CACCN

The Canadian Journal of Critical Care Nursing

Volume 35, Number 1, Spring/Summer 2024 ISSN (Print): 2368-8653, (Online): 2563-8998

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The Canadian Journal *of* Critical Care Nursing

Volume 35, Number 1, Spring/Summer 2024

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The *Canadian Journal of Critical Care Nursing* is the only peer-reviewed, open-access critical care journal in Canada, and is published by Pappin Communications, Cobden, Ontario. Printed in Canada. ISSN: 2368-8653 (Print), 2563-8998 (Online). The journal is offered electronically on our website at cjccn.ca. A small number of print copies are produced for paid subscribers.

Advertising information: For advertising enquiries, contact Heather Coughlin, Pappin Communications, 1012 Snake River Line, Cobden, ON K0J 1K0, telephone: 613-633-1938, email: heather@pappin.com, website: www.pappin.com

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CANADIAN ASSOCIATION OF CRITICAL CARE NURSES

Canadian Association of Critical Care Nurses

Vision statement

All critical care nurses provide the highest standard of patient- and family-centred care through an engaging, vibrant, educated and research-driven specialized community.

Mission statement

We engage and inform Canadian critical care nurses through scholarship, education, and networking providing a strong unified national identity.

Values and beliefs statement

Our core values and beliefs:

- Excellence and Leadership
  - Collaboration and partnership
  - Pursuing excellence in education, research, and practice
- Dignity and Humanity
  - Respectful, healing and humane critical care environments
  - Combining compassion and technology to advocate and promote excellence
- Integrity and Honesty
  - Accountability and the courage to speak up for our beliefs
  - Promoting open and honest relationships

Pathways to success

1. **Leadership:**
   - Lead collaborative teams in critical care interprofessional initiatives
   - Develop, revise, and evaluate CACCN Standards of Care and Position Statements
   - Develop a political advocacy plan

2. **Education:**
   - Provision of excellence in education
   - Advocate for critical care certification
3. **Communication and Partnership:**
   - Networking with our critical care colleagues
   - Enhancement and expansion of communication with our members
4. **Research:**
   - Encouraging, supporting, facilitating to advance the field of critical care
5. **Membership:**
   - Strive for a steady and continued increase in CACCN membership

From the Desk of the Chief Editor

As my term as Chief Editor comes to an end, I would like to take a minute to reflect on my experience with CJCCN.

In my time as Chief Editor, I have had the privilege of leading the Canadian Journal of Critical Care Nursing as we added innovative content to connect with our members and critical care nurses who access the journal. We have added content to address anti-racism and a regular feature called Practice Pearls, which is authored by Brenda Morgan. To support medication safety, we partnered with the Institute for Safe Medication Practices Canada (ISMP Canada), coordinated by Dorothy Tscheng, Director, Practitioner & Consumer, Reporting & Learning, who provided articles focused on common areas of safety concern to critical care nursing. Finally, feature articles to spotlight Critical Care Champions, support educators, preceptors, and mentors were thoughtfully written by our co-editors, Dr. Michele House-Kokan and Catherine Liao. All these features augmented the excellent manuscripts that highlighted research, innovation, patient safety, and education to support critical care nursing.

None of this would have been possible without the incredible team of co-editors who were flexible, thoughtful, energetic, and yet, while in various phases of their doctoral education, donated their time and their minds to helping to produce the journal. Dr. Ramesh Venkatesa Perumal is the interim Director of the undergraduate program at York University, and the first PhD graduate of York University's PhD program. Dr. Michelle House-Kokan is the Faculty Development Lead in Specialty Nursing at the British Columbia Institute of Technology (BCIT), and Catherine Liao is a PhD Candidate at the University of British Columbia, a research associate with the Centre for Justice, Equity, and Sustainable Action (JESA), and a critical care nurse in the Fraser Valley Health Authority. Each of the co-editors deserves a page (or chapter) devoted to informing everyone of their expertise, life work, and how inspiring they are as nurses and global citizens. Their sober counsel, thoughtful reflection, knowledge, and expertise guided the decisions and direction of the journal and I am grateful for the privilege of working with them.

Thank you to Christine Halfkenny-Zellas for all her administrative support and guidance, and to the Board of the CACCN for their support throughout the past two years.

I wish the future Chief Editor and their team a successful and enjoyable term.

With gratitude,
Dr. Asha Pereira

Critical care champion spotlight: The "aide" in critical care units

Catherine Liao, Critical Care RN, MSc, BSc (Hons), Co-Editor- CJCCN

One of the main challenges we face today in healthcare is the nursing workforce shortage in Canada (Canadian Federation of Nurses Union, 2022). The staffing crisis in critical care settings is not unique, with nurses experiencing high attrition due to excessive workload, moral distress, and perceptions of inappropriate care (Vincent et al., 2022). These factors contribute to burnout and an increased intent to leave critical care nursing roles.

During critical crises, it is common to overlook other crucial roles in potentially improving critical care nurse retention and, most importantly, ensuring quality patient care. One role often overlooked in critical care is that of a care aide. Care aides, also known as healthcare assistants (HCA), are essential direct care providers who work closely with nurses to promote and maintain patients' health, safety, independence, comfort, and overall well-being.

This feature showcases the essential role played by a particular care aide who serves as a cornerstone in the critical care unit at the Abbotsford Hospital, Fraser Health Authority, British Columbia. Those of you employed in critical care settings may empathize with the presence of such a vital team member. Presented below is an interview conducted by Catherine Liao, Critical Care RN and Co-Editor of CJCCN, with Ann Negladuik on February 4, 2024.

Who is Ann Negladuik?

Ann Negladuik has been a full-time care aide at Fraser Health since 1991. She began her career in extended care, where she discovered her passion for working with seniors. Ann found the seniors entertaining and cherished the opportunity to hear their stories. Assisting with daily tasks and activities they could no longer manage alone gave Ann a profound sense of fulfillment. Ann-cared for each resident like a family member, whether they were a grandma, a grandpa, or a quirky uncle. Every day, Ann tried to make their final journey a little easier, a little less painful, and filled with more dignity. Ann shared laughter, shed some tears, and sometimes held their hands in comfort.

Ann, how did you end up working in ICU?

The ICU is a terrible place where death lurks. When you get the call that your loved one is in ICU, your heart races and sinks into the bottom of your stomach. Your mind starts moving a million miles a minute—visions of tubes, machines, alarms, and every scary movie flash through your head. When you see your loved one for the first time, all of your thoughts and fears come true. Your life, and the life of your loved one, is forever changed. ICU is like a living nightmare.

