



Non-Fatal Strangulation & Suffocation

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Objectives

- Definitions
- Anatomy of the neck
- Sign and symptoms
- Medical complications: short & long term
- Why victims stay
- Trauma Informed care
- Medical forensic exam: The SANE/Forensic Nurse
- Safety planning
- Resources



Disclosure

- I have no conflicts of interest to disclose
- There are some graphic images in my presentation for teaching purposes.
- These images help convey the seriousness of non-fatal strangulation, and also help us to understand why we need to provide culturally competent, trauma informed care.

DEFINITIONS





Asphyxia

- The process of being deprived of oxygen which can result in unconsciousness and death.

Is being choked the same as being
strangled?





Different Types of Asphyxia

- ▶ Strangulation
- ▶ Suffocation
- ▶ Choking

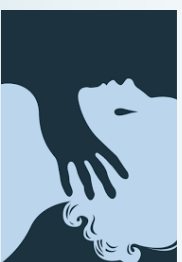
Different Types of Asphyxia Defined

- **Strangulation:**
- Closure of blood vessels and/or air passages of the neck by **external pressure or blunt force trauma**. It is generally done intentionally and is a felony crime in most states.
- **Suffocation:**
- **Covering the mouth and/or nose** with hands, pillow, plastic bag, or sitting on the victim's chest.
- **Choking:**
- **Internal blockage** of the trachea either partially or completely by a foreign object, usually food.



Types of Strangulation

► Manual



► Ligature



► Hanging



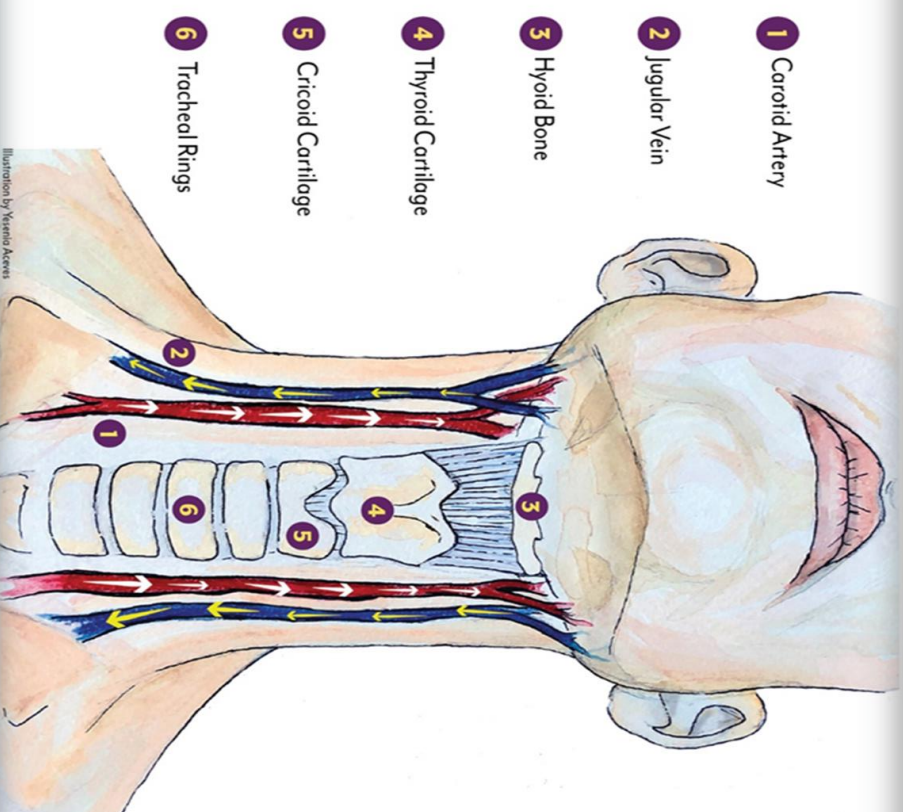
► Positional



Odd question – what form of strangulation is used more in the adult population and why? What about with children?

