Strangulation: assessment following non-fatal strangulation in the context of an alleged assault (see strangulation documentation proforma)

Background

Strangulation is a form of asphyxia caused by the application of pressure to the neck which compromises the blood vessels and/or airways. The mechanisms of injury includes:

- Manual strangulation: direct pressure applied by the hand/s/arm around the neck.
- Ligature strangulation: direct pressure applied by the tightening of a ligature around the neck.
- Hanging: suspending the body weight from a ligature around the neck.
- Postural strangulation: pressure on the neck from body weight or an object .

Strangulation is an under-reported form of assault and people may not disclose that they have been strangled. It is a term that is not always widely understood and people may tell you instead that they have been choked. When asking about a history of strangulation it is important to ask about any form of pressure applied to the neck.

Strangulation is commonly seen in intimate partner assaults.

Women who have been strangled by their intimate partner are 7.5 times more likely to be killed by that partner in the future.

Health Impacts

Most people will survive being strangled. There are however, ongoing risks to health after the injurious force has been removed from the neck. The risk to health will be greatest in the first 48 to 72 hours after the strangulation incident but significant sequelae have been reported at a time distant. The knowledge base about the long term impacts of strangulation is developing.

Possible health impacts include:

- Airway obstruction from soft tissue swelling, haematoma.
- Injury to the larynx.
- Carotid and/or vertebral artery dissection and the potential for significant neurological sequelae at a time in the future.
- Anoxic brain injury from arterial obstruction.
- Cerebral hypoxaemia due to obstruction of venous return.
- Cervical spinal cord injury.
- Pregnancy loss/complications.
- Mental health issues such as PTSD, anxiety and depression.

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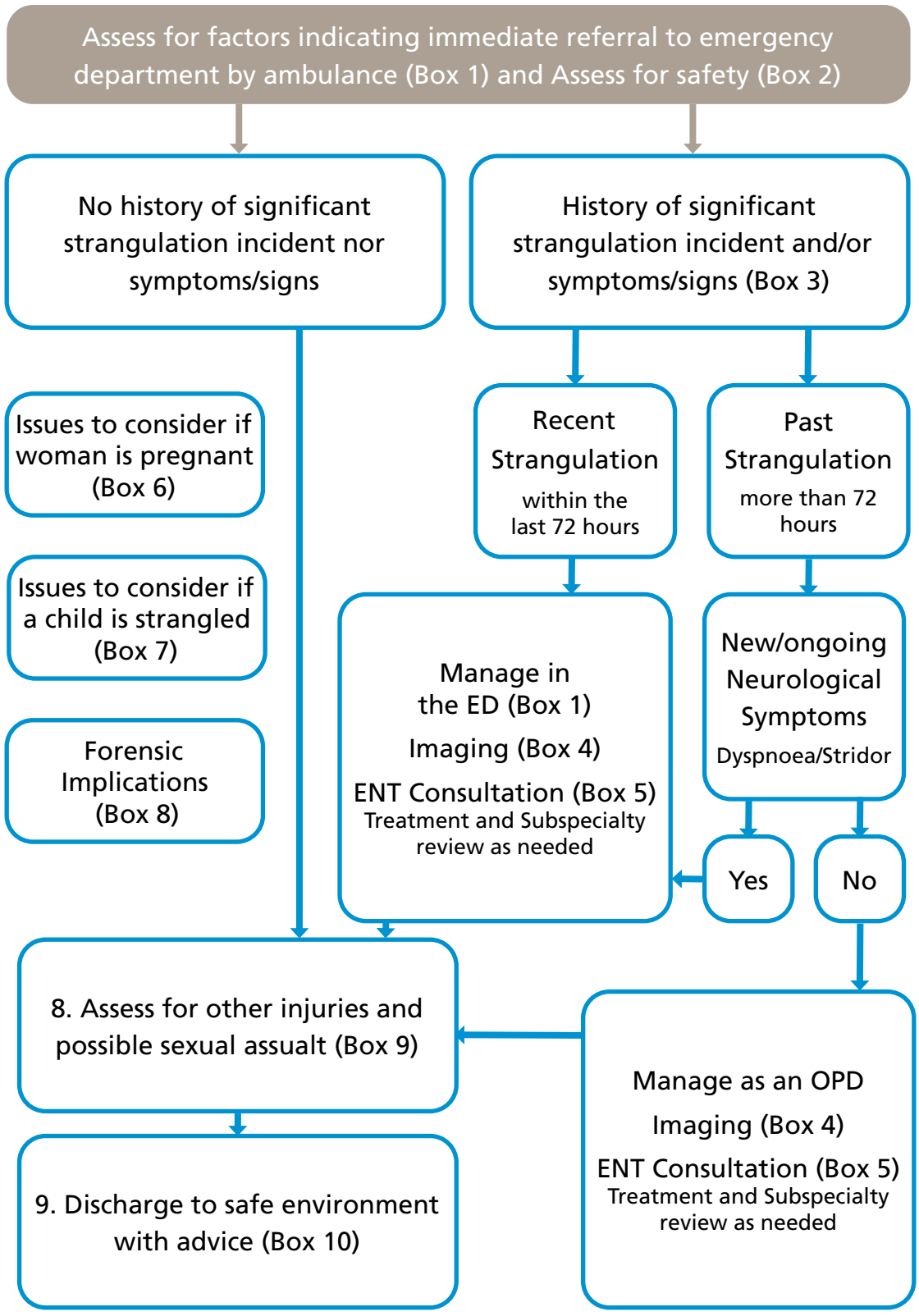
Assessment process for person presenting with a history of strangulation



