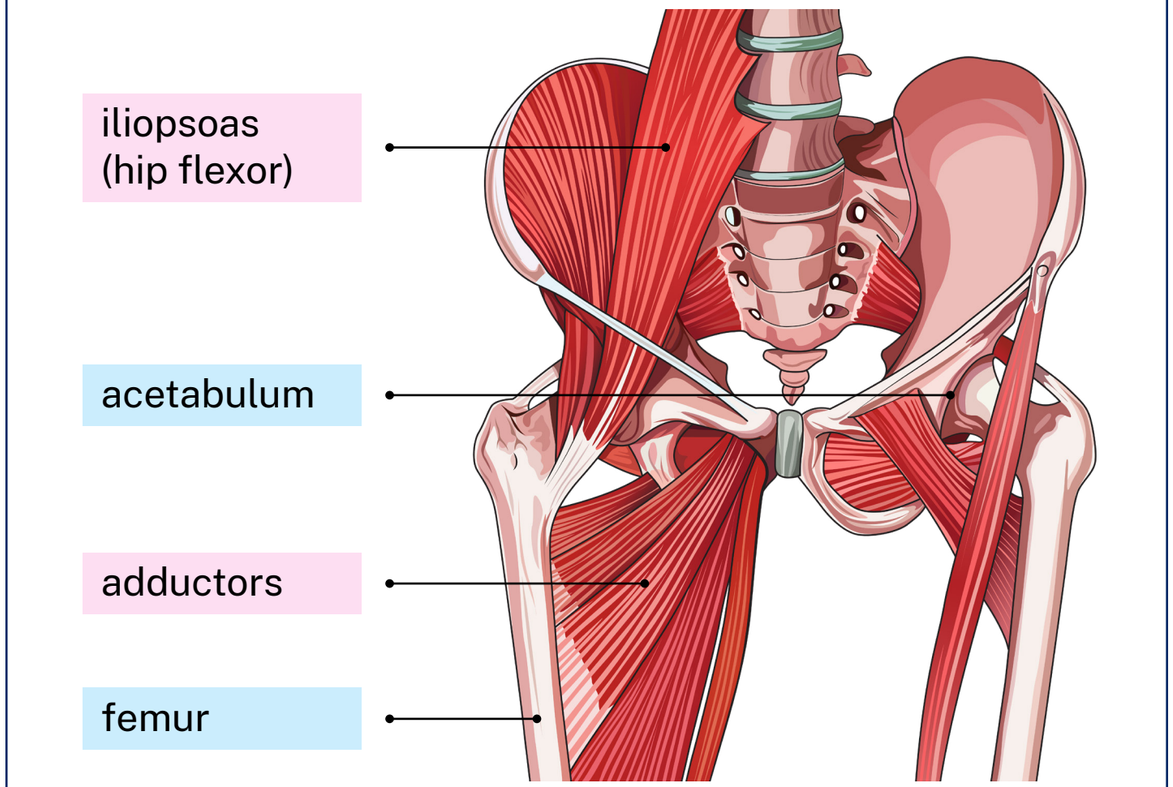
Skeletal structure

- The hip is a ball-and-socket joint.
- The bones that make up the hip joint are the head of the **femur** and the **acetabulum** of the pelvis.
- Movements the hip joint can perform include:
  - flexion and extension
  - abduction and adduction
  - lateral rotation (turning out) and medial rotation (turning in) of the leg
  - circumduction.

Major muscle groups

Muscles that cause:

- hip flexion include the **iliopsoas** and **quadriceps**
- hip extension include the **gluteal muscles** and **hamstrings**
- hip abduction are the **abductors**
- hip adduction are the **adductors**
- lateral rotation (turning out) include the **gluteal muscles** and the **six deep external rotators**
- medial rotation (turning in) include the **adductors**
- circumduction includes a combination of the above movements and muscles.



An example of safe execution

Correct alignment of the hip joint in turnout is maintained by avoiding over rotation ensuring the dancer is working safely relative to personal anatomical structure.

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The spine

Skeletal structure

- The spine is made up of facet joints.
- The bones that make up the spine are the **cervical** (7), **thoracic** (12), **lumbar** (5), **sacrum** (part of the pelvis) and **coccyx**.
- Movements that the spine can perform include flexion, extension, rotation, and lateral flexion.