Ann with her cat, Whisky Jack

My dad passed away when I was 18 years old. He had an open aortic aneurysm repair, which went well, but unfortunately, he had a massive cardiac arrest three days later and never regained consciousness. We, as a family, spent 10 days in the ICU setting, on full support, through multiple code blues, and finally decided to withdraw care. I know that we had the best doctors and nurses looking after my dad, but the only person that I remember was a care aide (orderly). He had been working in the ICU and had seen us for 10 days. My brother and I ran into him in the cafeteria, and he said, "Your dad is a really great guy." This encounter struck me because he used "is" and not "was." That one word stayed with me and made all the difference. I will never forget that kindness.

When I applied for the ICU care aide position at Abbotsford Regional Hospital in 2009, the only ICU experience I had ever had was my dad's passing. I came into this job knowing that the little things make significant differences. I knew that one kind word or action could change the entire ICU experience for the patients and their families. I come to work every day knowing that what I do matters.

How do you see your role as a care aide in critical care?

As a care aide in the ICU, it is hard to say the most important aspect of my job. I am a greeter, an assistant, a stocker, a motivator, and an organizer.

As a greeter, I help the families find the right room, ensure they have a chair and ask them if they need a drink or a warm blanket. I let them know they can ask me if they need anything. I make them feel welcome and give them confidence that we are doing our best for their loved ones, that they are part of this ICU process and that we are here to help them through this terrible time.

As an assistant, I help the nurses with assessments, bathing, mobilization and toileting. I support the doctors in finding the necessary supplies and equipment to perform their procedures. I assist the Patient Care Coordinator in organizing and facilitating moves and transfers. I help the physiotherapy department identify patients who would benefit from their services.

As a stocker, I ensure that the supplies are available when needed and the equipment is ready and in good working order. I clean everything that is reusable and has wheels.

As a motivator, I make myself available to assist in any way. I am a cheerleader when we mobilize patients, and I encourage the nurses to think critically and manage their time. I notice and celebrate the little things.

As an organizer, I manage all aspects of my job into an eight-hour shift and times by 10 nurses and 20 patients. ICU is my forever home. I love my job.

What are some of the challenges you have seen in your career in critical care?

Over the last 15 years working in critical care, I have seen a lot of changes. I have watched and been a part of growing our little "community" hospital into a big "city" hospital. We were not equipped to handle complex care patients when we opened. If a patient was deteriorating, we used to say, "We are sending them into the city" for higher levels of care. Now, the "city" is sending those complex patients to us. We have upgraded and expanded almost every aspect of our unit.

In the past three years, with the incorporation of Sedline monitors, decreases in sedation, and the push for early mobilization, we have seen a dramatic improvement in ICU patient outcomes. Patients who would usually be sedated for weeks are awake for days. Since we got the new Sara Combilizer chairs, we can mobilize patients who would otherwise be stuck in bed. The physiotherapy department is trained to assess and formulate the best mobilization plan specific to each patient. By getting patients up and out of bed and starting the rehabilitation process early and often, we are minimizing the negative aspects of immobility and keeping patients' bodies in optimal condition for success. Care aides are the extra hands needed to achieve these goals in coordination with the nurses. We can take some of the pressure off the nurses and, by doing so, achieve more successful and positive patient outcomes. Families are shocked and amazed.

Our community has grown, and since COVID-19, we have seen an increase in ICU patients' needs. Conversely, we have had a decrease in nursing availability. The nursing shortage is a recipe for disaster, and it's easy to see why. Experienced nurses are getting burned out and leaving the high-stress ICU environment. They take with them knowledge and critical experience that can only be gained through years of service. They are being replaced with new graduates and agency nurses. Consequently, the whole patient care approach is being reduced to task management.

Do you have any suggestions on addressing some of the staffing crises we are experiencing in critical care?

Our care aide pool is an untapped resource that would greatly help mitigate this nursing crisis. Even in these adverse conditions, the best patient care can be achieved using the team nursing approach, incorporating the care aides to an increased capacity, and utilizing respiratory therapists and physiotherapists.

For families thrown into the unfamiliar environment of the ICU, a bad smell, dirty pillowcases, or a messy room can have a significant negative impact on the overall perception of the care that their loved one is receiving. Care aides are integral to providing quality patient care by taking the extra time and care to notice and address the little things. Families may not verbalize when they see a dirty pillowcase, but they notice. Nurses may not have time to wash their patient's hair, but it is on a "to-do" list in the back of their heads. At a time when nerves are stretched to their limits and emotions are running high, little things can quickly spiral into more significant issues.

It is evident to me that nurses experience less workplace moral distress when they know that their patients are well taken care of and the families are confident in the care that we are providing. As a care aide, being ready, willing and able to help them with whatever they need is crucial in the ICU environment. Knowledge of the equipment, finding the appropriate chair or lift, and bringing the machines, cables and procedure carts helps nurses initiate life-saving interventions when every second counts. Checking in often and regularly, advocating for the best patient care, and initiating critical thinking and time management are essential parts of the care aide role in the ICU.

What advice would you give to individuals wanting to work in critical care?

As a care aide, we play a crucial role in caring for critically ill patients by being ready and available to participate in all aspects of nursing care. We are the extra eyes at the other end. We see things that the nurses might not notice or have the time to concentrate on. We notice if additional equipment in the

room needs to be removed. We see that the sheets on the bed are clean and straight. We have the time to offer a hair wash or shave. We make sure that the patients smell nice and look presentable. We are trained to position the pillows for the best ergonomic alignment. These little steps make families feel their loved ones get the best care possible. Little things, like putting lotion on the hands and feet and ensuring no "boogers or crusties" on the patient's faces, allow the families to get a little closer to their loved ones and feel more comfortable touching them and maybe kissing them for the last time.

Even though the ICU is terrible and nobody wants to be here, miracles happen daily. My advice to new nurses and care aides considering joining our ICU team is to be open, mindful and hungry to learn. One word can make a forever impression in someone's life. Every day is an opportunity to learn something new. Ask questions, recognize challenges and take a moment to celebrate successes. Know that the little things make the difference, and what you do matters. In the ICU, angels flutter.

Summary

It was truly delightful to have Ann provide insights into the pivotal role of a care aide in critical care. Ann recently marked her remarkable 30-year tenure at Fraser Health Authority, British Columbia. I encourage all critical care nurses to take a moment to acknowledge the invaluable contributions of care aides within your units.

