NATIONAL EMERGENCY NURSES ASSOCIATION

Position Statement	Care of the Non-Fatal Strangulation Victim
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DEFINITION

Strangulation is a form of asphyxia associated by closure of the blood vessels and/or air passages of the neck resulting from external pressure on the neck. Four forms of strangulation are hanging, ligature (garroting), manual (including carotid restraint—choke holds and use of forearm or knee), and compressive (external limitation of chest motion, e.g., assailant's body weight on victim).

ISSUE

- Victims of strangulation are at risk for a number of immediate and delayed sequelae including, but not limited to: separation of the sternocleidomastoid muscle; damage to carotid arteries (intimal tears, thrombosis and embolization); edema and obstruction of the structures of the upper airway; fractured larynx; fractured hyoid bone; aspiration pneumonia; pulmonary edema; subtle and delayed brain trauma; stroke; immediate or late fatal outcome
- Additionally, many victims of strangulation have an apprehension of certain imminent demise and suffer severe emotional consequences related to strangulation.
- Ninety per cent of strangulation victims are female.
- A woman who has been strangled by an intimate partner is at 7.5 times greater risk of future homicide by this partner.
- It is estimated that 25% of all intimate partner assaults and that 10% of sexual assaults involve strangulation. Relatively little pressure can severely impede respiration and circulation to the head.
    - A mere five kg (11 pounds) of pressure on both carotid arteries for ten seconds is sufficient to induce unconsciousness. If pressure is released immediately, consciousness will resume within ten seconds.
    - Venous outflow obstruction can occur with two kg (4.4 pounds) pressure, resulting in stagnant hypoxia; 5-30 seconds can cause altered consciousness. Clinically this can cause neck, palpebral, and facial petechiae; sub-conjunctival hematomas; and internal vessel ruptures. On autopsy, blood vessel rupture on brain tissue can be observed in the absence of external physical signs (Hawley).
    - Ten kg (22 pounds) pressure can cause edema of the larynx. Fifteen kg of pressure is sufficient to occlude the trachea. If strangulation is not interrupted, brain death may occur within four to five minutes.
    - Typical force during a firm handshake has been estimated at 4.98 kg (11 pounds).
- Less often the following may occur during strangulation:
    - Compression of the carotid body may cause carotid sinus reflex, bradycardia, altered or loss of consciousness, death
    - Fractures of the cervical vertebrae
- Pulmonary edema, up to two weeks post assault

NENA POSITION

- Sensitive and timely assessment and diagnostic exploration can improve the immediate and long term outcomes for this patient population.
- Questioning of patients should use language that is appropriate, e.g., as *choking* rather than *strangulation*.
- Emergency care of the non-fatal strangulation patient should include thorough investigation for potential life threatening injury. "Lack of visible findings or minimal injuries does not exclude a potentially life threatening condition" (ACEP).
- Patients who are strangled in the context of a domestic partnership or other ongoing relationship should be evaluated for safety and referred to community resources for protection.
- Strangulation survivors may expect to receive care from health care practitioners who are prepared by education and temperament to provide competent examination and treatment in the emergency department.
- NENA supports the use of forensically trained nurses, such as sexual assault nurse examiners (SANE), forensic nurse examiners (FNE), and other specialized care providers, to assist in the care of patients experiencing strangulation.
- Emergency health care providers should receive preparation to equip them to provide appropriate care, forensic services, and referral services to survivors of strangulation.
- Strangulation survivors should be referred to appropriate agencies for the purposes of transition housing, economic assistance, affordable counseling, child care, and the development of strategies for long-term safety.
- Recognition, assessment, and treatment of injuries associated with strangulation should be a component of emergency orientation.
- NENA supports the recommended medical/radiographic evaluation of acute non-fatal strangulation of adults and adolescents from the Training Institute on Strangulation Prevention. Recommendations for any patient who has a history of or current loss of consciousness, visual changes, petechial of face or mouth or eyes, ligature marks or contusions or swelling of the neck, incontinence, neurological signs or symptoms, dysphonia, dyspnea, or subcutaneous emphysema as follows. Any of these that are available:
    - CT angiograph of carotid and vertebral arteries
    - Ct neck with contrast
    - MRA of neck
    - MRI of neck
    - MRI/MRA of brain
    - Consideration for continued emergency department or inpatient hospitalization based on severity and potential for catastrophic sequelae to strangulation.

Rationale

The nature of strangulation is similar to the use of a knife or gun to communicate the capacity of the assailant to take the life of the victim. When an assailant curtails oxygenation of the victim's brain, regardless of lethal intent, the victim's life is at stake.

Strangulation is under-recognized as a common component of intimate partner violence and sexual assault. It is also a serious physical event and a terrifying experience for victims. Victims require a thorough assessment and counseling related to potential delayed physical crises related to strangulation. Emergency nurses are uniquely able to advocate for these patients by ensuring that they receive appropriate assessment and treatment in Emergency.

Furthermore, emergency nurses have unparalleled opportunity to educate victims on the serious nature of strangulation. Victims should also be advised that the risk of increasing violence in future

assaults is pronounced in relationships in which strangulation has occurred. Patient teaching should equip victims to make informed choices regarding safety and utilization of appropriate community resources to access specialized services for victims of intimate partner violence and sexual assault.

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