



## **9<sup>TH</sup> ANNUAL TRI CAMPUS SYMPOSIUM PROGRAM**

Time	Session	Location	
8:00-8:45	Registration	Student Lounge	
	Breakfast		
8:45-9:05	Opening Remarks	Student Lounge	
9:05-10:05	Keynote Speaker	Student Lounge	
	Julie Caffin		
10:05 – 10:35	Break & Poster Session	Student Commons	
10:35– 11:55	Presentation Session	Student Lounge	
11:55 – 12:40	Lunch	Student Lounge	
12:40 – 13:50	<b>Concurrent Sessions</b>	Rooms 114 and 109	
13:50 – 14:20	Afternoon Break & Poster Session	<b>Student Commons</b>	
	Sponsored by Kingston Health Sciences Centre		
14:20 – 14:40	Closing Remarks and Door Prizes	Student Lounge	
14:40 - 15:30	Nursing Lab Showcase	Nursing Labs	



SESSION NUMBER	ABSTRACT TITLE	AUTHOR(S)	TIME	LOCATION	SESSION FACILITATOR
<b>1A</b>	Study By the Case Study: Various Applications of Case Studies to Promote Science Teaching and Learning	Hisham S. Elbatarny & Jordan Harry	10:40- 11:05	Student Lounge	Hisham Elbatarny
1B	Students' Perspectives on Peer Assessment in Practical Nursing Skills Labs: Outcomes and Recommendations.	Helen N. Obilor & Suzanne Schell	11:05- 11:30	Student Lounge	Hisham Elbatarny
<b>1C</b>	Enhancing Course Mentorship Using Student and Course Mentor Feedback	Jayan Anpalahan & Maha Othman	11:30- 11:40	Student Lounge	Hisham Elbatarny
1D	Introduction of Indigenous Wellness Wheel in SLC Nursing Labs	Doris McDonald & Shirley Chaisson	11:40- 11:50	Student Lounge	Hisham Elbatarny
2A	Transparent by Design: Supporting Rural Nursing Students Through Asynchronous Learning, Authentic Assessment, and Ethical AI Use	Colleen MacDonald	12 :40- 13 :05	Room 109	Tanis Brown
<b>2B</b>	Addressing Gaps in Primary Care (PORCH)	Sierra Halligan & Isabella Isbester	13:05- 13:15	Room 109	Tanis Brown
<b>2C</b>	Utilization of AI Chatbots in Entry-Level Nursing Education: Initial Findings from a Scoping Review	Shawn Luo	13:15- 13:25	Room 109	Tanis Brown
<b>2</b> D	Bridging Gaps in Reproductive Health Education: Developing an Interdisciplinary Breadth Elective on Advanced Women's Health	Keri-Ann Berga & Tanis Brown	13:25- 13:35	Room 109	Tanis Brown
<b>2</b> E	Applying for a CCSIF grant: opportunities and lessons learned	Julie Dyke & Fiona Jager	13:35- 1345	Room 109	Tanis Brown
3A	Community Treatment Orders in Ontario: Agreed Areas for Improvement	Fiona Jager	12:40- 13:05	Room 114	Maha Othman
3B	Catch the Clot: A Global Systematic Review of Venous Thromboembolism Incidence Across Solid Cancer Types	Jordan Harry	13:05- 13:30	Room 114	Maha Othman
<b>3C</b>	Efficacy and Safety of Tranexamic Acid in Traumatic Brain Injury: A Systematic Review and Meta-analysis of Randomized Controlled Trials – Study Protocol	Andrew Foster	13:30- 13:40	Room 114	Maha Othman
3D	Gerontological Nursing and the Science of Aging: When Two Become One	Afshan Jabeen & Andrea Rochon	13:40- 13:50	Room 114	Maha Othman

POSTER NUMBER	TITLE	AUTHOR(S)
1	Colorectal Cancer: A Nurse's Guide to Recognition, Management, and Patient Education	Jayan Anpalahan
2	The Clinical Utility of ESR and CRP in Inflammation: Evidence from Literature and Guiding Effective Application	Vera Zhur
3	A Nurse's Guide to Guillain-Barré Syndrome	Sarah Kamm McEvoy and Natalie Garvey
4	Parkinsonism in Focus: A Comprehensive Educational Tool for Nursing Professionals	Maya Laurito
5	Barriers to Telehealth Implementation for Palliative Patients in Rural Canadian Communities	Joy Allen and Erin Lee
6	Advancing Knowledge of Thrombosis Risk in Hormonal Contraception Users: A Thromboelastography Study and Educational Outreach	Stefania Coroneos and Maha Othman
7	Investigating the Relationship Between Red Cell Biomechanics and Coagulation Profile in Women's Cancers and Healthy Controls Using Machine Learning	Baran Dastaran and Maha Othman
8	Defining Laboratory Reference Values for Red Blood Cells' Rheological Mechanics using Syllectometry	Yousra Tera

## **SPECIFIC POSTER SESSIONS:**

During coffee and lunch breaks: 10:05 - 10:40 a.m. and 13:50 - 14:20 p.m.

