STRANGULATION PRESENTATION

End Abuse of Long Beach

March 8, 2018

Strangulation regarding domestic abuse is becoming evident is a major issue. It is indicated that one non-fatal strangulation increases the likely of a domestic abuse homicide by 750% (Strangulation Training Institute, 2008).

It has become evident that those who work in the fields of encountering domestic abuse victims, need to be aware of the issue and the consequences of needing to know the signs of strangulations and the questions that should be asked.

When victims of domestic abuse are likely to face strangulation, when 10% of victims experience near-fatal strangulation by an intimate partner, it is incumbent upon all of us to make sure that no victim dies on our watch because we did not recognize the signs or ask the right questions.

Objectives:

1. Participants should walk away with a better understanding of just what is strangulation
2. Be able to know the basic questions that should be asked of victims of abuse about strangulation
3. Understand the signs of strangulation and what those signs can mean to the safety of abuse victims

RECOMMENDATIONS for the MEDICAL/RADIOGRAPHIC EVALUATION of ACUTE ADULT, NON-FATAL STRANGULATION

Prepared by **Bill Smock, MD** and **Sally Sturgeon, DNP, SANE-A**
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 Tailiaferro, MD; Michael Weaver, MD

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 symtoms.)
- **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

(-)

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

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 symtoms)
- And **reliable home monitoring**

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

(+)

- Consult NeurologyNeurosurgery/Trauma Surgery for admission
- Consider ENT consult for laryngeal trauma with dysphonia

Brochure Design by Yesenia Aceves

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STRANGULATION IN INTIMATE PARTNER VIOLENCE FACT SHEET

PREPARED BY:
THE NATIONAL TRAINING INSTITUTE ON STRANGULATION PREVENTION
a program of the NATIONAL FAMILY JUSTICE CENTER ALLIANCE

1in4 women will experience intimate partner violence (IPV) in their lifetime.

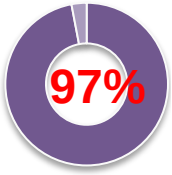
Of women who experience IPV…

10% experience near-fatal strangulation by their partner.

Strangulation: the obstruction of blood vessels and/or airflow in the neck resulting in asphyxia.

Loss of consciousness can occur within 5-10 seconds.

Death within 4-5 minutes.[i]



Are strangled manually (with hands).[i]

are strangled along with sexual assault/abuse.[iv]
9% are also pregnant.[ii]

report losing consciousness.[ii]

of strangled women believed they were going to die.[v]

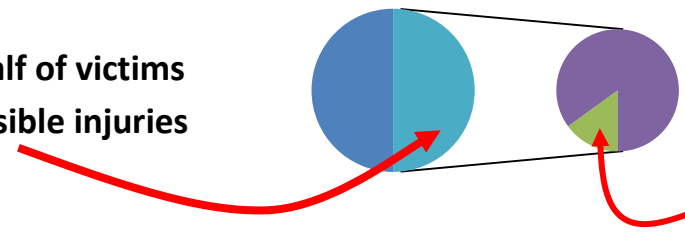
And odds for homicide increase 7x

for victims who have been previously strangled, compared to victims who have never been strangled.[iii]

