



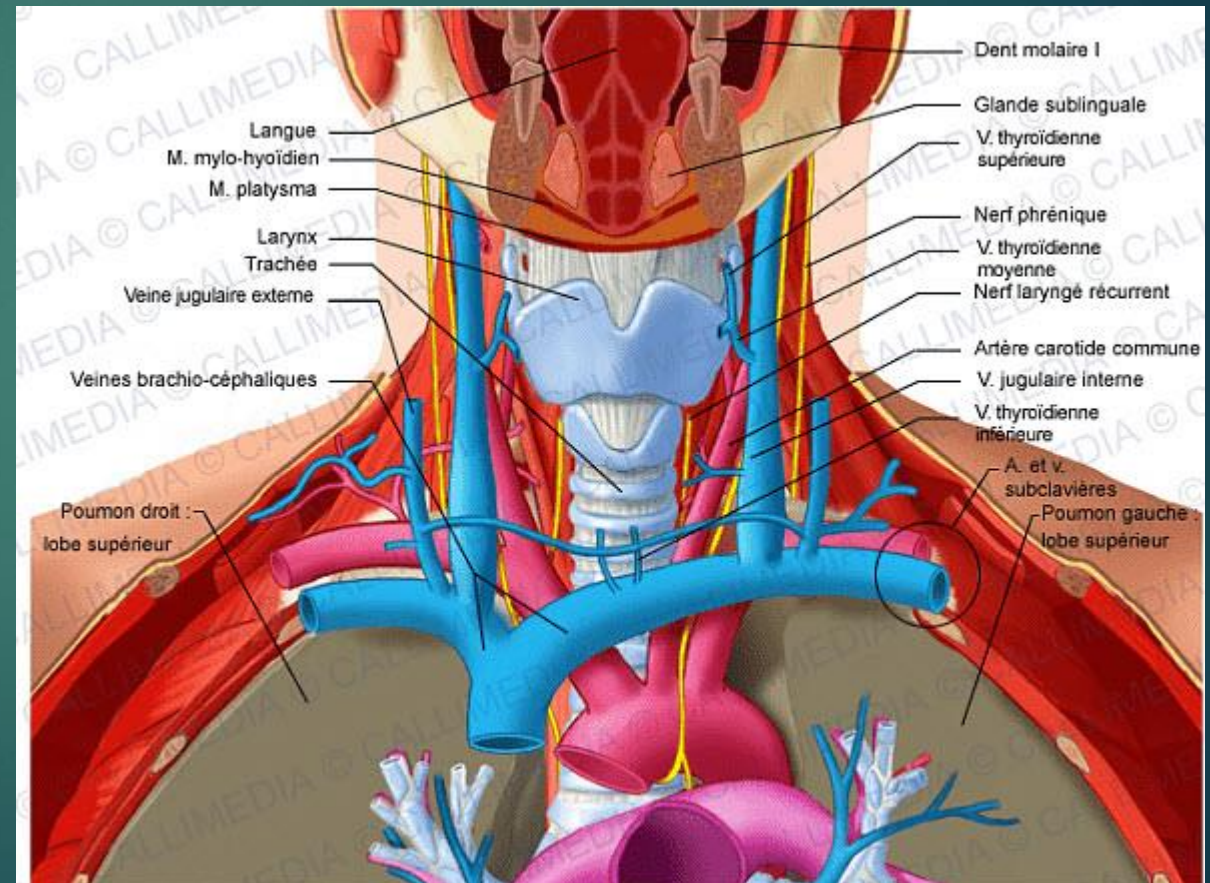
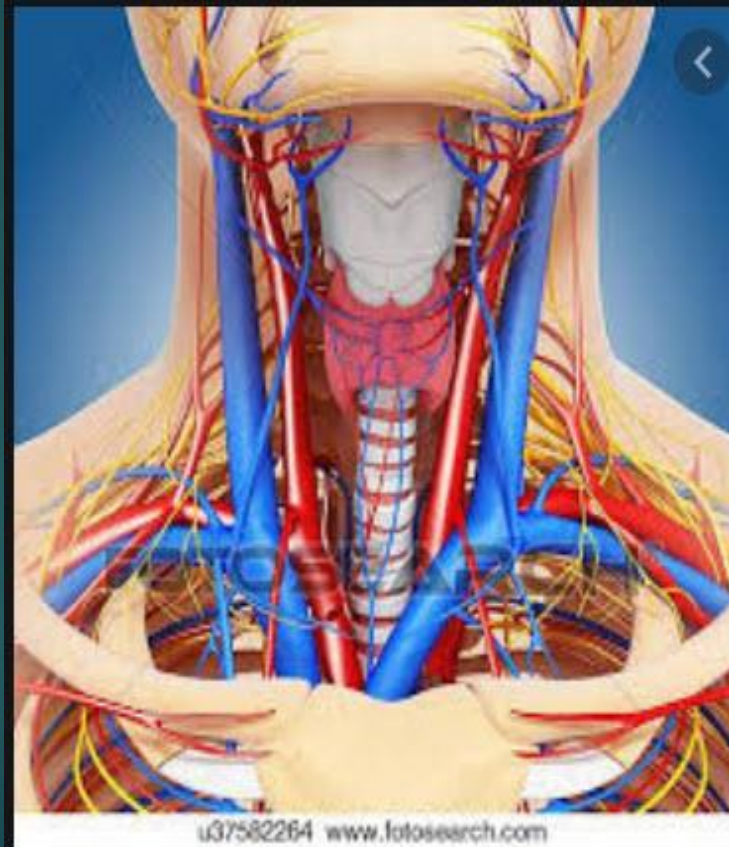
Neck trauma