## **POSTER AREA IS LOCATED IN STUDENT COMMONS**



## **Keynote**

## Julie Caffin President and Chief Executive Officer

Julie Serves as the President and CEO of Brockville General Hospital. She joined Brockville General in 2017 as Senior Vice President, Chief Nurse Executive and Chief Operating Officer. Previous positions have included frontline and leadership positions in both community and tertiary academic health care organizations.



Julie has a Bachelor of Arts Degree from Carleton University, a Bachelor of Science in Nursing, Honours Degree from York University, and a Master of Health Sciences Degree from the University of Toronto. She is certified in Advanced System Leadership from the University of Toronto's Rotman School of Management Executive Program and is a Fellow in the Ivy Academy Community Shift Executive Leadership Program.

Julie has successfully completed the Advanced Good Governance certification through the College Centre of Board Excellence. She is an active member of the College of Nurses of Ontario and has an Adjunct Academic appointment in the Queen's University School of Nursing.

Julie has received recognition awards from Kingston Health Sciences Centre including the Team Award for Leadership with the Emergency Department Information System Implementation Project and Team Award for Care for her efforts introducing the Interprofessional Collaborative Practice Model. She was nominated to the Canadian College of Health Leaders for a National Nursing Leadership Award.

Julie was appointed to the St. Lawrence College Board of Governors in September 2018 and currently serves as Chair. She is also a member of the Board of Directors at St. Vincent de Paul in Kingston.



## ORGANIZATION PLANNING COMMITTEE:

Fiona Jager
Sasha Murray
Valerie Andrecyk
Maha Othman
Hisham Elbatarny
Nicola Thomas
Loree Lalonde
Tanis Brown
Jordan Harry
Aima Airiavbere

## ABSTRACT REVIEW SUBCOMMITTEE:

Valerie Andrecyk Tanis Brown Shawn Luo Fiona Jager Jordan Harry

## **STUDENT PLANNING**

**TEAM:** 

Jordan Harry Naomi Kake Jayan Anpalahan

Erin Lee

Maya Laurito
Ty Conlin
Dia Shahzad
Reese McShane
Skylar Wilson
Cassidy Cameron
Natalie Garvey
Nelson Williams







## Study By the Case Study: Various Applications of Case Studies to Promote Science Teaching and Learning

Zsuzsanna Keri (Kingston Health Sciences Centre), Jordan Harry (St. Lawrence College), Youssef Assar (St. Lawrence College), Hisham S. Elbatarny (St. Lawrence College)

## **Abstract**

Background: Case-based learning in health sciences education bridges theoretical knowledge with real-world clinical practice. It is an instrumental pedagogical tool in enhancing teaching and learning in various science disciplines. By engaging students with realistic scenarios, case studies promote the application of concepts to complex clinical problems, enhance student engagement and critical thinking, and expand skill acquisition beyond curricular outcomes.

Purpose/methods: Recognizing its adaptability, we successfully incorporated diverse case study approaches into biomedical chemistry and pharmacology disciplines. This scholarly work describes three learning activities: student-led case study presentations, complex multi-stage case studies, and online interactive case studies. Student-led presentations were either based on faculty-predeveloped or student-generated cases, with interactive components emphasized. Complex multi-stage case studies integrated multiple nursing-related topics and were analyzed collaboratively in large groups, fostering deeper understanding. Online interactive case studies featured an innovative platform developed by the research team, presenting realistic scenarios with integrated questions and explanatory feedback to strengthen students' biomedical chemistry knowledge. In this presentation, we will outline these three approaches and explain the observed impact on students' engagement and learning.

Impact: Together, these methods highlight the pedagogical advantages of case-based learning, showcasing its adaptability in improving engagement, critical thinking, and preparation for the complexities of clinical practice.





## Students' Perspectives on Peer Assessment in Practical Nursing Skills Labs: Outcomes and Recommendations.

Helen N. Obilor, Suzanne Schell - School of Nursing, St. Lawrence College

## **Abstract**

In nursing education, the development of clinical skill competence is essential, and assessment strategies play a critical role in shaping students' learning experiences and outcomes. As part of a learning evaluation strategy and to enhance psychological well-being, peer assessment was introduced during the Winter term as a pilot initiative in the clinical skills laboratory for first-year Practical Nursing students. This change prompted the need to gather evidence on how students perceive this approach, particularly in terms of its educational value, emotional impact, and overall credibility. Understanding these perceptions is crucial for evaluating the effectiveness and sustainability of peer assessment within the curriculum. We conducted a survey aimed at examining practical nursing students' perspectives on peer assessment of clinical skills and its perceived impact on their skill development and levels of test anxiety. Students were eligible to participate if they had taken part in at least one of the two peer assessment sessions. Data were collected using a multiformat questionnaire, which included Yes/No questions, Likert scale items, rating scales, and open-ended questions to gather both quantitative and qualitative responses. The collected data are currently being prepared for analysis. Findings from this study will help inform future instructional practices in nursing education by identifying student-perceived benefits and limitations of using peer assessment to support practical skill development.





