

## Non-fatal strangulation Workshop

**Professor Catherine White** 

21st November 2023 Antwerp EFJCA









- Established in 2022 following the introduction of new legislation on strangulation as a stand alone offence.
- Funded by the Home Office to develop best practice in responding to victims of strangulation with the overall aim to reduce the offence of strangulation and suffocation in the UK.
- Partnered with SafeLives and Bangor University to deliver the objectives



#### **Our objectives are to:**

- 1. Increase awareness
- 2. Encourage data collection
- 3. Disseminate accessible resources
- 4. Improve policy and practice
- 5. Increase offender accountability and ultimately enhance victim safety
- 6. Co-ordinate and undertake related research and audits



#### **Our objectives today:**

- 4 sessions with 3 breaks
- Cover topics
  - Anatomy
  - What happens during strangulation
  - Risks of strangulation
  - Clinical aspects
  - Risk assessment
  - Children
- Case studies



Who is here today & why?



Have you had previous training on identification & management of strangulation?

- 1. Yes
- 2. No
- 3. Not sure



## Health warning







#### What is strangulation?

#### What is strangulation?

Obstruction of blood vessels and/ or airflow in the neck resulting in asphyxia.

#### **Non-fatal strangulation**

- Section 75A(1)(a) SCA 2015 is the offence of non-fatal strangulation.
- The legislation does not provide a definition of 'strangulation' or 'strangles'. The word should be given its ordinary meaning which is the obstruction or compression of blood vessels and/or airways by external pressure to the neck impeding normal breathing or circulation of the blood. This offence applies where strangulation is non-fatal and does not result in death of the victim.
- Applying any form of pressure to the neck whether gently or with some force could obstruct or compress the airways or blood flow. Strangulation does not require a particular level of pressure or force within its ordinary meaning, and it does not require any injury.



- Unidentified male calls emergency services
- Unconscious female found on hotel room floor
- Carpet noted to be wet.
- Wet with what?





- Husband witnessed by neighbour strangling wife.
- Police & paramedics arrive.
- Woman unconscious.
- No forensic examination.
- Injuries captured on body worn video





- Retraction
- Says no assault
- Injuries due to love bites





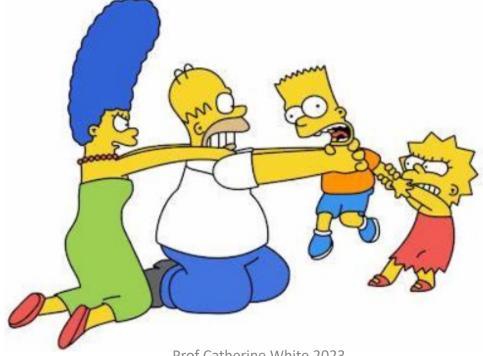


5-year-old boy

When Dad is angry, he lifts him up.

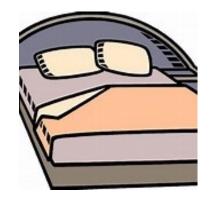


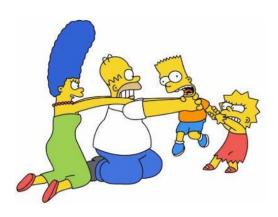












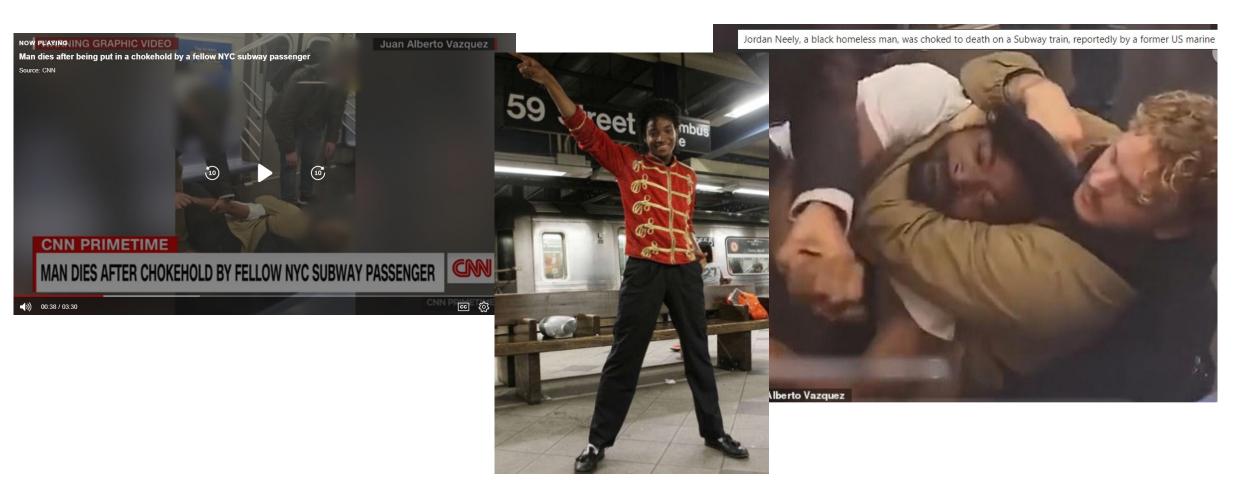




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#### Risks not restricted to women and girls



https://edition.cnn.com/2023/05/04/us/new-york-subway-chokehold-death/index.html



## NFS an important risk factor for homicide of women

Nancy Glass

J Emerg Med 2008 35(3)

A History of NFS:

X 6 times risk of becoming a victim of attempted homicide

X 7 times risk of becoming a completed homicide



#### What do we know?

- 1 in 4 women accessing their community/refuge services reported having experienced strangulation or suffocation (Women's Aid)
- 32% of cases accessing IDVA services had experienced strangulation (SafeLives Insights IDVA dataset 2021-22).
- 19% of adults attending St Mary's Sexual Assault Referral Centre (SARC) in Manchester reporting rape by a partner or ex-partner had experienced strangulation as part of the assault.
- A systematic review in 2014 reported the **lifetime prevalence of women** being strangled by an intimate partner to be between **3.0% and 9.7%.**

## JFLM 79 (2021) 102128

Journal of Forensic and Legal Medicine 79 (2021) 102128



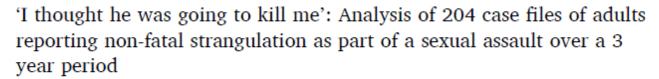
Contents lists available at ScienceDirect

#### Journal of Forensic and Legal Medicine





#### Research Paper





Saint Mary's Sexual Assault Referral Centre, Oxford Road, Manchester, M13 9WL, UK