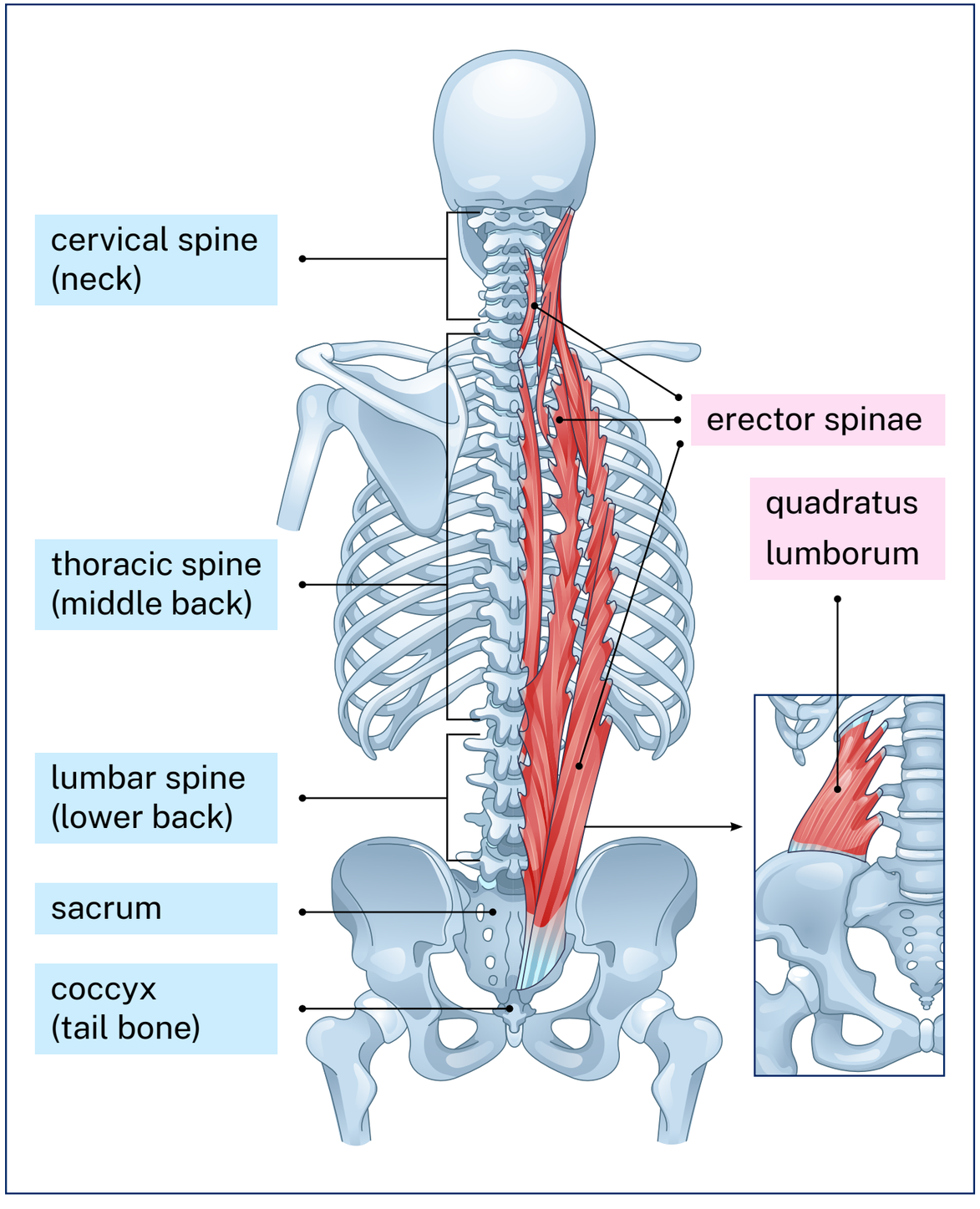
Major muscle groups

Muscles that cause:

- spine flexion includes the **abdominals**
- spine extension includes the **erector spinae** and the **quadratus lumborum**
- rotation include the **external obliques**
- lateral flexion include the **external obliques**, **erector spinae** and **quadratus lumborum**.

An example of safe execution

Correct alignment of the spine is maintained by engaging the **abdominals** to support the lumbar spine ensuring it does not have an increased lower back curve (lumbar lordosis).



