Bursae: The Body's Throw Pillows





The other day, my niece asked me why our bones don't rub together when we move them.



I explained that we had little pillows between our bones and muscles and (sometimes) skin that stopped any painful rubbing that might happen.

I was, of course, talking about **bursae**.

Bursae are little sacs that live between bones, or bones and muscles, or muscles and skin, serving to prevent friction at points of stress throughout the body.

> Notice the placement of bursae on and between the muscles and bones of the shoulder joint.



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There are four types of bursae:

- Synovial bursae
- Adventitious bursae
- Subcutaneous bursae
- Submuscular bursae







Synovial Bursae

Most of the bursae in the body are synovial: thinwalled sacs interposed between bones, muscles, and tendons.

The bursa consists of a synovial membrane containing a capillary layer of synovial fluid, which provides two lubricated surfaces that enable freedom of movement.

Synovial bursae tend to be located in your joints, such as your knees, feet, and shoulders.



Adventitious Bursae

There are also adventitious, or accidental, bursae. These occur in soft tissue over bony prominences, usually because of repeated pressure or shearing.

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An example of an adventitious bursae is a **bunion**, which is a deformity of the big toe.

The bursa at the metatarsophalangeal joint becomes swollen, and the head of the first metatarsal bone tilts sideways. It sticks out at its top and creates a large bump or prominence.

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Subcutaneous Bursae

Subcutaneous bursae lie between the skin and a bony process.





For example, the olecranon bursa sits between the loose skin of the elbow and the ulna, acting as a cushion against friction.

Submuscular Bursae

Submuscular bursae lie between a muscle and a bone, or between adjacent muscles. The greater trochanteric bursa sits between the greater trochanter of the femur and the gluteus maximus (not pictured).





Bursae of the Hip

The **iliopsoas bursa** is the largest bursa in the body and is located on the front of the hip joint.

The **ischiogluteal bursa** is located at the base of the pelvis, where the bony prominence is known as the ischial tuberosity.

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Bursae of the Posterior Knee

The medial and lateral gastrocnemius bursae sit in between the femoral condyles and the head of the gastrocnemius muscle.

The **subpopliteal bursa** is located between the lateral condyle of the femur and the popliteus muscle.



Bursae of the Leg and Foot

The subcutaneous calcaneal (of medial malleolus) bursa is located on the medial part of the tibia.

Located on the calcaneal bone are the subcutaneous calcaneal bursa and calcaneal bursa.

The **metatarsal bursa** is located on the bottom of the foot, at the base of the toes. This bursa cushions the pressure when you stand on your tippy-toes.

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Bursae of the Shoulder

The **subcutaneous acromial bursa** is located between the acromion of the scapula and the skin.

The **subacromial bursa** is located between the acromion of the scapula and the supraspinatus muscle.

> The **subcoracoid bursa** is located between the tendon of the coracobrachialis and the subscapularis muscles.

> > The **subtendinous bursa** is located between the neck of the scapula and the subscapularis muscle.

The intertubercular bursa is located between the biceps brachii's tendon and the intertubercular groove of the humerus.

Bursae of the Hand

The **ulnar bursa** includes a finger tendon sheath, which begins at the wrist and ends about half way up the palm of the hand.

The **radial bursa** surrounds the flexor sheath of the thumb. It usually extends from the distal phalanx to about the volar wrist crease.





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