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Box 1: Assess for factors indicating immediate referral to emergency department by ambulance

ALL PEOPLE WHO HAVE BEEN STRANGLED MUST BE MEDICALLY ASSESSED.

If the person is NOT being assessed in the hospital setting:

> Organise transport to the hospital by ambulance as an EMERGENCY if there is:
> Reduced/reducing level of consciousness.
> Difficulty breathing/stridor, subcutaneous emphysema.
> Unable to swallow.
> New onset of neurological symptoms/signs.
> Significant swelling/external injuries to neck.
> Any other significant injury.

Use clinical judgement to determine the urgency of transport to hospital when there is:

> Altered voice.
> Difficulty swallowing.
> Factors such as intoxication in the acute setting which may limit assessment.
> Signs of venous congestion.

If the victim is a CHILD and has any symptoms or signs, immediate referral to the Emergency Department must be made to ensure their safety needs are urgently addressed and no forensic evidence is lost.

See SA State Trauma Activation Criteria:

ADULT Trauma Team Activation V3 Nov 17

PAEDIATRIC Trauma Team Activation V3, Nov 17

Box 2: Safety and domestic violence risk assessment

ASSESSMENT TO CHECK FOR SAFETY AND RISK OF FURTHER HARM FROM PERPETRATOR IS ESSENTIAL.

If strangulation was by the partner or ex-partner, SA Health and Country Health employees must ensure that the Domestic Violence Risk Assessment form (see appendix) has been completed, a referral is made to a Family Safety Meeting if high risk and that the client and family's safety needs have been addressed. A referral to the Social Work Department should be made for advice and referral as appropriate.

Family Safety Framework

If the person is assessed by a non-government employee, undertake a risk assessment and consider referral to a Domestic Violence Service for further assessment and safety planning. Ensure that the client and family's safety needs have been addressed. Non-government workers can refer a client to a Family Safety Meeting (see the link above for information).

If there are children living within the home environment within which the strangulation incident occurred a notification to the Department of Child Protection is mandatory. Child Abuse Report Line (CARL: 131478)

Contact:

> Domestic Violence Crisis Line 1800 800 098 and 1800 RESPECT for advice and referral.
> SAPOL 000 for emergencies.
> If the person was assaulted by a person other than partner, or ex-partner ensure safety needs have been addressed.