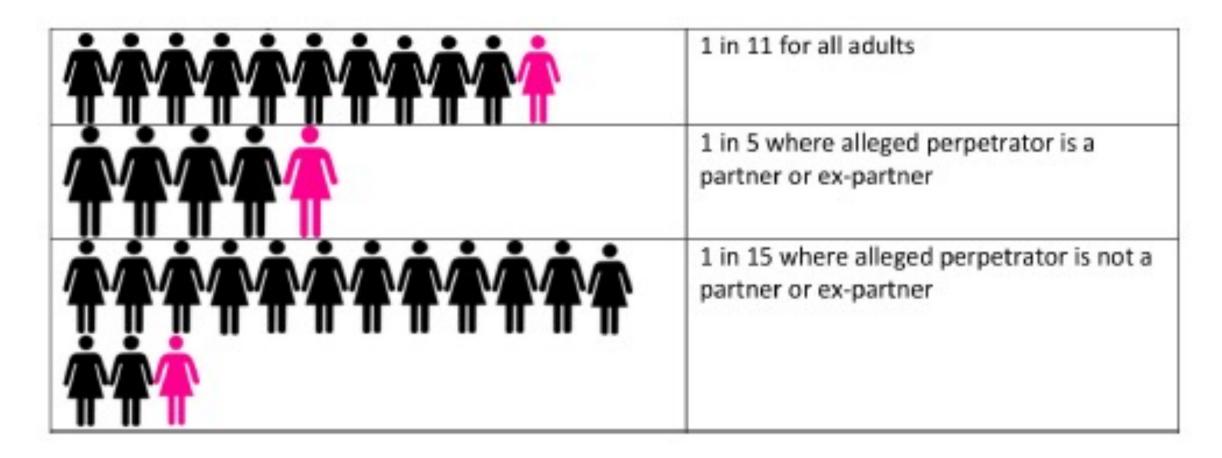


https://authors.elsevier.com/a/1ccS3,dssAKy-7

b The University of Manchester, Vaughan House, Manchester, M13 90B, UK



## Strangulation in the Context of Sexual Violence



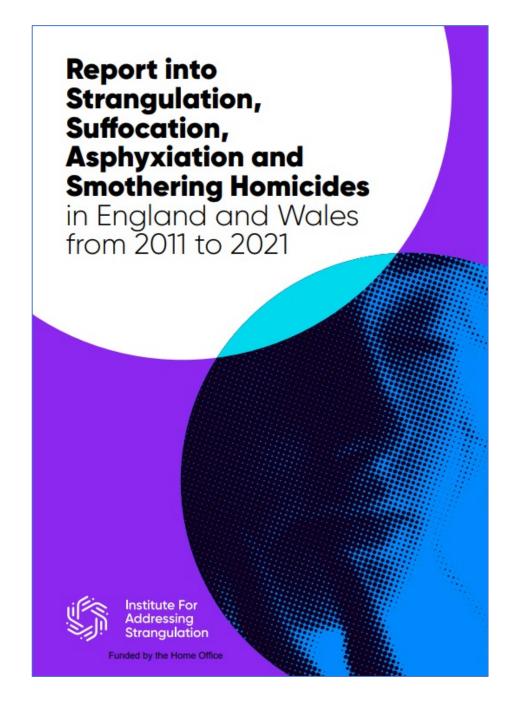
#### Sex

**Complainants** 

**96.6% Female** 

**Alleged assailants** 

**98% Male** 



https://ifas.org.uk/wp-content/uploads/2023/09/IFAS-final-ONS-1.pdf

# 352 strangulation and suffocation homicides

in England and Wales from 2011– 2021







of females fatally strangled



of females
fatally suffocated





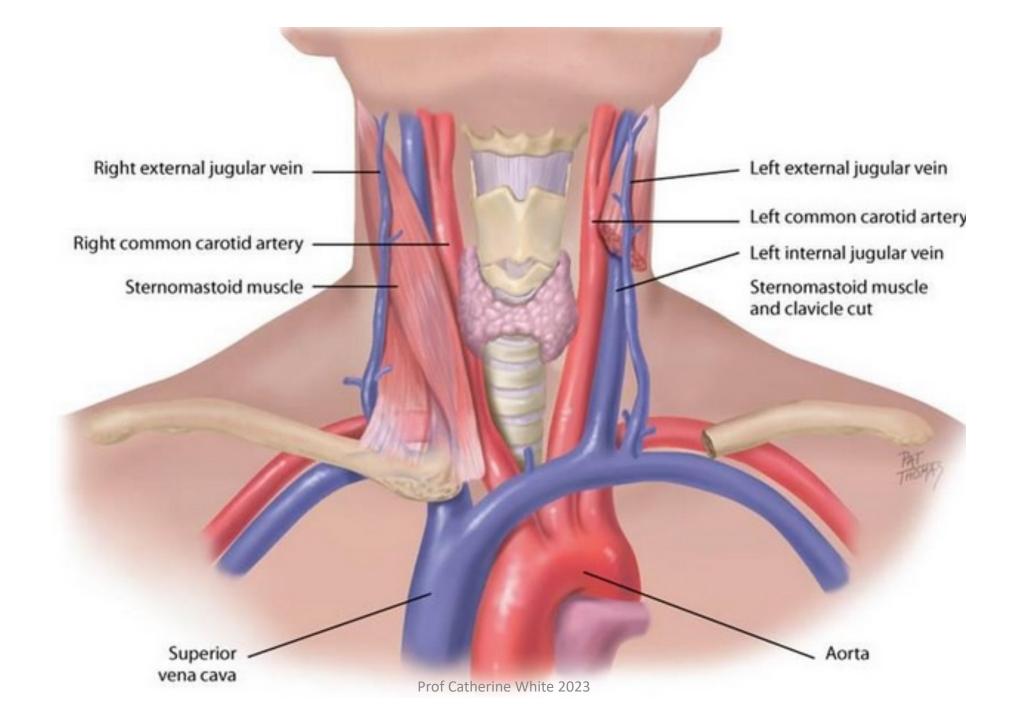
### Sex of the suspect was male



## of domestic strangulation homicides

where the victim was aged 16 or over

## Domestic Homicide Reviews



Carotid artery compression

- Carotid artery compression
  - Decreased blood flow to the brain

- Carotid artery compression
  - Decreased blood flow to the brain
- Jugular vein compression

- Carotid artery compression
  - Decresed blood flow to the brain
- Jugular vein compression
  - Stagnant hypoxia

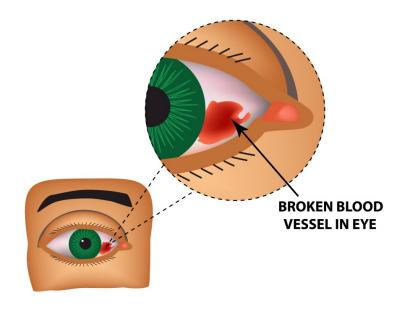
- Carotid artery compression
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  - Stagnant hypoxia
- Compression +/- fracture of larynx or trachea

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- Carotid artery compression
  - Decreased blood flow to the brain
- Compression +/- fracture of larynx or trachea
  - No oxygen intake
- Jugular vein
  - Stagnant hypoxia
- Pressure on carotid bodies and baroreceptors
  - Bradycardia / asystole

## Subconjunctival haemorrhage

#### SUBCONJUNCTIVAL HEMORRHAGE





## Petechial haemorrhage





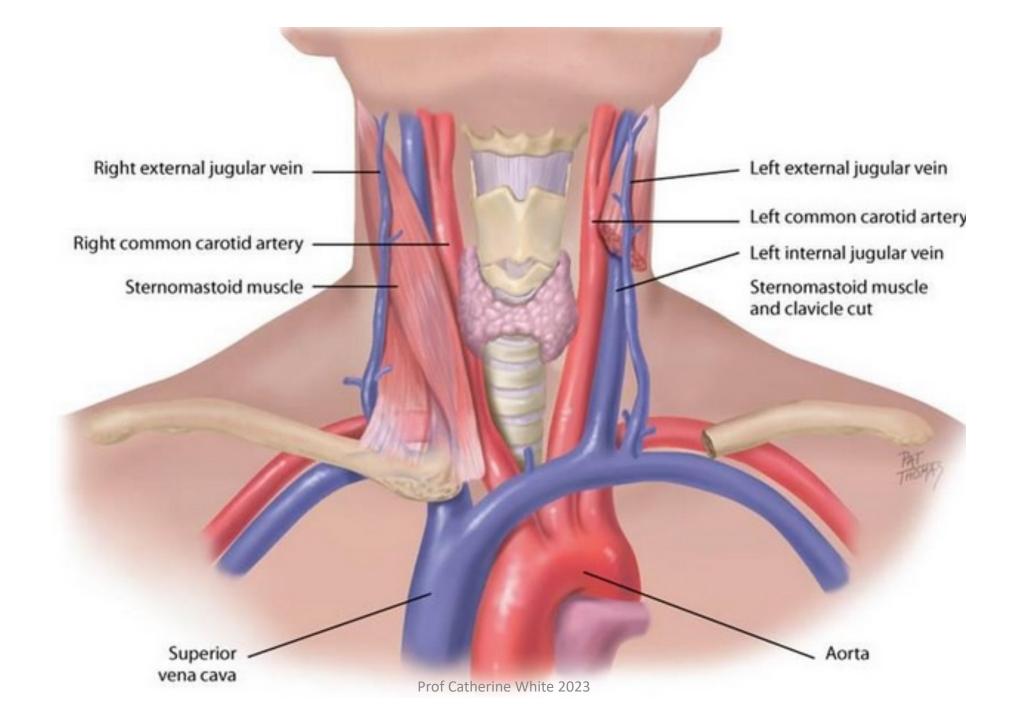


### Language

- He grabbed me.
- He choked me
- He pinned me to the wall
- He held me down
- I'm not sure what happened









#### Pressure on the neck in adults

Jugular vein 4psi,

Carotid artery 11psi,

Trachea 34 psi.

Opening a can of coke 20psi

Adult male hand shake 80-100psi

We don't know the pressures required in children but most likely less.