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The preceptor-learner relationship: The heart of precepting in critical care

Farah Jetha, RN, MSN, and Michelle House-Kokan, EdD, MSN, RN, CNCC(C), CCNE

Jetha, F., & House-Kokan, M. (2024). The preceptor-learner relationship: The heart of precepting in critical care. *The Canadian Journal of Critical Care Nursing, 35*(1), 9–10. DOI: 10.5737/23688653-3519

Abstract

Preceptors are crucial to supporting the growth and development of the critical care nursing profession. Yet the ongoing global shortage of nurses coupled with today's complex healthcare climate challenge both preceptors and their learners. Preceptors often have little preparation for this important role and must balance teaching and coaching their learners with caring for their critically ill patients. In the meantime, learners are frequently new to the nursing profession and often experience significant transition shock while simultaneously translating theoretical learning to real-world clinical practice. A successful preceptorship experience can buffer the transition shock for learners amidst the complex critical care environment, and fundamental to this experience is the underlying relationship between the preceptor and learner. This article is the second in a series that aims to support new and experienced critical care nurse preceptors as they guide those who will be the future of critical care nursing.

The foundations of the preceptor-learner relationship

A strong and connected preceptor-learner relationship allows learners to focus on learning with less anxiety and supports an increased scope of learning (Gillespie, 2002). This is even more important in a complex, high-stakes environment such as critical care. While learning outcomes are set by academic institutions, the preceptor-learner dyad enters a teaching-learning relationship. It needs to initially 'norm and form' as a pair to establish a foundation for the preceptorship. The preceptor and learner are two strangers who must understand how to work together within a finite amount of time. This foundation stage goes beyond course expectations, delving deeper to find a place of connection between the preceptor and learner where both individuals feel seen and heard to create a strong professional relationship (Nielson et al., 2017; Ulrich, 2019). The relationship established is fundamental to many aspects of the preceptorship. It provides opportunities for the preceptor to understand the learner holistically, for example, allowing them to discern the learner's initial competence level, how they learn best, and past learning experiences that may help or hinder their progress, as well as their strengths or areas that may need further support. Connectedness between the learner and preceptor allows for richer dialogue and exchange of ideas, leading to deeper reflection on clinical experiences and more insightful learning. A strong preceptor-learner relationship provides the learner with increased trust and comfort to ask questions and seek clarity, thereby building a deeper understanding of complex clinical experiences to build their practice. Role modeling of effective and respectful communication, professionalism and teamwork by the preceptor in an often-challenging clinical environment further equips the learner with opportunities to emulate this in their own practice (Loughran & Koharchik, 2019). A strong relationship in turn may allow the preceptor to feel comfortable sharing their own past clinical experiences through sharing stories. By showcasing more of their individual 'self' as a nurse in this way, the preceptor supports a sense of validation of the learner's experience. This kind of shared exchange between the preceptor and learner creates a strong working bond that provides the learner with a look into the preceptor beyond their teaching and coaching role. Having further insight into the preceptor's values and attitudes as a critical care nurse and as a professional assists the learner in building their own identity as a critical care nurse (Alonso et al., 2022; Gillespie, 2005).

When the learner trusts this allyship, they feel secure in taking on increased clinical responsibility with the preceptor's support, have increased confidence to build relationships with team members, patients and families, and begin to further assimilate into the role of a critical care nurse. Part of the preparatory work for the learner includes building social competency skills in the critical care setting, such as establishing, maintaining, and developing constructive social relationships (Sedgwick & Harris, 2012), and this process begins with their preceptors. A relationship built on mutual trust, respect and lack of judgement creates harmony between the dyad, allowing the learner to be more vulnerable and transparent with their ongoing learning needs. Likewise, the preceptor will better understand the learner, allowing them to provide timely and ongoing feedback effectively, source out tailored clinical experiences, and create opportunities for the learner to progress steadily toward independent practice. Not only does the shared connectedness between the dyad create a space for the learner to transform from learner to novice practitioner, it also promotes safe patient care as the learner feels confident that their preceptor is available for support as needed (Alonso et al., 2022). Similarly, the preceptor will feel safe to step back and step in only as needed. Additionally, should there be unexpected challenges where the rotation or preceptorship results in an unsuccessful outcome, a strong teaching-learning relationship may sustain the learner's sense of self-worth and respect as they will have a clear understanding of the rationale(s) for this outcome and needed support and guidance (Gillespie, 2005).

Connecting: Tips for creating and sustaining the relationship

Establishing a connected relationship with the learner starts on the very first day. Try to arrive a few minutes early to meet the

learner on the unit with a warm and welcoming approach and address the learner by their name. Learners are often addressed as 'learner' or 'student', which can feel unwelcoming or even devaluing. Carve out time at the beginning of the shift to connect with the learner, being genuinely curious about how they feel on their first day, their learning goals and expectations, and how they learn best. This check-in should be done in conversation rather than as a list of questions. For example, what would help them the most today? Orienting them to the unit and its "ways" can be helpful, as learners often feel disconcerted in the first few shifts. Simple actions such as showing them places to hang their coat and store their lunch can feel very welcoming.

While relationships evolve organically and cannot be rushed or forced, intentionally creating an inviting space for the learner supports the building of this relationship. Being mindful to introduce the learner to peers and team members, ensuring the learner joins you for lunch, and inviting them to participate in an impromptu conversation with a fellow RN are small but powerful strategies to create this welcoming space. Exposing more of who you are, as a nurse and preceptor, allows the learner the comfort to express their needs. For example, sharing your experiences as a learner or recalling how you felt on your first day of preceptorship can be a powerful strategy, as learners see you as a partner, not a hierarchical figure. Learners are eager to know how you manage your role as a critical care nurse, so slowing down and talking out loud about how you organize your day and priorities helps them to grasp the complexity of the critical care nursing role, as well as builds on the relationship between the two of you. Remember, learners come with a myriad of life and practice experiences and have chosen to specialize in critical care nursing. Asking their thoughts on a patient situation or plan of care, including them in clinical discussions with the team from the very first day, and essentially working side by side with them can provide the learner with a sense of being part of the critical care environment and team, as well as teach them about the critical care nurse's role from the start of the preceptorship. Finally, take the time to debrief with the learner at the end of the shift. Not only will this help you to understand the learner's experiences and insights into the patient's situation, but it also creates an opportunity for them to ask questions and make meaning of their practice experiences.