## Enhancing Course Mentorship Using Student and Course Mentor Feedback

Jayan Anpalahan, Jordan Harry, and Dr. Maha Othman

## **Abstract**

Background and Aim: The Course Mentorship (CM) program is an innovative peer-support model that extends beyond traditional tutoring by engaging upper-year students as mentors for an entire class. At SLC, initially developed in 2020 to address challenges of virtual learning during the COVID-19 pandemic, this model has since become an integral component of academic support in foundational science courses. At the end of the Winter 2025 semester, surveys were conducted to gather feedback from BScN students and course mentors with the purpose of examining usefulness, improvement/standardization, and guiding future mentors.

Methods: Two online surveys were designed by course mentors and faculty and conducted anonymously for quality assurance using Microsoft Forms: one gathered students' feedback on attendance (live or recordings), quality of CM sessions and what could be improved, main barriers, and overall usefulness. The other survey captured course mentors' experiences, including benefits, challenges, workload, compensation, and overall usefulness.

Key Results: Students mainly attended live sessions (n=32) and valued practice questions (n=33) and relating concepts to clinical practice (n=25). The main barriers were time conflicts (n=6) and lack of awareness of CM (n=5). Mentors reported a deeper understanding of the material and stronger teaching skills. Challenges included student engagement, tech/scheduling issues, and workload. Overall, all students and course mentors found CM useful with suggestions to expand to nursing courses.

Impact: The science CM program remains valuable for mentors and mentees with potential for expansion to nursing courses. The feedback gathered from these surveys highlights opportunities to further developing and optimizing the program.





## Introduction of Indigenous Wellness Wheel in SLC Nursing Labs

Doris McDonald & Shirley Chaisson

### Abstract

Recognizing a gap between nursing student curricula and practical application in nursing labs, an Indigenous Wellness Wheel was created and is now displayed in the Nursing Labs at St. Lawrence College (SLC). This visual piece of art is intended to support the integration of holistic care from an Indigenous healing perspective, fostering a more inclusive and culturally safe approach to healthcare. Aligned with Indigenous Ways of Knowing and Being, what students learn in the classroom can now be applied in the PSW, PN, and BScN skills labs, as well as in both low- and high-fidelity simulation labs. This initiative encourages students to extend their care beyond the physical realm by incorporating intellectual, emotional, and spiritual dimensions into their practice.

The presence of the Wellness Wheel serves as a powerful reminder to both students and faculty of the importance of maintaining balance in their own lives, thereby enhancing their ability to support patients in achieving holistic wellbeing.

Introducing these concepts within the lab environment helps ensure that key aspects of Indigenous health practices are embedded in students' training—supporting the broader goal of delivering culturally safe, ethical, and competent care to all patients.

Currently, consultation and planning are underway to explore the possibility of conducting research on the impact and use of the Wellness Wheel within SLC's nursing labs. The intention is to pursue this research through the lens of Indigenous Research Methodologies.





Transparent by Design:
Supporting Rural Nursing
Students Through
Asynchronous Learning,
Authentic Assessment, and
Ethical Al Use

Colleen MacDonald, RN, BScN, MSN at School of Nursing St. Lawrence College

## **Abstract**

Asynchronous delivery has become a critical pathway for nursing education in rural and remote communities, yet it often creates barriers in student engagement, assignment clarity, and assessment authenticity. These challenges are compounded by the growing presence of generative AI in student work, raising concerns about academic integrity and the development of clinical judgment. This presentation highlights a work-in-progress initiative that applies the Transparency in Learning and Teaching (TILT) framework to address these gaps in the Practical Nursing program at St. Lawrence College. Through the redesign of a final-semester capstone-style assignment, students were provided with clear, structured guidance around the purpose, task, and criteria for success, along with transparent expectations for the ethical use of AI tools. Early student feedback and observational data suggest this will improve engagement, reduce misuse of AI, and provide more authentic, reflective demonstration of professional competencies. The transparent design supported rural learners in navigating asynchronous expectations while promoting equity, selfregulation, and clarity. This model has implications for curriculum design across post-secondary nursing education, offering a flexible and inclusive strategy for faculty seeking to prepare students for professional practice in both digitally connected and geographically isolated environments.