# Addressing Strangulation The Timeline



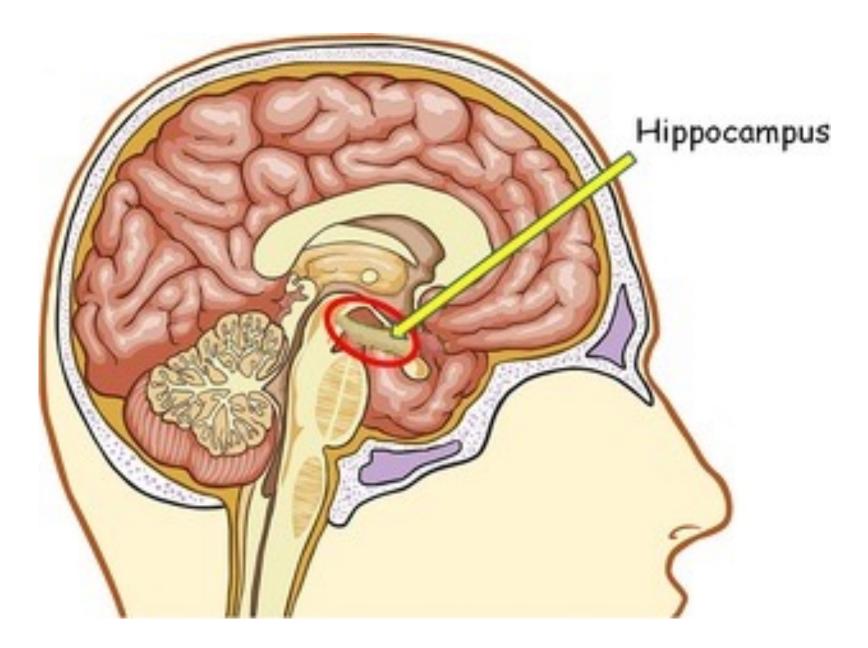
6.8 seconds LOC

15 seconds Bladder incontinence

30 seconds Bowel incontinence







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# No oxygen = no memory



## **Capacity & consent**









### **Management of NFS**

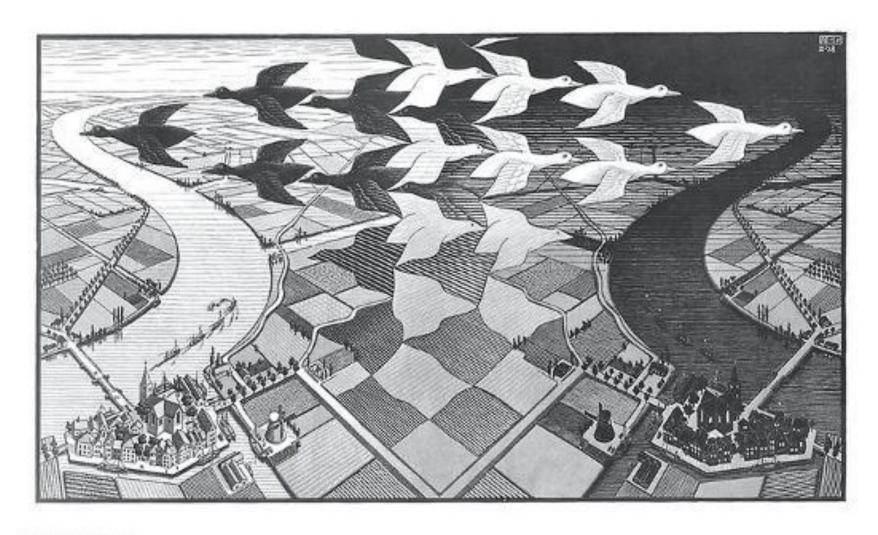
- Helping victims to disclose
- History of NFS
- Documenting injuries
- Forensic samples
- On going medical management
- Patient information / education
- Safeguarding

#### **Intercollegiate Working Group**





# Non-partisan dual role of forensic clinician





#### "I fell off a wall"



#### "My dad hits me when he is angry"





#### **Use of a proforma**

IFAS NON-FATAL STRANGULATION PRO FORMA	Institute For Addressing Strangulation	IFAS NON-FATAL	STRANGULATION PRO	FORMA	Institute For Addressing Songulation		
This proforma focuses on the NFS elements of a forensic medical examination and as such should be used as an adjunct to other	Symptoms <u>a</u>	t the time of / immediat					N-FATAL STRANGULATION PRO FORMA
inis protoma couses on the NFS elements or a torensic medical examination and as such should be used as an adjunct to other documentation e.g. SARC proforma/ED/custody proforma etc. where issues such as consent/capacity/ alleged assailant details/general medical assessment etc. should be covered.	History from		Persons present			nd signs <u>since t</u>	the time of strangulation:
		Flashing lights	Tunnel vision	Spots	History from:		Persons present
Date Time  Clinician Regulatory Number		□ Yes □ No □ Unknown	□ Yes □ No □ Unknown	□ Yes □ No □ Unknown	Neck pain	☐ Yes ☐ No Site:	□ Unknown □ Not asked
Clinician         Regulatory Number           Patient Name         Patient DOB						Severity:	
Patient Number						Details:	
History of Strangulation	Vision	Blurred vision	Loss of vision	Seeing "stars"	Neck swelling	□ Yes □ No	□ Unknown □ Not asked
History from Persons present		□ Yes □ No □ Unknown	□Yes □No □Unknown	□ Yes □ No □ Unknown		Details:	
Method		Other:			Neck Injuries	□ Yes □ No	□ Unknown □ Not asked
□ Ligature □ Head lock						Details:	
□ Other specify below	Hearing	Buzzing, Rearing or Popping	Yes □ No □ Unknown	□ Not asked	Coughing	☐ Yes ☐ No Details:	□ Unknown □ Not asked
From 1 to 10 how hard was suspect's grip? (Low) 1 2 3 4 5 6 7 8 9 10 (High)		Details:					
From 1 to 10 how painful was it? (Low) 1 2 3 4 5 6 7 8 9 10 (High)  Time strangulation occurred: Date/Time	Loss of consciousness	□ Yes □ No □ Unknov	wn Not asked		Dysphagla / drooling	☐ Yes ☐ No Details:	□ Unknown □ Not asked
Number of episodes of strangulation in this event:   One   More than one   Unknown	Dizzy	☐ Yes ☐ No ☐ Unknow	wn □ Not asked		Odynophagla	□ Yes □ No	□ Unknown □ Not asked
Did suspect say anything during strangulation? ☐ Yes ☐ No ☐ Unknown	Dizzy	L res L NO L UTIKNO	WII D NOT ASKED		(Painful swallowing)	Details:	
	Difficulty breathing	□ Yes □ No □ Unknow	vn □ Not asked		Dysphonia or voice changes	☐ Yes ☐ No Details:	□ Unknown □ Not asked
Actions of the complainant during the strangulation   Unknown   Not asked	Difficulty speaking	□ Yes □ No □ Unknow	wn Not asked		Dyapnoea	□ Yes □ No Details:	□ Unknown □ Not asked
	Pain	□ Yes □ No □ Unknow Details:	wn Not asked		Vomiting	□ Yes □ No Details:	□ Unknown □ Not asked
What was the complainant thinking at time of strangulation?   Unknown   Not asked	Incontinence of	□ Yes □ No □ Unknov	wn Not asked		Headache	□ Yes □ No	□ Unknown □ Not asked
	Incontinence of	□ Yes □ No □ Unknov	wn DNot asked			Details:	
Has the suspect strangled the complainant before?	Loss of strength		wn Not asked		Memory disturbance	□ Yes □ No Details:	□ Unknown □ Not asked
	500.1911	Details (objective):			Have any other symptoms or injuries thought to be related to the	□ Yes □ No Details:	□ Unknown □ Not asked

"I thought I was going to die"

36.6%

## Psychological terror

- He is going to kill me. At least if he kills me it will be over
- God please give me life, my children need me.
- I actually thought he was going to kill me and the baby (20 weeks pregnant)
- I'm going to die. He only stopped each time when I was losing consciousness. He strangled me like he wanted to kill me. He only stopped because he thought I was dead.



History from				_	Per	sons	pre	sen	t						
Method	od 🗆 Manual one hand 🗆 Manual two ha														
	☐ Ligature ☐ Head lock														
	☐ Other specify below														
From 1 to 10 h	ow hard was suspect's grip?		(Low)	1	2	3	4	5	6	7	8	9	10	(High	)
From 1 to 10 h	ow painful was it?		(Low)	1	2	3	4	5	6	7	8	9	10	(High	)
Time strangula	ation occurred: Date/Time			_	Tim	e sin	ce s	strar	ngula	tion	(hou	ırs/d	ays)		
Number of epis	sodes of strangulation in this	event:	□On	e			Mo	re ti	nan o	ne			□ Ur	ıknown	ı
Did suspect sa	y anything during strangulalid	on?	□Ye	s	□ No □ Unknown								□Ur	known	
Actions of the o	complainant during the strang	gulation			] Unk	cnow	n			Not	aske	ed			
	complainant during the strang		ation?	_							aske				
What was the o		of strangula			] Unk	know	n			Not a	asked	d	ked		