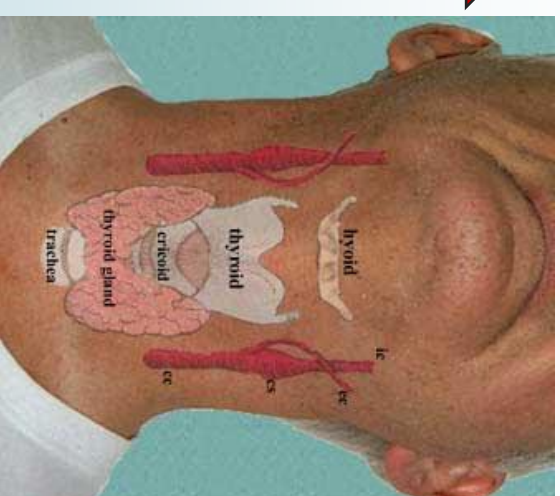


Anatomy of the Neck



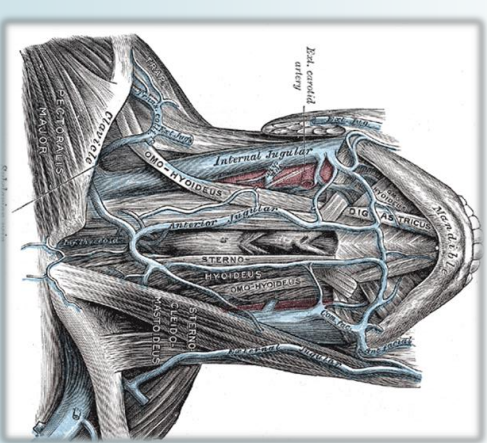
Carotid Arteries

- ▶ Carry oxygenated blood to the structures of the head and neck, including the brain
- ▶ Obstruction results in: impaired blood flow, clotting, brain damage, stroke, loss of consciousness, and / or cardiac arrest (heart attack); can lead to death



Jugular Veins

- ▶ Returns deoxygenated blood from the head to the heart
- ▶ Obstruction results in: depressed (or slower) respirations, increased intracranial pressure, capillary rupture, intracranial hemorrhage, edema (swelling), impaired blood flow to the brain, and / or loss of consciousness, asphyxia – can lead to death



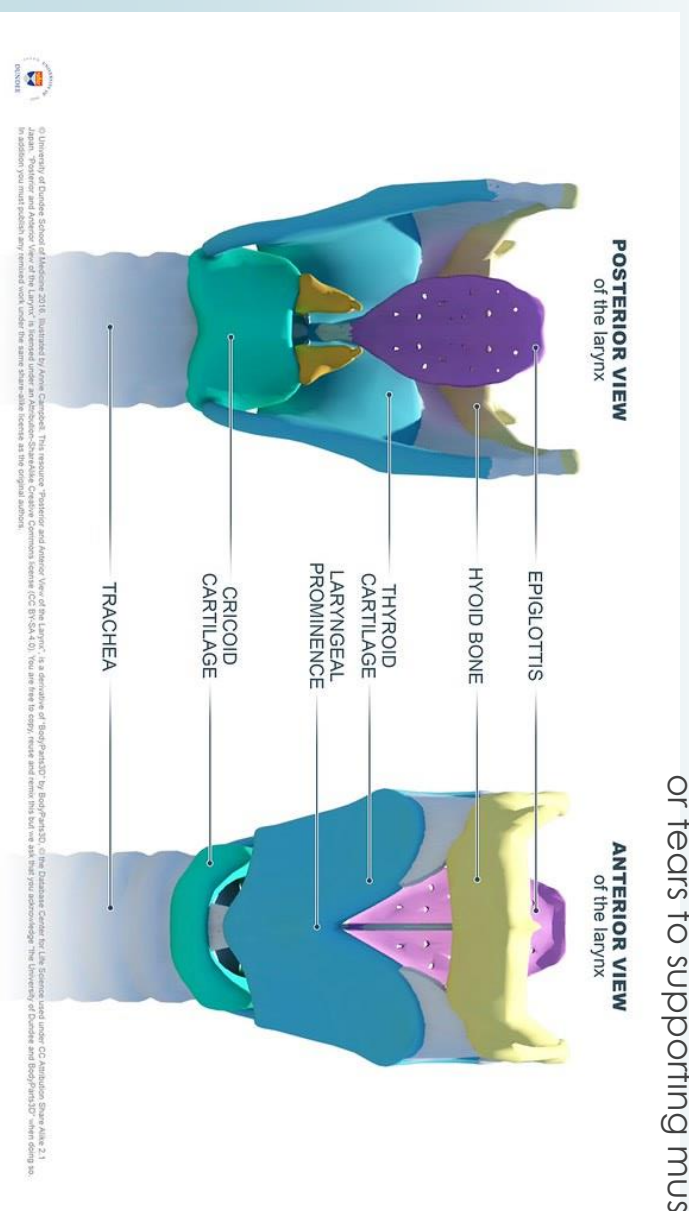
Bony Structures

► Thyroid cartilage

- A wing-like cartilage that protects the trachea and the larynx (voice box)
- Pressure causes: Edema and pressure on internal structures of the neck (can impede or stop airflow)