## Addressing Gaps in Primary Care (PORCH)

Sierra Halligan, Isabella Isbester

## **Abstract**

Context: Residents in the KFL&A region face significant challenges accessing primary healthcare, highlighting the need for better services. In response, KCHC launched the Portable Outreach Care Hub (PORCH) in 2022, utilizing a recreational vehicle (RV) to deliver healthcare to vulnerable populations. In 2023, KCHC partnered with SLC and its nursing program to conduct a needs analysis aimed at expanding the PORCH RV's reach and services.

Aim: This project aims to address the gap in healthcare access for marginalized and rural communities in the KFL&A region by leveraging SLC BScN faculty and students' expertise, enhancing community engagement, and providing an innovative healthcare solution

Outcomes: Identified 13 key gaps in primary care that can be addressed through the utilization of BScN students through the form of a clinical placement.

Impact: People in rural areas are seeking care in a large variety of healthcare including women and children's health, cardiovascular health, STI testing, vaccines and diabetes.





# Utilization of AI Chatbots in Entry-Level Nursing Education: Initial Findings from a Scoping Review

Shawn Luo, MN, BScN, RN (St. Lawrence College), Dr. Elizabeth Moulton, RN (St. Lawrence College), Angélique Roy, BHums, MA, MI (Queen's University)

## Abstract

AI chatbots, including tools like ChatGPT, have emerged as transformative innovations in healthcare education. Despite their potential, their integration into entry-level nursing education remains underexplored, and existing reviews often omit grey literature critical to understanding this evolving field.

This scoping review aims to systematically map the existing body of evidence on the utilization of AI chatbots within entry-level nursing education programs and among nursing faculty. Following the JBI methodology, a comprehensive search of both scholarly and grey literature was conducted across multiple databases, including Embase, MEDLINE, CINAHL, and Web of Science, as well as grey literature sources such as OpenGrey and PLOS. The initial findings from these searches, focusing on the application of AI chatbots by students and faculty in entry-level nursing program, will be presented. Findings will provide a comprehensive overview of how AI chatbots are currently utilized in entry-level nursing education, identifying gaps in the literature and informing future educational practices and research. In regions where access to educational resources and faculty mentorship are often limited, AI chatbots may offer innovative solutions to address these gaps. This scoping review not only maps the emerging role of AI chatbots in nursing education but also highlights their potential to transform learning experiences for students in underserved, geographically isolated settings.





Bridging Gaps in
Reproductive Health
Education: Developing an
Interdisciplinary Breadth
Elective on Advanced
Women's Health

Keri-Ann Berga, St Lawrence College; Tanis Brown, St Lawrence College

## **Abstract**

This presentation outlines the development of an innovative undergraduate breadth elective focused on advanced women's health through a reproductive justice lens. Designed to address persistent gaps in reproductive and perinatal health education, the course explores preconception and fertility to abortion care and human milk feeding through interdisciplinary frameworks. Integrating biological, social, ethical, and policy perspectives, the course challenges students to critically engage with how race, gender, class, disability, and systemic oppression impact reproductive health outcomes and access to care. Grounded in the principles of reproductive justice, the course equips students with the foundational knowledge and critical thinking skills necessary to pursue professional pathways in health, policy, and advocacy. This presentation will share pedagogical strategies, module development, and interdisciplinary collaborations involved in course creation, with the goal of inspiring similar curricular innovations that prepare future professionals to address inequities in women's health at a rural, urban and global level.





## Applying for a CCSIF grant: opportunities and lessons learned

Julie Dyke, RN, MScN, Fiona Jager, RN, PhD

## **Abstract**

Background: With recent changes to the college system, it is important for the School of Nursing to identify critical sources of funding to support scholarly work of faculty. The College and Community Social Innovation Fund (CCSIF) is NSERC funding that is allocated solely for colleges' research projects conducted in partnership with local agencies. Many Ontario colleges are successful at receiving funding and St. Lawrence College could also seize this opportunity.

Purpose: By the end of the presentation, participants will be able to identify the CCSIF as a viable grant for the college, it's associated funding opportunities and common challenges faced when applying. The CCSIF application process is rigorous, and it is important to share lessons learned notably regarding how to engage partners, writing the application, creating the budget etc.

Impact: This will include an overview of the criteria, the different components of an application and highlights of key challenges and lessons learned. With this presentation, participants will be encouraged to identify how the CCSIF may be an opportunity to support their research projects.





## Community Treatment Orders in Ontario: Agreed Areas for Improvement

Fiona Jager, Sam Boyle

## **Abstract**

Background: Community Treatment Orders (CTOs) are a medico-legal intervention that allows individuals with serious mental health conditions to receive mandated treatment while living in the community. They have been in use in Ontario since 2001, without major changes. Previous research indicates areas of conflict between health care providers and legal professionals' views on how the CTO could be improved; this conflict may have acted as a barrier to productive policy changes.