HOWEVER…

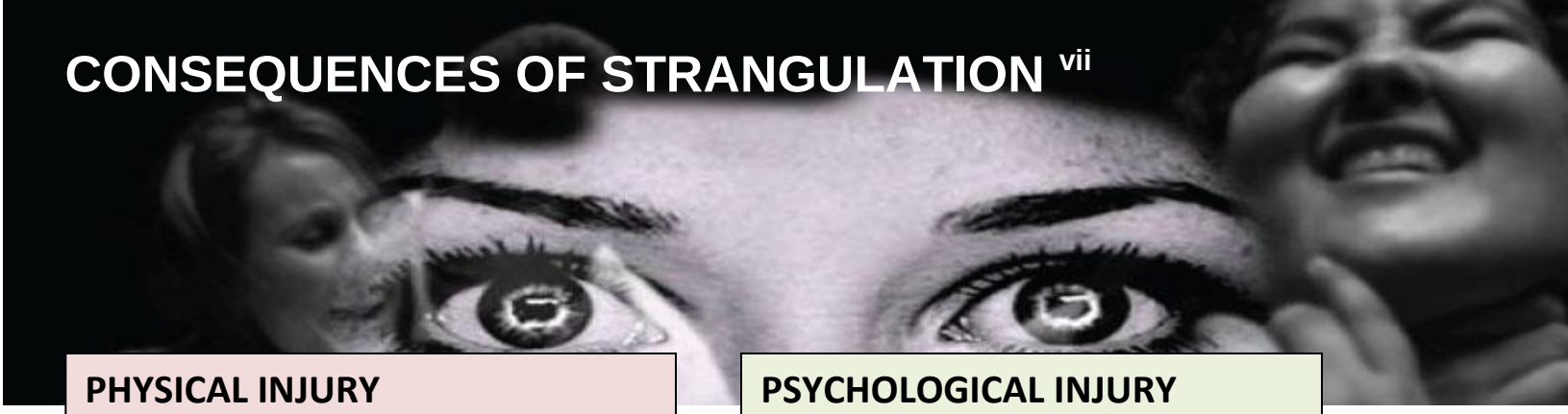
Oftentimes, even in fatal cases, there is no external evidence of injury.[i]

Only half of victims have visible injuries



Of these, only 15% could be photographed

CONSEQUENCES OF STRANGULATION [vii]



PHYSICAL INJURY
death, unconsciousness, fractured trachea/larynx, internal bleeding (*hemorrhage*) and artery damage (*intimal tears*), dizziness, nausea, sore throat, voice changes, throat and lung injuries, swelling of the neck (*edema*),

PSYCHOLOGICAL INJURY
PTSD, depression, suicidal ideation, memory problems, nightmares, anxiety, severe stress reaction, amnesia and psychosis

NEUROLOGICAL INJURY
facial or eyelid droop (*palsies*), left or right side weakness (*hemiplegia*), loss of sensation, loss of memory, paralysis

DELAYED FATALITY
death can occur days or weeks after the attack due to carotid artery dissection and respiratory complications such as pneumonia, ARDS and the risk of blood clots traveling to the brain (*embolization*).

WHERE DO YOU STAND ON STRANGULATION?

FAMILY JUSTICE CENTER ALLIANCE

707 Broadway, Suite 700
San Diego, CA 92101
1-888-511-3522
strangulationtraininginstitute.com

i Strack, G.B., McClane, G.E., & Hawley, D. (2001). A review of 300 attempted strangulation cases: Part I: Criminal Legal Issues. Journal of Emergency Medicine, 21(3), 303-309.
ii Shields et al. (2010). Living victims of strangulation: A 10-year review of cases in a metropolitan community. American Journal of Forensic Medical Pathology, 31, 320-325.
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iv Plattner, T. et al. (2005). Forensic assessment of survived strangulation. 153 Forensic Sci. Int'l 202
v Wilbur, L. et al. (2001). Survey results of women who have been strangulated while in an abusive relationship. 21 J. Emergency Med. 297.
vi Mack, M. States with strangulation legislation. A product of the Training Institute on Strangulation Prevention. www.strangulationtraininginstitute.com
vii Funk, M. & Schuppel, J. (2003). Strangulation injuries. Wisconsin Medical Journal, 102(3), 41-45.