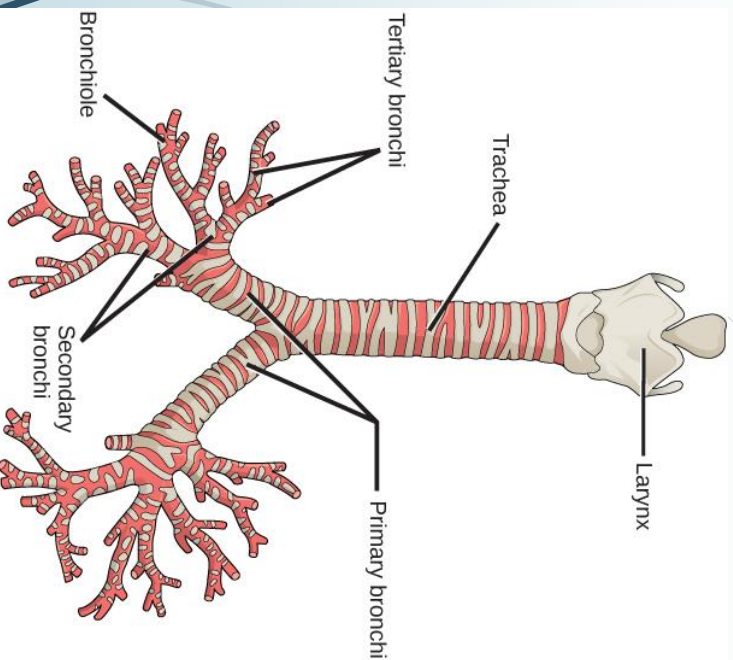
► Hyoid Bone

- The only bone in the human body that does not articulate (connect) with any other bone; Provides attachment for muscles of the floor of the mouth, tongue, larynx, epiglottis, and pharynx
- Pressure causes: Fracture, edema, and / or tears to supporting musculature



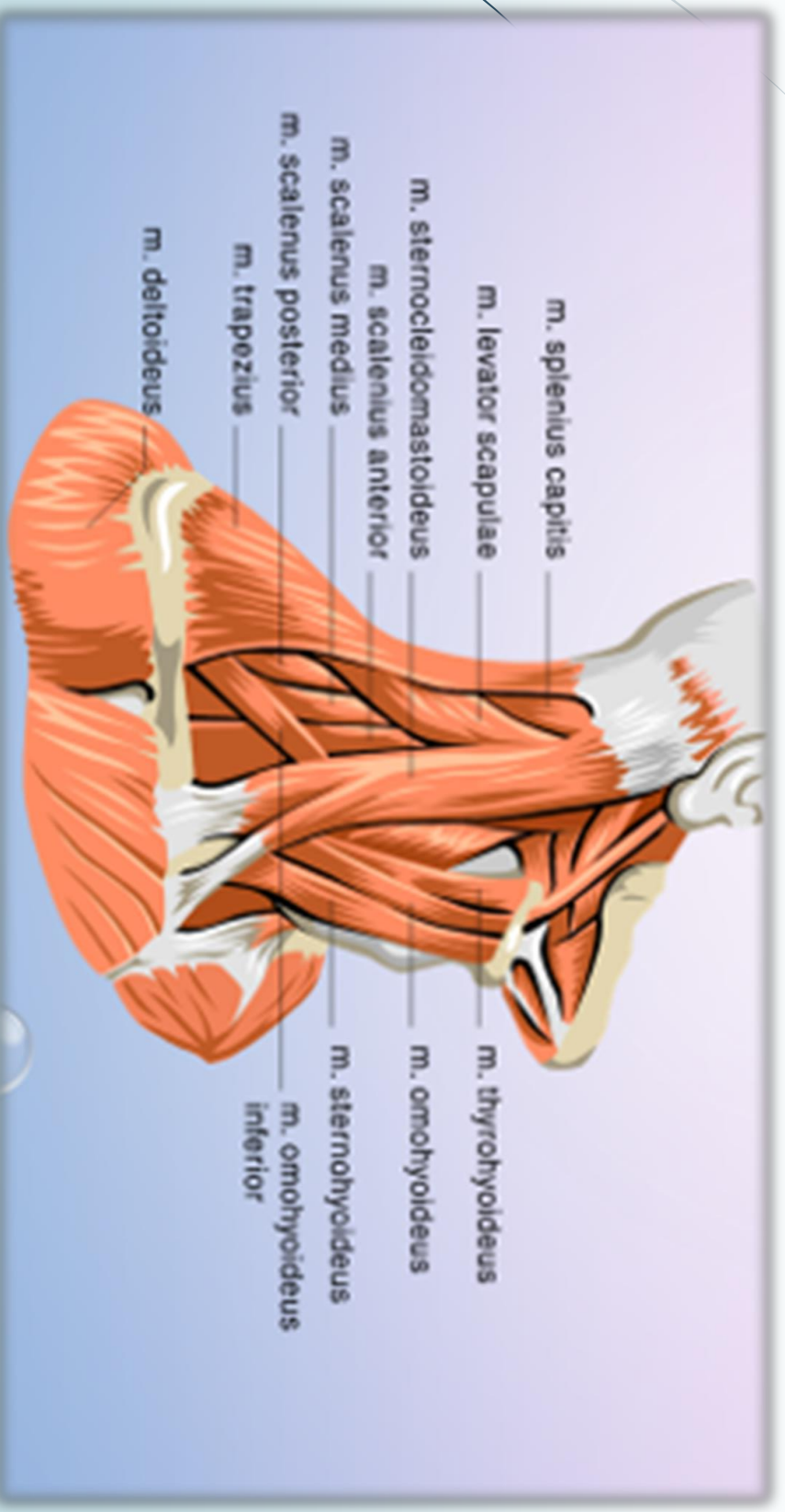
Trachea (aka your airway)