#### IFAS NON-FATAL STRANGULATION PRO FORMA

#### Symptoms at the time of / immediately after strangulation:

History from					Persons p	present			
	Flashing	glights		Tunnel	vision		Spots		
	□Yes	□No	□ Unknown	□Yes	□ No	□ Unknown	□Yes	□No	□ Unknown
	Blurred			Loss of					
Vision	Biurrea	vision		LOSS OF	vision		Seeing	stars	
	□Yes	□No	□ Unknown	□Yes	□No	□ Unknown	□Yes	□No	□ Unknown
	Other:						•		
Hearing	Buzzina	Posring (	or Popping □ \	/as	I No	□ Haknown	□ Not ask	red	
ricaring	Details:	rwaing (	or ropping		_ 140	LI CITATOWII	□ 1401 934	veu	
	Details.								
Loss of consciousness	□Yes	□No	□ Unknow	n 🗆 N	lot asked				
Dizzy	□Yes	□ No	□ Unknow	n 🗆 N	lot asked				
Difficulty breathing	□Yes	□ No	□ Unknow	n □No	t asked				
Difficulty speaking	□Yes	□No	□ Unknow	n □No	t asked				
Pain	□Yes	□ No	□ Unknow	n □No	ot asked				
	Details:								
Incontinence of urine	□Yes	□No	□Unknow	n □Ne	ot asked				
Incontinence of bowels	□Yes	□ No	□ Unknow	n □No	t asked				
Loss of	□Yes	□ No	□Unknow	n □No	t asked				
strength	Details (	objective):							
		Pro	of Catherine	White-7	<u> </u>				





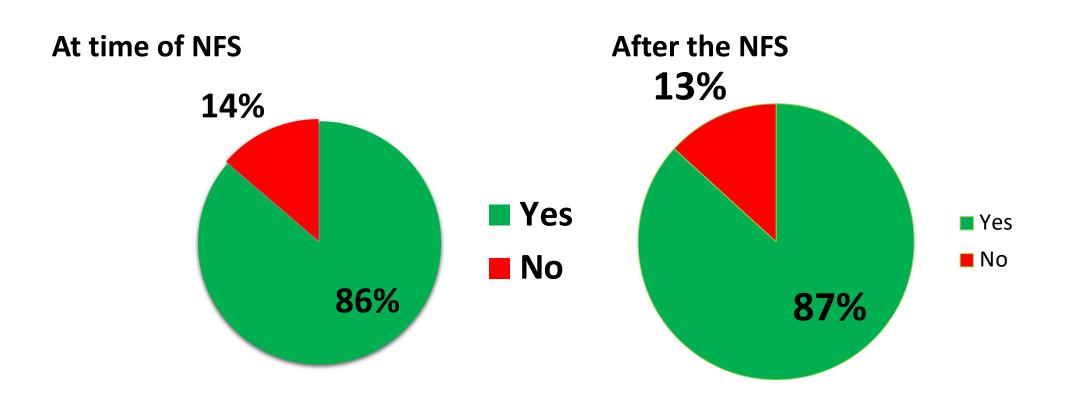
#### IFAS NON-FATAL STRANGULATION PRO FORMA

#### Symptoms and signs since the time of strangulation:

History from:			Persons present
Neck pain	☐ Yes Site: Severity: Details:	□ No	□ Unknown □ Not asked
Neck swelling	□ Yes Details:	□ No	□ Unknown □ Not asked
Neck injuries	□ Yes Details:	□ No	□ Unknown □ Not asked
Coughing	□ Yes Details:	□ No	□ Unknown □ Not asked
Dysphagia / drooling	□ Yes Details:	□ No	□ Unknown □ Not asked
Odynophagia (Painful swallowing)	□ Yes Details:	□ No	☐ Unknown ☐ Not asked
Dysphonia or voice changes	□ Yes Details:	□ No	□ Unknown □ Not asked
Dyspnoea	□ Yes Details:	□ No	□ Unknown □ Not asked
Vomiting	□ Yes Details:	□No	□ Unknown □ Not asked
Headache	□ Yes Details:	□ No	□ Unknown □ Not asked
Memory disturbance	□ Yes Details:	□ No	□ Unknown □ Not asked
Have any other symptoms or injuries thought to be related to the	□ Yes Details:	□ No	□ Unknown □ Not asked
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#### **Symptoms of NFS**

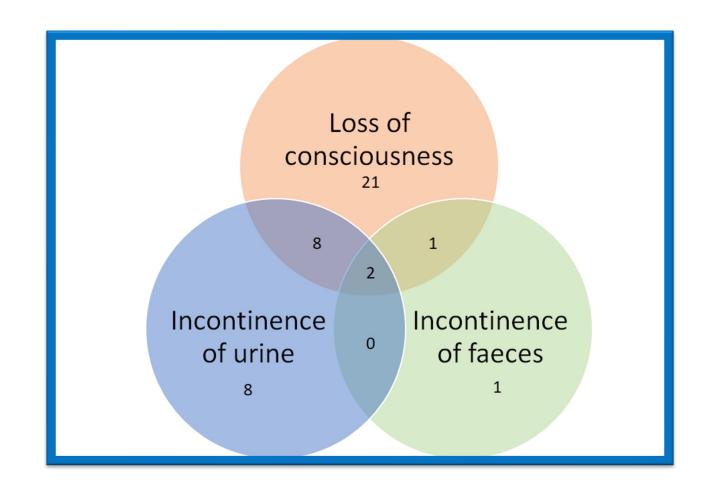


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# Saint Mary's Adult NFS cases







## **Capacity & consent**





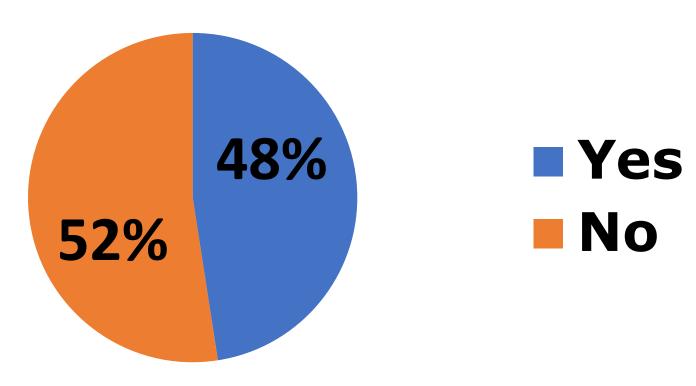




### **Neck & Head Injuries**

Saint Mary's NFS cases 2017-2019 n=204

Neck & head injury seen at FME

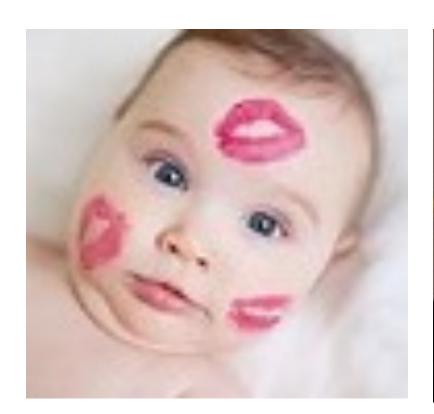


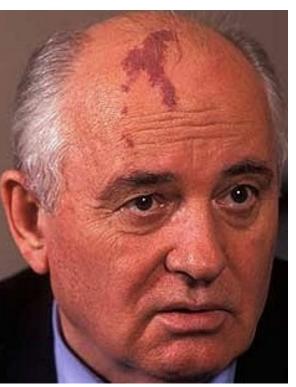
https://authors.elsevier.com/a/1ccS3,dssAKy-7



#### What's a red mark?









### **Document injuries accurately**











## Neck bruises





#### Fitzpatrick Skin Colour Scale



TYPE I Light, Pale White Always burns, never tans



Usually burns, tans with difficulty

TYPE II

White, Fair

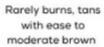


TYPE III

Medium, White
to Olive
Sometimes mild
burn, gradually tans
to olive



TYPE IV Olive Tone





TYPE V
Light Brown

Very rarely burns, tans very easily



TYPE VI Dark Brown

Never burns, tans very easily, deeply pigmented



### FFLM Forensic sample guidelines

 $\frac{https://fflm.ac.uk/resources/publications/recommendations-for-the-collection-of-forensic-specimens-from-complainants-and-suspects$ 





Faculty of Forensic & Legal Medicine

# Recommendations for the collection of forensic specimens from complainants and suspects

Jul 2023 Review date Jan 2024 - check www.fflm.ac.uk for latest update

The medico-legal guidelines and recommendations published by FFLM are for general information only. Appropriate specific advice should be sought from your medical defence organisation or professional association. FFLM has one or more senior persons from each of the three medical defence organisations on its Board, but for the avoidance of doubt, endorsement of the medico-legal guidelines or recommendations published by FFLM has not been sought from any of the medical defence organisations.

