Strangulation Training Institute

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, 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)
- 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)

Recommended Radiographic Studies to Rule Out Life-Threatening Injuries* (including delayed presentations of up to 6 months)

- 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 intercerebral 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 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

Office of the Police Surgeon, Louisville Metro Police Department

Endorsed by the National Medical Advisory Committee: Bill Smock, MD, Chair; Cathy Baldwin, MD; William Green, MD; Dean Hawley, MD; Ralph Riviello, MD; Heather Rozzi, MD; Steve Stapczynski, MD; Ellen Taltiﬂero, MD; Michael Weaver, MD

Prepared by Bill Smock, MD and Sally Sturgeon, DNP, SANE-A

Histor of and/or physical exam with:

- (*)

References on page 2

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REFERENCES
(Recommendations based upon case reports, case studies, and cited medical literature)

13. Sethi PK, Sethi NK, Torgovnick J, Arsura E, Delayed Left Anterior and Middle Cerebral Artery Hemorrhagic Infarctions After Attempted Strangulation, A case report; Am J Forensic Med Pathol 2012;33:105-106