Embalming Injection Points

MORT 1010  Embalming Incisions
Embalmimg Injection Points

- Linear Guide
- Anatomical Guide
- Anatomical Limits

Note:

All descriptions used throughout this unit assume that the body is in Anatomical Position.
Definitions
• Imaginary

• Line *visualized* or *drawn* on the surface of the skin to represent the approximate location of some more deeply lying structure
Materials Used for Demonstration
Anatomical Guide

- **Known → Unknown**
- **Method of locating structure by reference to an adjacent known prominent structure.**
Anatomical Limit

• Real

• Point of ORIGIN

• Point of TERMINATION

• In relation to an adjacent structure
Common Carotid Artery
Common Carotid Artery

- **Linear Guide**
  - Point from sternoclavicular articulation
  - To anterior surface of lobe of ear.
Common Carotid Artery

• Anatomical Guide
  – Along medial border of sternocleidomastoid muscle
Common Carotid Artery

- **Anatomical Limits**
  - **Right common carotid artery**
    - Begins at the level of sternoclavicular articulation and extends to level of upper border of thyroid cartilage.
  - **Left common carotid artery**
    - Begins at the level of 2\textsuperscript{nd} costal cartilage and extends to level of upper border of thyroid cartilage.
Embalming Incision

- **Supraclavicular (Anterior Lateral)**
  - Along superior border of medial or middle one third of clavicle

- **Parallel (Anterior Vertical)**
  - Along posterior border of inferior one third of sternocleidomastoid muscle

- **Semi lunar (Apron incision or bib)**
  - From center of one clavicle by dipping curve
  - To center of other clavicle
Accompanying Vein

- Internal jugular
- Lateral and superficial to common carotid artery
Considerations –
Common Carotid Artery

- Very large in diameter
- Very elastic
- Close to center of circulation
- Close to center of venous drainage
- Has no branches except its terminal branches
- Supplies fluid directly to the head
- Accompanied by a very large vein that can be used for drainage.
- Arterial coagula are pushed away from the head.
Precautions –
Common Carotid Artery

- The head may be over-injected
- If leakage occurs, it may be seen
- Some types of instruments, if improperly used, may mark the side of the face or jaw line.
- The incision may be visible with some types of clothing
Subclavian Artery
(Autopsy Cases Only)

• **Anatomical limits**
  
  **– Right Subclavian**
  
  • Begins at the sternoclavicular articulation.
  
  • Extends to the outer border of first rib (right).

  **– Left Subclavian**
  
  • Begins at level of 2\textsuperscript{nd}. Costal cartilage.
  
  • Extends to outer border of first rib (left).
Facial Artery
Facial Artery

- **Anatomical Guide**
  - Along inferior border of mandible.
  - Anterior to the angle of the mandible
Facial Artery

- Place of incision
  - Along anatomical guide
Axillary Artery
Axillary Artery

- **Linear Guide**
  - Through the center of the base of the axillary space.
  - Parallel to long axis of upper extremity when abduced.
Axillary Artery

- Anatomical Guide
  - Posterior to the medial border to the coracobrachialis muscle
Axillary Artery

- **Anatomical Limits**
  - Begins at the lateral border of the 1st rib.
  - Extends to the lower border of the tendon of the teres major muscle.
Embalming Incision

• Along the anterior margin of the hairline of the axilla.
Considerations – Axillary Artery

• Arterial fluid flows directly into the arm and hand.
• Close to the face
• Vessels are superficial
• Close to the center of arterial fluid distribution.
• Close to center of venous drainage
  – Right atrium of heart
Precautions – Axillary Artery

- Arm must be extended
- Numerous branches
- Artery is small for injection of the whole body.
- Accompanying vein is small for drainage
- Danger of over-injecting facial tissues
Brachial Artery
Brachial Artery

• **Linear Guide**
  - From center of the base of axillary space.
  - To center of forearm just below bend of elbow.
Brachial Artery

- **Anatomical Guide**
  - Lies in the medial bicipital groove.
  - Posterior to the medial border of the belly of the biceps brachii muscle.
Brachial Artery

• **Anatomical Limits**
  
  – Begins at inferior border of tendon of teres major muscle.
  
