The University Of Jordan
Faculty Of Medicine

# Blood vessels of the Upper Limb

By

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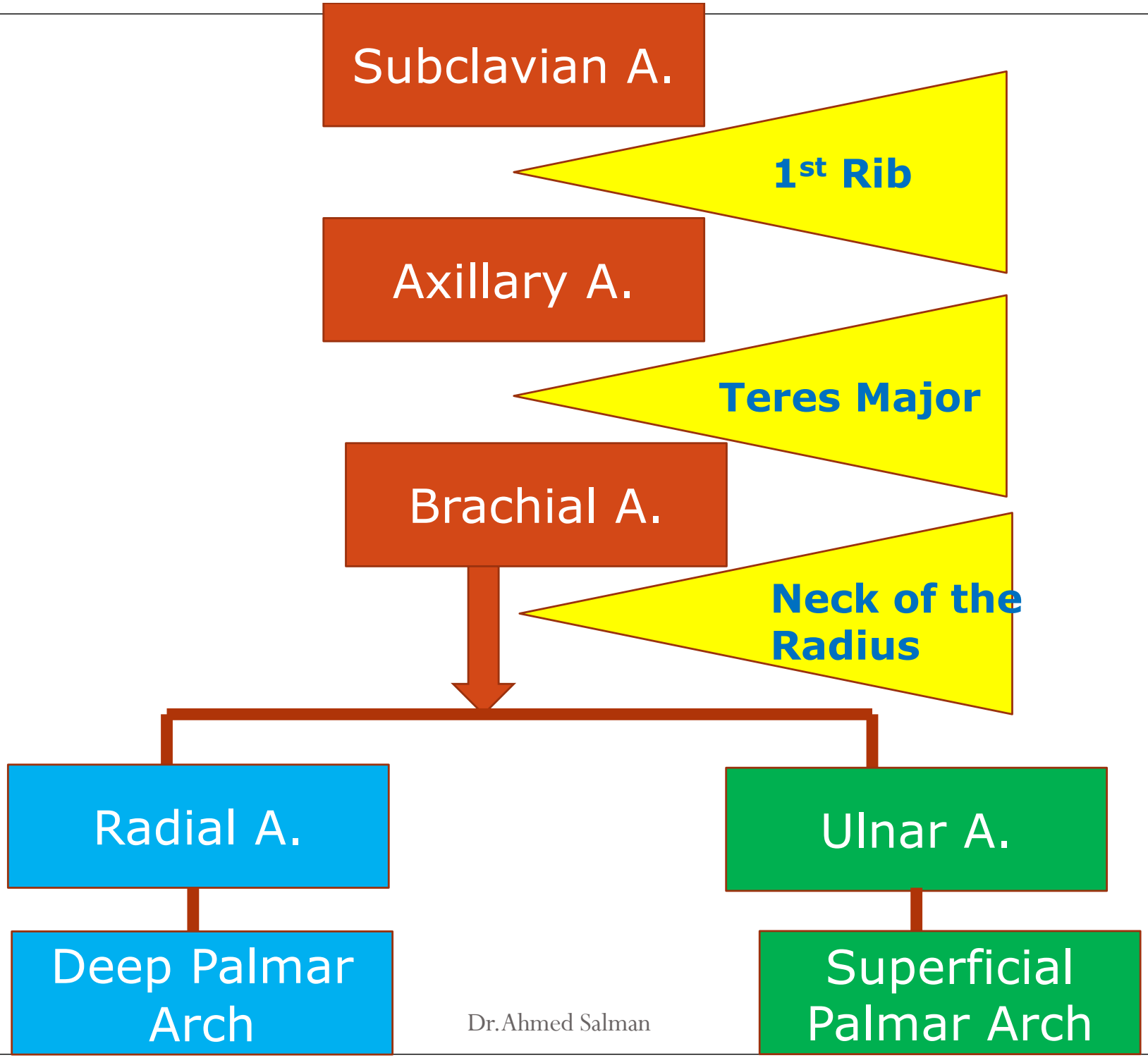

Subclavian A.
1st Rib
Axillary A.
Teres Major
Brachial A.
Neck of the Radius
Radial A.
Ulnar A.
Deep Palmar Arch
Superficial Palmar Arch

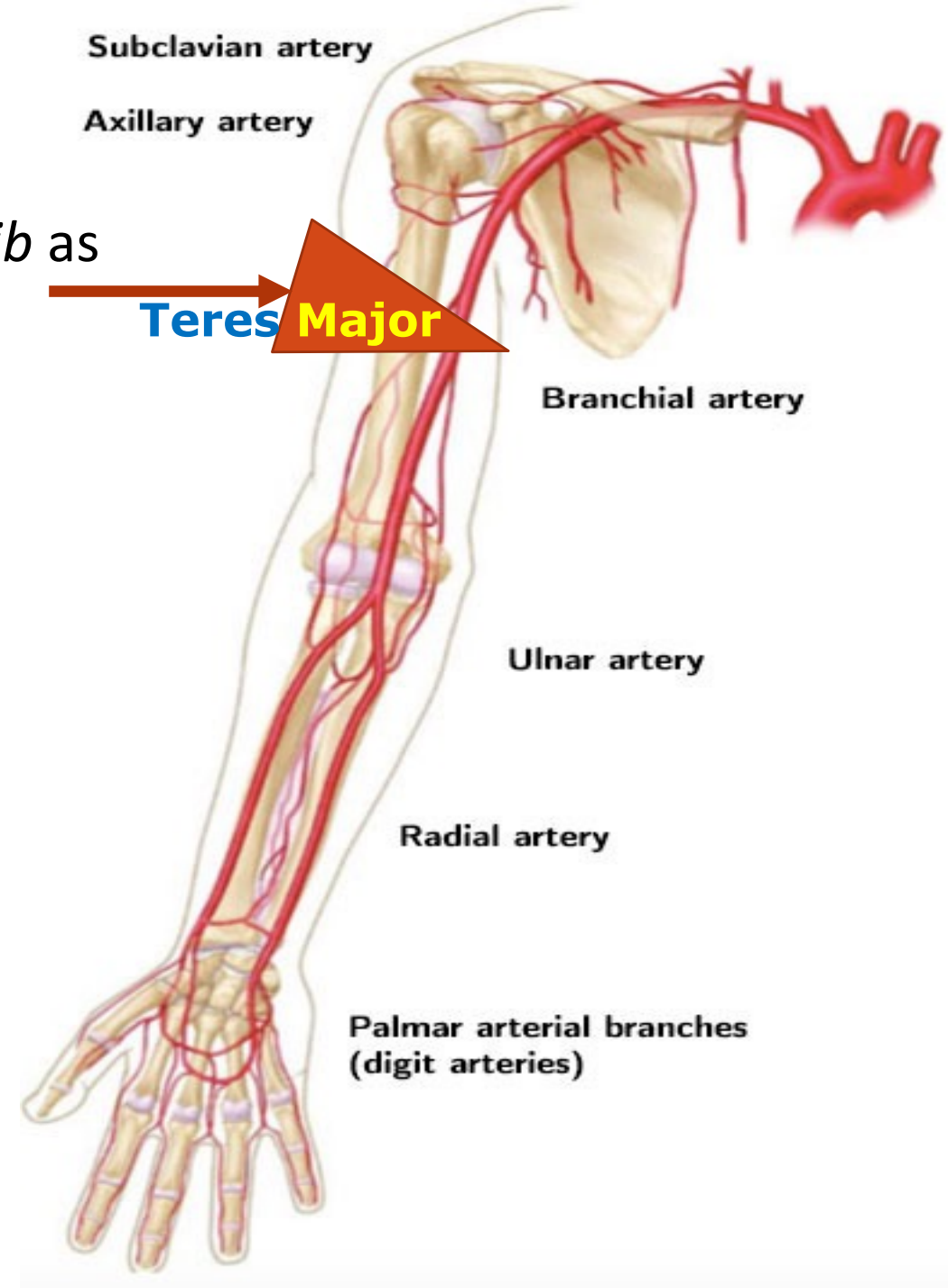
# Axillary Artery

## Beginning :

At the *outer border of the 1st rib* as continuation of the 3rd part of the subclavian artery