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STRANGULATION
ASSESSMENT CARD

SIGNS

- Red eyes or spots (Petechiae)
- Neck swelling
- Nausea or vomiting
- Unsteady
- Loss or lapse of memory
- Urinated
- Defecated
- Possible loss of consciousness
- Ptosis – droopy eyelid
- Droopy face
- Seizure
- Tongue injury
- Lip injury
- Mental status changes
- Voice changes

SYMPTOMS

- Neck pain
- Jaw pain
- Scalp pain (from hair pulling)
- Sore throat
- Difficulty breathing
- Difficulty swallowing
- Vision changes (spots, tunnel vision, flashing lights)
- Hearing changes
- Light headedness
- Headache
- Weakness or numbness to arms or legs
- Voice changes

CHECKLIST

S **Scene & Safety**. Take in the scene. Make sure you and the victim are safe.

T **Trauma**. The victim is traumatized. Be kind. Ask: what do you remember? See? Feel? Hear? Think?

R **Reassure & Resources**. Reassure the victim that help is available and provide resources.

A **Assess**. Assess the victim for signs and symptoms of strangulation and TBI.

N **Notes**. Document your observations. Put victim statements in quotes.

G **Give**. Give the victim an advisal about delayed consequences.

L **Loss of Consciousness**. Victims may not remember. Lapse of memory? Change in location? Urination? Defecation?

E **Encourage**. Encourage medical attention or transport if life-threatening injuries exist.

TRANSPORT

If the victim is **Pregnant** or has life-threatening injuries which include:

- Difficulty breathing
- Difficulty swallowing
- Petechial hemorrhage
- Vision changes
- Loss of consciousness
- Urinated
- Defecated

DELAYED CONSEQUENCES

Victims may look fine and say they are fine, but just underneath the skin there would be internal injury and/or delayed complications. Internal injury may take a few hours to be appreciated. The victim may develop delayed swelling, hematomas, vocal cord immobility, displaced laryngeal fractures, fractured hyoid bone, airway obstruction, stroke or even delayed death from a carotid dissection, bloodclot, respiratory complications, or anoxic brain damage.

Taliaferro, E., Hawley, D., McClane, G.E. & Strack, G. (2009), Strangulation in Intimate Partner Violence. *Intimate Partner Violence: A Health-Based Perspective.* Oxford University Press, Inc.

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ADVISAL TO PATIENT

- After a strangulation assault, you can experience internal injuries with a delayed onset of symptoms, usually within 72 hours. These internal injuries can be serious or fatal.
- Stay with someone you trust for the first 24 hours and have them monitor your signs and symptoms.
- Seek medical attention or call 911 if you have any of the following symptoms: difficulty breathing, trouble swallowing, swelling to your neck, pain to your throat, hoarseness or voice changes, blurred vision, continuous or severe headaches, seizures, vomiting or persistent cough.
- The cost of your medical care may be covered by your state's victim compensation fund. An advocate can give you more information about this resource.
- The National Domestic Violence Hotline number is **1-888-799-SAFE.**

NOTICE TO MEDICAL PROVIDER

- In patients with a history of a loss of consciousness, loss of bladder or bowel control, vision changes or petechial hemorrhage, medical providers should evaluate the carotid and vertebral arteries, bony/cartilaginous and soft tissue neck structures and the brain for injuries. A list of medical references is available at www.strangulationtraininginstitute.com
- Life-threatening injuries include evidence of petechial hemorrhage, loss of consciousness, urination, defecation and/or visual changes. If your patient exhibits any of the above symptoms, medical/radiographic evaluation is strongly recommended. Radiographic testing should include: a CT angiography of carotid/vertebral arteries (most sensitive and preferred study for vessel evaluation) or CT neck with contrast, or MRA/MRI of neck and brain.
- ED/Hospital observation should be based on severity of symptoms and reliable home monitoring.
- Consult Neurology, Neurosurgery and/or Trauma Surgery for admission.
- Consider an ENT consult for laryngeal trauma with dysphonia, odynophagia, dyspnea.
- Discharge home with detailed instructions to return to ED if neurological signs/symptoms, dyspnea, dysphonia or odynophagia develops or worsens.

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REFERENCES

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

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