Aim: This study aimed to discover areas where multiple stakeholders agreed that the CTO would benefit from changes or improvements.

Methods: This study consisted of in-depth interviews and focus groups, with a total of 72 participants, including clients with CTOs, family members, nurses, psychiatrists, lawyers, and Consent and Capacity Board members. Results: The data revealed eleven areas of agreement. Some of the strongest areas of agreement include data collection by the Ministry of Health regarding CTOs, police involvement, provision of Assertive Community Treatment, Consent and Capacity Board hearings, support for Substitute Decision Makers, and client involvement in treatment.

Impact: This research can help to focus the work of policy makers, clinicians and legal professionals on areas where changes are likely to be embraced by a diversity of stakeholders. This could lead to better care provision for a highly marginalized segment of society.





# Catch the Clot: A Global Systematic Review of Venous Thromboembolism Incidence Across Solid Cancer Types

Jordan Harry MSc, Regan Bucciol BSc, Deirdre Finnigan BSc, Hussein Hashem, Ahmad Araki MBBS, and Maha Othman MD MSc PhD

### Abstract

Background: Cancer-associated thrombosis, typically venous thromboembolism (VTE), is a leading cause of morbidity and mortality and can adversely impact treatment protocols. Despite the prevalence of VTE in cancer, no singular source consolidates globally reported VTE incidence rates. Objective: This systematic review aims to compile existing literature to report the incidence of VTE by type of solid cancer worldwide.

Methods: Adhering to PRISMA guidelines, three databases (MEDLINE, Embase, Cochrane Library) were searched for relevant articles. All studies were written in English, assessed solid cancers in adults, and reported the incidence of VTE. A total of 3077 articles were screened, and 124 articles were included for extraction. The cumulative incidence of VTE by country and type of solid cancer was determined.

Results: The reported overall incidence of VTE across all solid cancers was 9.74%. The highest reported incidence of VTE was in gastroesophageal cancer (15.43%), whereas the lowest incidence was in prostate cancer (1.58%). The two most reported on cancers were colorectal (n=23) and lung cancer (n=23). The reported incidence of VTE in colorectal cancer was highest in Mexico (22.10%), and lung cancer was highest in Canada (32.91%).

Impact: Consolidating global data on VTE incidence in solid cancer identified high-risk cancers and areas needing further investigation to reduce VTE occurrence in cancer patients. Due to the high rates of cancer-associated thrombosis, healthcare professionals must identify those at elevated risk of VTE, monitor for signs and symptoms, provide patient education to inform about personalized risk, and ultimately improve patient outcomes.





Efficacy and Safety of
Tranexamic Acid in
Traumatic Brain Injury: A
Systematic Review and
Meta-analysis of
Randomized Controlled
Trials – Study Protocol

Drew Foster (BScN 4th year), Maha Othman (MD MSc PhD), Mackenzie Foster (BScN, MPH, PHCNPD Candidate), Elizabeth Moulton (BScN, MScN, PhD)

### **Abstract**

Background and Aim: Traumatic brain injury (TBI) remains a leading cause of morbidity and mortality globally, often made worse by intracranial hemorrhage (ICH). Tranexamic acid (TXA), an antifibrinolytic agent, has shown promising results in managing hemorrhages in trauma settings. TXAs effectiveness and safety remain controversial, with randomized controlled trials (RCTs) showing inconsistent findings in TBI patients.

This systematic review and meta-analysis aims to evaluate existing RCT's comparing TXA dosing strategies in trauma patients with a TBI. The primary goal is to determine the dosing strategy that shows the largest improvement in neurological outcomes and the lowest mortality rates. Secondary outcomes include assessing the impact of different TXA doses on the progression of ICH, neurosurgical intervention, and adverse events such as thromboembolic complications.

Method: This study will follow PRISMA guidelines. A comprehensive search strategy will be developed, incorporating relevant MeSH terms and keywords. Eligible RCT studies will be identified through systematic searches of MEDLINE, EMBASE, CINAHL, Cochrane databases and Clinical trial registries (e.g., ClinicalTrials.gov). Studies will be excluded if they are observational, case reports, or reviews, if they focus solely on extracranial trauma, or if they are animal or in vitro experiments. Two independent reviewers will screen titles, abstracts, and full texts, and assess methodological quality and perform study selection and quality assessment using the Cochrane Risk of Bias Tool 2.0. Data will be synthesized quantitatively through meta-analysis techniques.

**Results/ Outcomes**: The expected outcome of this research is to provide guidance regarding TXA dosing protocols in TBI, improving clinical decision making, patient outcomes, and potentially reducing trauma-related mortality and morbidity.