Instructions for use - PLEASE READ BEFORE REFERRING TO TABLE



### **Forensic samples**

- Nails
  - Broken / missing / length
  - Forensic samples
- Skin swabs



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### **Glasgow Coma Scale**

Behaviour	Response
	4. Spontaneously
	3. To speech
	2. To pain
	No response
Euo Ononing Rosmonso	
Eye Opening Response	
	5. Oriented to time, person and place
	4. Confused
	<ol><li>Inappropriate words</li></ol>
	<ol><li>Incomprehensible sounds</li></ol>
	1. No response
Verbal Response	
	6. Obeys command
	5. Moves to localised pain
6	4. Flex to withdraw from pain
	3. Abnormal flexion
<b>-</b>	2. Abnormal extension
Motor Response	1. No response

Mild 13-15

**Moderate 9-12** 

Severe 3-8



	NFS + sexual assault	NFS but no sexual assault
Specialist secure victim focussed centre	✓	*
Forensic clinician assessment	✓	*
Crisis worker	✓	*
Colposcopic images	✓	×
Forensic samples	✓	*
ENT Radiology pathway	✓	*
Forensic report	✓	*
Shower & clothing	✓	*
Expert report	✓	*
Advocacy	✓	*
Quality assurance & peer review	√ hite 2023	*





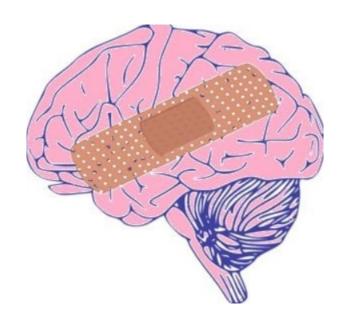
### **Internal injuries**

- Brain
- Neck structures
  - Haemorrhage into muscles
  - Vocal cords
  - Nerves
  - Thyroid
  - Hyoid
- Blood vessels
  - Carotid artery dissection

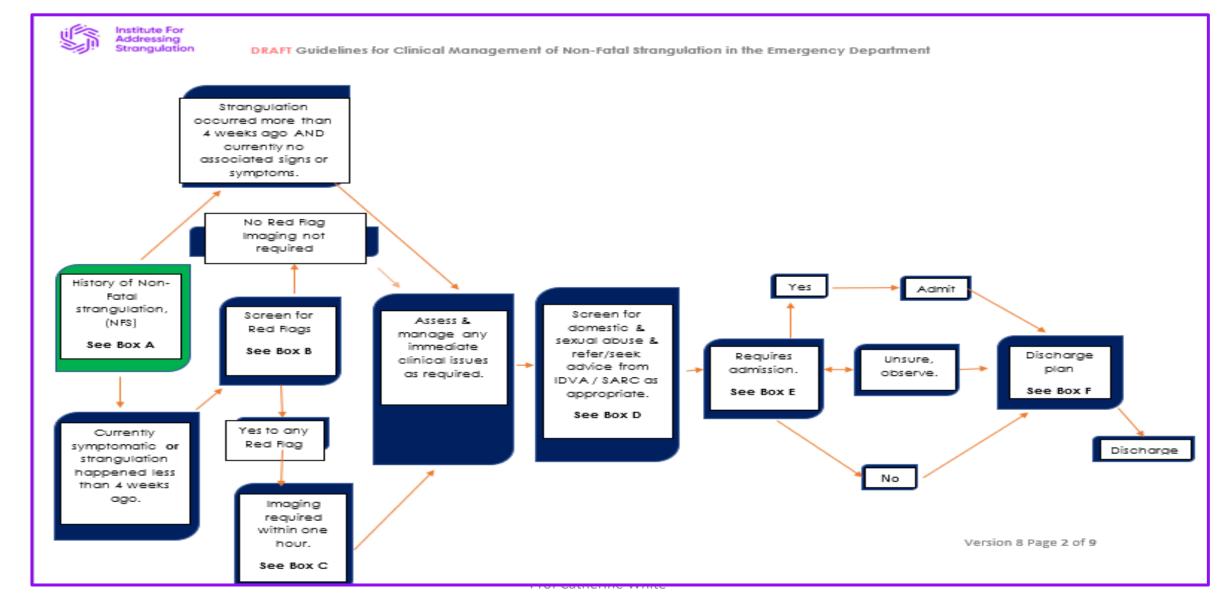




### **Acquired Brain Injury**



Advice regarding seeking brain injury assessment should be provided if there is history of prolonged and/or repeated strangulations and/or deficits suggestive of hypoxic brain injury that persist in the months following the incident (Australian ED Guidance)





#### Box B: Red Flags related to the strangulation.(draft document)

#### Neck

Mechanism concerning for cervical spine injury
Dysphagia or odynophagia (painful swallowing)
Voice changes, dysphonia (difficulty speaking)
Bruising to neck or ligature marks
Carotid bruits
Neck swelling or tenderness of larynx, trachea, carotid arteries

#### Chest

- Dyspnoea (objective signs and symptoms<sup>10</sup>)
- Subcutaneous emphysema

#### Head/neurological

- Amnesia or altered mental status (dizzy/confused/loss of memory or awareness)
- Incontinence (bladder and/or bowels)
- History of head injury/stroke
- Loss or near loss of consciousness
- Mechanism of significant pressure applied to the neck.
- Neurological symptoms or signs (seizures, stroke-like symptoms, severe headache, tinnitus, decreased hearing, focal numbness)
- Visual symptoms (flashing lights/ spots /stars/tunnel vision)
- Petechial hemorrhages (neck/face/oral/conjunctival)



#### **Imaging**

#### Box C (draft)

#### Imaging (should be done within 1 hour)

- CT angiography of the neck and intracranial vessels<sup>a</sup>
- +/- CT head<sup>b</sup>
- +/- CT chest
- (a). Arterial phase study with bone reconstructions of the cervical spine recommended.
- (b). Initial non-contrast CT head scan if clinical indicators present (GCS <14, witnessed seizure, history of incontinence, focal neurology, concerning blunt trauma to head evident clinically).

Ultrasound/carotid doppler ultrasound and plain X-rays are NOT RECOMMENDED for evaluation of the vascular or soft tissue structures in this setting.



#### Box D: All Cases

- Safeguarding assessment including any children or vulnerable adults that may be at risk.
- Discuss with patient options of reporting to police taking into consideration capacity, confidentiality & best interest<sup>11</sup>.
- Undertake suicide risk/ self-harm assessment. Self-harm by hanging/strangulation often indicates a very high suicide intent<sup>12</sup>.

#### Domestic Abuse with no report of sexual violence

- All of the above plus:
- Complete DASH assessment (note NFS in itself would warrant a MARAC referral, regardless of overall DASH score) <u>Dash risk checklist quick start quidance FINAL.pdf</u> (safelives.org.uk)
- Independent Domestic Violence Advisor (IDVA) referral

#### Sexual Assault/Rape Cases (Including sexual assault/rape in the context of domestic abuse)

- All of the above plus:
- Consider referral / seek advice from local Sexual Assault Referral Centre (SARC) as a self or police referral.

England <a href="https://www.nhs.uk/service-search/other-health-services/rape-and-sexual-assault-referral-centres">https://www.nhs.uk/service-search/other-health-services/rape-and-sexual-assault-referral-centres</a>
<a href="https://executive.nhs.wales/networks/programmes/welsh-sexual-assault-services-programme/sexual-assault-referral-centres-sarcs/">https://executive.nhs.wales/networks/programmes/welsh-sexual-assault-services-programme/sexual-assault-referral-centres-sarcs/</a>
<a href="https://www.nhsinform.scot/turn-to-sarcs/7-days-and-under/about-the-sexual-assault-referral-phone-service">https://www.nhsinform.scot/turn-to-sarcs/7-days-and-under/about-the-sexual-assault-referral-phone-service</a>
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- For forensic medical examination
- o Independent Sexual Violence Advisor (ISVA) support
- o Counselling
- Assess for
  - o Emergency contraception
  - HIV & Hep B post exposure prophylaxis.
  - Signpost for window period for STI screening



### Requires hospital admission (draft)

#### **Box E: Requires Admission**

Admission may be required either for the management of injury, or for social/safeguarding reasons or both. Involve senior decision maker as required. Local pathways to appropriate clinical specialty for admission should be followed.

Considerations for admission:

- Concern about airway
- Clinical condition
- History of significant blunt force/pressure to neck or head<sup>13</sup>
- Significant findings on imaging
- Unsafe discharge setting
- Vulnerable population (e.g., children, elderly, pregnant, homeless) and/or safeguarding requirement including self-harm risk.

Consider observation if very acute presentation. Delayed airway difficulties are rare and likely to occur within the first 6 hours post assault, dependent on factors such as type/extent of injury etc.

(NOTE: "Observation only" has NO role in a suspected vascular injury and appropriate imaging is required)



### Discharge planning (draft)

#### Box F: Discharge Planning

#### 1. Safeguarding

- a. Is the patient safe to go home?
- b. Have all relevant safeguarding referrals been made?

#### 2. Safety netting

a. Provide patient / carer with information regarding strangulation including signs and symptoms to watch out for that would need urgent medical assessment <a href="https://ifas.org.uk/wp-content/uploads/2023/05/IFAS-01-Patient-Information.pdf">https://ifas.org.uk/wp-content/uploads/2023/05/IFAS-01-Patient-Information.pdf</a>

#### 3. Imaging

- a. For those not seen within 4 weeks of the strangulation and who were not currently symptomatic and have therefore not been scanned, they may still be at risk of vascular problems such as carotid artery dissection due to the blunt neck trauma. Those who screen positive for any Red Flag (see Box B) will require outpatient imaging arranged directly or via GP dependent upon local arrangement.
- b. Consider antiplatelet treatment for those being referred for outpatient imaging.

