MEDICAL EDUCATION RESOURCE

Coracobrachialis & Cubital Fossa

Changes at the Level of Insertion of Coracobrachialis

Key Changes in Structures Around Mid-Arm

At the level where **coracobrachialis** is inserted into the **medial surface of the humerus**, several important structural relationships change:

1. **Median Nerve**
    - In the upper arm ? lies **lateral** to brachial artery.
    - At mid-arm ? **crosses anteriorly** over the artery from lateral to medial side.
    - Below this level ? continues **medial** to the artery.
2. **Ulnar Nerve**
    - Lies **medial** to brachial artery in upper arm.
    - At mid-arm ? **pierces medial intermuscular septum** to enter the **posterior compartment**, descending toward the medial epicondyle.
3. **Nutrient Artery of Humerus**
    - Arises from **brachial artery** near this level ? enters nutrient foramen directed **downward (toward elbow)**, consistent with the “growing end” rule.
4. **Musculocutaneous Nerve**

- After supplying coracobrachialis, **emerges between biceps and brachialis** — here it becomes easily visible during dissection.

5. **Medial Intermuscular Septum**

   - Appears clearly at this level — separating anterior and posterior compartments.

Cubital Fossa

Definition

- The **cubital fossa** is a **triangular depression** in front of the elbow, serving as a passage for **major nerves, arteries, and veins** between the arm and forearm.

Boundaries

BOUNDARY	STRUCTURE
Superior	Imaginary line joining medial and lateral epicondyles of humerus
Medial	Pronator teres
Lateral	Brachioradialis
Apex	Where brachioradialis crosses pronator teres
Roof	Skin, superficial fascia, deep fascia (reinforced by bicipital aponeurosis), median cubital vein, cutaneous nerves

BOUNDARY	STRUCTURE
Floor	Brachialis (medially) and supinator (laterally)

Contents (from medial to lateral)

? **Mnemonic: “My Brother Throws Rocks”**

ORDER	STRUCTURE	DESCRIPTION
1	**Median nerve**	Most medial content
2	**Brachial artery**	Divides into radial and ulnar arteries opposite neck of radius
3	**Tendon of biceps brachii**	Central landmark
4	**Radial nerve**	Lies under brachioradialis; divides into superficial & deep branches

---

Relations

- **Superficial to fossa:** median cubital vein (for venipuncture).
- **Deep to fossa:** capsule of elbow joint.

Dissection of the Cubital Fossa

Steps

1. Make a **horizontal incision** across front of elbow and reflect skin.
2. Identify the **median cubital vein** connecting cephalic and basilic veins.
3. Remove superficial fascia ? note **medial cutaneous nerve of forearm** and **lateral cutaneous nerve of forearm**.
4. Expose **bicipital aponeurosis** ? lies superficial to **brachial artery** and **median nerve**.
5. Deep to aponeurosis, identify (from medial to lateral):
    - Median nerve
    - Brachial artery ? bifurcating into **radial** and **ulnar arteries**
    - Biceps tendon
    - Radial nerve (dividing into superficial and deep branches).
6. Observe **brachialis (floor medially)** and **supinator (floor laterally)** muscles.

Clinical Anatomy

---

1. Venipuncture

- **Median cubital vein** ? preferred site for IV injection and blood sampling.
- It is **superficial, fixed by perforators**, and **separated from the artery by bicipital aponeurosis**, minimizing risk of arterial puncture.

---

2. Pulse Palpation

- **Brachial pulse** ? felt in the cubital fossa, **medial to biceps tendon**.

---

3. Blood Pressure Measurement

- Sphygmomanometer cuff placed around arm ? stethoscope over **brachial artery in cubital fossa**.

---

4. Injury to Brachial Artery

- Supracondylar fracture of humerus ? may **compress or rupture brachial artery**, leading to **Volkmann's ischemic contracture** (ischemic necrosis of forearm flexors).

---

5. Nerve Injuries

- **Median nerve injury:** sensory loss in lateral 3½ digits, weakness of forearm pronation and wrist flexion.
- **Radial nerve injury:** wrist drop due to loss of extensor power.

---

6. Cubital Fossa as a Clinical Landmark

- Used for **injections, arterial punctures, venous sampling, and catheterization**.
- Also a site for **elbow joint aspiration** and **testing distal neurovascular status** after trauma.