Enhancing Patient Safety: Introducing a Strangulation Assessment Tool in Fraser Health Forensic Nursing

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BCIT SCHOLARLY ACTIVITY WEEK

School of Nursing and Health Sciences

NOVEMBER 21, 2024.

LAND ACKNOWLEDGEMENT

I acknowledge that I work and learn on the ancestral and unceded territories of the Semiahmoo, Kwantlen, and Sto:lo peoples. I honour their enduring connection to this land and their commitment to the well-being of their communities.

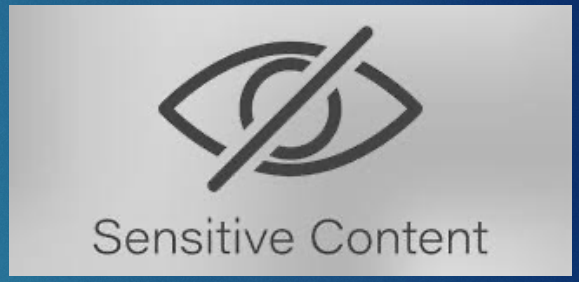
As we engage in healthcare practices, we recognize the historical traumas faced by Indigenous peoples, including the impacts of colonization, cultural disruption, and the ongoing effects of systemic injustice. We commit to fostering an environment of healing that respects and integrates Indigenous knowledge, traditions, and healing practices.

I strive to create supportive and inclusive spaces where Indigenous voices are heard and honoured and where we can work collaboratively to promote the health, well-being, and resilience of all communities. In this spirit, let us move forward with respect, gratitude, and a commitment to reconciliation.

DISCLOSURES

Relationships with entities involved in the project:
Doctorate of Nursing Practice, Aspen University
Fraser Health Forensic Nursing Service, Abbotsford Regional Hospital

This presentation discusses topics which contain graphics and material that refer to violence and sex.



I acknowledge the use of the Grammarly program to guide the use of the English language to clearly and succinctly write my original ideas. No content produced by generative AI technologies has been used in this presentation.

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This presentation is the property of the author and presenter and is being offered by the author to meet the requirements to satisfy the Doctorate of Nursing Practice degree at Aspen University.

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BCIT FUNDING & SUPPORT

I received funding to complete this project from the Institutional Research Committee:

- BCIT funded my MN at Athabasca University
- BCIT is funding my DNP at Aspen, University in the US
  - DNP vs PhD
- Faculty is supporting weekly leave to complete 1000 practicum hours Jan 2025-December 2026
- Networking & Professional Education Funding
  - ENABC, Harrison Hot Springs, 2024
  - BC Child Maltreatment Symposium, Richmond 2024
  - NENA, Quebec 2024
  - CFNA, Quebec 2024
  - Abbotsford CoP with UFV Criminology
  - CFNA Standards of Practice
  - CFNA Guidelines for Practice
  - CNA Advanced Practice Designation

CLINICAL (PICOT) QUESTION

For patients who report interpersonal violence to the Fraser Health Forensic Nursing Service, does the implementation of the Strangulation Assessment tool, as compared to the current practice of no strangulation assessment, increase the number of identified strangulated patients for timely treatment for improving patient outcomes in an 8-week period.

POPULATION & SETTING

Population

Patients* who report a recent** incidence of sexual Violence within a BC Emergency Department Setting

*Patients: All genders, irrespective of role within the incident (i.e. victim or perpetrator), age >13 years = adult/adolescent response provided by all current and emerging programs; children have an alternate response pathway, and guidelines are not for pediatric response (IAFN, 2024).