Conclusion

Preceptorship is even more important today in the critical care practice environment with the ongoing complexity of patient care, ongoing nursing shortages, and limited resources. Learners are witnessing their experienced peers working harder, sometimes being used as workload and feeling pressured to graduate and assume a position on the team (Ko & Kim, 2022). Working alongside an experienced critical care nurse underpinned by a strong teaching-learning relationship gives the learner the confidence to expand their abilities and competence further within a safe learning environment. This can accelerate the learner's progress compared to when they feel anxious or uncertain (Gillespie, 2002; 2005), allowing them to eventually flourish as a novice critical nurse and effective team member. Concurrently, the preceptor may feel a sense of accomplishment and pride in supporting a fellow peer's transition into clinical practice to provide safe and competent patient care (Loughran & Koharchik, 2019) and may even have made a new friend in the process.

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Coping strategies used by registered nurses in acute and critical care settings: A scoping review protocol

Amina Silva, PhD, RN, Kendra-Lee Dupuis, BScN, RN, Sonny Dhanani, MD, FRCPC, Lee James, MScN, RN, Ken Lotherington, BSc, and Vanessa Silva e Silva, PhD, RN

Abstract

Background & Purpose: *Acute and critical care (ACC) settings are a highly demanding and specific environment for registered nurses (RNs) to provide care in, and the use of coping strategies is key to supporting their work-related well-being. However, currently, there is a lack of comprehensive evidence on how RNs in ACC settings, specifically, cope with work-related stressors. Therefore, this review will summarize the international literature on coping strategies RNs use in ACC settings to deal with work-related stressors.*

Methods & Procedures: *Scoping review using the JBI methodology. Databases to be searched include Medline, Embase, CINAHL, Web of Science, and Cochrane Library. The report will consider references if focused on the coping strategies RNs use to manage work-related issues in ACC settings worldwide. Quantitative, qualitative, experimental, and gray literature will be considered if relevant to our topic. Two independent reviewers will screen, extract, appraise, and analyze the reports. Tables, charts, and diagrams will be used as applicable for data presentation.*

Expected results/discussion/conclusion*: This review will provide comprehensive evidence on coping strategies RNs use in ACC settings to manage work stressors; such evidence will guide quality improvement strategies and tailored interventions aimed at improving working-related well-being among this population.*

Keywords: critical care, nurses, coping strategies, organ donation

Silva, A., Dupuis, K.-L., Dhanani, S., James, L., Lotherington, K., & Silva e Silva, V. (2024). Coping strategies used by registered nurses in acute and critical care settings: A scoping review protocol. *The Canadian Journal of Critical Care Nursing, 35*(1), 11–18. DOI: 10.5737/23688653-35111

Implications for Nurses

- Registered nurses in acute and critical care settings often report challenges in developing healthy coping mechanisms, despite those being essential in keeping their work-related well-being.
- This review will provide comprehensive evidence on how coping strategies are used by registered nurses in acute and critical care settings to manage work stressors.
- Evidence will guide quality improvement strategies and tailored interventions to improve working-related well-being among this population.

Background

Registered nurses (RNs) in acute and critical care (ACC) settings provide care to critically ill patients in specialized fields of healthcare (Morton & Thurman, 2023). The working environment of RNs in ACC may include direct (e.g., bedside care in intensive care units, cardiac care units, surgical units, burn units, and emergency departments; Hewett, 2019; Green & McIntyre, 2011) or indirect care (e.g., RNs working in deceased organ donation settings as organ donation coordinators; Silva e Silva et al., 2020). ACC settings are high-pressured and demanding environments that can introduce many stressors to the practice of healthcare professionals, resulting in workplace stress (Morton & Thurman, 2023). The Canadian Centre for Occupational Health and Safety (2018) defined workplace stress as "the harmful physical and emotional responses that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands" (para. 2).

Substantial metanalytical findings report a high prevalence of work-related stress among RNs in ACC settings (Epp, 2012; Hiler et al., 2018; Milutinović et al., 2012; Vahedian-Azimi et al., 2019). Stressors faced by RNs in ACC have diverse origins including, but not limited to, moral distress, fast-paced environment, high complexity of critically ill patients, lack of knowledge, and continuous contact with grieving and human suffering (Epp, 2012; Hiler et al., 2018; Milutinović et al., 2012; Vahedian-Azimi et al., 2019). In addition, unique stressors were introduced and/or exacerbated for ACC RNs during the COVID-19 pandemic, such as high workloads and nursing shortages, which have impacted both their professional and personal lives (Gamble et al., 2022; Kissel et al., 2023; Martin et al., 2023). Constant exposure to work-related stress and emotional demands from work in ACC often leave RNs susceptible to work-related issues, such as burnout and compassion fatigue and may result in reduced work-related well-being, increased turnover, and decreased quality of life (Alharbi et al., 2020; Silva e Silva et al., 2022; Friganović et al., 2019).

Coping strategies play a key role in helping nurses to manage work-related stress, build resilience and reduce the incidence

of work-related issues (Burgess et al., 2010; Gomes et al., 2013; Zhang et al., 2020). According to the American Psychological Association (2018):

> *Coping strategies can be defined as "an action, a series of actions, or a thought process used in meeting a stressful or unpleasant situation or in modifying one's reaction to such a situation. Coping strategies typically involve a conscious and direct approach to problems, in contrast to defense mechanisms" (para. 1).*

Coping strategies may be considered healthy (e.g., relaxing or distracting activities, social support), unhealthy (e.g., negative self-talk, substance use), or a combination of both, depending on the consequences of their use and whether they lead to positive or negative effects in the long term (Lu et al., 2015; Stallman et al., 2021). Despite the importance of adopting healthy coping strategies, nurses often report difficulty developing healthy mechanisms to support them (Hersch et al., 2016; Zheng et al., 2018). Therefore, we need to understand what forms of coping mechanisms are used by RNs and some of the barriers and facilitators for these techniques.

Although there is a substantial amount of research conducted on coping strategies among nurses (Chong & Abdullah, 2016; Iwanowicz-Palus et al., 2022; Kim et al., 2021; Temeng et al., 2024; Zhang et al., 2020; Zheng et al., 2018), to our knowledge, there is a lack of evidence specifically on how RNs in ACC settings utilize coping strategies to support their role and help manage work-related stress. Since ACC RNs provide care in such unique environments, it is important to consider their individualized use of coping mechanisms to understand how to support them best. Such evidence can help guide clinicians and researchers on improving RNs in ACC coping mechanism use, resilience and work-related well-being and minimizing job turnover and negative consequences resulting from work-related stress. Therefore, this scoping review aims to summarize the international literature on the coping strategies RNs use in ACC to deal with work-related stressors.

