

The **scapula** is a large, flat triangular bone lying obliquely on the postero-lateral aspect of the thorax overlapping, in part, the second to seventh ribs. The thin, flattened body has costal and dorsal surfaces, three borders (superior, lateral and medial), three angles (inferior, superior and lateral) and three processes (spinous, acromial and coracoid).

The costal surface (subscapular fossa) faces the ribs, it is slightly hollowed and ridged. The long axis of the scapula is a rounded ridge, which is more prominent near the neck and passes almost vertically from the head to the inferior angle. It is separated from the lateral border by a narrow groove.

The dorsal surface is convex; the spine of the scapula divides it into a smaller supraspinous fossa above and a larger infraspinous fossa below. These fossae communicate via the spinoglenoid (great scapular) notch located between the neck and lateral end of the spine. The spine is triangular and projects from the upper part of the dorsal surface of the scapula along a line running laterally and slightly superiorly from the junction of the upper and middle-third of the medial border. The scapula is bent slightly along this junction. The free upper and lower borders of the spine diverge laterally to form the expanded **acromion**; its thickened posterior border is the palpable crest of the spine.

The large quadrilateral acromial process extends forwards from the lateral end of the spine. The lower border of the crest is continuous with the lateral border of the acromion at the subcutaneous acromial angle. The medial border of the acromion is continuous with the upper border of the spine and has a small supero-medially directed oval facet for articulation with the clavicle. An accessory articular facet may occur on the inferior surface. The subcutaneous superior surface of the acromion is flat.

The hook-like coracoid process projects from the upper part of the scapular head. Its broad base is directed antero-superiorly while the narrower more horizontal part passes antero-laterally. The expanded tip can be palpated below the junction of the middle and lateral third of the clavicle.

The thin medial border runs between the superior and inferior angles, being slightly angled at the medial end of the spine. The thicker lateral border runs from the infraglenoid tubercle below the glenoid fossa to the inferior angle. The thin sharp superior border is separated from the coracoid process by the supraglenoid notch.

The Scapular Angles

The **inferior angle** typically overlies the seventh rib or intercostal space. It is palpable and can be observed moving over the chest wall with abduction of the arm. The superior angle lies at the junction of the superior and medial borders. The broad truncated lateral angle is the head of the scapula and carries the glenoid fossa for articulation with the humerus at the glenohumeral joint. The scapula articulates with the humerus at the glenohumeral (shoulder) joint; this is a shallow, concave articular surface, facing laterally and slightly anteriorly. Superiorly the small rough supraglenoid tubercle encroaches on the root of the coracoid process and inferiorly lies the infraglenoid tubercle. The anatomical neck extends anteriorly and posteriorly between the supra- and infraglenoid tubercles, passing lateral to the root of the coracoid process.

It articulates with the clavicle at the acromioclavicular joint to form the pectoral (shoulder) girdle, transmitting the weight of the upper limb to the axial skeleton and facilitating the wide range of movement of the upper limb.

Ossification

The scapula ossifies from eight or more centers, with that for the body appearing in the neck in the eighth intrauterine week. The center for the coracoid process appears in the first year and fuses with the rest of the body by the fifth year. Centers for the acromion (two), medial border, inferior angle, coracoid root (including the upper third of the glenoid fossa) and lower glenoid rim appear during puberty and fuse with the body between 20 and 25 years.

Glenohumeral Joint

This is a synovial ball and socket joint between the shallow glenoid fossa of the scapula and the

hemispherical head of the humerus. The glenoid cavity is deepened by the glenoid labrum, a ring of fibrocartilage attached to the boundaries of the glenoid fossa. The articular area of glenoid and labrum is less than a third of the area of the humeral head.

The circumflex humeral and suprascapular arteries and axillary and suprascapular nerves supply the joint.

For more information on the shoulder, see 'The Interactive Shoulder'.