**Recent = within 7 days, which is in alignment with current program mandates & the BC Guidelines for Sexual Assault Response

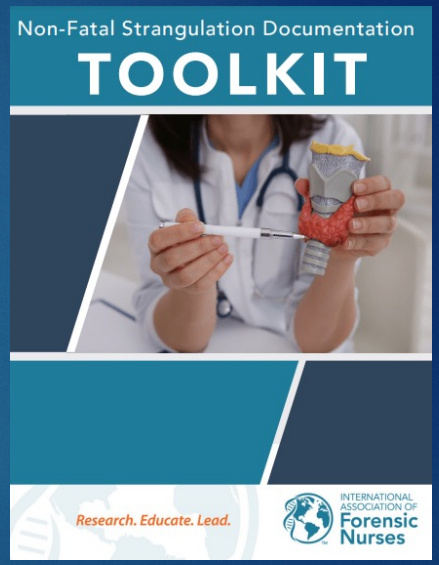
Setting

Forensic Nursing Service,
Emergency Department,
Abbotsford Regional Hospital
32900 Marshall Rd, Abbotsford,
BC, Canada V2S 0C2

INTERVENTION: IAFN STRANGULATION ASSESSMENT TOOL

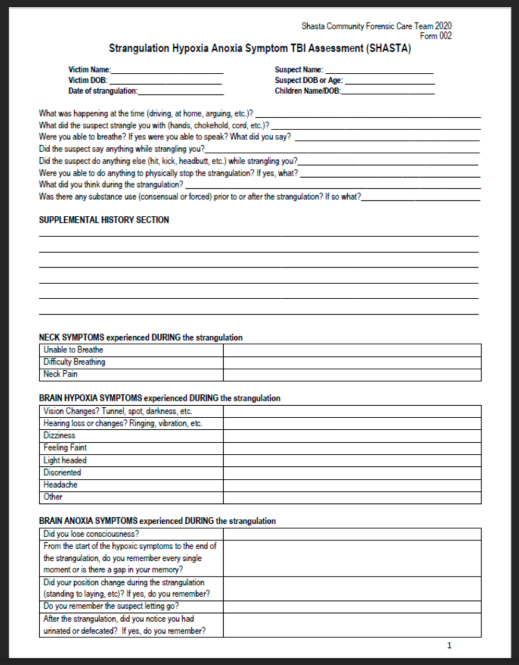
- International Association of Forensic Nurses (IAFN)
- Strangulation Toolkit
  - Assessment
  - Documentation
  - Photo-documentation
  - Adverse health outcomes
    - Physical
    - Psychological response
    - Social Impact
  - Comprehensive literature support

→ Sequelae long-term adverse health outcomes, including delayed fatality



PDSA Change: Tool

Strangulation Hypoxia Anoxia Symptom TBI Assessment (SHASTA)



Shasta Community Forensic Care Team 2020
Form 002

Strangulation Hypoxia Anoxia Symptom TBI Assessment (SHASTA)

Victim Name:_____ **Suspect Name:** _____
Victim DOB:_____ **Suspect DOB or Age:** _____
Date of strangulation:_____ **Children Name/DOB:**_____

What was happening at the time (driving, at home, arguing, etc.)? _____
What did the suspect strangle you with (hands, chokehold, cord, etc.)? _____
Were you able to breathe? If yes were you able to speak? What did you say? _____
Did the suspect say anything while strangling you?_____
Did the suspect do anything else (hit, kick, headbutt, etc.) while strangling you?_____
Were you able to do anything to physically stop the strangulation? If yes, what? _____
What did you think during the strangulation? _____
Was there any substance use (consensual or forced) prior to or after the strangulation? If so what?_____

SUPPLEMENTAL HISTORY SECTION

NECK SYMPTOMS experienced DURING the strangulation

Unable to Breathe	
Difficulty Breathing	
Neck Pain	

BRAIN HYPOXIA SYMPTOMS experienced DURING the strangulation

Vision Changes? Tunnel, spot, darkness, etc.	
Hearing loss or changes? Ringing, vibration, etc.	
Dizziness	
Feeling Faint	
Light headed	
Disoriented	
Headache	
Other	

BRAIN ANOXIA SYMPTOMS experienced DURING the strangulation

Did you lose consciousness?	
From the start of the hypoxic symptoms to the end of the strangulation, do you remember every single moment or is there a gap in your memory?	
Did your position change during the strangulation (standing to laying, etc)? If yes, do you remember?	
Do you remember the suspect letting go?	
After the strangulation, did you notice you had unnated or defecated? If yes, do you remember?	