#### 4. Acquired brain injury assessment.

Strangulation may result in acquired brain injury<sup>14</sup> (hypoxic-ischaemic), and this may lead to neuropsychological difficulties such as:

- Disorders of language
- Emotional dysregulation, personality changes and behaviour disturbance including aggression.
- · Cognitive decline

An assessment by a neuropsychologist, or similar, should be undertaken 3 months post the strangulation, with the referral organized by the GP or direct referral dependent upon local arrangement.

#### GP letter

Following standard local consent to share information processes, include details of strangulation and requested GP actions such as any required referrals in a clear timely fashion, remembering that victims of strangulation are likely to require psychological support. Consider confidentiality / risk issues regarding access to information in patient records.



### **Glasgow Coma Scale**

Behaviour	Response	
	<ul><li>4. Spontaneously</li><li>3. To speech</li><li>2. To pain</li><li>1. No response</li></ul>	
Verbal Response	<ol> <li>Oriented to time, person and place</li> <li>Confused</li> <li>Inappropriate words</li> <li>Incomprehensible sounds</li> <li>No response</li> </ol>	
Motor Response	<ul><li>6. Obeys command</li><li>5. Moves to localised pain</li><li>4. Flex to withdraw from pain</li><li>3. Abnormal flexion</li><li>2. Abnormal extension</li><li>1. No response</li></ul>	

Mild 13-15

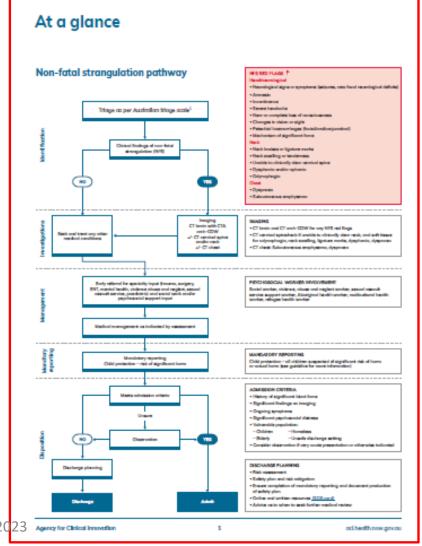
**Moderate 9-12** 

Severe 3-8



### **Australian Guidance 2022**







### RECOMMENDATIONS FOR THE MEDICAL/RADIOGRAPHIC EVALUATION OF ACUTE ADULT NON/NEAR FATAL STRANGULATION

Prepared by Bill Smock, MD; Bill Green, MD; and Sally Sturgeon, DNP, SANE-A

Endorsed by the National Medical Advisory Committee:

Cathy Baldwin, MD; Ralph Riviello, MD; Sean Dugan, MD; Steve Stapczynski, MD; Ellen Tailiaferro, MD; Michael Weaver, MD

GOALS:

- 1. Evaluate for acute medical conditions requiring immediate management/stabilization
- 2. Evaluate carotid and vertebral arteries for injuries (dissection/thrombosis)
- 3. Evaluate airway structures and other bony/cartilaginous/soft tissue neck structures

#### STRANGULATION PATIENT PRESENTS TO THE EMERGENCY DEPARTMENT

#### HISTORY (ANY of the following; current OR assault related and now resolved)

- Loss of consciousness
- 2. Visual changes: "spots," "flashing lights," "tunnel vision"
- History of altered mental status: "dizzy," "confused," "lightheaded," "loss of memory," "any loss of awareness"
- 4. Breathing changes: "I couldn't breathe," "difficulty breathing"
- 5. Incontinence (bladder or bowel)
- Neurologic symptoms: seizure-like activity, stroke-like symptoms, headache, tinnitus, decreased hearing, focal numbness, amnesia
- 7. Ligature mark or neck contusion
- 8. Neck tenderness or pain/sore throat/pain with swallowing
- 9. Change in voice: unable to speak, hoarse or raspy voice

#### PHYSICAL EXAM (ANY Abnormality)

- Functional assessment of breathing, swallowing, and voice
- Thorough examination of neck, eyes, TMs, oral mucosa, nose, airway, upper torso for: tenderness, swelling, bruising, abrasions, crepitance, bruit
- Venous congestion/petechial hemorrhages/ scleral hemorrhages
- Ligature mark = HIGH RISK
- Tenderness of airway structures/ carotid arteries = HIGH RISK
- 6. Mental status/complete neurologic exam

#### CONSIDER ADMINISTRATION OF ONE 325MG ASPIRIN IF THERE IS ANY DELAY IN OBTAINING A RADIOGRAPHIC STUDY

#### RECOMMENDED RADIOGRAPHIC STUDIES TO RULE OUT LIFE-THREATENING INJURIES\* (including delayed presentations of up to 1 year)

- CT Angio of carotid/vertebral arteries (GOLD STANDARD for evaluation of vessels and bony/cartilaginous structures, less sensitive for soft tissue trauma) or
- MRA of carotid/vertebral arteries
- Carotid Doppler Ultrasound (NOT RECOMMENDED Unable to adequately evaluate vertebral arteries or proximal internal carotid arteries)
- 4. Plain Radiographs (NOT RECOMMENDED Unable to evaluate vascular and soft-tissue structures)
- 5. Consider fiberoptic direct laryngoscopy to evaluate possible larygeal injury or airway compromise

#### **POSITIVE RESULTS**

- Consult Neurology/Neurosurgery/Trauma Surgery for admission
- 2. Consider ENT consult for laryngeal trauma or dysphonia
- 3. Perform a lethality assessment per institutional policy

#### **NEGATIVE RESULTS**

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

IF THE CTA IS NEGATIVE, CONSIDER OBSERVATION OF NEAR-FATAL STRANGULATION PATIENT IF THE AIRWAY IS OF CONCERN
OBSERVATION HAS N ○ ROLE IN RULING OUT A VASCULAR INJURY.

Training Institute On Strangulation Prevention

https://www.familyjusticecenter.org/resources/recommendationsfor-the-medical-radiographic-evaluation-of-acute-adult-adolescentnon-near-fatal-strangulation/

October 2022

Gaptic Design by Meanin Acones on page 2 Prof Catherine White 2023



### Forensic samples

- Nails
  - Broken / missing / length
  - Forensic samples
- Skin swabs



Dr Catherine White 79



# Information sharing

**ENT** Patient Police Lawyers GP DASH Safeguarding **Statements** 



	NFS + sexual assault	NFS but no sexual assault
Specialist secure victim focussed centre	✓	*
Forensic clinician assessment	✓	*
Crisis worker	✓	*
Colposcopic images	✓	×
Forensic samples	✓	*
ENT Radiology pathway	✓	*
Forensic report	✓	*
Shower & clothing	✓	*
Expert report	✓	*
Advocacy	✓	*
Quality assurance & peer review	√ hite 2023	*





## of not knowing the risks

Risks

https://static1.squarespace.com/static/63bd7ef0794e9f154bdce4ce/t/64131368ee0266496d81dde8/1678971753356/IFAS+01+-+Patient+Information+v5.pdf

Information for Victims of Strangulation

ifas.org.uk contact@ifas.org.uk

\*\*Prof\*\*Catherine White 2023



### **NHS England Rapid Read**



#### Non-fatal strangulation/Rapid Read

#### Definition

Strangulation is the obstruction of blood vessels and/or airway by external pressure to the neck resulting in decreased oxygen ( $O_2$ ) supply to the brain.

- Non-fatal strangulation (NFS) is when the strangulation does not cause death.
- · Fatal strangulation is where death ensues.

Patients may report a "choking" episode or were "grabbed by the neck".

#### Importance and Prevalence

Strangulation is common in interpersonal violence. In domestic abuse, up to 44% of victims report having been strangled!. In sexual violence, 1 in 11 adults reporting rape also describe strangulation as part of the assault. This rose to 1 in 5 when the alleged rapist was a partner or ex-partner<sup>2</sup>.

NFS is important because it significantly increases the risk of being killed; homicide reviews show victims of NFS are 7 times more likely to be killed<sup>3</sup> at a later date. Hence safeguarding intervention at presentation is crucial.

Most NFS victims are female, and most perpetrators are male<sup>2</sup>.

Management consider medical, psychological, forensic and safeguarding.

Dr Catherine White, Dr Katie Wright June 2023

Victims are at risk of acute brain and neck injuries. Gold standard imaging is CT angiogram head and neck. Scans show evidence of cerebrovascular injury in 1 out of 47 strangulation patients\*. <a href="https://www.familyjusticecenter.org/resources/recommendations-for-the-medical-radiographic-evaluation-of-acute-adult-adolescent-non-near-fatal-strangulation/">https://www.familyjusticecenter.org/resources/recommendations-for-the-medical-radiographic-evaluation-of-acute-adult-adolescent-non-near-fatal-strangulation/</a>

Many victims will have thought they were about to die. Trauma informed practice should be used. Police reporting should be strongly encouraged. **Documentation** Use body map diagrams or photo documentation for any visible injuries or signs.