## Termination:

At level of the *inferior border of teres major muscle to be the brachial artery*



## Division :

Pectoralis minor muscle divides the artery into **THREE** parts:

**1st part :** Above the upper border of the pectoralis minor muscle.

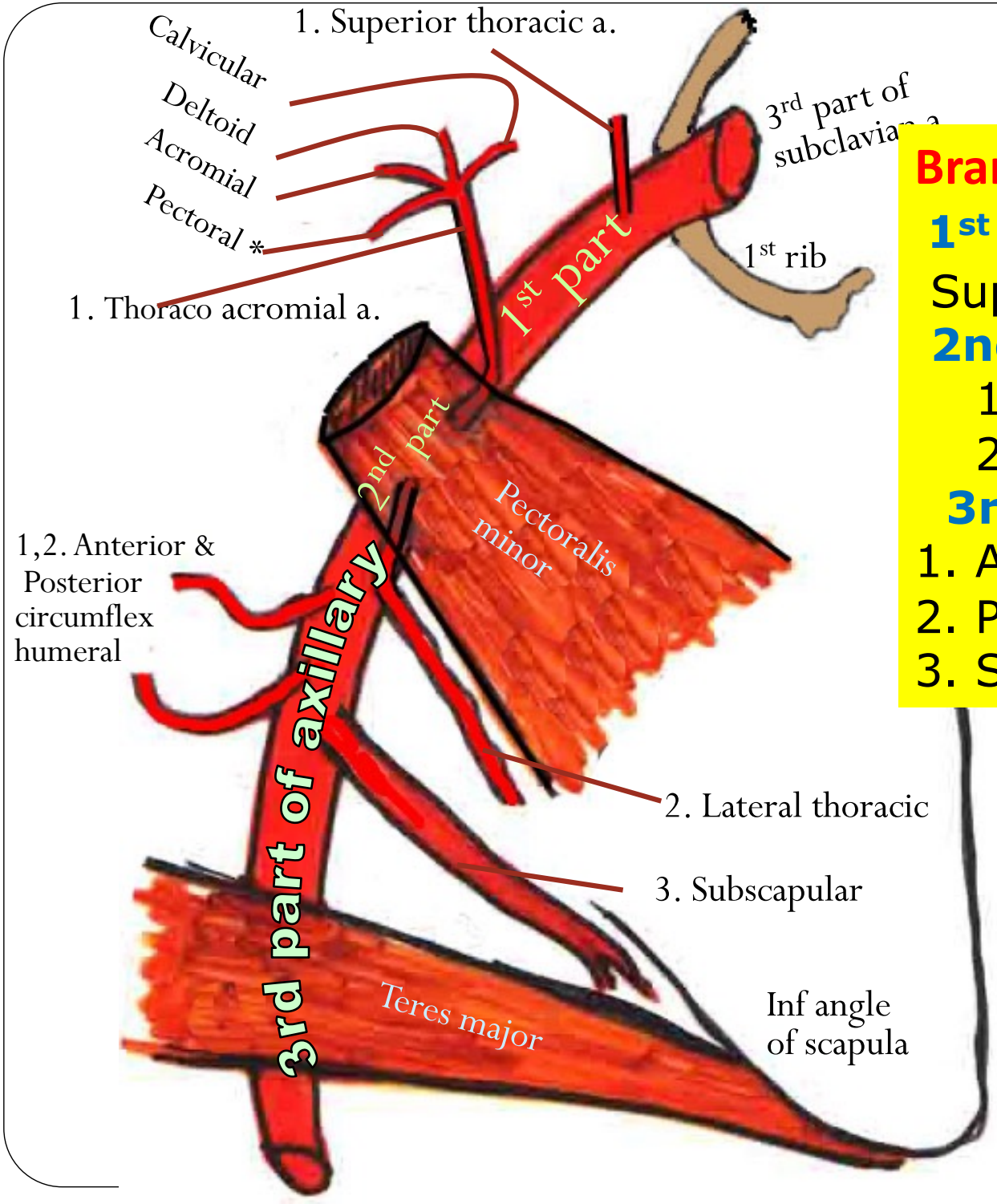
**2nd part :** Behind the pectoralis minor muscle.

**3rd part :** Below the lower border of the pectoralis minor muscle.

## Course and relation

- The **1st and 2nd** parts of the axillary artery are related to the **cords of the brachial plexus** and the ***3rd part*** of the artery is related to the ***branches*** of the cords of the plexus.

- The axillary vein always lies medial to the axillary artery




**Branches:**

**1st part:**

Superior thoracic artery.

**2nd part:**

1. Thoraco-acromial artery.
2. Lateral thoracic.

**3rd part:**

1. Anterior circumflex artery.
2. Posterior circumflex artery.
3. Subscapular artery.

# Axillary Artery

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## Branches:

### 1st part:

Superior thoracic artery.

### 2nd part:

1. Lateral thoracic.
2. Thoraco-acromial artery which is Divided into
   a) Pectoral
   b) Deltoid
   c) Clavicular
   d) Acromial

***2 Bones ,2 Muscles***

### 3rd part:

1. Anterior circumflex artery.
2. Posterior circumflex artery.
3. Subscapular artery.

# Brachial artery

# Brachial artery

**Beginning :**

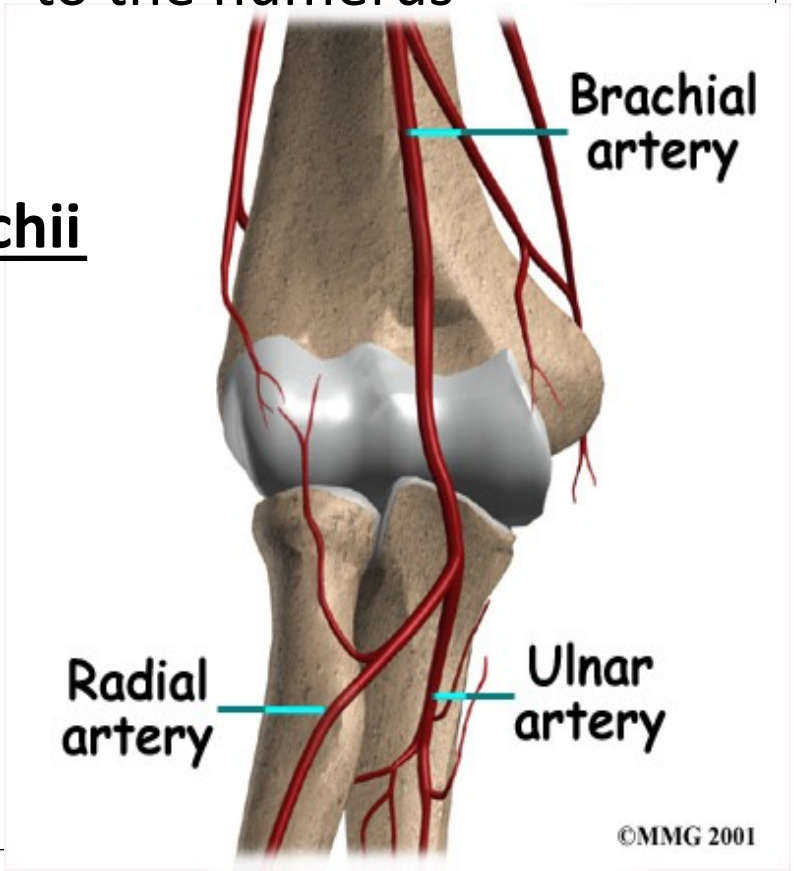
At the lower border of the teres major as a continuation of the axillary artery