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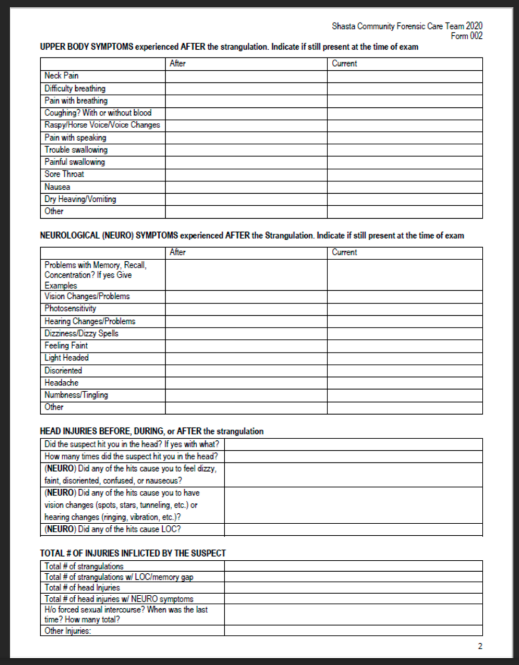

Shasta Community Forensic Care Team 2020
Form 002

UPPER BODY SYMPTOMS experienced AFTER the strangulation. Indicate if still present at the time of exam

	After	Current
Neck Pain		
Difficulty breathing		
Pain with breathing		
Coughing? With or without blood		
Raspy/Horse Voice/Voice Changes		
Pain with speaking		
Trouble swallowing		
Painful swallowing		
Sore Throat		
Nausea		
Dry Heaving/Vomiting		
Other		

NEUROLOGICAL (NEURO) SYMPTOMS experienced AFTER the Strangulation. Indicate if still present at the time of exam

	After	Current
Problems with Memory, Recall, Concentration? If yes Give Examples		
Vision Changes/Problems		
Photosensitivity		
Hearing Changes/Problems		
Dizziness/Dizzy Spells		
Feeling Faint		
Light Headed		
Disoriented		
Headache		
Numbness/Tingling		
Other		

HEAD INJURIES BEFORE, DURING, or AFTER the strangulation

Did the suspect hit you in the head? If yes with what?	
How many times did the suspect hit you in the head?	
(**NEURO**) Did any of the hits cause you to feel dizzy, faint, disoriented, confused, or nauseous?	
(**NEURO**) Did any of the hits cause you to have vision changes (spots, stars, tunneling, etc.) or hearing changes (ringing, vibration, etc.)?	
(**NEURO**) Did any of the hits cause LOC?	

TOTAL # OF INJURIES INFLICTED BY THE SUSPECT

Total # of strangulations	
Total # of strangulations w/ LOC/memory gap	
Total # of head Injuries	
Total # of head injuries w/ NEURO symptoms	
H/o forced sexual intercourse? When was the last time? How many total?	
Other injuries:	

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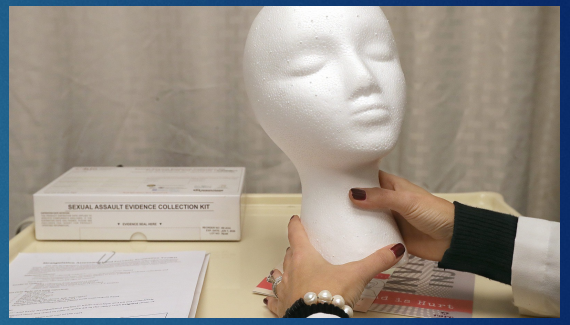
RATIONALE FOR SELECTED INTERVENTION

- 40-80% of individuals experiencing sexual violence experience co-occurring strangulation (McQuown et al., 2016)
- Following strangulation, lethal conditions with no observable external findings are possible (Saternus, 2022)
- Current tools utilized for screening for trauma do not serve cases of strangulation clinically
- Healthcare & Forensic response unique
- Demonstrates the value of forensic nursing service with a decreased healthcare consumption in future among patients



COMPARISON

- **Current State of Strangulation Assessment at Fraser Health Forensic Nursing Service**
- **Lack of Documentation**:
  - No established guidelines for thorough strangulation assessment.
- **Existing Records**:
  - Limited details captured in the Forensic Nursing Evidence Record.
  - Focus mainly on mechanisms of strangulation.
- **Informed Consent**:
  - Patients must consent to documentation.
  - No documentation if consent is declined.