Patient leaflet is available from IFAS (link below).

#### Safeguarding

NFS is dangerous from both an immediate health perspective and as a red flag for future lethality. As well as safeguarding assessments and referral for the patient, consider the safety and welfare of any children under 18 years who are linked to the patient or perpetrator. Refer to Social Care and hospital safeguarding teams. A MARAC referral is required regardless of DASH3 score. If a victim doesn't have children, has capacity (consider confusion and fear) and has declined police or social care involvement, please take time to support and encourage police reporting with explanation of the future risks.

Assess patient in a safe space and direct questioning about strangulation may be required.

#### Symptoms

These can be variable, may include confusion, sore neck, breathing and swallowing difficulties, voice changes (deeper, husky), headache or vomiting. At the time of the NFS, some will have experienced visual and auditory disturbance, loss of consciousness or incontinence of urine or faeces.

#### Signs

Do not be reassured by lack of physical signs. 50% will have no visible external injury.

There may be bruises or abrasions around the neck or head. Internal injury, including carotid artery dissection and acquired brain injury, can occur without external injuries. Patients may be confused secondary to O<sub>2</sub> deprivation at the time and be unable to provide a clear chronological account of events. Useful infographic is available here:

https://www.strangulationtraininginstitute.com/signs-and-symptoms-of-strangulation/

The Law (England and Wales)

Section 70 Domestic Abuse Act 2021 introduced NFS and nonfatal suffocation. Applying any form of pressure to the neck whether gently or with some force could obstruct airways or blood flow and is a serious offence. Strangulation does not require a particular level of pressure or force or evidence of injury. Threat of strangulation may feature in coercive control.

Help for survivors: Police 999, SARC, National Domestic Abuse Helpline 0808 2000 247, local DA services e.g., Women's Aid, IDVA

UK Institute for Addressing Strangulations www.ifas.org.uk

www.bma.org.uk/advice-and-support/ethics/safeguarding/adults-atrisk-confidentiality-and-disclosure-of-information

https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/confidentiality

References 1 Insights Idva dataset 2021-22 Adult Independent domestic violence advisor [Idva] services. Idva Dataset 2022\_FINAL.pdf (safelives.org.uk) 2 White, C. et al. (2021). 'I thought he was going to ldill me'. Journal of Forensic and Legal Medicine, 'Ph. https://doi.org/10.1016/j.iffm.2021.102128.3 Glass et al [2008] Yan-fatal strangulation is an important risk factor for homicide of women's https://www.ncki.nlm.nih.gov/pmc/articles/PMC25730214 Zuberi OS et al. CT angiograms of the next in strangulation victims: incidence of points in chiedence of points of the next in strangulation victims: incidence of points of the next factor of the next in strangulation victims: incidence of points of the next factor of the next fa

### Consensual??

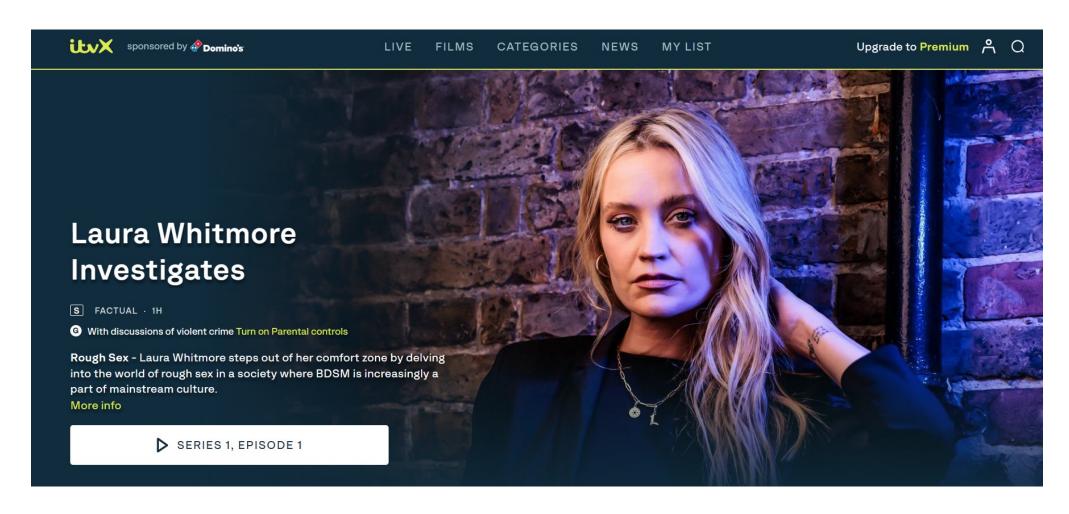
112 of the 224 cases a DASH was completed.

Dash –average score 15

### Consensual strangulation

- https://publichealth.indiana.edu/research/facultydirectory/profile.html?user=debby
- Herbenick, D., Fu, T., Svetina Valdivia, D., Patterson, C., Rosenstock Gonzalez, Y., Guerra-Reyes, L., Eastman-Mueller, H., Beckmeyer, J., & Rosenberg, M. (2021). What is rough sex, who does it, and who likes it? Findings from a probability survey of U.S. undergraduate students. Archives of Sexual Behavior, 50(3), 1183-1195.
- Herbenick, D., Fu, T., Patterson, C., & Fortenberry, J.D. (In press). Exercise-induced orgasm and its association with sleep orgasms and orgasms during partnered sex: Findings from a U.S. probability survey. Archives of Sexual Behavior.
- Herbenick, D., Fu, T., Patterson, C., Rosenstock Gonzalez, Y.R., Luetke, M., Svetina Valdivia, D., Eastman-Mueller, H., Guerra-Reyes, L., & Rosenberg, M. (In press). Prevalence and characteristics of choking/strangulation during sex: Findings from a probability survey of undergraduate students. Journal of American College Health.

### "There is no safe way to strangle"



### Children witnessing NFS

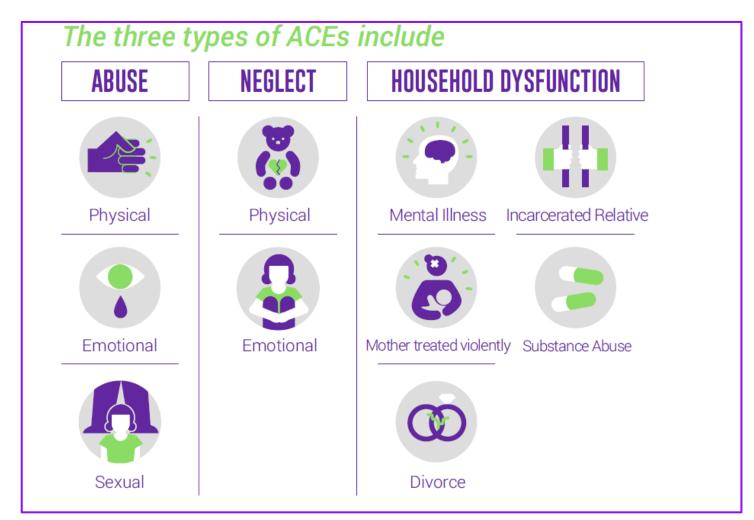
- Saint Mary's 2021 study
  - 40% strangled in their own home
  - 30% had children living at home
- San Diego Paper 1
  - Children witnessed the NFS in at least 41% of cases
- CPS Dec 2022
  - Children present in more than a third of NFS offences, according to analysis of a sample of cases by CPS
  - www.cps.gov.uk/cps/news/children-are-often-presentduring-non-fatal-strangulation-cps-analysis-shows

    Prof Catherine White 2023





### Adverse Childhood Experiences

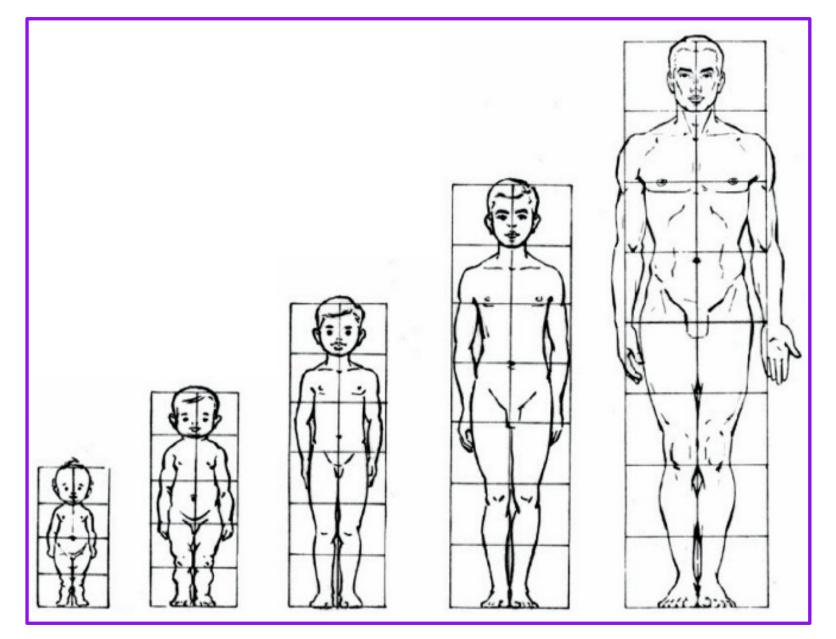




### Children as victims of strangulation

- Not mini adults
- Underestimated, little in the literature
- Anatomical differences
- Less able to report
- Incontinence?
- Deaths, cerebral asphyxia from carotid occlusion