Box 3: indicators of a significant strangulation incident

Indicators in the HISTORY of a significant strangulation incident and/or factors which increase the risk of significant injury resulting from a strangulation incident are:

- Loss of consciousness while being strangled. Be aware however, that some people who have been strangled to the point of unconsciousness may be unaware/unsure if they have lost consciousness. They may describe a gap in their memory.
- Known or suspected seizure while being strangled.
- Incontinence of urine or faeces while being strangled. People may be embarrassed about disclosing incontinence so it is important to ask.
- Ligature strangulation.
- Repeated incidents of strangulation.
- Significant neck trauma including significant hyperextension, flexion, rotation to the neck, attempted hanging.
- Person taking anti-coagulant medication.
- Factors such as intoxication making the medical assessment difficult.

Indicators in SYMPTOMATOLOGY AND SIGNS ON PHYSICAL EXAMINATION of a significant strangulation incident are:

- Neurological symptoms/signs including carotid bruit, Horner's Syndrome.
- Altered level of consciousness.
- Dyspnoea/stridor/coughing.
- Dysphonia/aphonia.
- Dysphagia/odynophagia/drooling.
- Subcutaneous emphysema.
- Marked petechiae and/or facial congestion.
- Soft tissue swelling or injuries to the neck, including ligature marks, and injuries to the jaw and chin.

Box 4: Imaging for assessment of non-fatal strangulation

Discussion with the radiologist may assist in determining the most appropriate imaging modality when imaging is not done in the acute/urgent setting.

CT angiography is considered the gold standard for evaluation of carotid and vertebral arteries and bony/cartilaginous structures. It is important to note concerns about possible laryngeal trauma when requesting CT angiography to ensure adequate imaging.

Magnetic resonance imaging is more sensitive at detecting soft tissue and anoxic brain injury.

Radiation to the neck from the CT is a particular risk to the thyroid gland. The additional risk of dying from cancer from the radiation from a neck CT is thought to be between 1 in 1000 to 1 in 10,000. The estimated lifetime risk of dying from cancer from natural causes is 1 in 5.

The risk from any additional CT scanning following further strangulation incidents is additive.

Severe reactions to contrast materials used in imaging are very uncommon.

The stage of pregnancy needs to be considered when determining the most appropriate imaging for pregnant women. CT scanning of the neck and head can be done at any stage of pregnancy if clinically indicated.

Whilst the risk of MRI in early pregnancy is not known with complete certainty, if clinically indicated, an MRI can be performed.

There is currently no good evidence to guide the clinician in understanding how long after an incident of strangulation imaging should be offered. The Training Institute on Strangulation Prevention in the USA recommend imaging up to 6 months post a strangulation incident.

CT angiography should also be considered for people who are being assessed for significant head and neck injury to exclude injury to the carotid and vertebral arteries.

When considering whether imaging and referrals can be done as an outpatient, be aware that it may be difficult for a person to return for these appointments.

Box 5: ENT assessment of non-fatal strangulation

People should be referred for ENT assessment when there are symptoms of voice hoarseness, dysphagia, odynophagia, laryngeal/airway tenderness and/or the presence of petechiae within the oropharynx.

Discussion with the local ENT Service may be useful to guide the timing of ENT follow up.

If there are concerns re laryngeal trauma, CT neck is optimal imaging.

ENT assessment will include flexible nasal endoscopy.

Box 6: Issues to consider if a woman is pregnant

Intimate partner violence may start or escalate during pregnancy.

Urgent medical needs of the pregnant woman are of paramount importance.

Obstetric assessment must be done or offered to all women who are strangled during the course of the pregnancy to assess possible injury to the foetus.

Mandatory notification via the Child abuse Report Line (CARL: 131 478) is required when a pregnant woman is strangled or if children have witnessed a strangulation event.