Limited Clinical Knowledge for Assessing Strangulation Compared to Chest Pain

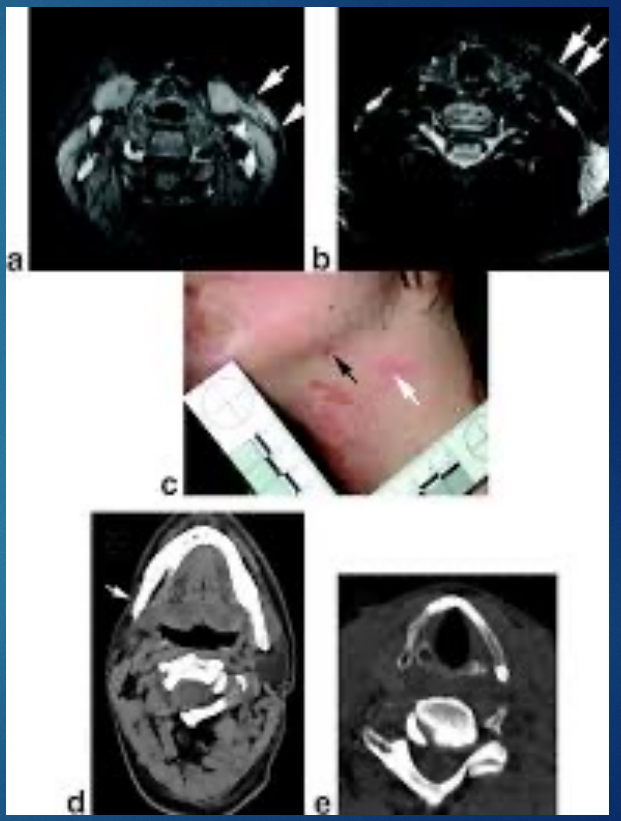
- **CLINICAL MANAGEMENT FOR PATIENTS WHO REPORT CHEST PAIN- WELL-ESTABLISHED**
  - The prevalence of acute myocardial infarction in the undifferentiated ED patient with a chief complaint of chest pain is only about 4%.
  - 4% of patients will have a serious pulmonary cause as the etiology of their pain.
  - Pulmonary embolism and aortic dissection (0.4%) are important but extremely rare causes of a chest pain
  - Over a decade, the Use of advanced medical imaging has increased for ED visits related to abdominal pain (122.6%) **and chest pain (367.6%)** (Bhuiya et al, 2010)
- **CLINICAL MANAGEMENT FOR PATIENTS WHO REPORT STRANGULATION –INCONSISTENT**
  - Patients were primarily female (129:1) and their age averaged 30.6 years.
  - Time from event to presentation varied.
  - There were no major brain or neck injuries detected (0%; 95 confidence interval, 0-2.31), and all patients were discharged in stable condition.
  - **Imaging was used in 17.7% of patients**
  - Certain signs and symptoms were more common than others, and documentation frequency of signs and symptoms varied (Stellpflug, 2022)

OUTCOMES

- **Health**
  - **Consistent Access to Expertise**
    - Enhanced coordination of comprehensive patient response
  - **Enhanced Collaboration**
    - Working part of MDT
    - Streamline communication
    - Comprehensive response
- **Forensic**
  - **Standardized Forensic Examination**
    - Strangulation-specific data collection
    - Awareness of relevant laws and evidentiary value for assessment data
- **Societal**
  - **Routine Screening & Legal Compliance**
    - Need for routine screening in populations who experience violence
    - Ensures thoroughness and effectiveness