**Termination :**

At the neck of radius by dividing into radial and ulnar arteries.

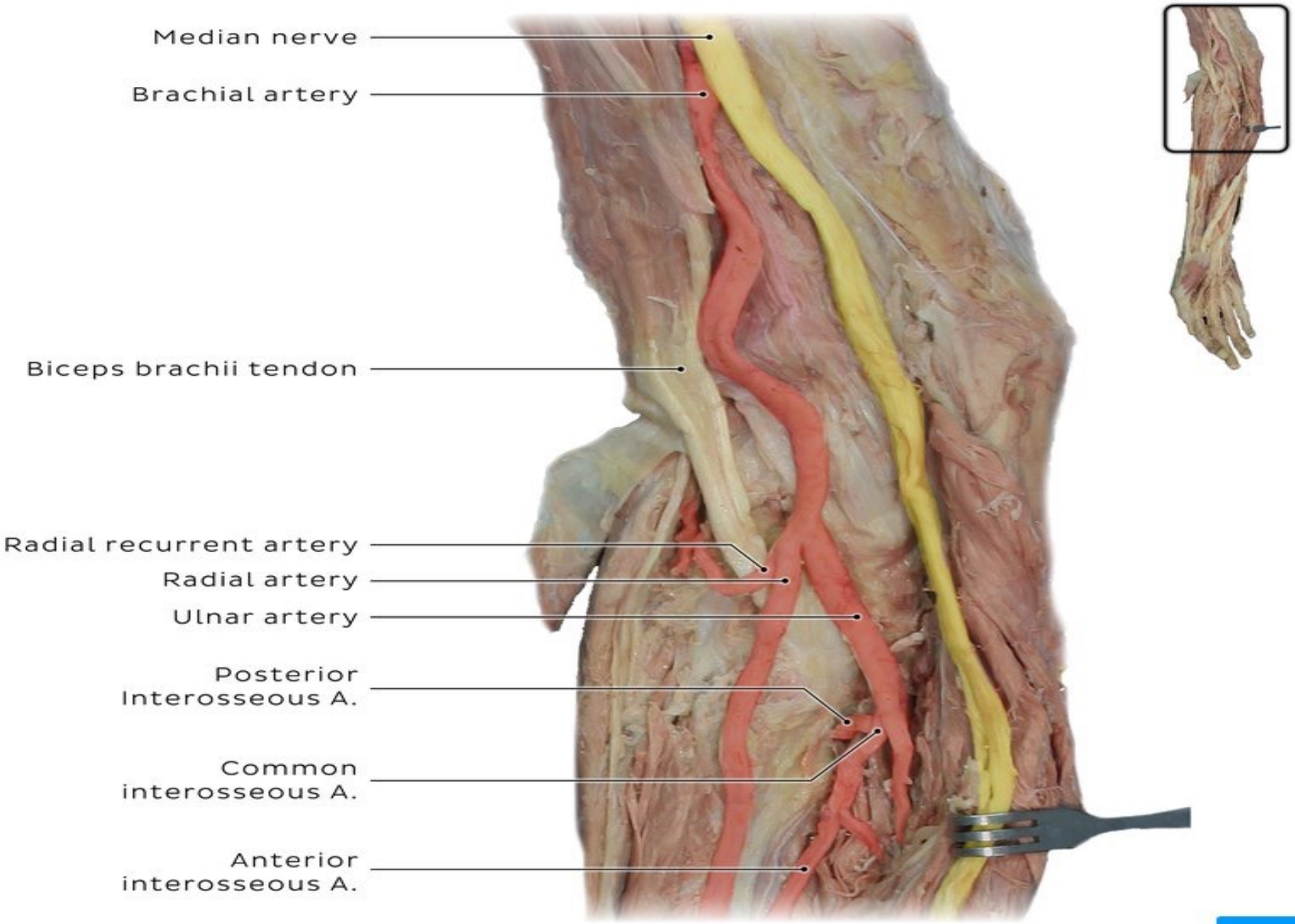
**Course :**

- In the upper part of the arm, it is medial to the humerus
- In the lower part of the arm it becomes anterior to the humerus.
- **It is medial to the tendon of biceps brachii muscle in the cubital fossa**




**Clinical importance :**

Used in measuring blood pressure

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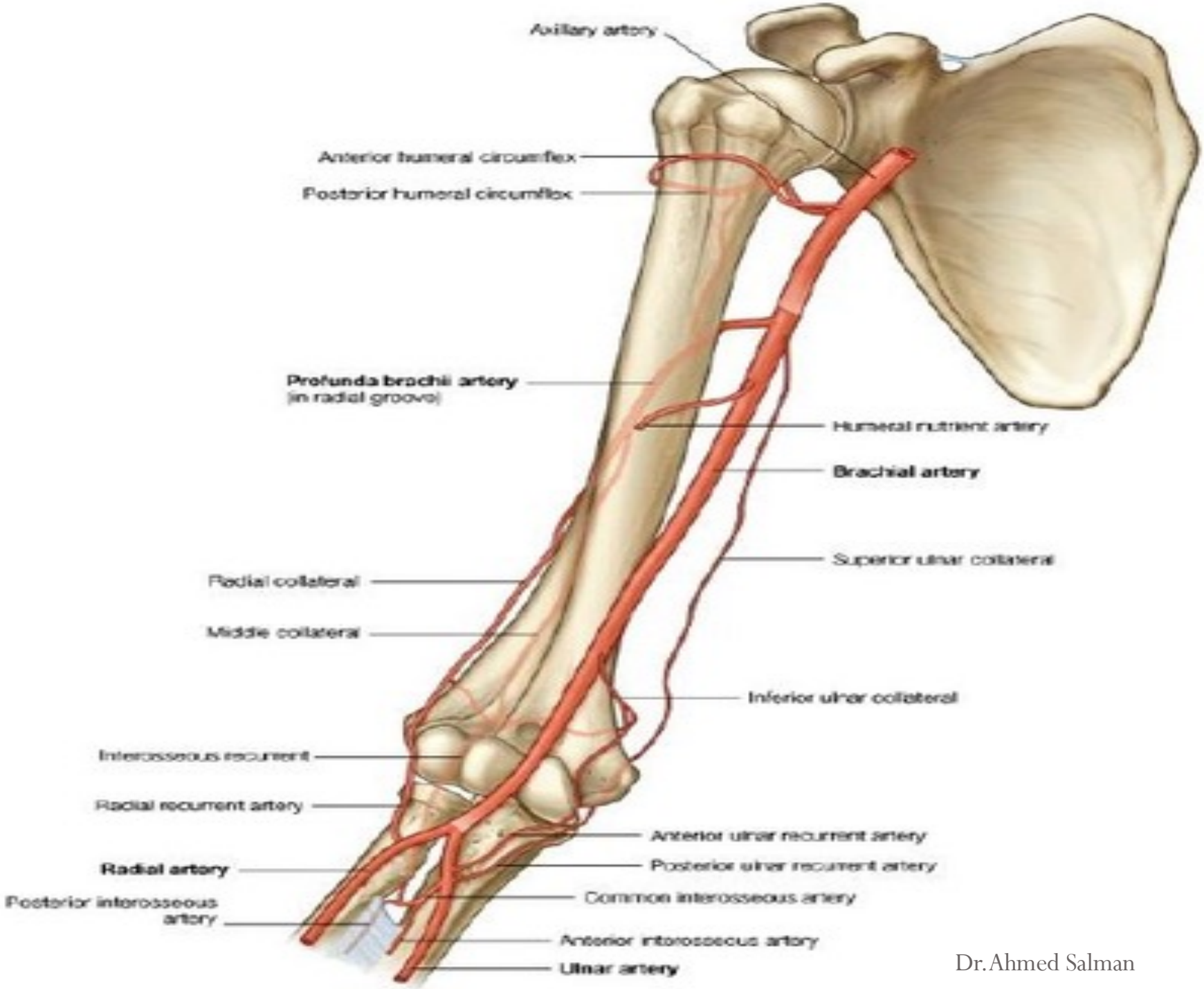
## Branches:

1. **Nutrient artery** .
2. **Muscular branches**
3. **Profunda brachii .**
4. **Superior ulnar collateral artery :**

It passes with the ulnar nerve **posterior** of the medial epicondyle of the humerus .

5. **Inferior ulnar collateral artery:**

It divides into **anterior and posterior** branches which descend in front and behind the medial epicondyle of the humerus .

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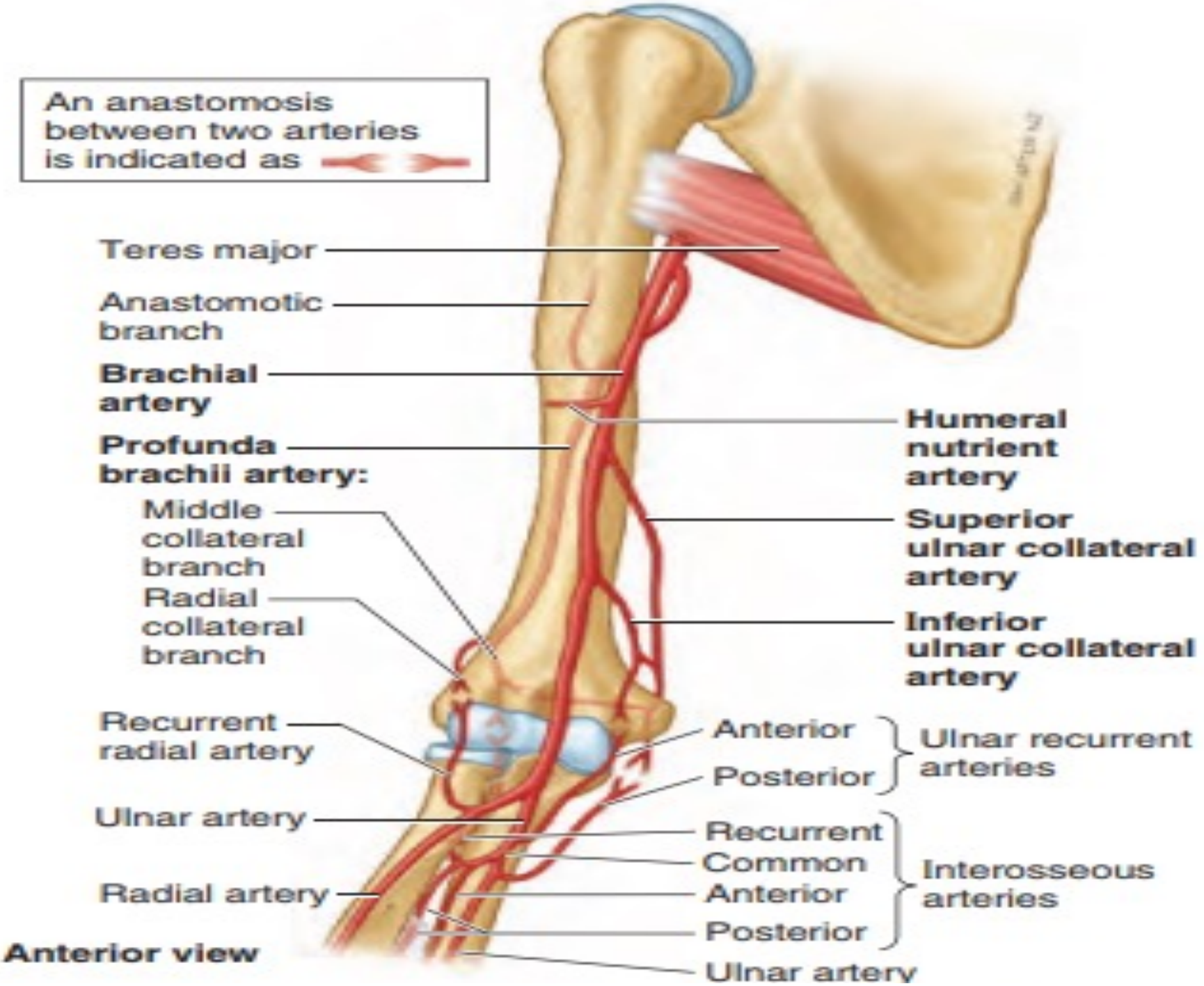

An anastomosis between two arteries is indicated as
Teres major
Anastomotic branch
Brachial artery
Profunda brachii artery:
Middle collateral branch
Radial collateral branch
Recurrent radial artery
Ulnar artery
Radial artery
Anterior view
Humeral nutrient artery
Superior ulnar collateral artery
Inferior ulnar collateral artery
Anterior
Posterior
Ulnar recurrent arteries
Recurrent
Common Anterior
Posterior
Ulnar artery
Interosseous arteries

**Branches Profunda brachii :**

**a.Muscular branches.**

**b. A nutrient artery**

**c. Ascending branch:**

Which anastomoses with the descending branch of the posterior circumflex humeral artery.