For more information regarding the assessment of a pregnant woman post trauma, refer to the SA Health Perinatal Practice Guidelines:

Perinatal Practice Guidelines

Conduct Safety and Domestic Violence Risk Assessment: See BOX 2

Box 7: Issues to consider if a child is strangled

Consult with the Women and Children's Hospital Paediatric Emergency Department (8161 7000) about clinical assessment and management of a child who has presented to a health service with clinical signs or symptoms attributed to them having been strangled. This includes children and adolescents who have been involved in 'passing out' games where a chokehold has been applied to induce unconsciousness.

Where clinical urgency requires a CT scan it can be completed in the treating centre (if available) however if not immediately clinically required transfer to WCH should occur.

Make an urgent notification to the Child Abuse Report Line (CARL: 131478). SAPOL can also be contacted on 131 444

Consult with Child Protection Services (WCHN, NALHN,SALHN).

Documentation of injuries and forensic investigations will be organised by Child Protection Services as an inpatient or outpatient depending on the clinical scenario. An MRI may be the preferred imaging for forensic purposes in children due to the absence of radiation and improved identification of soft tissue injuries.

Box 8: Forensic implications of strangulation

Womens Health Service and the Yarrow Place Nurse Practitioner can provide documentation and photography of domestic violence related injuries Including strangulation.
(Monday to Friday 9am-5pm)

Email. Health.DVInjury@sa.gov.au)

http://www.whs.sa.gov.au/

Any physical evidence of strangulation will enhance a prosecution.

Ensure documentation of the history of strangulation and the symptoms and examination findings is thorough and complete (see Strangulation Documentation Proforma). Injuries may be transient so a timely examination is required.

Photography of injuries from strangulation is important evidence. When photographing the neck, include 360 degrees around the neck. If the unit/service does not have clinical photography available and the client requests legal action, contact the police to organise photography.

DNA collection from the neck should be considered if the client was strangled by a stranger. Discuss DNA collection with the police if the client requests legal action.

Consider imaging for forensic purposes. MRI is more sensitive in detecting soft tissue injury and bruising if performed within a week of the strangulation incident.

Consider review by ENT for flexible nasal endoscopy to identify injury to the larynx and airway.

Box 9: Assess for other injuries and possible sexual assault

Ensure other injuries are assessed as required.

Sensitively ask about sexual assault as people may not disclose this aspect of the assault.

For advice, contact Yarrow Place Rape and Sexual Assault Service on 8226 8787 or access the website at:

Yarrow Place Services

If the person has been sexually assaulted:

Respond appropriately to the disclosure, assess and provide prevention for pregnancy, conduct a risk assessment and provide/offer prevention for sexually transmitted diseases.

Assess and offer referral for psychological impacts.

Preserve forensic evidence.

Provide legal options.

Refer to Yarrow Place with the client's consent if the client is considering/requesting legal action.

People may willingly engage in strangulation practices during sexual intercourse that is consensual. The assessment as above applies to these situations and advice should be provided to the client about the dangers of these practices.

Box 10: Discharge Information

Conduct safety and domestic violence risk assessment (see Box 2)

Discharge to a safe, supported environment is crucial within the first 48 to 72 hours following significant strangulation in case of delayed sequelae. A motel or situation where the client is alone is NOT appropriate .

If there is no safe supported discharge environment consider admission for observation.

Written information about delayed sequelae should be provided (see patient information).

Advise the person to return for further assessment and injury documentation should injuries become apparent after discharge.

Risk assessment and mental health review should be undertaken prior to discharge and counselling/ further support should be discussed and referrals made.

For more information

Yarrow Place
Level 2, 55 King William Rd
North Adelaide SA 5006
1800 817 421

Womens Health Service:
47 Dale Street,
Port Adelaide, SA 5015
8444 0400 (Mon-Fri; 9-5)

Domestic Violence Outreach Clinics,
Nurse Practitioner-led
8226 8777

Interpreter If you do not speak English, request an interpreter from SA Health and the department will make every effort to provide you with an interpreter in your language.

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