## Gerontological Nursing and the Science of Aging: When Two Become One

Afshan Jabeen (SLC) and Andrea Rochon (SLC)

## **Abstract**

Development Background: This presentation reflects on our experience co-developing and co-teaching a gerontological elective for undergraduate nursing students. This elective was unique in that it blended content and teaching from both a science and nursing professor.

Aim: The aim of the course was to provide students with an understanding of gerontological nursing and the science of aging. The purpose of this presentation is to share our experience developing and facilitating the course for the first time in Winter 2025.

Outcomes: Students demonstrated their knowledge through various assessment methods, including case presentations, infographics, and scholarly papers. These assessments helped students increase their awareness of aging-related challenges and diseases, while also fostering a deeper interest in gerontological care and research.

Application: We had positive feedback from students about the content and course delivery. The students were engaged and developed insight into the myths and stereotypes related to aging, the strengths and values of older adults, and the physical, psychosocial, cultural, and socioeconomic challenges faced by this population.







# Colorectal Cancer: A Nurse's Guide to Recognition, Management, and Patient Education

Ty Conlin, Jayan Anpalahan, Jordan Harry, Nelson Williams, Ava Handley, Kiara Vecchio, and Dr. Maha Othman

## **Abstract**

Background and Aim: Colorectal cancer (CRC) is the third-most diagnosed cancer and the second-leading cause of cancer mortality worldwide. This infographic aims to provide a comprehensive overview of CRC for nurses. It will outline CRC's pathophysiology, clinical manifestations, staging, diagnostics, treatment modalities, and prevention strategies.

Method: A literature review was conducted using Google Scholar to identify publications on the pathophysiology, clinical manifestations, diagnosis, and treatment of CRC. This research fulfilled a requirement for the BScN pathophysiology course and aimed to create an educational resource for nurses.

Outcomes: The pathogenesis of CRC involves genetic dysregulation of cell division, alteration to the gut microbiome, chronic inflammation, cellular proliferation, adenomatous polyp formation, and the eventual progression to malignancy. Clinical presentation may include anemia, bowel habit changes, and blood in the stool. CRC diagnosis is confirmed via colonoscopy and biopsy. Standard treatments range from surgical resection and removal of polyps, chemotherapy, radiation, targeted therapies, and immunotherapy. Advanced stages involve palliative care. Screening methods like the fecal immunohistochemical test and colonoscopy are key for early detection, for individuals over 50 years of age, and can significantly improve prognosis. Patient education should include preventative measures like physical exercise. increased dietary fibre, and smoking cessation. Impact: By understanding CRC, nurses can aid patients in recognizing signs and symptoms, provide higher quality care for diagnosed patients, and ensure effective patient education. These aspects of CRC can provide nurses with direction for care and next steps within inpatient and outpatient settings.





# The Clinical Utility of ESR and CRP in Inflammation: Evidence from Literature and Guiding Effective Application

Vera Zhur<sup>1</sup>, Assar<sup>1,2,3</sup>, Fatin Mustafa<sup>1</sup>, Maha Othman<sup>1,3</sup>

Affiliations: 1) Department of Biomedical and Molecular Sciences, School of Medicine, Faculty of Health Sciences, Queen's University, Kingston, Ontario, Canada 2) PGY 2 Internal Medicine, University of British Columbia, Vancouver, BC 3) School of Baccalaureate Nursing, St Lawrence College, Kingston, Ontario, Canada

## **Abstract**

Background: Erythrocyte sedimentation rate (ESR) and Creactive protein (CRP) are acute phase reactants widely used as markers in assessing inflammation. ESR is a nonspecific laboratory test that measures the rate at which red blood cells settle in a tube. CRP is a non-specific acute-phase protein produced rapidly in response to inflammatory cytokines.

Aim: We conducted a comprehensive literature review to compare ESR and CRP, closely examine the evidence on their roles, applications, and limitations in clinical settings. By understanding how these markers differ, we can determine their utility in clinical decision-making in inflammatory conditions.

Outcome: ESR rises with active inflammation but is also influenced by many non-inflammatory factors. Its slower response makes it valuable for monitoring chronic conditions. Conversely, CRP is more sensitive and is produced rapidly in response to the release of cytokines like IL-6, making it crucial for monitoring acute changes. Comparative analysis reveals key differences between these tests, yet both remain integral in clinical practice for disease diagnosis and monitoring. This analysis yielded an evidence-based algorithm that incorporates these markers while taking into consideration varying degrees of clinical suspicion.

Application: ESR and CRP are valuable tools for assessing inflammation, each with unique strengths and limitations. In patients with uncertain clinical suspicion, neither test alone can change the course of treatment, but both can help guide clinical decisions. The proposed algorithm provides a structured approach to improve the applicability and effectiveness of these markers. By assisting clinicians in interpreting results in context with the patient's overall clinical picture, the algorithm improves post-test probabilities.