  – Extends at a point just inferior to the antecubital fossa.
Embalming Incision

- Along the groove between biceps and triceps muscle.
Brachial Artery

- **Accompanying vein**
  - Brachial vein
    - Medial and superficial to brachial artery
  - Cephalic
    - Ascends along the radial side of the forearm.
Considerations and Precautions – Brachial Artery

- **Considerations**
  - Same as those of the axillary artery.

- **Precautions**
  - Same as those of the axillary artery.
Radial Artery
Radial Artery

- **Linear Guide**
  - On surface of forearm
    - From center of bend of elbow.
    - To the center of base of the index finger.
Radial Artery

- **Anatomical Guide**
  - Lateral
    - Tendon of the flexor carpi radialis muscle.
Radial Artery

- **Anatomical Limits**
  - From antecubital fossa
  - To the palm of the hand.
Embalming Incision

- Lateral
  - Tendon of the flexor carpi radialis muscle.
  - About one inch above base of thumb.
Precautions – Radial Artery

• Size of vessel
• Fluid may not get to all areas
• Difficult area to tightly suture
Ulnar Artery
Ulnar Artery

• **Linear Guide**
  - On surface of forearm from center of bend of elbow (antecubital fossa).
  - To a point between 4th and 5th finger.
Ulnar Artery

• **Anatomical Guide**
  - Lateral to
    • The tendon of the flexor carpi ulnaris muscle
    • Lies between tendons of flexor carpi ulnaris and flexor digitorum superficialis.
Ulnar Artery

- **Anatomical Limits**
  - Extends from the antecubital fossa.
  - To the palm of the hand.
Embalming Incision

• Between the tendons of:
  – Flexor carpi ulnaris
  – Flexor digitorum superficialis
Femoral Artery
Femoral Artery

- **Femoral triangle**
  - Inguinal ligament
  - Medial border of the sartorius muscle.
  - Lateral border of the adductor longus muscle.

- **Linear Guide**
  - On surface of thigh
    - From center of inguinal ligament.
    - To the center point of medial condyle of femur.
• **Anatomical Guide**
  – Through the center of femoral triangle bounded by:
    • Base
      – Inguinal ligament
    • Laterally
      – Sartorius muscle
    • Medially
      – Adductor longus muscle
Femoral Artery

• **Anatomical Limits**
  
  – Begins at a point posterior to the center of the inguinal ligament.
  
  – Terminates at the opening in the adductor magnus muscle.
Embalming Incision

- Along linear guide
- Any portion of the superior two thirds.
Considerations – Femoral Artery

- Artery is large
- Incision is not visible
- Both sides of head may receive an even distribution of fluid.
- Accompanying vein is large
  - May be used for drainage
- It can be a clean method of embalming
  - No fluid or blood will pass under the body
- Head and arms can be posed without having to be further manipulated after embalming.
Precautions – Femoral Artery

- Arteriosclerosis
- In obese bodies, the vessels may be very deep
- No control over fluid entering the head
- Coagula may be pushed to viewing areas
- Large branches may be mistaken for femoral artery
Popliteal Artery
Popliteal Artery

• **Linear Guide**
  - Through the center of popliteal space
  - Parallel to the long axis of lower extremity.
Popliteal Artery

- **Anatomical Guide**
  - Located between
    - Popliteal surface of the femur
  - Oblique popliteal ligament
Popliteal Artery

- **Anatomical Limits**
  - Begins at an opening formed by the adductor magnus muscle.
  - Terminates at the inferior border of popliteal muscle.
Embalming Incision

- Longitudinal incision of posterior medial aspect of thigh.
- Superior to the popliteal space.
Anterior Tibial Artery
Anterior Tibial Artery

- **Linear Guide**
  - From lateral border of patella.
  - To a point between the medial and lateral malleoli.
Embalming Incision

- Along lateral margin of inferior one-third of crest of tibia.
Posterior Tibial Artery
Posterior Tibial Artery

- **Linear Guide**
  - From center of popliteal space.
  - To point midway between medial malleolus and the calcaneus.
Embalming Incision

• Along the superior one-third of the linear guide.
Dorsalis Pedis Artery
Dorsalis Pedis Artery

• **Linear Guide**
  – From the center of the anterior surface of the ankle joint.
  – To a point between the big toe and adjacent toe.
Embalming Incision

- Along the superior one-third of the linear guide.