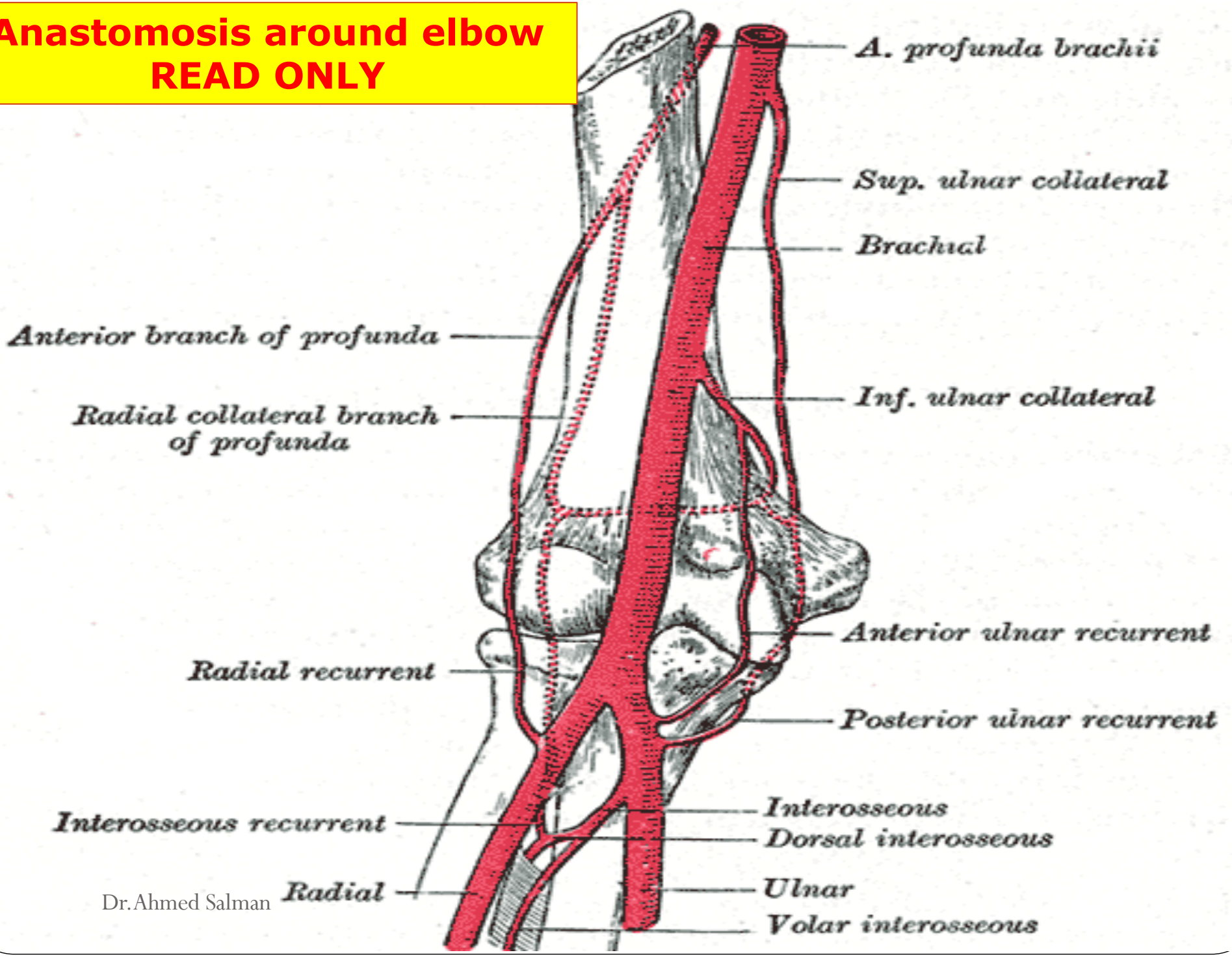
**d. Radial collateral branch ( Anterior descending branch) :**

Which passes **Anterior** to lateral epicondyle of the humerus.

**e. Middle collateral branch (Posterior descending branch) :**

Which passes **Posterior** to the lateral epicondyle .

# Anastomosis around elbow
# READ ONLY



| Brachial A. | Profunda brachii A. |
| --- | --- |
| Nutrient artery | Nutrient artery |
| Muscular branches | Muscular branches |
| Profunda brachii | Ascending branch |
| Superior ulnar collateral artery | Middle collateral branch (Posterior descending) |
| Inferior ulnar collateral artery | Radial collateral branch (Anterior descending ) |

# Radial Artery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**Origin:**

From brachial artery at the level of the neck of the radius.

**End:**

It ends as deep palmar arch of the hand.

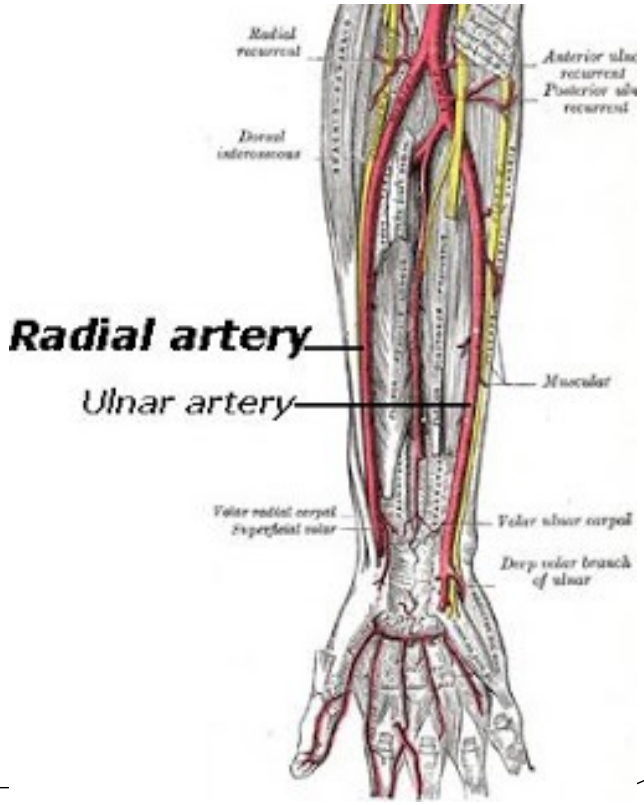
**Course:**

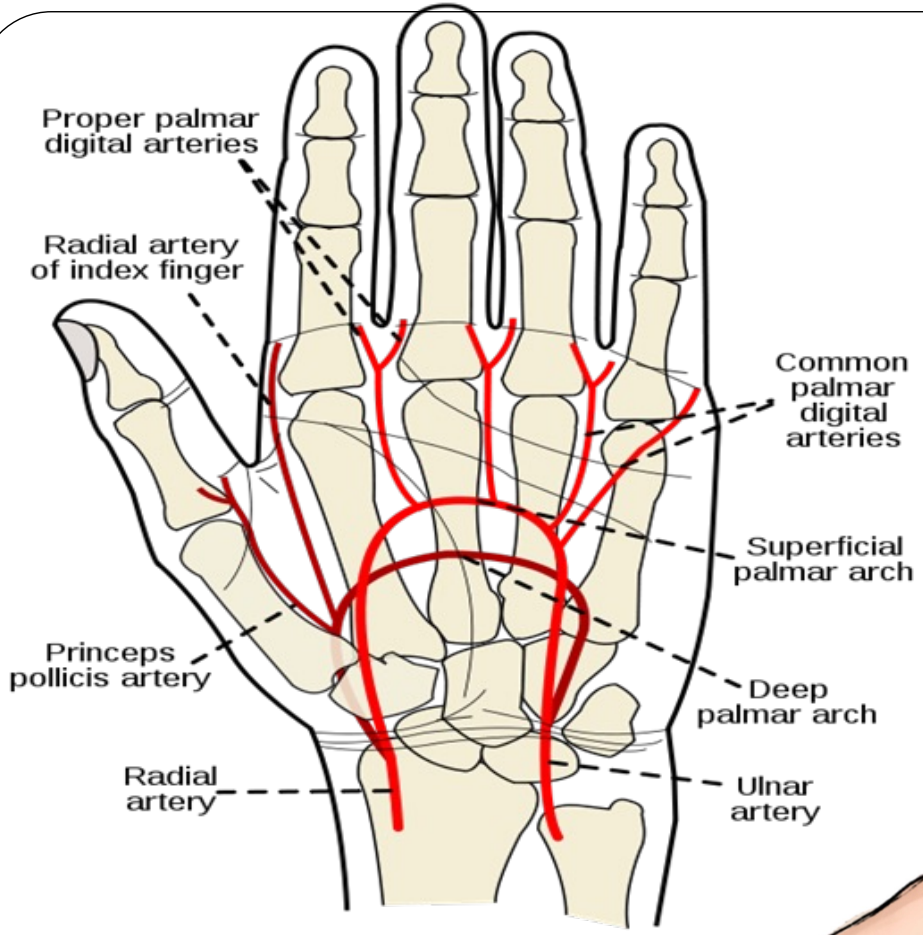
- It descends in the lateral part of the forearm down to the front of the lower end of the radius (the site of the radial pulse).
- Then, it deviates posteriorly to run in the floor of the anatomical snuff-box to reach the dorsum of the hand.

