Strangulation and Suffocation

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Dr. Dean Hawley
Candace Heisler

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Strangulation and Suffocation

- Strangulation and suffocation remarkably frequent
- 1 in 9 violent deaths
- Often overlooked because signs and symptoms subtle
- Common in domestic violence and family violence contexts
- Lethality marker
- Occurs across lifespan
Definition

• Strangulation is a form of asphyxia characterized by closure of the blood vessels and air passages of the neck as a result of external pressure on the neck
Anatomy 101

HYOID BONE

CAROTID ARTERY

JUGULAR VEIN

THYROID CARTILAGE (with fracture shown)

TRACHEAL RINGS

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Suffocation

• Covering the mouth and/or nose with:
  – Hands
  – Pillow
  – Plastic bag

• Sitting on the victim’s chest
Elder Strangulation

• Often an outcome of history of domestic and family violence
• Relationship to financial control
  – Part of control of money, denial of meds, treatment, neglect
• Natural disease processes increase risk of death
  – Disease states
  – Medications such as blood thinners
Arrests and Arraignments Involving Strangulation Offenses from Nov. 11, 2010 – Feb. 22, 2011
by Stacey Bederka

• 2,003 arrest events between Nov. 11, 2010 and Feb. 22, 2011 in New York in which
• A suspect was charged with strangulation either at the time of arrest or arraignment.
  – 7.8% involved suspects 50 and older
• Study of impact of new strangulation law in New York
  – Source: New York State Division of Criminal Justice Services, Office of Justice Research and Performance, April 2011
Forms

- Manual

- Ligature
Ligatures

• Examples: flexible cord, rope, electrical extension cord, telephone receiver cord, bra strap or bikini top

• When wrapped around the neck increase potential for lethal
  – Surface area for application of force is reduced More compression of the neck tissue for amount of applied force.
Injury During Strangulation Assault

- External signs of strangulation are **absent** in over half of all victims, even when examined by skilled medical personnel alerted to the possibility of strangulation injury.

- **Death can occur without any external marks at all.**
First Responders

• SD Study of 300 Non Fatal Strangulation Cases (1995)
  – 42 % - No visible injury
  – 20 % - Pain only
  – 22 % - Minor visible injury
    • Redness and/or scratches
  – 16 % - Visible injury
    • Red marks and/or bruising
Suffocation Signs and Symptoms

• Skin abrasions (scratch marks, fingernail marks) and tiny red spots (petechiae) just over the face in strangulation, or generalized in the skin in suffocation

• Abrasions over nostrils

• Lip incised abrasions where lips are pushed against teeth
Strangulation Signs and Symptoms

- Red linear ligature marks or bruising
- Neck pain
- Sore throat
- Loss of control of bodily functions
Injury in Suffocation

• Many cases will have no injury.
• If the victim is impaired by severe natural disease, or intoxicated, or physically restrained, then suffocation may leave no physical marks.
• If there are no teeth, then the telltale lip injuries are not likely.
• Suffocation done with a medical device, like obstruction of an endotracheal tube or turning off a ventilator leaves no findings.
The Medical Process

• Temporary obstruction of the carotid arteries, or the jugular veins (strangulation), or the airway (suffocation)
• Produces ASPHYXIATION -- an interruption of oxygenation
Asphyxiation

• If asphyxiation persists for long enough, the victim becomes unconscious, and then dies

• The rate of development of asphyxiation depends primarily on the circulation of blood through the brain;

• To a much lesser extent it depends on the victim’s ability to breathe through the airway –
  – Airway obstruction is rarely a factor in fatal strangulation assaults
“Point Of No Return”

• Asphyxiation becomes irreversible,
• Spontaneous breathing will not resume unless cardiopulmonary resuscitation and mechanical external life support measures are started
  – After about 4 minutes of sustained bilateral jugular compression
  – Can happen faster with carotid obstruction, and has occurred as quickly as 15 seconds into a carotid compression “choke hold.”
Asphyxia Leads To:
Anoxic Encephalopathy

• A form of irreversible--frequently fatal--brain damage caused by obstructing the delivery of oxygen to the brain.
• Known as “brain death”.

Force Required

- The amount of force or pressure required to sustain complete compression of both jugular veins varies tremendously from one victim to the next, so that a discussion of foot-pounds of force or joules of required energy is not relevant.

- A large muscled athletic person is, of course, more difficult to strangle than a weak, impaired, frail elder.
Petechiae

• May be occasionally observed in living people
• More often a finding on dead bodies, observed at autopsy
• If caused by strangulation or suffocation, associated with a near-fatal experience
• Petechia, alone, in the absence of other signs like internal injuries of the larynx or ligature marks on the neck, are not sufficient to prove strangulation as the cause of death.