A preliminary search was conducted at MEDLINE, Prospero, Epistemonikos, Cochrane Database of Systematic Reviews, JBI Evidence Synthesis, and Open Science Framework to locate similar works, including published reviews or undergoing protocols. The searches revealed review evidence available among RNs and coping (Lim et al., 2010a; Lim et al., 2010b); however, none specific to RNs in ACC settings were identified. In addition, a limited review was undertaken to associate burnout, coping strategies and job satisfaction among RNs in ACC (Friganović et al., 2019). Thus, despite somewhat existing work, there is a need for comprehensive reviews to summarize the international literature on the topic, including the different coping strategies and their impact on RNs in ACC.

Review questions

Overarching research question:

What reported coping strategies have been used by RNs working in ACC settings worldwide to deal with work-related stressors?

Specific research questions:

1. What resources are available for RNs working in ACC settings to support the implementation of healthy coping strategies?
   a. How have RNs in ACC settings been supported by their employers to develop healthy coping strategies?
   b. Was there any education provided to RNs in ACC on how to implement healthy coping strategies, and how was it delivered?
2. How has the use of unhealthy coping strategies impacted job performance and/or the development of work-related issues?

Inclusion criteria

Participants

This scoping review will consider documents with a target population of RNs in various roles providing direct care to patients and their families in ACC settings. The job title and education of RNs will be reviewed from the applicable sources (if available) to ensure that only those who are employed and working as RNs are selected. Some examples of job titles that may be considered include RN, senior nurse, nurse manager, staff nurse, charge nurse, or those with a diploma, bachelor's, master's or higher degrees that are required to become an RN.

Concept

The main concept of interest in this review is coping strategies used to deal with work-related stressors. The terms used to describe our concept of interest can vary and may include coping mechanisms, adaptation techniques, stress management strategies, emotional regulation methods, resilience-building approaches, psychological defence mechanisms, mindfulness, cognitive behaviour therapy, arts-based therapy, self-regulation, self-compassion, progressive muscle relaxation training, arts-based debriefing, grounding, coping skills, etc. These terms were identified during our brief review of the literature when describing coping mechanisms used by RNs.

Context

References will be considered if they are focused on ACC settings, such as acute care units, emergency rooms, organ donation, intensive care units, critical care, cardiac care, operating rooms, paediatric intensive care units, burn units, emergency medical services and others. These were some of the more common critical care settings identified within the literature on ACC settings (Green & McIntyre, 2011; Hewett, 2019).

Types of sources

This scoping review will consider experimental and quasi-experimental study designs, including randomized controlled trials, non-randomized controlled trials, before and after studies and interrupted time-series studies. In addition, analytical observational studies, including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies, will be considered for inclusion. This review will also consider descriptive observational study designs, including case series, individual case reports and descriptive cross-sectional studies for inclusion. Qualitative studies will also be considered that focus on qualitative data, including but

not limited to designs such as phenomenology, grounded theory, ethnography, qualitative description, action research, and feminist research. Text and opinion papers will also be considered for inclusion in this scoping review.

Exclusion Criteria

The search will be restricted to literature published from 2000 onwards to provide information regarding recent developments; those published before this time will be excluded. Documents exploring coping strategies among various healthcare providers (along with RNs), but not differentiating the results for nurses from those providers will be excluded, as the aim was to analyze mechanisms specifically used by RNs. Lastly, sources focused on nursing students will not be considered.

Methods

The scoping review is guided by the Joanna Briggs Institute (JBI) methodology for scoping reviews (Peters et al., 2021). The title of the review was registered at the JBI collection (JBI, 2022) and Open Science Framework (Silva & Silva e Silva, 2024). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) will be used to guide the reporting of this review (Page et al., 2020).

Search strategy

The search strategy is being developed to locate both published and unpublished studies. An initial limited search of MEDLINE was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (Appendix A). The search strategy, including all identified keywords and index terms, will be adapted for each database and/or information source, including Embase, CINAHL, Web of Science, and Cochrane Library. Studies published in any language will be included.

Study selection

Following the search, all identified citations will be collated and uploaded into *EndNote20,* and duplicates will be removed. Then, all unique reports will be imported into Covidence for data management, screening, and extraction. Titles and abstracts of located sources will be screened by two independent reviewers for assessment against the inclusion criteria for the review. A pilot review will first be performed between these two independent reviewers to ensure consistency of at least 90% between the screening. Two independent reviewers will then assess the full text of potentially relevant citations in detail against the inclusion criteria. Reasons for excluding sources that do not meet the inclusion criteria at the full-text level will be recorded and reported in the scoping review. Any disagreements between the reviewers at each stage of the selection process will be resolved through discussion or with an additional reviewer.

Data extraction

Data will be extracted using the data extraction tool developed for this review, which includes aspects relevant to our research questions, such as the coping strategies used, potential effectiveness, and others. The data extraction tool (Appendix B) will be pilot-tested for this review, and all extractions will be performed by an independent reviewer and peer-reviewed by a second reviewer. Any disagreement during the extraction process will be resolved through discussion or with the input of the first author as the third reviewer.

Data analysis and presentation

The data extracted will be analyzed quantitatively and qualitatively. Quantitative analysis will include a simple numerical count to describe the characteristics of studies and reports. Qualitative analysis will include an inductive content analysis approach of the extracted data to find the consensus and organize the report into major categories. Lastly, tables, charts, and diagrams will also be used, as applicable, for data presentation to help clarify key aspects and describe the significant findings from the review.

Expected results

This review will provide comprehensive evidence on coping strategies RNs use in ACC settings to manage work stressors; such evidence will guide quality improvement strategies and tailored interventions aimed at improving working-related well-being among this population.

Quality appraisal

Two independent reviewers will thoroughly assess the methodological quality and relevance of the selected literature using the Mixed-Method Appraisal Tool (MMAT; Hong et al., 2018). An additional reviewer will resolve any disagreements between reviewers.