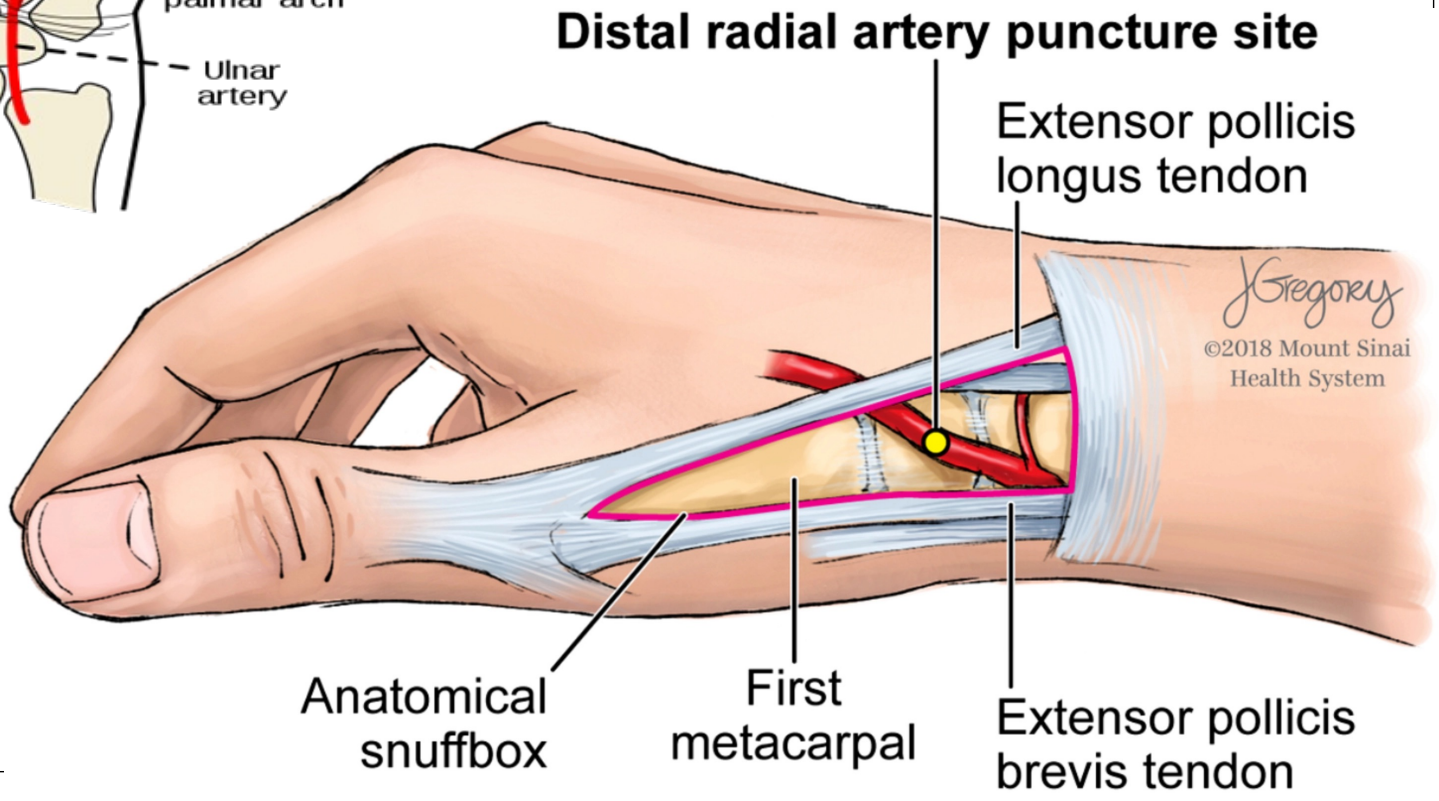
**Clinical importance**

- Counting of the pulse
- Arterial blood gases sample
- Cardiac catheterization

Radial artery is palpated **immediately lateral to the tendon of the flexor carpi radialis muscle.**



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# Ulnar artery

**Origin:**

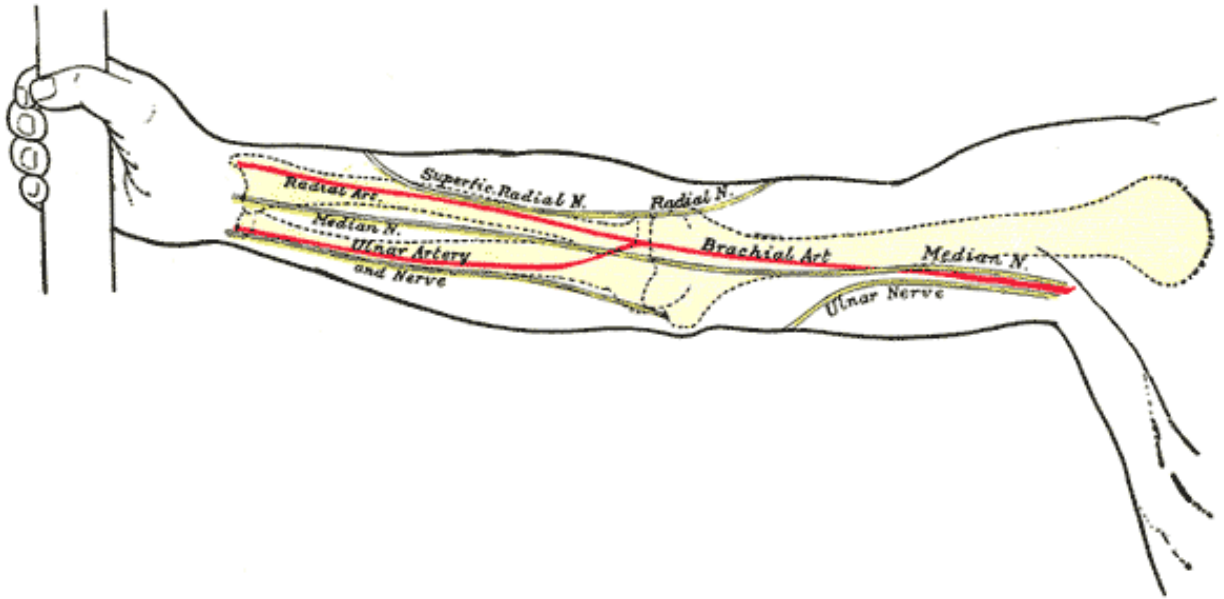
From brachial artery at the level of the neck of the radius .

