

Tikrit University

College of Nursing

Basic Nursing Sciences



First Year - 2023-2024

Anatomy

First stage

عنوان المحاضرة

Upper limb arteries and Veins

by:

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Upper limb arteries :

The main artery supplying blood to the upper limb is the subclavian artery. The trunk of the subclavian artery is continuous throughout the entire upper limb. During its pathway, the artery changes its name based on the region it supplies.

Thus the major named arteries of the upper limb are:

- the subclavian artery.
- the axillary artery.
- the brachial artery.
- the ulnar and radial arteries.

branches of the axillary arteries :

1. Superior thoracic artery.
2. Thoracoacromial artery.
3. Lateral thoracic artery.
4. Anterior circumflex humeral artery.
5. Posterior circumflex humeral artery.
6. Subscapular artery.

Arteries of the shoulder:

The main artery of the shoulder is the axillary artery. It originates from the subclavian artery at the lateral margin of the first rib and enters the shoulder region. The axillary artery supplies the content of the shoulder and the arm via its six branches that each originate from the trunk of the artery in the following order:

1. Superior thoracic artery.
2. Thoracoacromial arteries.
3. lateral thoracic arteries.
4. Subscapular arteries.

5. anterior circumflex humeral arteries.
6. posterior circumflex humeral arteries.

Arteries of the arm:

The major artery of the arm is the brachial artery, which continues from the axillary artery at the lower margin of the teres major muscle. The brachial artery ends at the apex of the cubital fossa by giving off the forearm branches; the ulnar and radial arteries.

The brachial artery supplies the content of the arm via its four branches:

1. profunda brachii artery.
2. nutrient artery .
3. superior ulnar collateral artery.
4. inferior ulnar collateral artery.

Arteries of the forearm:

The forearm region is literally full of muscles, with twenty of them laying within two compartments, all requiring a rich blood supply. The forearm region is thus supplied by two major vessels, the radial artery and ulnar artery. These arteries originate from the brachial artery at the apex of the cubital fossa, with the radial artery descending through the lateral part of the forearm and the ulnar artery through the medial part.

Both arteries give off their main branches within the forearm; with the radial artery giving:

1. the radial recurrent artery.
2. palmar carpal branch.
3. superficial carpal branch.

The ulnar artery giving:

1. the ulnar recurrent artery.
2. muscular arteries.
3. common interosseous artery.
4. dorsal and palmar carpal arteries.

Branches of the ulnar artery:

1. Anterior ulnar recurrent
2. Posterior ulnar recurrent.
3. Common interosseous.
4. Dorsal carpal branch.
5. Deep palmar branch.
6. Palmar carpal branch.

Arteries of the hand:

The radial and ulnar arteries both end in the hand, anastomizing with each other. The radial artery mainly supplies the thumb and the lateral side of the index finger, while the ulnar artery supplies the medial side of the index finger and the rest of the fingers. Seems weird how only two arteries supply such a complex structure like the hand is? Well, these two arteries form two anastomotic arches in the palm, called the superficial palmar arch and deep palmar arch, from which minor arteries to the muscles, digits and joints of the hand originate.

Upper limb veins:

Veins usually accompany main arteries, which is also the case here. Since the veins convey blood from periphery to the heart, we'll discuss the main veins of the upper extremity starting from the hand to the shoulder. The hand has two venous networks that drain it. There are deep veins which accompany the arteries, and superficial veins which anastomose into a dorsal venous network.

This superficial network is located at the dorsum of the hand. The basilic vein originates from the medial side of the dorsal venous network, while the cephalic vein originates from the lateral side.

The two mentioned veins:

Basilic and Cephalic: are the main veins of the forearm. They are superficially located, with basilic vein traveling through the ulnar, and cephalic vein traveling through the radial, side of the forearm. Besides these two, the median forearm vein assists in draining the forearm. It travels through the middle of the forearm.

All three veins of the forearm tribute to the brachial veins. The veins that drain the arm are the paired brachial veins. The brachial veins are deep veins that are positioned like some kind of bodyguards around the brachial artery - one travels along its medial side and the other along the lateral.

Their tributaries are the veins of the forearm and the veins that accompany the branches of the brachial artery. All of them together tribute to the axillary vein. The main vein of the shoulder is the axillary vein, which conveys blood from the shoulder and arm. It begins at the lower margin of the teres major muscle formed from the basilic vein and later the cephalic vein, gathering tributaries within the shoulders. It ultimately becomes the subclavian vein at the lateral border of the first rib.