Potential Limitations

Despite the potential of this review, some limitations may impact our findings. The publication bias may skew results towards studies with positive outcomes, potentially overlooking unsuccessful coping strategies. The heterogeneity of included studies regarding methodologies and populations may hinder direct comparisons. Moreover, the generalizability of results may be limited due to variations in healthcare systems and cultural contexts across different regions. Furthermore, the dynamic nature of coping strategies and the possibility of incomplete assessment may not fully capture the evolving landscape of RNs' coping mechanisms in ACC settings. Despite these limitations, efforts have been made to mitigate bias and provide a comprehensive synthesis of available evidence.

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Acknowledgments

The authors would like to thank information specialists Dagmara Chojecki and Ian Gordon, who supported the development and implementation of the search strategies, and Brock University, who supported the resources needed to develop this protocol.

Funding

This study is funded by Canadian Blood Services; Canadian Blood Services receives funding from the provincial and territorial Ministries of Health and the federal government through Health Canada.

Conflicts of Interest

Amina Silva, Vanessa Silva e Silva, and Kendra-Lee Dupuis have no conflict of interest to declare; Lee James and Ken Lotherington receive a salary from Canadian Blood Services, and Sonny Dhanani is a hospital donation physician paid by Ontario Health.

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Appendix A

Search Strategy Medline

Database(s): **Ovid MEDLINE(R) ALL** 1946 to July 05, 2023

Search Strategy:

#	Searches Results
1	stress, psychological/ or burnout, psychological/ or caregiver burden/ or occupational stress/ or stress disorders, traumatic/ or stress disorders, post-traumatic/ or stress disorders, traumatic, acute/ or exp anxiety/ or depression/ or exp fatigue/ 405121
2	(stress* or pressure* or burnout or distress* or anxiet* or fatigue* or depression or disregulat* or hyperarous* or activated).ti,ab,kw. 3241103
3	1 or 2 3332839
4	exp nurses/ or exp nursing/ 335888
5	nurs*.ti,kw. 309113
6	((coordinat* or co ordinat*) and (organ* adj3 (donat* or donor* or procur* or transplant*))).ti,ab,kw. 1111
7	4 or 5 or 6 500257
8	exp Adaptation, Psychological/ 139703
9	self care/ or exp exercise/ 280875
10	(cope or coping or manag*or support* or resilien*).ti,ab,kw. 162881
11	((psycho* or mental or adapt* or reduc* or hardiness or manag* or regulat* or defense or cognitive or distraction or support* or acceptance or assertiveness or lifestyle or assistance or wellness) adj2 (technique* or skill* or mechanism* or train* or strateg* or method* or approach* or practice* or behavio* or network* or restruct* or program* or choice* or educat* or therap* or system* or service*)).ti,ab,kw. 1047435
12	(exercis* or physical activit* or meditat* or breath* or mindfulness or decentering or distancing or autogenic or relaxation or grounding or self compassion* or self effica* or self regulat* or self manag* or self heal* or self help or self talk or self care or self sooth* or self kindness or behavio?r therap* or debriefing or social support*).ti,ab,kw. 925841
13	cognitive behavioral therapy/ or "acceptance and commitment therapy"/ or cognitive restructuring/ or mindfulness/ 36514
14	resilience, psychological/ 8355
15	emotional regulation/ 2319
16	exp defense mechanisms/ 51314
17	problem solving/ 27273
18	self efficacy/ or self-compassion/ 24539
19	exp relaxation/ 21832
20	exp social support/ 79773
21	exp behavior therapy/ 89113
22	health promotion/ 81367
23	((art or arts or music*) adj2 therap*).ti,ab,kw. 21410
24	art therapy/ 1726
25	breathing exercises/ or relaxation therapy/ or self-control/ or meditation/ or psychosocial support systems/ or exp sensory art therapies/ or music therapy/ or exp autogenic rraining/ 72976
26	or/8-25 2434533
27	emergency service, hospital/ or trauma centers/ or exp emergency medical services/ 168967

28 operating rooms/ 15860

29 ambulatory care/ 46342

30 ((acute or critical or intensive) adj2 (care or service* or unit*)).mp. 313740

31 ((emergenc* or trauma) adj2 (room* or department* or care or service* or unit or units or cent* or ward or wards or treatment*)).mp. 282169

32 (operat* adj2 (room* or department*)).mp. 51753

33 (NICU or ICU or PICU).mp. 103490

34 exp intensive care units/ 105528

35 intensive care units, pediatric/ or intensive care units, neonatal/ 27346

36 exp transplantation/ or exp organ transplantation/ or exp "tissue and organ harvesting"/ 570199

37 exp "Tissue and Organ Procurement"/ 25400

38 (organ* adj3 (donat* or donor* or procur* or transplant*)).ti,ab,kw. 56882

39 exp critical care/ 66533

40 or/27-39 1287702

41 3 and 7 and 26 and 40 2200

42 limit 41 to (english language and yr="2000 -Current") 1796

Appendix B

Data Extraction Tool

Evidence Source Details and Characteristics

Authors

Year

Title of the report

Journal

Volume/Issue

Study Data

Language

Country of origin

Type of publication (e.g., manuscript, manual)

Aim

Design adopted (e.g., RCT, qualitative descriptive)

Data collection methods (e.g., validated tools, interview guide)

Sample (e.g., nurses, physicians)

Setting (e.g., ICU, ER)

Type of coping strategy (e.g., mindfulness, therapy)

Origin of coping strategy (e.g., self-developed, employer provided)

Facilitators and barriers in developing healthy coping strategies faced by nurses

Resources available by the employer, if any (e.g., therapy, debriefing)

Impact of coping strategies on work-related well-being, including work-related issues (e.g., reduce burnout)

Outcome measures if available (e.g., job satisfaction)

Main results

Study limitation as stated by author

Author suggestions for future studies

Other notes:

Medication Safety Practice Corner: One dose, one patient at a time: Reducing the need for pre-pouring

Lynn Riley, RN and Dorothy Tscheng, RPh
Institute for Safe Medication Practices Canada

Riley, L, & Tscheng, D. (2024). Medication Safety Practice Corner: Medication Safety Practice Corner: One dose, one patient at a time: Reducing the need for pre-pouring. *The Canadian Journal of Critical Care Nursing, 35*(1), 19–20. DOI: 10.5737/23688653-35113

In this regular column, ISMP Canada will feature a critical care-related medication story and share practical learning for critical care nurses.

Health care providers often implement workarounds to overcome barriers in practice (Bianchi & Ghirotto, 2022). The reasons are many and include the perception that using a workaround is easier and faster than following an existing policy or procedure that does not fit the workflow. Pre-pouring is a type of workaround. This practice is defined as a *delay between preparation and administration of a medication or the preparation of multiple medications for different clients* ("Medication management," 2021). An example of pre-pouring is the drawing of several doses of one medication into a single syringe.