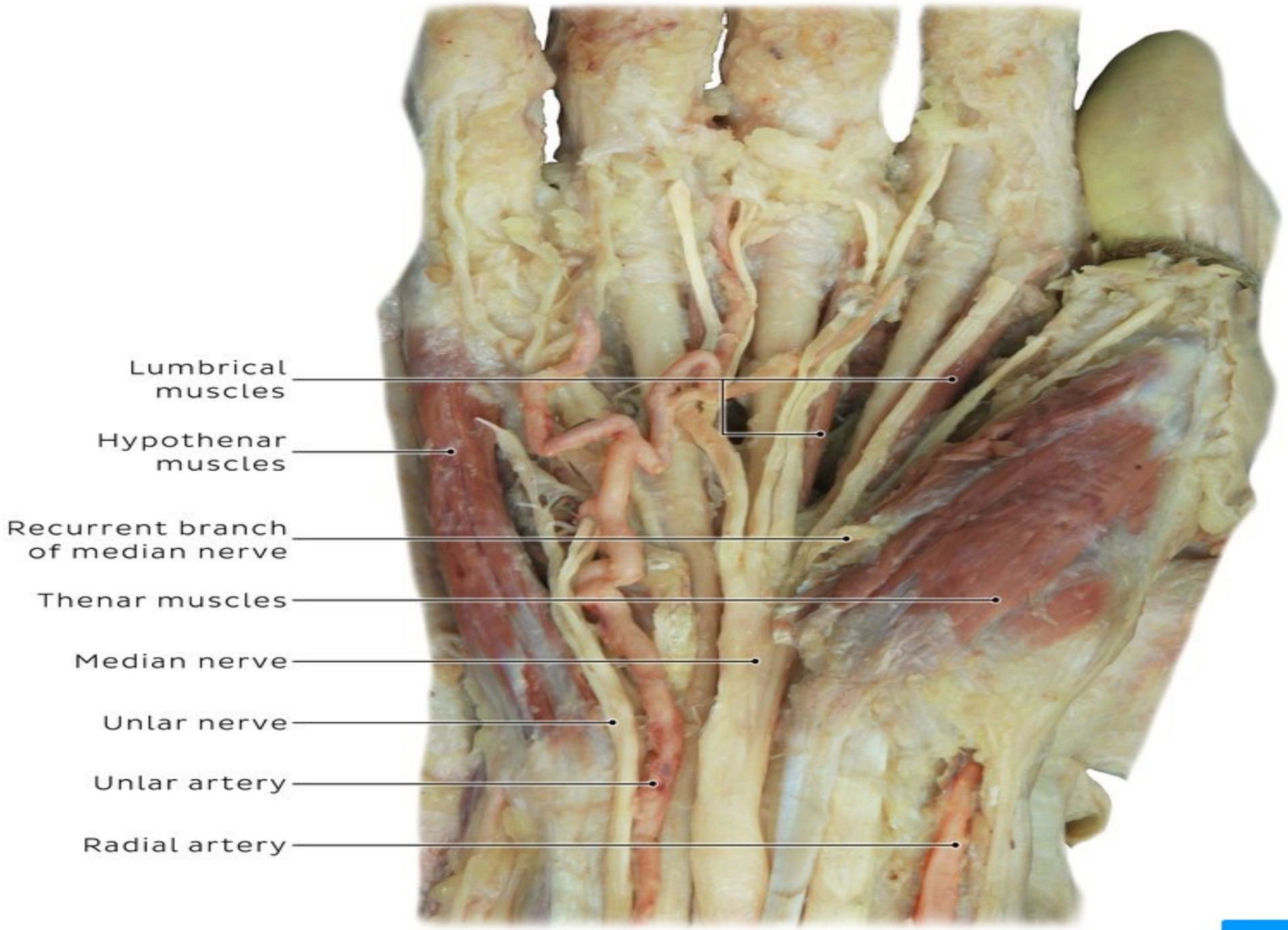
**End :**

It ends as superficial palmar arch of the hand

**Course:**

- In the upper 1/3 of the forearm it is oblique descending medially to the medial side, then vertically down to the wrist.
- It enters the hand by passing in front of the flexor retinaculum lateral to ulnar nerve





| Branches Radial A. | Branches Ulnar A. |
| --- | --- |
| Muscular branches | Muscular branches |
| Radial recurrent artery | Anterior ulnar recurrent artery |
| | Posterior ulnar recurrent artery |
| | The common interosseous artery |
| Palmar carpal branch | Palmar carpal branch |
| Dorsal carpal branch | Dorsal carpal branch |
| Superficial palmar branch | Deep palmar branch |
| 1. 1st dorsal metacarpal<br>2. Princeps pollicis artery<br>3. Radialis indicis artery | |

| | | | |
|---|---|---|---|
| Profunda brachii | | Anterior circumflex artery | |
| Princeps pollicis | | Middle collateral branch | |
| Lateral thoracic. | | Superficial palmar branch | |
| Superior ulnar collateral | | Inferior ulnar collateral | |
| Superior thoracic artery | | Deep palmar branch | |
| 1st dorsal metacarpal | | Thoraco-acromial artery | |
| The common interosseous artery | | Radialis indicis artery | |
| Radial collateral branch | | Subscapular artery | |