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GENERAL SURGEON

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ANATOMY:





All blunt trauma patients should be assumed to have cervical spine injuries until proven otherwise.

Due to the devastating consequences of quadriplegia, a diligent evaluation for occult cervical spine injuries is mandatory.

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- ▶ In the **awake patient**, the presence of posterior midline pain or tenderness should provoke a thorough radiologic evaluation
 - ▶ Additionally, **intubated patients**, patients with **distracting injuries**, **significant mechanism**, or **another identified spine fracture** should undergo CT imaging.
 - ▶ **Flexion and extension views** or magnetic resonance imaging (**MRI**) are obtained to further evaluate patients at risk or those with persistent symptoms.

Spinal cord injury

▶ **Partial**

1. Central cord syndrome
2. Anterior cord syndrome
3. Brown-sequard syndrome

▶ **Complete:**

1. Quadriplegia
2. Permanent paraplegia

Management:

- ▶ During the primary survey, identification of injuries to the neck with exsanguination, expanding hematomas, airway obstruction, or aerodigestive injuries is a priority
- ▶ A more subtle injury that may not be identified is a fracture of the larynx due to blunt trauma. Signs and symptoms include hoarseness, subcutaneous emphysema or a palpable fracture

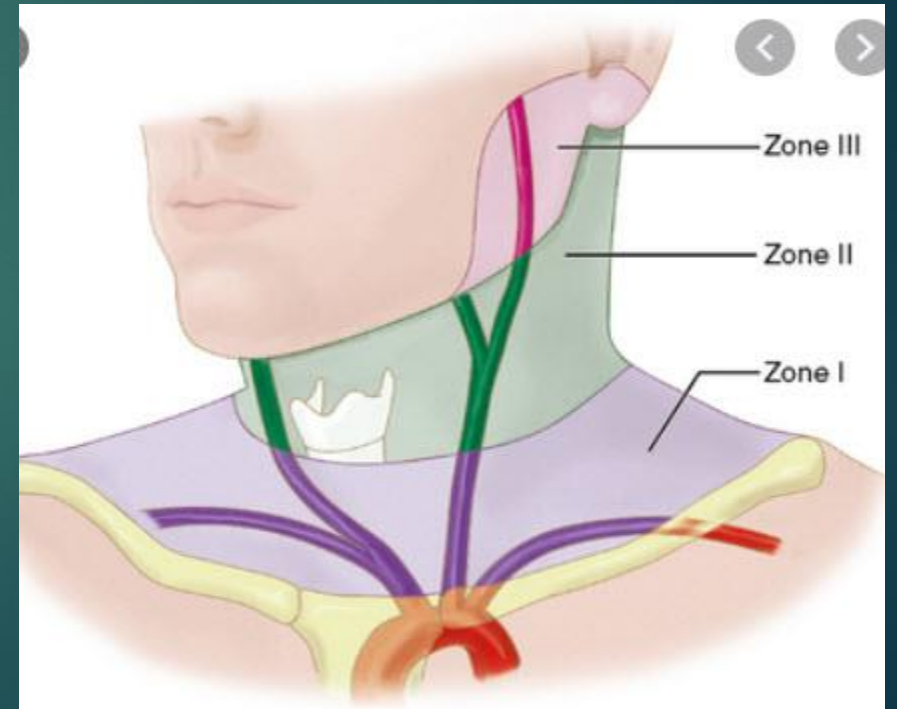


Penetrating injury:

- ▶ **Penetrating injuries** of the anterior neck that **violate the platysma** are potentially life-threatening because of the density of critical structures in this region.
- ▶ Although operative exploration is appropriate for open injuries, selective nonoperative management has been proven safe.

Neck zones

- ▶ **Zone I** is inferior to the clavicles encompassing the thoracic outlet structures
- ▶ **zone II** is between the thoracic outlet and the angle of the mandible
- ▶ **zone III** is above the angle of the mandible.