## A Nurse's Guide to Guillain-Barré Syndrome

Natalie Garvey, Alyssa Hunt, Hannah Gordanier, Holly Gordanier, Sarah Kamm McEvoy, Allison Kropinski, Maha Othman

## **Abstract**

Background: Guillain-Barré syndrome affects around 100,000 people globally, leading to weakness, paralysis, and severe pain. Despite current treatment, 2-10% of those affected may die, and 20% will permanently lose their mobility.

Purpose: The purpose of this research is to provide a concise, easy to read guide for nurses about Guilian-Barré Syndrome, focusing on clinical features of the disease, nursing responsibilities, and patient care. An increased understanding of the disease will enable nurses to be more confident in caring for patients with Guillain-Barré Syndrome and in addressing questions, including those related to vaccination risk factors.

Methods: Literature review was conducted using Google Scholar, CINAHL, and MEDLINE to identify relevant publications regarding the pathophysiology and clinical manifestations of Guillain-Barré Syndrome and its impact on patients. Keywords included in the search were: "Guillain-Barré Syndrome," "pathophysiology," and "clinical relevance." The relevant sources were further reviewed, and key findings were synthesized to create an educational poster. This topic was selected as part of the pathophysiology course for the BScN program, with the goal of creating an educational resource for nurses.

Findings Guillain-Barré Syndrome is an autoimmune disease of the peripheral nervous system typically triggered by bacterial or viral infections of the gastrointestinal tract and respiratory system. The condition can lead to progressive weakness, cardiac dysthymias, pulmonary embolism, and respiratory distress. Nurses have a critical role which includes administering medication, monitoring vitals, conducting thorough assessments, preventing infection, providing bowel and urinary care, offering emotional support, and most importantly, nurses are responsible for ongoing patient education as their needs and management evolve throughout the course of the illness.

Implications Understanding signs and symptoms of Guillain-Barré Syndrome, along with the nurse's scope of practice helps to best support their client's diagnosis, treatment, and recovery..





## Parkinsonism in Focus: A Comprehensive Educational Tool for Nursing Professionals

Maya Laurito, Makenna Marlow, Grace Cameron, Grace Russell, Olivia Melo, & Leah Kerr

## **Abstract**

Scholarly Activity & Background: Various references include accredited textbooks, peer-reviewed literature from reputable journals, as well as verified websites and public access databases. Clinical application and experience are also highlighted within this work.

Purpose: To complete a comprehensive and informative infographic focusing on the pathophysiology of Parkinsonism while providing support and accessible resources for submission in a second-year pathophysiology class. This resource was generated for the healthcare professional and the patient alike, providing reliable, concise information about Parkinsonism, accompanied by multiple visual aids.





## Barriers to Telehealth Implementation for Palliative Patients in Rural Canadian Communities

Joy Allen & Erin Lee, School of Baccalaureate Nursing, St. Lawrence College, Brockville

## **Abstract**

Background/Context: Aging rural communities require comprehensive palliative care services that address this population's desire to palliate-in-place. These services are often not available, or only available with significant travel and related expenses incurred by the patient. Telehealth services can address these concerns in a fiscally responsible way by providing access to health care providers from the patient's home. To facilitate further integration of telehealth into Canadian rural palliative care it will be important to understand the current barriers to its implementation.

Purpose/ aim: Identify and categorize barriers to telehealth implementation for Canadian palliative patients in rural settings.

Evaluations/ outcomes: A literature review will be performed using Academic Search Complete, CINAHL Ultimate, MEDLINE, and Health Source: Nursing/ Academic Edition. Initial parameters will be peer reviewed research, published within the last 5 years and including the terms: Canada; rural patients; telehealth; palliative; and barriers (related terms will be included). After an initial review of results the authors will identify any additional relevant key terms and repeat the search. A second review of the gathered research will evaluate the relevance of articles, removing those that are not applicable from the literature pool. The remaining articles will be reviewed to compile information. We expect that some of the identified barriers will be the availability of reliable high-speed internet service and the technical skills of field-staff.

Impact/ application: The gathered information could be used to improve access to equitable palliative care by informing policy and funding decisions for rural populations.





## Advancing Knowledge of Thrombosis Risk in Hormonal Contraception Users: A

## Thromboelastography Study and Educational Outreach

Stefania Coroneos¹ (BHSc 4th year), Yousra Tera¹ (MD PhD), Maha Othman¹,² (MD MSc PhD)

Affiliations: 1) Department of Biomedical and Molecular Sciences, School of Medicine, Queen's University, Kingston, Ontario, Canada 2) School of Baccalaureate Nursing, St Lawrence College, Kingston, Ontario, Canada

## **Abstract**

Background and Aim: Hormonal contraception (HC) is commonly used for reproductive and hormonal health management but increases the risk of thrombosis. This study evaluated whether thromboelastography (TEG), a sensitive global coagulation assay, can detect differences in coagulation profiles between HC users and non-users. In addition, it assessed the impact of a digital educational intervention on awareness of HC-associated thrombotic risks among young women in post-secondary education.