- ▶ Transports air from the nose and mouth to the lungs
- ▶ Pressure causes airway compromise, hypoxia (not enough oxygen to sustain bodily functions), stridor (abnormal high pitched sound; wheezing), voice changes, dysphagia (difficulty swallowing), pneumonia, acute respiratory distress syndrome, and / or death



Muscles

Support & Protect Structures of the Neck







Consequences of Non-Fatal Strangulation

Signs & Symptoms of Non-Fatal Strangulation

- ▶ It is important to know that about 50% of victims of non-fatal strangulation do not have external visible injuries
- ▶ Some injuries seen are self-inflicted, when the victim is fighting for their life trying to pry someone's hands, or a ligature from their neck.



Non-Visible Symptoms of Non-Fatal Strangulation

(Symptoms are what the victim is feeling)

- ▶ Breathing changes (hyperventilation, difficulty breathing)
- ▶ Voice changes (hoarse or raspy)
- ▶ Swallowing changes
- ▶ Vision changes
- ▶ Hearing changes (ringing in the ears)
- ▶ Drooling (sign they can't swallow)
- ▶ Headache
- ▶ Confusion
- ▶ Anxiety
- ▶ Dizziness
- ▶ Memory loss
- ▶ Can't feel their arms or legs
- ▶ Suicidal ideation
- ▶ Fainting or unconsciousness
- ▶ Altered mental state
- ▶ Shaking
- ▶ Short & long-term brain injury

Visible Signs of Non-Fatal Strangulation

(What we can see)

- Vomiting
- Seizure
- Abrasions / fingernail scratches on neck or chin
- Bruises (ecchymosis) on the neck or chin
- Ligation marks
- Redness (erythema) on neck
- Neck swelling
- Bite marks
- Ptosis (droopy eyelid) &/or droopy face
- Massive tongue swelling
- Coughing up blood
- Loss of bodily functions
- Miscarriage (usually after the incident)
- Petechiae or petechial hemorrhage to eyes or skin
- Bloody red eyes
- Psychiatric / behavioral symptoms





Long Term Health Consequences

- Cervical spine injury
- Carotid artery dissection (delayed death or stroke) can occur months later
- Traumatic brain injury – difficulty concentrating, retaining information, altered mental status, permanent changes in mentation
- Acute respiratory distress syndrome / pneumonia (lung damage or not taking deep breaths due to pain
- PTSD / Nightmares
- Suicide
- *The impact of non-fatal strangulation is cumulative. Approx 75% of strangulation victims are repeatedly strangled!

Typical Pounds of Pressure

- Handgun trigger pull: 6 psi (pounds per square inch)
- Opening of soda can: 20 psi
- Adult male hand shake: 80-180 psi

Source: Dr. Bill Smock, Louisville Metro Police Department

How many pounds of pressure does it take to render an adult male unconscious?