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The shoulder

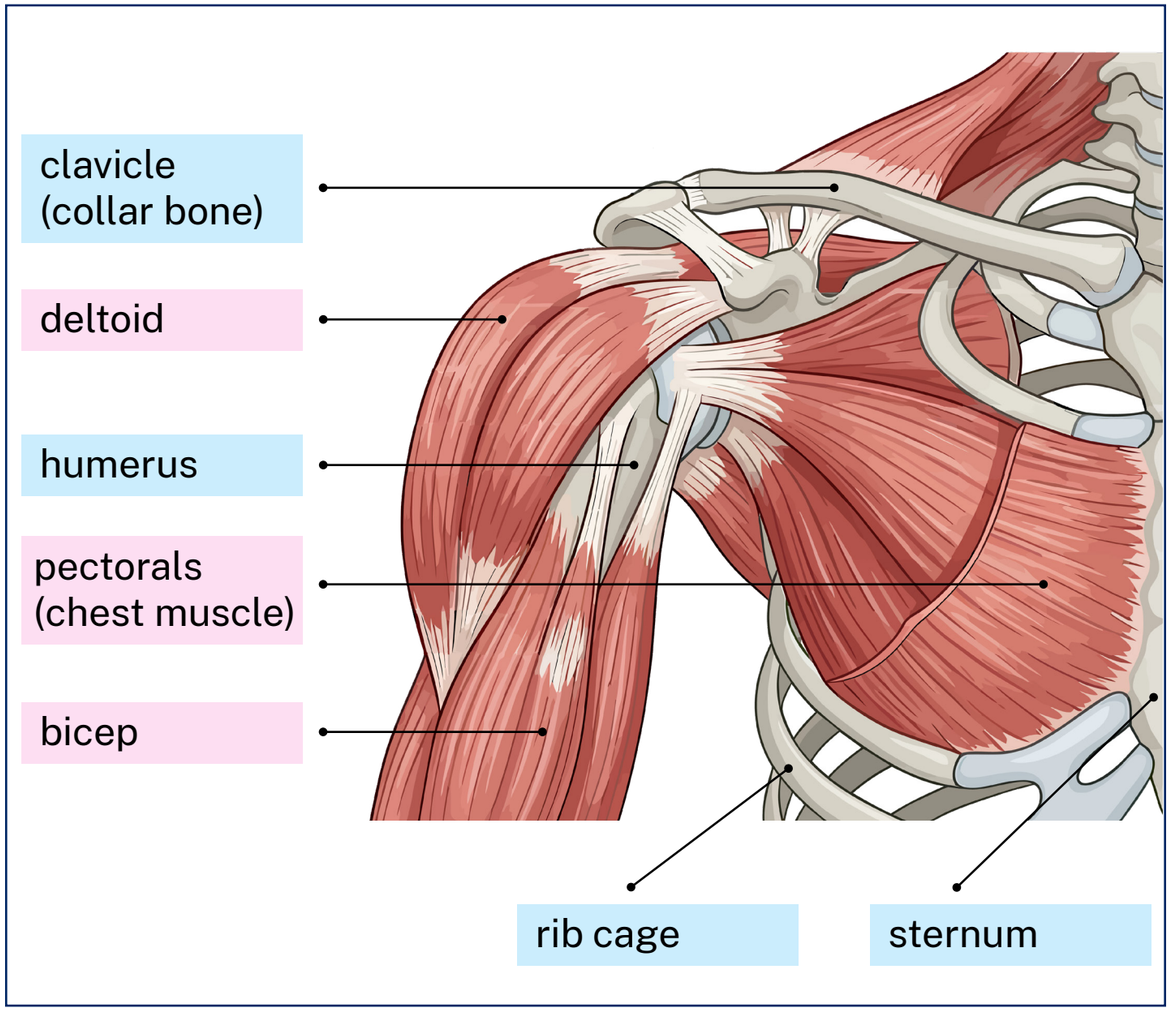
Skeletal structure

- The shoulder is a ball-and-socket joint.
- The bones that make up the shoulder joint are the **humerus**, **scapula** and **clavicle**.
- Movements that the shoulder can perform are flexion, extension, abduction, adduction, internal and external rotation, and circumduction.

Major muscle groups

Muscles that cause:

- shoulder flexion include the **pectoral muscles** and the **anterior deltoid**
- shoulder extension include the **latissimus dorsi** and the **posterior deltoid**
- shoulder abduction include the **deltoid**
- shoulder adduction include the **pectoral muscles** and the **latissimus dorsi**
- internal and external rotation and circumduction include a combination of the movements and muscles described above.



An example of safe execution

Maintain correct shoulder alignment by engaging the **trapezius** and **latissimus dorsi** muscles to keep the shoulders down and avoid neck tension.

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