• The case is stronger when petechiae are accompanied by a history of stridor, dysphonia or dysphagia.
STRANGULATION AND SUFFOCATION

• With complete and sustained obstruction of both jugular veins:
  – 20-30 seconds causes petechiae above the point of constriction
  – 2 minutes to full unconsciousness
  – another 2 minutes of sustained unconsciousness until death

• With complete obstruction of the mouth and nose by suffocation, same approximate time interval, but petechiae become generalized throughout the body, rather than just isolated to the head.

Times are approximate. The presence of certain predisposing conditions can accelerate the process of irreversible asphyxiation -- the duration of sustained compression required to reach the “point of no return.”
The Absence of Petechiae

• Stroke (cerebral cortical infarct) as a late sequella of strangulation:
  
• If the strangulation results in obstruction of Carotid Artery
  • No petechiae
  • Blunt force injury within the artery to prove strangulation
Strangulation is a Lethality Indicator

• Strangulation is more commonly a cause of death for women than men across the life span
  – Age 65 and older
    • Men 7.0%
    • Women 33%

• Studies of women who were victims of intimate partner strangulation homicide and attempted homicide range from 24% to 62%
  – See Glass, Laughon, Campbell, Block, Hanson, Sharps & Taliaferro (2008)
Strangulation is a Lethality Indicator

• San Diego study found 56% of strangulation victims experienced more than one strangulation event
• A study of 506 domestic violence homicides and attempted homicides found rates of strangulation of
  – Homicides 45%
  – Attempted homicides 43%
• Prior attempted strangulation increased odds of strangulation homicide by more than 6 times (Glass et al, 2008)
Strangulation is a Lethality Marker

- Lethality markers that multiply the odds of homicide five times or more over nonfatal abuse include: (a) threats to kill, 14.9 times more likely; (b) prior attempts to strangle, 9.9 times; (c) forced sex, 7.6 times; (d) escalating physical violence severity over time, 5.2 times; and (e) partner control over the victim’s daily activities, 5.1 times more likely.
States Enacting Laws re Strangulation/Suffocation (Partial)

- Alaska
- Connecticut
- Florida
- Hawaii
- Idaho
- Illinois
- Indiana
- Louisiana
- Maryland
- Missouri
- Michigan
- Minnesota
- Nebraska
- North Carolina
- Oklahoma
- Texas
- Virginia
- Washington
- West Virginia
- Wisconsin
Conducting the Investigation

With Thanks to Gael Strack, Family Justice Alliance and Det. Mike Agnew

See “Resources,” at www.NFJCA.org
Corroboration

• Anything brought to scene or moved from one location within the scene to where the strangulation occurred

• Document what you see and hear

• Immediate medical
Use Follow-up Questions

• To help identify the type of assault
  – Simple assault
  – Using the neck as a handle
  – Aggravated assault
  – Attempted homicide
How- mechanics
What they saw- visual changes
How they felt
What they were thinking about
What stopped the perpetrator
Does their voice sound different
What’s different now (swallowing, mental status)
Pain anywhere
Bruises anywhere
How – Mechanics

• How long did the suspect hold your throat?
  – Close your eyes and tell me when you think it ended

• Was there shaking involved?

• Did the strangling stop and start up again?
Ask and Document

• How long?
  – To avoid: “he grabbed me briefly”
  – Ask the victim to close their eyes and tell you “when” to indicate how long the suspect applied pressure to her neck. Monitor the actual time.

• How hard, on a scale from 1 to 10 with 10 being the hardest, was the pressure?
  – “it must have been 9, otherwise I would be dead right now.”
How Painful?

- Use the scale below to better estimate the level of the pain you are experiencing:
How Painful – Chart?

- Use this chart to help you describe your particular level of pain to your healthcare provider. My pain is:
  - __ Throbbing
  - __ Stabbing
  - __ Dull
  - __ Aching
  - __ Pinching
  - __ Steady
  - __ Localized
  - __ Pervasive
  - __ Chronic (persistent)
  - __ Acute (in the moment)
  - __ Other:
    (describe)______________________________________________________________

What feels different now than before you were strangled?

- Is your **breathing** any different now? Describe
- What does it feel like when you **swallow**? Describe
- What happened to you after they let go of you?
  - Was there any **coughing**?
  - Was there any **vomiting**?
  - People who are strangled sometimes lose control of their **bodily functions**. Did anything happen to you?
Video Clips

• Many digital cameras also have video capability.