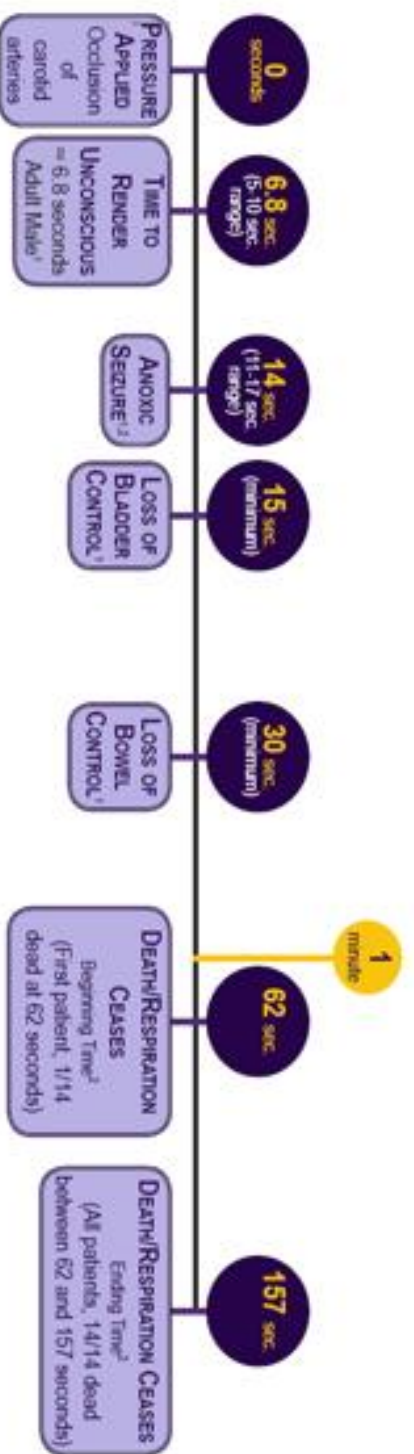
Pounds of Pressure

- **CAROTID ARTERY OCCLUSION**
- Anterior neck
 - DEEPER
- 11 PSI for >6.8 seconds
- JUGULAR VEIN OCCLUSION
- LATERAL neck
 - more SUPERFICIAL
- 4.4 PSI for >6.8 seconds



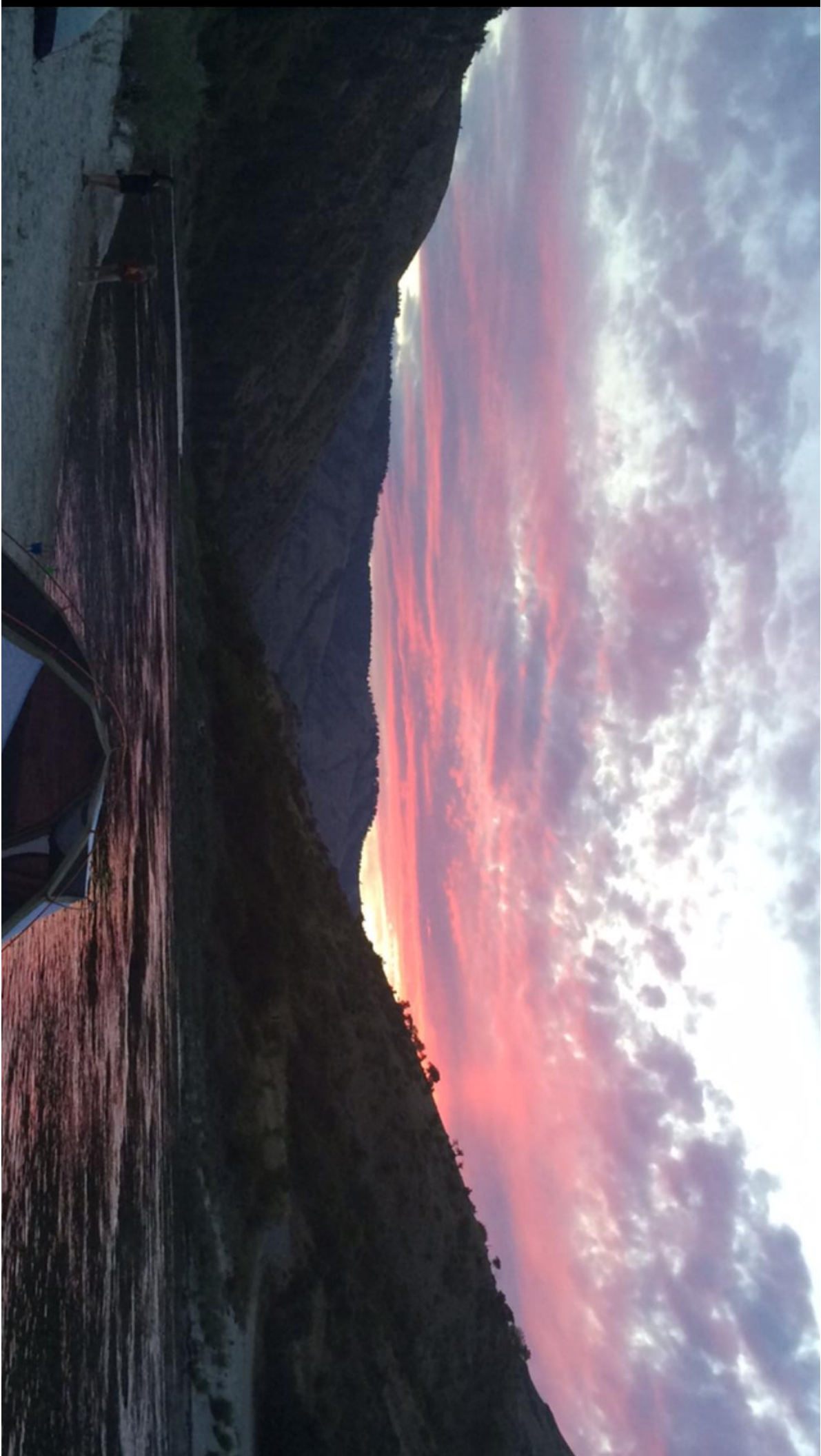
https://www.youtube.com/watch?v=5ZHe_ZRlI8A