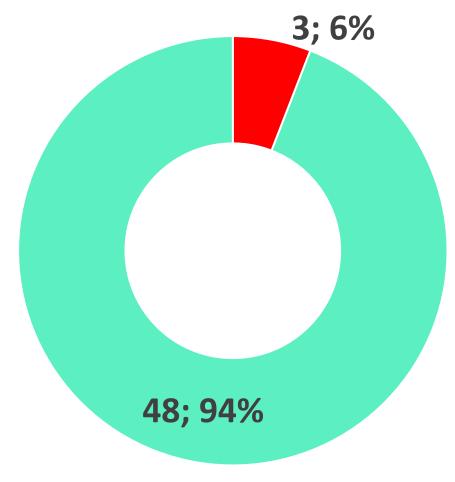


Prof Catherine White





### **Sex of 51 children reporting NFS**



Boys

Girls

Abuse, neglect and neurodevelopment across the life course: what can paediatricians and child psychiatrists do about this together?

The Rees-Illingworth keynote lecture 2023

Helen Minnis

School of Health and Wellbeing, University of Glasgow, Glasgow G12 8TB, UK

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Received 21 August 2023 Accepted 25 August 2023

#### **ARSTRACT**

Paediatricians and child psychiatrists share complex cases, often associated with abuse, neglect and other 'Adverse Childhood Experiences (ACEs)'. ACEs are associated in a dose-response relationship with both mental and physical health problems across the life span. We found that 9-year-old children who had been abused and neglected were much more likely to also have symptoms of heritable neurodevelopmental conditions (NDCs) such as ADHD, autism and intellectual disabilities. To our surprise, these were not caused by the abuse and neglect. Instead, both the NDCs and the abuse and neglect were being caused by additional genetic factors. We also found that children who have experienced abuse and neglect, and who also have NDCs, are at twice the risk of developing symptoms of severe mental illness in adolescence. This has caused us to develop our 'Double Jeopardy' hypothesis—that experiencing both abuse and neglect and NDCs in childhood might double the risk of a range of physical and mental health problems across

Both paediatricians and child psychiatrists will be faced with children who have complex problems, and they will sometimes need to work together to solve these—whether or not abuse or neglect is in the mix. Dr Corinne Rees's words were prescient: 'The truth that psychological issues and behaviour are integral to all illness indicates the necessity for every doctor to feel competent in considering their relevance'. As paediatricians and child psychiatrists, let's move forward together to overcome the mind-body dichotomy for the benefit of our patients.

Most paediatricians would agree that there is no hard divide between the mind and the body. Some paediatricians take this understanding to another level, clarifying what is needed in a way that supports their colleagues in working with families and moves the field forward. This paper is written in memory of Corinne Illingworth-Rees, who was one such paediatrician—practising in a Bristol general community paediatric clinic and specialising in recovery from neglect and abuse. She believed in reassessing accepted practice and asked paediatricians to consider how to involve Child And Adolescent Mental Health Services (CAMHS) colleagues

in overcoming the 'mind-body dichotomy'.

However, we are all busy, and I suspect paediatricians and psychiatrists usually only call on each

other if we feel stuck because cases are particularly complex. Often these complex cases are children who either have a history of severe early adversity, or who have the kinds of complex developmental problems that involve both mental and physical problems. We all know that severe early adversities. such as abuse and neglect, are major risk factors for problems that affect both the mind and the body. What we have also known for decades, but often forget, is that developmental disabilities-from cerebral palsy to Autism-increase a child's risk of experiencing abuse and neglect.2 Unfortunately, with these complex cases, paediatricians are often left 'holding the baby'. CAMHS are in crisis. Since National Health Service workforce data show that there are six times as many paediatricians (4484 wte consultants) as child psychiatrists (748 wte consultants) (https://digital.nhs.uk/; https://www.nes.scot. nhs.uk/; https://statswales.gov.wales/), some children will have their complex mind-body difficulties addressed solely in paediatric clinics, even when a child psychiatrist could have offered useful insights or treatment if only such a clinician had been available to help. Referrals to CAMHS have increased dramatically

in the last few years, likely, at least in part, due to the impact of the COVID-19 pandemic: for example the follow-up of England's Mental Health of Children and Young People Survey showed that the incidence of mental health problems in children aged 5-16 years rose from 10-8% in 2017 to 16-0% in 2020 across all age, gender and ethnic groups 4-6an upward trend undoubtedly reflected in other countries across the world. 5-7 The postpandemic cost of living crisis is also undoubtedly playing a role<sup>8</sup> in the increased prevalence of child mental health problems, since there is a well-known association between child psychopathology and poverty. Alongside the tsunami of child mental health referrals, there is an international shortage of child and adolescent psychiatrists, 5 10 11 and this can lead to workforce crises where colleagues leave the profession or are too daunted to join it in the first place. For example, in the UK, more than 14% of child and adolescent psychiatry posts are unfilled. 12 13 This means that, when paediatricians are seeing a child with complex mental and physical health problems, they might struggle to get access to child and adolescent psychiatric support. A recent international consensus statement on 'shaping the future

https://adc.bmj.com/content/early/2023/10/03/archdischild-2023-325942

# England's Mental Health of CYP survey:

Incidence of mental health problems in children aged 5-16 years

2017 10.8%

2020 16%

Check for updates

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To cite: Minnis H. Arch Dis Child Epub ahead of print: [p.lease include Day Month Year]. doi:10.1136/ archdischild-2023-325942

Catherine White





### Did he say anything?

What were you thinking?

"Now you are going to die"

"I'm going to die"

"If you tell anyone I'll come find you"

"I'd better do what he wants"

"F\*\*\*ing stay still!"

"Am I going to make it out alive?"

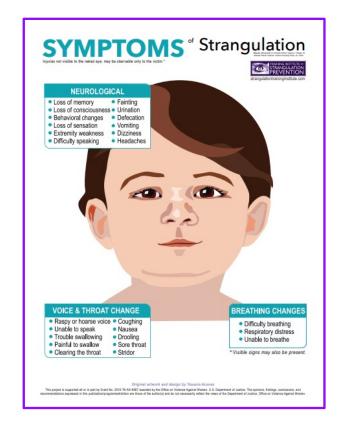
"I wanted to punch him but I couldn't"





### www.strangulationtraininginstitute.com







- Physical
- Sexual
- Neglect
- Emotional
- Financial

Abuse tends to hunt in







- Unidentified male calls emergency services
- Unconscious female found on hotel room floor
- Carpet noted to be wet.
- Wet with what?





# Lancashire Police officer admits attempted murder of woman

() 7 November





 https://www.bbc.co.uk/news/ukengland-manchester-67346591



- Husband witnessed by neighbour strangling wife.
- Police & paramedics arrive.
- Woman unconscious.
- No forensic examination.
- Injuries captured on body worn video

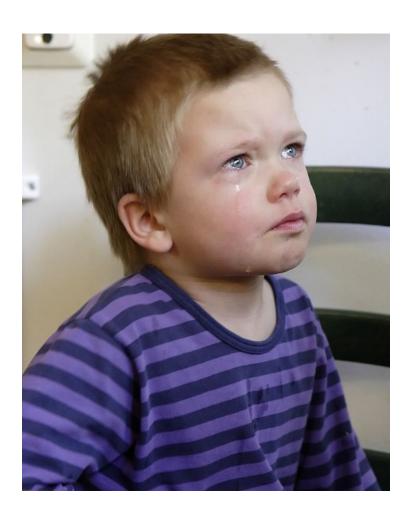




- Retraction
- Says no assault
- Injuries due to love bites







5-year-old boy

When Dad is angry, he lifts him up.



### The Darth Vadar Lift





### The Institute for Addressing Strangulation: One Year On

Tuesday 28<sup>th</sup> November On-line event contact@ifas.org.uk



### **Thank You & Stay Connected**

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LinkedIn: institute-for-addressing-strangulation/