Through reports of near misses and incidents, the practice of pre-pouring has been identified as a key contributing factor to medication errors and subsequent preventable harm to patients. This article describes an incident of pre-pouring in an intensive care unit (ICU) and presents recommendations to reduce the need for this practice.

Reported incident example

When an intubated and ventilated patient became agitated, an intravenous push dose of propofol was ordered to be given to maintain the airway. A syringe of propofol prepared during the previous shift by a different nurse (i.e., a pre-poured medication) was readily available at the bedside and was used to administer the dose. Shortly after administration, the patient became oversedated. The patient was monitored and did not require any further intervention. It was later determined that the syringe had been labelled with an incorrect dose, and a 10-fold error had occurred.

Discussion

Preparing a medication and then delaying its administration, or having another nurse administer it, clouds accountability and increases the risk of errors ("Medication guidelines," 2020). Withdrawing more than one dose at a time or leaving a syringe unattended at a bedside (or both) also poses risks related to possible diversion, changes in medication stability, and possible contamination (Erlich 2022, "ISMP Safe Practice Guidelines," 2015, Malik et al., 2022). Despite these hazards, pre-pouring is a common practice in many critical care environments, especially for opioids and sedatives. In the incident example presented, a nurse used a syringe containing a high-alert medication prepared and labelled by a nurse on the previous shift, without the ability to independently verify the contents.

ISMP Canada has analyzed reports from concerned nurses in ICUs and post-anaesthetic care units regarding this practice. The following are selected contributing factors derived from these reports:

- a lack of ready-to-administer products, resulting in unnecessary product manipulation and wastage, which requires a second nurse to witness (Malik et al., 2022)
- lack of easy access to automated dispensing cabinets
- desire for timely provision of medications to maintain patient comfort
- anticipation of an emergent event requiring immediate medication response, for example,
  - extubation that may be unsuccessful, requiring immediate reintubation
  - cessation of opioid/sedative infusions for ventilator weaning of patients who may then be disoriented and/or combative
- insufficient staffing

The use of unit-dose and ready-to-administer IV push medications is a key mechanism to improve the safe use of injectable products ("ISMP Safe Practice Guidelines," 2015; Malik et al., 2022). Ready-to-administer syringes enhance patient safety because they are pre-labelled, have tamper-evident caps, decrease the risk of contamination, avoid the need for pre-pouring, and save nursing time (Erlich 2022, "ISMP Safe Practice Guidelines," 2015, Malik et al., 2022).

Key Practice Tips

For Nursing Leadership

- Engage pharmacy directors and senior nursing leadership to advocate for manufacturer-sourced ready-to-administer or pharmacy-prepared prefilled syringes ("ISMP Safe Practice Guidelines," 2015) and promote procurement of products

that align with usual doses prescribed (e.g., morphine 2 mg vials for doses of 2–4 mg; Malik et al., 2022).
- Assess the availability and locations of automated dispensing cabinets to meet nurses' needs for quick access to medications.
- Analyze workflow in the ICU and review the use of workarounds, as well as reported errors and near misses, as an opportunity for quality improvement. When conducting the analysis, involve all team members to better understand and address the need for, and use of, pre-pouring.
- Develop a policy (or review existing policy) describing situations in which it is acceptable for more than one nurse to be involved in the preparation and administration of a medication (e.g., during cardiac arrest; "Medication guidelines," 2020).
- Promote a work environment and organisational culture in which team members feel safe to report near misses and errors.
- Optimize nurse to patient staffing ratios for safety.

For Front-Line Nurses

- Prepare and label medications immediately before administration, and include a check against the original product and the medication administration record or order.
- For defined emergency situations, when more than one nurse is involved in the preparation and administration of a medication, have one nurse prepare the medication and another nurse administer it (after an independent double check).
- Dispose of any pre-poured medications at the start and end of every shift ("ISMP Safe Practice Guidelines," 2015, "Pre-pouring medications," 2023).

Conclusion

As described in their medication standards, several provincial nursing regulatory bodies expect members to prepare medications just before administration ("Pre-pouring medications," 2023). The practice of pre-pouring puts both patients and nurses at risk. The use of medication pre-pouring in regular practice presents an opportunity to review and assess current processes as part of continuous quality improvement.

Shared learning leads to quality improvement. Every report to ISMP Canada's **Individual Practitioner Reporting program** provides an opportunity to learn and advance patient safety.

ISMP Canada gratefully acknowledges the nurses who report medication incidents for analysis and learning. Review of the article by Michael Hamilton, MD, Mary Harber, RN, Carolyn Hoffman, RN, Sylvia Hyland, RPh, Peggy Robinson, ELS, and Susan Paparella, MSN, is recognized and appreciated.

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PRACTICE PEARLS

Assessment of Facial Weakness

By Brenda Lynn Morgan, MSc, RN, CNCC(C)

How is facial movement produced?

Left-sided facial movement begins in the right cerebral hemisphere and is displayed by the orange pathway.

The pathway for ***right-sided facial movement*** begins in the left cerebral hemisphere and is described below. It is shown in purple.

1. A stimulus is initiated in the left motor strip (the back "slice" of the frontal lobe).
2. The impulse crosses to activate the entire right CN VII (ventral and dorsal portion) and the dorsal portion of the left CN VII. Activation of the dorsal (back) portion of CN VII causes ipsilateral movement of the upper face (eyelid closure and forehead wrinkles). This is depicted by the bicoloured (orange/purple) pathways.
3. Activation of the ventral (front) portion of CN VII produces ipsilateral lower face movement.

Stroke or Cranial Nerve VII Palsy?

Impulse initiation from either hemisphere causes bilateral activation of the dorsal portions of the left and right CN VII. Thus, stroke (upper motor neuron lesion) produces contralateral lower facial weakness with preservation of contralateral forehead wrinkles and eyelid closure. By contrast, a lesion in CN VII (lower motor neuron lesion) will disrupt both the ventral and dorsal functions of CN VII. This produces ipsilateral facial weakness with an "ironed-out forehead" and an inability to close the eyelid on the affected side. Trauma (e.g., middle fossa basal skull fracture), tumour (e.g., acoustic neuroma), or conditions such as Bell's Palsy are examples of causes for CN VII palsy.

