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)

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

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, 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

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