Method/Evaluation: Seventy-two healthy women aged 18–48 were recruited and grouped into HC users (n = 38) and non-users (n = 34). Blood was collected within the first 14 cycle days to reduce hormonal variability. All samples underwent TEG analysis using the TEG® 5000. A subset of 57 (32 users, 25 non-users) had thrombin generation analyzed using TEG first derivative. Data were tested for normality and analyzed with Mann-Whitney U tests; effect sizes were calculated for significant results. A digital infographic on HC-related thrombotic risks was launched at Queen's University, with engagement tracked via QR scans and a linked survey.

Results: TEG revealed significant differences in K time (p = 0.011),  $\alpha$ -angle (p = 0.027), and MRTG (p = 0.019), indicating a more hypercoagulable profile in HC users. Effect sizes for K time and MRTG were moderate (r = 0.300 and r = 0.311). Other parameters showed no statistically significant differences. The infographic received 193 scans, with 56 students completing the survey, and respondents rated it highly effective (mean score = 4.7/5).

Impact: TEG detects coagulation changes in HC users, supporting its use in personalized risk assessment. Future studies should validate TEG in larger, more diverse samples and explore its clinical utility. Educational outreach effectively raised awareness, supporting the value of pairing diagnostics with health education





# Investigating the Relationship Between Red Cell Biomechanics and Coagulation Profile in Women's Cancers and Healthy Controls Using Machine Learning

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## **Abstract**

Background/Context: Thromboembolic events are significant contributors to mortality in cancer, especially in women. Research shows that red blood cells (RBCs) are actively involved in coagulation, and their biomechanical properties are altered in cancer. There is a substantial lack of studies that explore the relationship between RBC biomechanics and coagulation parameters in cancer patients.

Purpose: This study aims to explore this link and compare it between women diagnosed with cancer and healthy controls.

Method/ Evaluation: This is a cross-sectional study of 24 patients diagnosed with breast, ovarian, and endometrial cancers, and 25 sex-matched healthy controls. RBC biomechanical properties and coagulation parameters were measured by MIZAR™ syllectometer and thromboelastography (TEG). Following data dimensionality reduction using machine learning methods, multivariate linear correlations were then assessed between MIZAR™ and TEG parameters. Computational analyses were performed on MATLAB R2024b and SPSS v29.0, and statistical significance was defined as p < .05.

Results/Outcomes: The study found a statistically significant positive linear correlation between MIZAR™ and TEG parameters in both cancer and control groups. However, this correlation was much stronger in the control group. Canonical coefficient analysis showed that RBC aggregation, clotting strength, and clotting speed measures were the most influential contributors to this relationship.

Impact/Application: As the first study to explore this relationship, it demonstrated RBC biomechanical properties to be significantly linked with coagulation parameters in cancer and health. While further studies with larger cohorts and longitudinal designs are needed to explore this relationship in greater depth, our findings highlight the potential of RBC biomechanics as predictive biomarkers for thrombotic events.





# Defining Laboratory Reference Values for Red Blood Cells' Rheological Mechanics using Syllectometry

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## **Abstract**

Background/Context: The rheologic properties of blood, specifically red blood cell (RBC) aggregability, deformability and elasticity, significantly impact vascular flow and microcirculation. Understanding this can help assess various pathologies. Automated analyzers have the potential to improve the assessment of RBCs biomechanics, but little data is available to guide their application in disease conditions.

Purpose/Aim: This study aims to assess the normal reference values for the RBCs biomechanics in a group of healthy adults of both sexes using MIZAR® rheometer. Method/ Evaluation Whole blood from 52 healthy participants was analyzed using MIZAR® an automated rheometer which utilizes syllectometry developed by ALCOR® Scientific. The platform generates 13 parameters developing from three stages. Data is automatically extrapolated from the syllectogram to generate several RBCs mechanics according to each stage.

Results/Outcomes: We provide reference values for 13 RBCs rheologic parameters for 52 healthy adults (36 females/16 males) aged 18-55 years using descriptive statistics. Analysis of sex variation revealed significant decrease of "OTF" and "OT" in males; which is inversely correlated with males' higher hematocrit values, significant increase of the "Peak" in females; reflecting higher RBC deformability, significant increase of "Int(a)" in females; which is directly correlated with higher female inflammatory states, significantly higher "Amp" and "ED" in females; which is positively correlated with aggregation.

Impact/Application: This data serves as a foundation for guiding applications of MIZAR® with potential to enhance our understanding of blood rheology in various diseases. Additionally, the results highlight the critical importance of considering sex as a biological variable in hematological research and clinical practice.

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