Timing



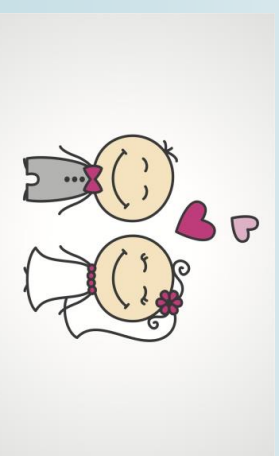
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- 2 Arny Sauvageau, MD, MSc, Romano LufHarpe, MD, David King, MD, Graeme Dowling, MD, Sam Andrews, MD, Sean Kelly, MD, Corinne Ambrosi, MD, Jean-Pierre Guay, PhD, and Vernon J. Gebeth, MS, MFS for the Working Group on Human Asphyxia, Forensic Med Pathol 2011;32: 104 – 107.
- 3 Training Institute on Strangulation Prevention: strangulationtraininginstitute.com



Why do they stay?

- What are your thoughts on this?



Why do victims stay?



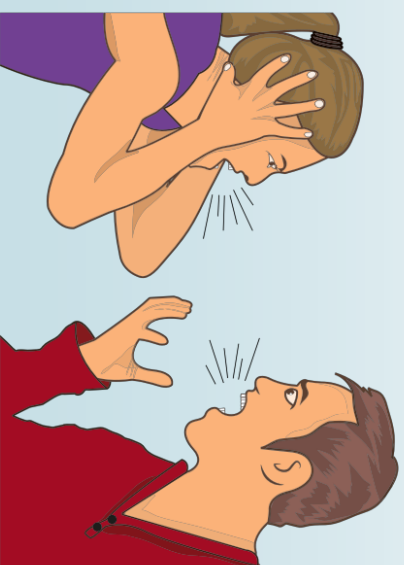
Why Victims Stay

- ▶ Children
- ▶ Religion/culture
- ▶ No Job
- ▶ Denial
- ▶ Guilt
- ▶ No place to go
- ▶ Caretaker Role
- ▶ No support
- ▶ Lack of resources and information



Why Victims Stay

- ▶ Victims are told the abuse is their fault and they believe it
- ▶ Victims have been isolated from family and friends (Feel alone, and like they have no support)
- ▶ Constant criticism and blame lowers victim's self-esteem
- ▶ Fear of retaliation for themselves or loved ones
- ▶ No source of income
- ▶ Lack of HOPE that there will be justice in the court system
- ▶ Belief that their partner will change



THE #1 REASON A VICTIM STAYS:

FEAR

- MOST SERIOUS INJURIES AND HOMICIDES OCCUR WHEN A VICTIM LEAVES OR IS PREPARING TO LEAVE; NOT WHEN SHE/HE STAYS



Important to Know!

- ▶ Power and control and manipulation are like heroin – the perpetrator can't stop
- ▶ The greatest risk of violence is when the victim leaves, or tries to leave – the perpetrator has lost his power and control
- ▶ THIS IS WHY A SAFETY PLAN AND A SUPPORT SYSTEM ARE SO IMPORTANT



Power and Control...

- ▶ “Women who are strangled one time are **750% more likely** to be killed at the hands of that perpetrator”

