



# RECOMMENDATIONS for the MEDICAL/RADIOGRAPHIC EVALUATION of the PREGNANT ADULT PATIENT WITH NON-FATAL STRANGULATION

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- GOALS:**
1. Evaluate carotid and vertebral arteries for injuries
  2. Evaluate bony/cartilaginous and soft tissue neck structures
  3. Evaluate brain for anoxic injury
  4. Evaluate/Monitor the fetus

Pregnant Strangulation patient presents to the Emergency Department

Evaluate per institution Trauma Pregnancy Protocol/ OB Consultation

## History of and/or physical exam with ANY of the following:

- **Loss of consciousness** (anoxic brain injury)
- **Visual changes:** "spots", "flashing light", "tunnel vision"
- **Facial, intraoral or conjunctival petechial hemorrhage**
- **Ligature mark or neck contusions**
- **Soft tissue neck injury/swelling of the neck/cartoid tenderness**
- **Incontinence** (bladder and/or bowel from anoxic injury)
- **Neurological signs or symptoms** (LOC, seizures, mental status changes, amnesia, visual changes, cortical blindness, movement disorders, stroke-like symptoms, unilateral headache, and bruit)
- **Dysphonia/Aphonia** (hematoma, laryngeal fracture, soft tissue swelling, recurrent laryngeal nerve injury)
- **Dyspnea** (hematoma, laryngeal fractures, soft tissue swelling, phrenic nerve injury)
- **Subcutaneous emphysema** (tracheal/laryngeal rupture)

## History of and/or physical exam with:

- **No LOC** (anoxic brain injury)
- **No visual changes:** "spots", "flashing light", "tunnel vision"
- **No petechial hemorrhage**
- **No soft tissue trauma to the neck**
- **No dyspnea, dysphonia or odynophagia**
- **No neurological signs or symptoms** (i.e. LOC, seizures, mental status changes, amnesia, visual changes, cortical blindness, movement disorder, stroke-like symptoms)
- **And reliable home monitoring**

**Discharge home with detailed instructions** including a lethality assessment, per institution Trauma Pregnancy Protocol/OB Consultation to return to ED if: neurological signs/symptoms, dyspnea, dysphonia or odynophagia develops or worsens

## Recommended Radiographic Studies to Rule Out Life-Threatening Injuries\* (including rare delayed presentations of up to 2 years)

- **CT Angio of carotid/vertebral arteries** - (**GOLD STANDARD** for evaluation of vessels and bony/cartilaginous structures, less sensitive for soft tissue trauma. **Safe for all stages of pregnancy and/or lactating patients.**) **or**
  - **CT neck with contrast** - (less sensitive than CT Angio for vessels, good for bony/cartilaginous structures. **Safe for all stages of pregnancy and/or lactating patients.**) **or**
  - **MRIs without gadolinium:**
    - **MRA of neck** (less sensitive than CT Angio for vessels) **or**
    - **MRI of neck** (less sensitive than CT Angio for vessels and bony/cartilaginous structures, best study for soft tissue trauma) **or**
    - **MRI/MRA of brain** (most sensitive for anoxic brain injury, stroke symptoms and intercerebral petechial hemorrhage)
- Safe to perform during all trimesters for pregnant and/or lactating patients.**
- **MRIs with gadolinium** (**NOT RECOMMENDED:** Use should be limited to situations in which the benefits clearly outweigh possible risks.)
  - **Carotid Doppler Ultrasound** (**NOT RECOMMENDED:** Least sensitive study, unable to adequately evaluate vertebral arteries or proximal internal carotid.)

\*References on page 2

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Continued ED/ Hospital Observation (based on severity of symptoms, reliable home monitoring, and a lethality assessment discussion)

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- Consult Neurology Neurosurgery/ Trauma Surgery/ OB for admission
- Consider ENT consult for laryngeal trauma with dysphonia



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*(Recommendations based upon expert consensus, case reports, and cited medical literature)*

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