

# RECOMMENDATIONS for the MEDICAL/RADIOGRAPHIC EVALUATION of ACUTE ADULT, 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

## Strangulation patient presents to the Emergency Department

### 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, intra-oral or conjunctival petechial hemorrhage
- Ligature mark or neck contusions
- Soft tissue neck injury/swelling of the neck/carotid 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.)
- 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

Consider administration of one 325mg aspirin if there is any delay in obtaining a radiographic study

### Recommended Radiographic Studies to Rule Out Life-Threatening Injuries\* (including delayed presentations of up to 1 year)

- CT Angio of carotid/vertebral arteries (*GOLD STANDARD* for evaluation of vessels and bony/cartilaginous structures, less sensitive for soft tissue trauma) *or*
- CT neck with contrast (less sensitive than CT Angio for vessels, good for bony/cartilaginous structures) *or*
- MRA of neck (less sensitive than CT Angio for vessels, best for soft tissue trauma) *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 inter-cerebral petechial hemorrhage)
- Carotid Doppler Ultrasound (*NOT RECOMMENDED*: least sensitive study, unable to adequately evaluate vertebral arteries or proximal internal carotid) *\*References on page 2*

Discharge home with detailed instructions, including a lethality assessment, and to return to ED if: neurological signs/symptoms, dyspnea, dysphonia or odynophagia develops or worsens

(-) Continued ED/Hospital Observation (based on severity of symptoms and reliable home monitoring)

- (+)
- Consult Neurology Neurosurgery/Trauma Surgery for admission
  - Consider ENT consult for laryngeal trauma with dysphonia
  - Perform a lethality assessment per institutional policy

# REFERENCES

*(Recommendations based upon case reports, case studies, and cited medical literature)  
Click below for hyperlinks, please note that some sources may require purchase or subscription.*

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This project is supported all or in part by Grant No. 2016-TA-AX-K067 awarded by the Office on Violence Against Women, U.S. Department of Justice. The opinions, findings, conclusions, and recommendations expressed in this publication/program/exhibition are those of the author(s) and do not necessarily reflect the views of the Department of Justice, Office on Violence Against Women.