-Training Institute on Strangulation Prevention



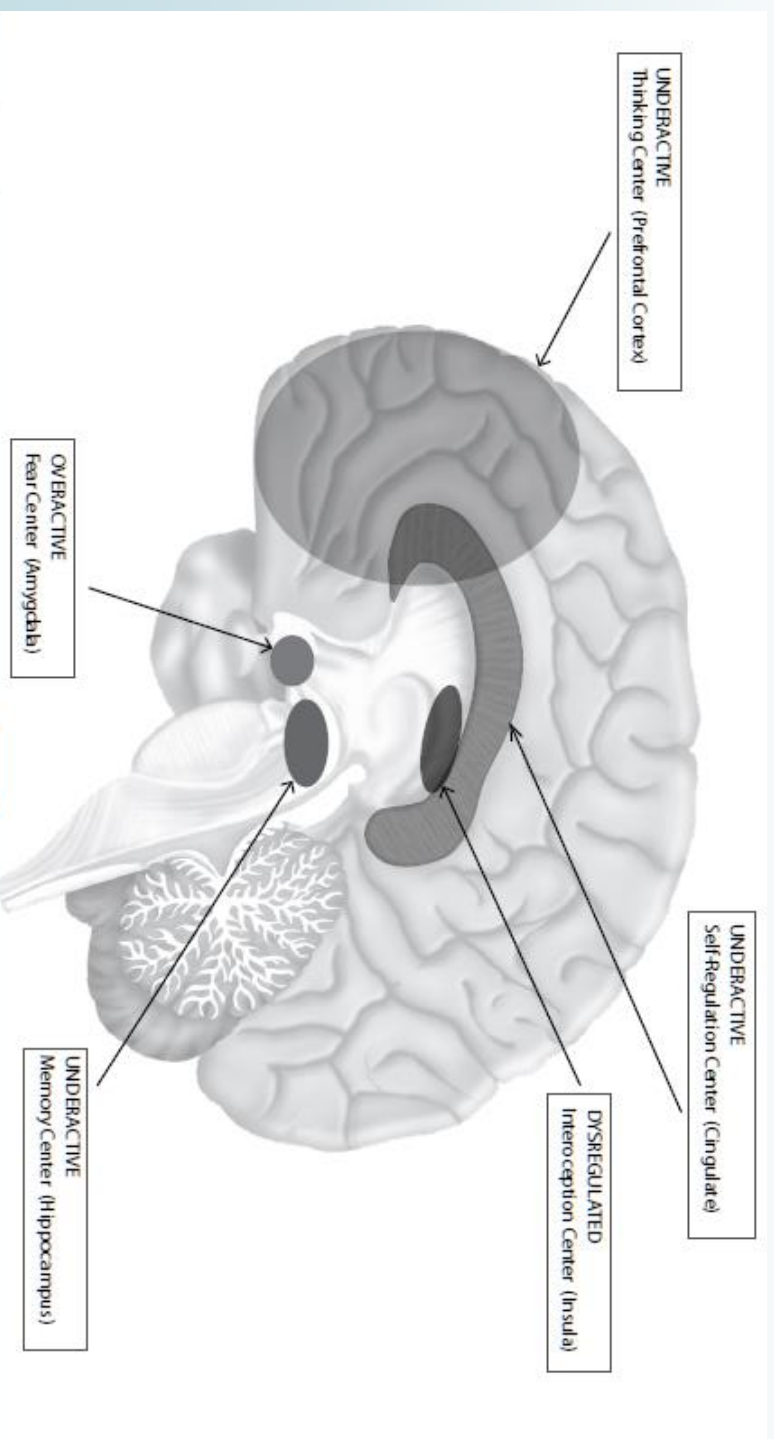
Sobering Statistics

- ~65% of DV victims are also sexually assaulted
- It has been estimated that strangulation accounts for up to 10% of violent deaths in the United States
- Strangulation has been identified as one of the most lethal forms of DV and sexual violence
- Strangulation is an ultimate form of power and control as the batterer demonstrates his command over the victim's next breath

Effects of Trauma

- ➡ Trauma physical changes the brain due to:
- ➡ Engagement of the limbic system, defense system, & stress response. This is a protective reaction!
 - ➡ Release of chemicals
 - ➡ Which causes: Fragmented memory (memory is stored differently)
 - ➡ We have no control over how the body and brain respond to trauma.

Your Brain on Trauma



CONTINUUM OF VIOLENCE:

• PUSH → SLAP → PUNCH → KICKS →

THROW OBJECTS



THREATS
WEAPONS
STRANGLE



HOMICIDE



Abusers Gain Control Through:

- Criticism
- Money
- Decision Making
- Children
- Verbal Threats
- Physical Threats
- Isolation
- Mind Games
- Jealousy
- Blame
- Intimidation
- Sex
- Physical Assault

The Fear Factor: Strangulation is about Power & Control

Power & Control Wheel



Trauma Informed

- ▶ It is very important to not blame the victim for staying
 - ▶ Provide them with support
 - ▶ Provide them with knowledge and resources "We have many people and resources here to help you"
 - ▶ Validate "realness"
 - ▶ "I am so sorry you have been hurt"
 - ▶ "No one deserves to be treated this way"
 - ▶ "You must have been so afraid"
 - ▶ "I am so glad you came here today"
- Confirm concern for the patient's well being
"I am afraid for you and your children"
- Understand they won't likely leave



Intervention

- ▶ Help Victim
 - ▶ Recognize ambivalence
 - ▶ Understand the dangers
 - ▶ Clarify feelings
 - ▶ Identify alternatives
 - ▶ Utilize support systems
 - ▶ Plan for the future
 - ▶ Safety planning

AVOID!!!