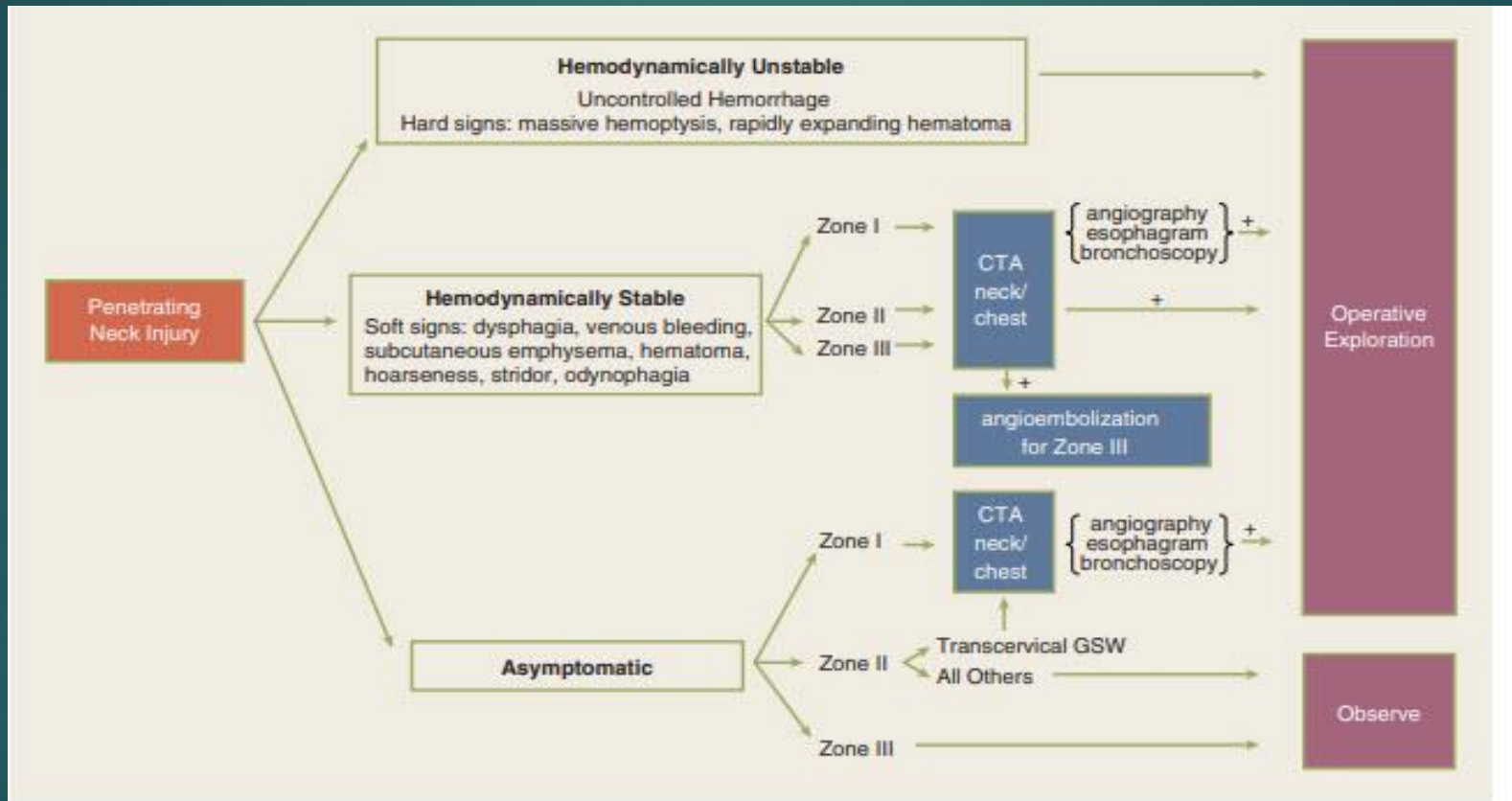



Figure 7-19. Algorithm for the management of penetrating neck injuries. CTA = computed tomographic angiography; GSW = gunshot wound.

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- ▶ Management of patients is further divided into those who are symptomatic and those who are not:
 - ❖ Specific symptoms or signs that should be identified include dysphagia, hoarseness, hematoma, venous bleeding, minor hemoptysis, and subcutaneous emphysema.
 - ❖ Overall, less than 15% of penetrating cervical trauma requires neck exploration.
 - ❖ Asymptomatic patients are typically observed for 6 to 12 hours.

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- ▶ Indications for immediate operative intervention for penetrating cervical injury include hemodynamic instability, significant external hemorrhage, or evidence of aerodigestive injury



- ▶ The one caveat is asymptomatic patients with a transcervical gunshot wound; these patients should undergo CTA to determine the trajectory of the bullet;
- ❖ further studies are performed based on proximity to major structures. Such additional imaging includes angiography, soluble contrast esophagram followed by barium esophagram, esophagoscopy, or bronchoscopy