# Veins of upper limb

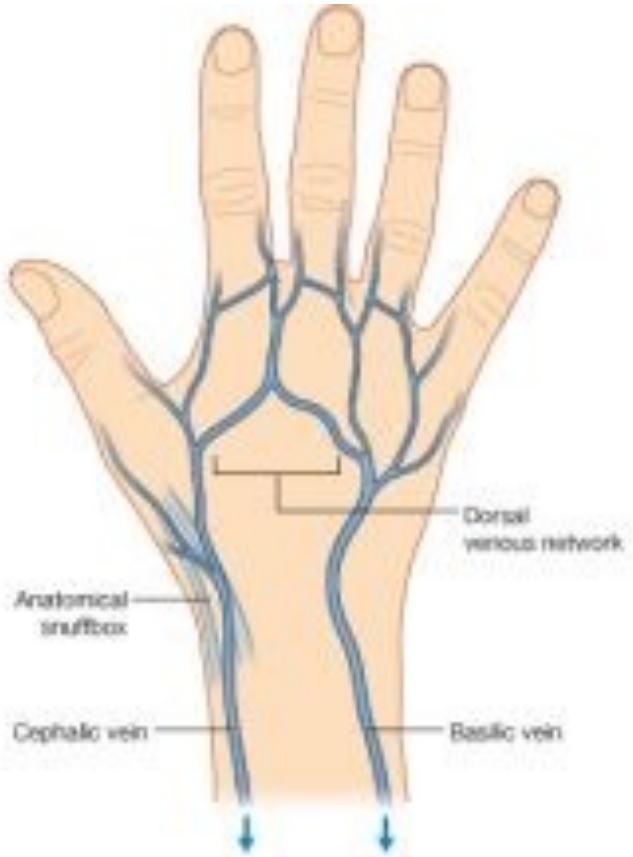
## Superficial

**Dorsal venous arch on the back of hand**

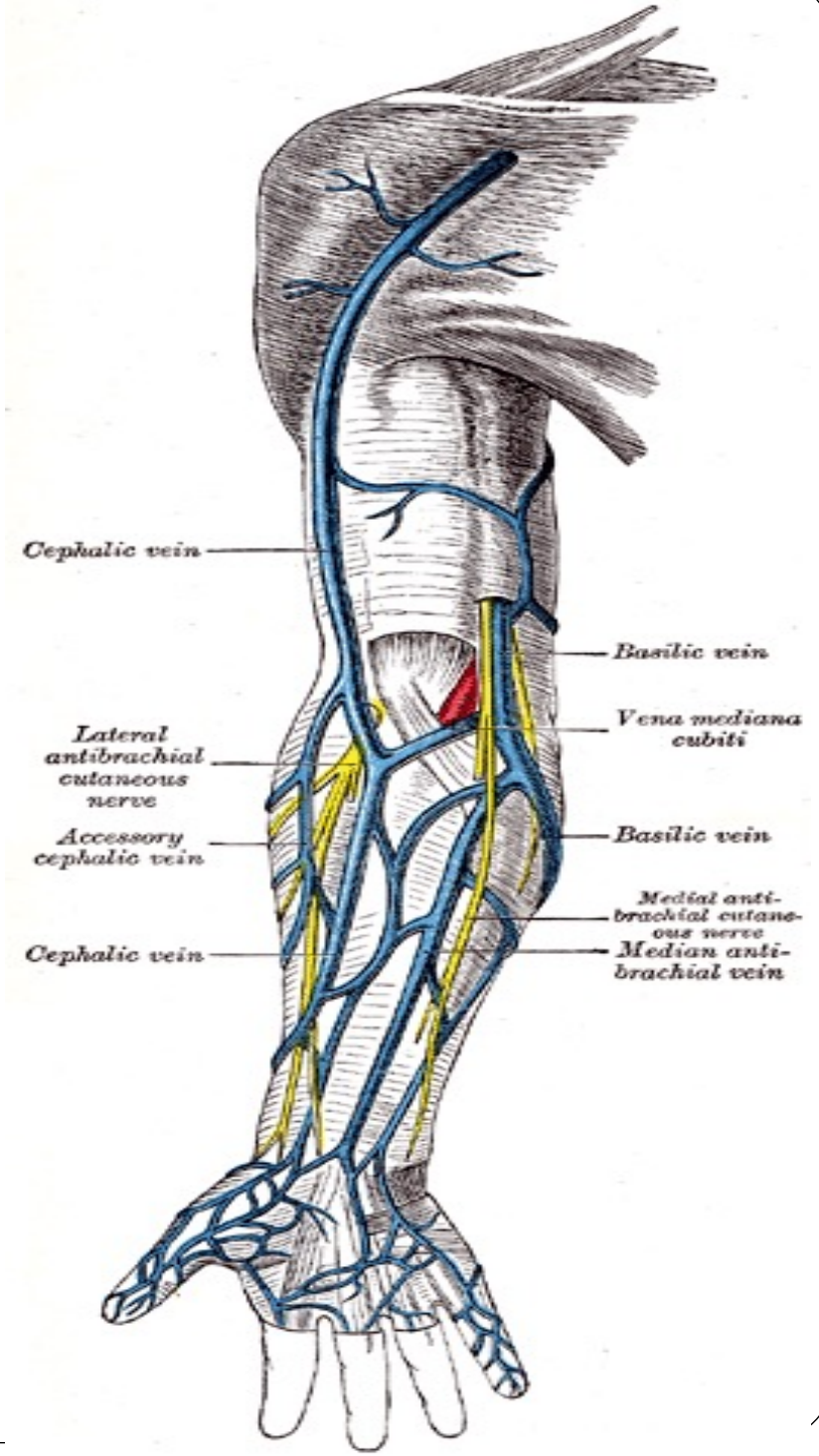
- **Cephalic**
  From lateral part ,and ends into axillary vein
- **Median cubital vein**
  In front of elbow connects basilic & cephalic veins.
  It is the common site of intravenous injection and blood withdrawal
- **Basalic**
  From medial part
  It joins brachial vein to form axillary vein

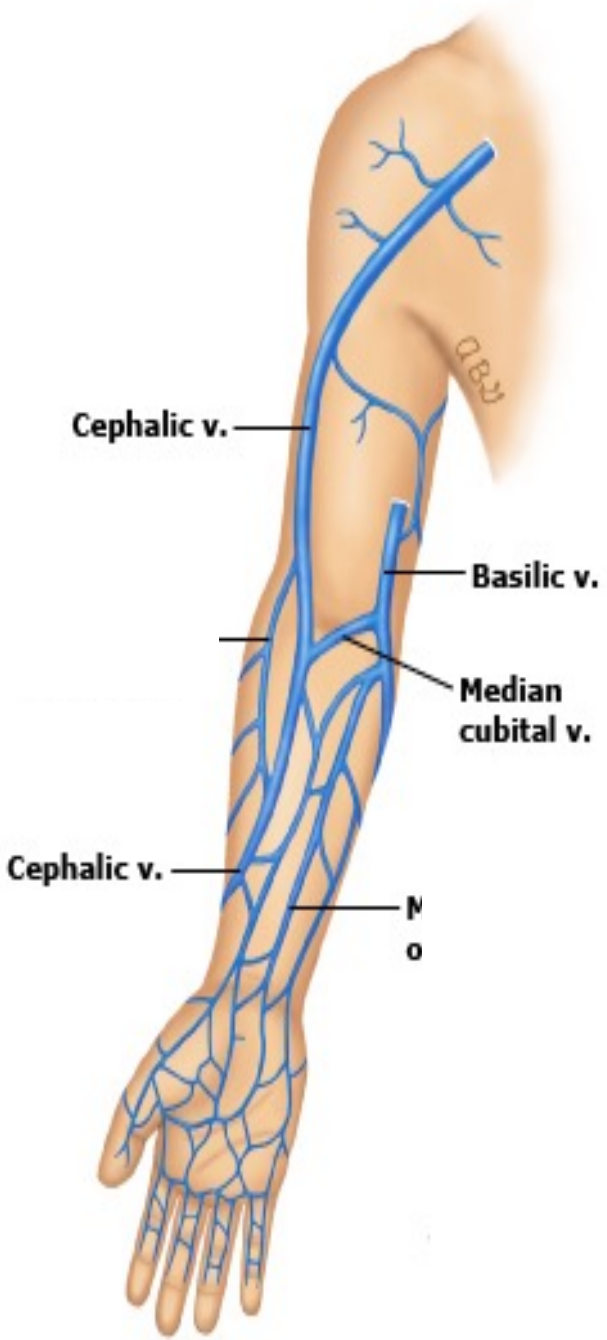
## Deep

All arteries of upper limb are followed by venae comitantes .
Which drained by Axillary vein and ends into subclavian vein






Cephalic v.
Basilic v.
Median
cubital v.
Cephalic v.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