- ▶ Don't ask:
 - ▶ Why do you allow this?
 - ▶ Why don't you leave?
 - ▶ What were you doing to make him/her so angry?
 - ▶ Why did you go back?
- ▶ Remember the effects of trauma; victim is always on high alert – constant stress / trauma physically changes the brain





What is a SANE/Forensic Nurse?

- ▶ A Sexual Assault Nurse Examiner, or a Forensic Nurse is an RN who has been specially trained to care for victims of trauma / violence.
- ▶ They have knowledge of the neurobiology of trauma, and provide trauma informed care.
- ▶ In order to become a forensic nurse, an RN must complete a 40 hour didactic course and be signed off on a preceptorship to do medical forensic exams. This process must be done for the adult/adolescent population, and again for pediatrics.
- ▶ In order to become certified, the Forensic Nurse Examiner must complete 300 hours of practice (for adult/adolescent and again for pediatric) to sit for the exam. Once they have passed one or both exams, they can use the credentials SANE-A and/or SANE-P.

Why victims need a medical exam

Our SANE Team is specifically trained to identify and document injuries caused by trauma. (Sexual assault, strangulation, abuse, neglect, trafficking...)

And remember, only 50% of strangulation victims have visible signs that anything happened. You may miss subtle signs of attempted murder.

Victims think they are fine!! They don't understand the lethality and consequences of strangulation.

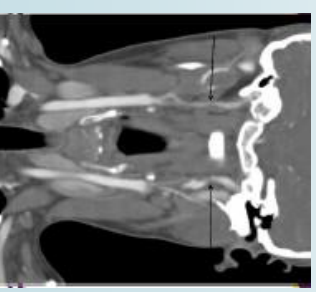
- remember bruises or marks may not show up for 24 hours!!

Medical Exam

We need to understand the medical consequences that can occur with strangulations so we can **EDUCATE** our victims on the importance of a full medical evaluation.

The lack of visible findings or minimal injuries does not exclude a potentially life threatening condition

Bilateral carotid artery
dissections identified 6 days
post assault – NO symptoms



SANE Medical Forensic Exam



- ▶ 7 On-call nurses + SANE Coordinator + Medical Director
- ▶ *The ideal SANE exam would be performed at the Family Advocacy Center in Sacaton*
- ▶ SANE exam can be completed before ED exam if patient is stable with no signs of distress. ANY signs of distress patient needs to go to ED first!
- ▶ SANE will ensure vital signs are stable, monitor O₂, LOC throughout the exam. Patient may be transported to higher level of care if necessary.
- ▶ We can also go to any hospital to complete any kind of medical forensic exam
- ▶ Patient may become uncooperative later in the investigation. Detailed SANE exam can still be used in court!:



SANE Medical Forensic Exam

- ▶ Very detailed head to toe assessment
- ▶ We assess symptoms that were felt **DURING** the strangulation event, **IMMEDIATELY AFTER** the assault as well as **CURRENT** symptoms (extremely important for exams > 24 hours after strangulation)
- ▶ Physical Exam and documentation / photo documentation of all injuries



SANE Medical Forensic Exam Follow Up

- ▶ We encourage follow up exam(s) and photographs
- ▶ **Time frame: 72 hours – 14 days after strangulation event**
 - ▶ To ensure injuries have resolved, and to identify the need for additional referrals to specialists if needed
 - ▶ Behavioral health, counseling, safety planning
 - ▶ Ear, nose, and throat f/u (difficulty or painful swallowing, ringing in ears, etc.)
 - ▶ Neurology f/u (memory loss, confusion,

Safety Planning

- As a SANE we provide a safety plan for all of our DV/strangulation patients.
- Individualized safety plan includes information such as:
 - Safety during a violent incident
 - Safety when preparing to leave
 - Safety in my own home
 - Safety with a protective order
 - Safety on the job and in public
 - Safety and drug / alcohol consumption
 - Safety and emotional health

We always try to empower the victim/our patient

- I can use positive self-talk to help me feel stronger. (e.g. **I AM GAINING CONFIDENCE EVERY DAY. I AM WORTHY OF SUPPORT, KINDNESS AND LOVE.**)



Online Resources

- ▶ <https://www.strangulationtraininginstitute.com/>
- ▶ <https://www.thehotline.org/>
- ▶ <https://www.nsvrc.org/sarts/toolkit/5-8>
- ▶ <https://www.familyjusticecenter.org/the-law-and-you-strangulation-always-serious/>

Questions?



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