MEASUREMENT

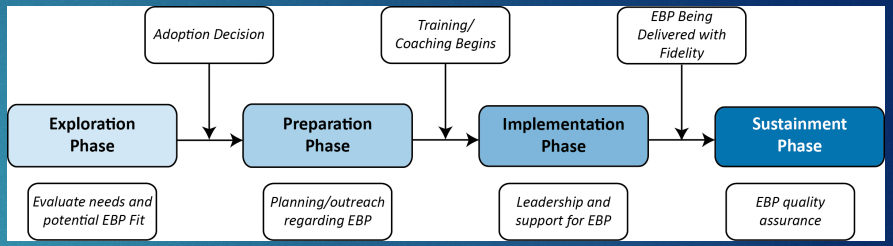
- **Accuracy of Strangulation Detection**
  - Pre- and Post-Implementation Comparison
  - Diagnostic accuracy (# false negatives vs false positives)
- **Quality of Patient Care**
  - Timeliness of care
  - Comprehensive documentation
- **Compliance and Reporting**
  - Integration with existing protocols
  - MDT Coordination?



TIMELINE

DNP Course	Course Tasks	Date/ Timeline	Fraser Health Forensic Nursing Objectives	EPIS Framework Phase
DNP 845, Theoretical and Scientific Underpinnings	Select Site and Preceptor Submit Immersion Forms	April 9 – June 4, 2024.	Pre-immersion	**Exploration Phase**
DNP 850, Nursing Practice, Professionalism & Scholarship	Meet OFE Requirements Approval Letter PICOT Development Proctored Assessment	August 13, - October 7th, 2024	Pre-immersion Select Site: Fraser Health Forensic Nursing Service Select Preceptor: Dr. Dave Melnychuk and/or Dr. Lisa Creelman	
DNP855 Organizational Leaderships & Systems-based Practice	Project Team Selection Chapter 1- Introduction & Overview, Background of Problem	October 21 – December 16, 2024.	Immersion 125 hours (16 hours per week x 8 weeks) Alignment of Evaluation Criteria	
DNP860 Evidence-based Practice for Quality Improvement	Literature Review Chapter 2 – Literature Review	January 6 – March 3, 2025	Immersion 125 hours (16 hours per week x 8 weeks) Literature Support for Evaluation Criteria	**Preparation Phase**
DNP 865, Healthcare Technologies and Informatics		April 7 – June 2, 2025.	Immersion 125 hours (16 hours per week x 8 weeks)	
DNP 870, Health Policy, Advocacy and Partnerships	CITI Training Mid-Program Oral Proctored Assessment Chapter 3 - Methodology	June 23 – Aug 18, 2025.	Immersion 125 hours (16 hours per week x 8 weeks)	
DNP 875, Population Health and Person-Centred Care	Proposal Defense	September 8 – November 3, 2025.	Immersion 125 hours (16 hours per week x 8 weeks)	
DNP 880, Strategic Leadership & Business Management	IRB	January 5 – March 2, 2026. *Start two weeks early	Immersion 125 hours (16 hours per week x 8 weeks)	
DNP 885, Strategic Planning and Financial Management Implementation	Implementation	April 6 – June 1, 2026. *Start two weeks early	Immersion 125 hours (16 hours per week x 8 weeks)	**Implementation Phase**
DNP 890 Data Analysis	Chapter 4 – Next Steps, Sustainment and Growing Forensic Nursing Programs Final Oral Proctored Assessment	September 1 – October 27, 2026.	Immersion 125 hours (16 hours per week x 8 weeks)	**Sustainment Phase**
DNP 899 Post-Immersion Capstone	Chapter 5 – Future Research Activities DNP Final Defense Dissemination	January 5 – March 2, 2026.	Dissemination My plan is to publish in the Journal of Forensic Nursing, International Association of Forensic Nurses, & Present at the IAFN Scientific Assembly in October 2026	

EPIS Framework for Project



Within the 8 weeks of data collection:

- Focus on immediate assessment
- Constraints with marginalized & vulnerable populations
- Objectivity & independence
- Privacy & data exchange constraints
- Practical considerations

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