• Good way to document voice changes, difficulty swallowing and/or drooling.

• Expressions of pain.
Did anyone Have Jewelry?

- The Victim?
- The Suspect?
- Still on the victim? Suspect?
- Broken?
- Where was it located?
- Was it found and seized?
- Photographed?
Manual Strangulation

- Ask victim to demonstrate (not on self) how strangled
- Look for injuries at those pressure points.
  - Take photos of injuries or lack of injuries
- Be aware demo may traumatize victim and cause him or her to relive experience
Look for injuries consistent with the method of strangulation

- Carotid restraint: shoulders
- One hand, C-clamp: neck
- Two hands: neck, chest, behind the ear, jaw
- Ligature
Ligature strangulation

• Any object(s) used?
  – Photograph & Impound.

• How did the object get there?
  – To prove intent
Someone Needs to Look Under Clothing

• Injuries can be at different locations:
  – Chest
  – Shoulder
  – Back of the neck
  – Breasts
If Victim Reports Any Symptoms, **Immediate** Medical Response

- Any trouble breathing?
- Any trouble swallowing?
- Any pain or tenderness?
How Did You Feel?

- “fuzzy,” “dizzy”
- “head rush”
- “I saw stars.”
- “I saw black and white.”
- “I couldn’t breathe”
- “I passed out”
- “I vomited several times”
- “I had trouble swallowing”
- “I felt like my head was going to explode”
- “I felt a rush of blood to my head”
Any voice changes?

• Tape record or videotape your interview with the victim
• Listen to 911 tape
• Document symptoms such as voice changes and/or swallowing changes
Follow-up Call to Victim

• Call the victim a few days later to document symptoms
  – Voice changes
  – Trouble swallowing,
  – Difficulty eating
  – Difficulty sleeping
  – Headaches
Symptom Questions

• Did you urinate?
• Did you vomit?
• Did you defecate?
Questions

• What were you wearing at the time of the incident?
• Have you changed your clothes?
• Thrown them away?
• Put them in the washing machine?
• Put them in laundry basket?
• Where are they now?

• Normalize the conduct
• Sometimes victims who have been strangled report they have urinated or defecated. Did that happen to you?
• I have worked with many victims who have been strangled. I have learned that it is common for them to urinate or defecate during the incident? Did that happen to you?
Did the victim suffer a possible concussion?  www.cdc.gov

• A blow or jolt to the head can cause a type of mild brain injury called a concussion.
• Sometimes whiplash can cause a concussion.
• The signs can be subtle and missed.
What Did The Suspect Say?

• “I’m going to kill you, you fucking bitch”
• “Die Bitch die”
• “No judge, no cop, no attorney will keep you safe”
• “I’m going to pop your neck”
• “I didn’t mean to squeeze so tight”
• “I don’t need a fucking gun to kill you”
What Did You See?

• “I saw anger, madness and hatred in his eyes.”
• “He had the eyes of a demon. They were full of hate. He was my husband.”
• “He seemed possessed”
What Did You Think Was Going To Happen?

• “I thought I was going to die.”
• “I was afraid he would kill me. He wouldn’t mean to kill me, but it was getting worse, he wouldn’t know when to stop.”
• “I began saying “Hail Mary’s” ... I thought I was going to be seeing my mother who died two weeks ago”
How Did It End?

– I escaped.
– I passed out
– My kids started screaming.
– Police arrived.

• What did you say?
  – I can’t breathe.
  – Let me go.
  – Stop, you’re killing me.
Any swelling or lumps to neck?

• Look for neck swelling or lumps especially if victim reported multiple attacks or prior strangulation assaults.
• Ask victim to look in the mirror.
• Ask victim if her neck looks swollen?
• Ask victim to gently feel her neck and if there are any lumps that were not there before?
• If so, call paramedics immediately and insist on medical attention immediately. Do not ask.
If Victim is Able

• Ask victim to keep a log
With Victim Consent, Take Plenty of Photographs

• Victim:
  – Full body
  – Close up of face
  – Neck
  – Eyes
  – Shoulders

• Defendant:
  – Full body
  – Close up
  – Arms
  – Hands
Paramedic Records

• Obtain copy of paramedic’s call to the hospital
• Many of the symptoms will be recorded in records
• May not require victim’s release
Questions?

• Thank You!

• Dr. Dean Hawley
  • dhawley@iupui.edu

• Candace Heisler
  • cjheisler@aol.com