CN VII Function

(ipsilateral motor and sensory)

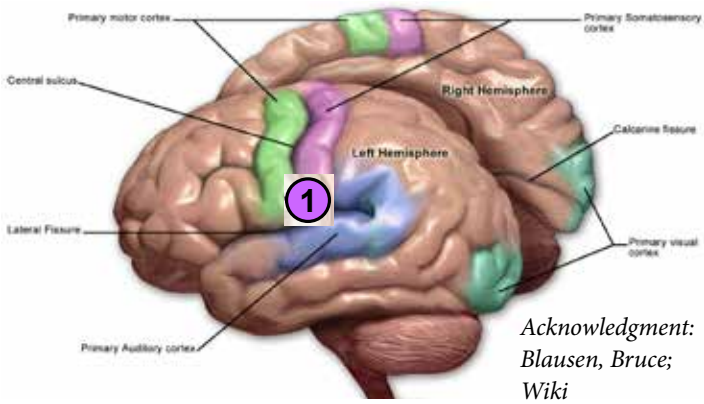
Motor

Face movement (upper/lower)*
Eye protector (eyelid closure**, tears)
Saliva production
Stapedius muscle (stabilizes stapes to dampen sounds)
Stylohyoid/posterior digastric muscle (aids swallowing)

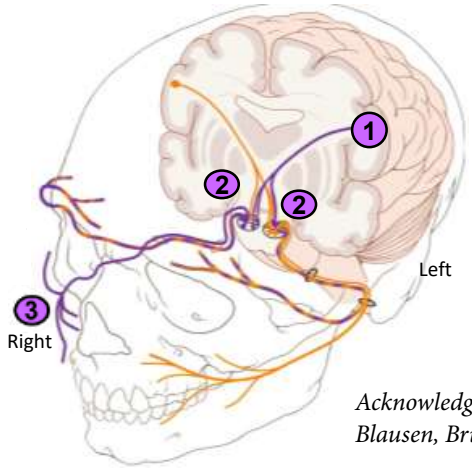
Sensory

Taste sensation (anterior 2/3 of their tongue)
Sensation external ear

*Except mastication, which is bilaterally activated by CN V (V3 branch)
** CN III initiates eye opening



Acknowledgment: Blausen, Bruce; Wiki



Acknowledgment: Blausen, Bruce; Wiki

TESTING CN VII

Observe facial movement and symmetry while asking the patient to do or answer the following:

1. Raise eyebrows and wrinkle forehead
2. Close eyes tightly. Can they keep them closed while you try to open them (against resistance)?
3. Puff out cheeks. Can they keep them puffed out if you pat the cheeks (against resistance)?
4. Purse lips, smile, and show teeth.
5. Can they produce tears or saliva?
6. Can they taste sweet or salty on the front of the tongue?
7. Do they have difficulty swallowing (hyoid bone)?
8. Are sounds perceived to be louder than normal?

Unconscious Patient

1. Observe the face closely. Look for asymmetrical loss of forehead wrinkles and motor weakness in lower face.
2. Is the nasal labial fold flattened on one side?
3. Does face "droop"?
4. Does one eyelid remain open (especially if the forehead on that side is "ironed out."
5. Corneal reflex tests CN V (sensation) and CN VII (bilateral blink)

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imagine define inspire

CANADIAN ASSOCIATION OF CRITICAL CARE NURSES

CRITICAL CARE NURSING CONFERENCE

Presentation Overview

The Canadian Critical Care Nursing Conference (CCCNC) is an excellent venue for accomplishing our objectives of providing educational opportunities for critical care nurses, the interprofessional team and those interested in critical care.

The following oral, oral poster, and poster presentations will be presented during the Canadian Critical Care Nursing Conference 2024, being held in Regina, SK, September 23–25, 2024.

Plenary Presentations

Plenary sessions are sessions where all delegates come together for one session (i.e., keynote, panels, closing).

The Secret Sauce... Thriving in times of change

Meg Soper
Motivational Humorist and Thought Leader on Mindfulness & Resilience (Keynote Speaker)

Other

Now more than ever, we need a reason to laugh! In her dynamic and engaging style, Meg will share her ideas on how we can use humour, passion, and resilience to find balance during uncertain times. Using experiences from her career as an operating room (OR) nurse, and now as a thought leader on mindfulness and resilience, Meg will demonstrate how choosing to shift our perspective and, using mindfulness techniques, we can be more effective in our roles while building healthier and stronger relationships with ourselves, the people we work with, and those who we serve. In this session, attendees will learn about the HPR Sauce – Humour, Passion, and Resilience – to manage change and thrive personally and professionally, together with strategies to gain greater control of our behaviour and emotions, mindfulness techniques to give our Brain a Boost and strategies to help improve personal resilience and maintain a positive mindset.

Rising together: Co-creating a healthy work environment

Theresa Davis, PhD, RN, NE-BC, CHTP, FAAN
President, AACN 2023-2024
(Invited Speaker)

Leadership

This presentation will describe the American Association of Critical-Care Nurses' (AACN's) Healthy Work Environment Standards (HWES) and why healthy work environments are important to creating a space where nurses and patients can thrive. The HWES encourages clinical teams to realize both joy and pain co-exist and through those struggles they can find their passion in the work they do. This presentation encourages attendees to participate in the design of an implementation program for healthy work environment standards using multiple methods. The presentation also provides updates on the AACN CSI/HWE implementation program, the HWE National Collaborative and the recently released HWE Assessment Tool (HWEAT).

Fast & Focused (45 minutes)

Fast and focused sessions (45 minutes) provide concentrated exposure to the content area. These sessions are intended to deliver defined take-away messages to enhance further learning and inspire practice.

Creating successful continuous renal replacement therapy (CRRT) practitioners: Preparation, education, mentorship, and practice, practice, practice

Ashli Brook, BScN, RN, Aldergrove, BC

Clinical Practice

This presentation will discuss what training programs for continuous renewal replacement therapy (CRRT) should include to create successful practitioners, such as adequate opportunities to manage unstable patients, evidence of organized care, and demonstration of good understanding of patients' critical illness progression. This is relevant across all patient age groups, as goals to support and heal patients are applicable in all intensive care units (ICUs).

Abstract

Managing continuous renal replacement therapy (CRRT) is a complex task that requires good clinical judgment, strong critical thinking skills and broad knowledge of pathophysiology. It is in the best interest of patient safety and nursing retention to provide staff with adequate preparation, tools and practice to take on this skill successfully.

Nursing staff that are not adequately prepared to provide this therapy can experience errors, frustration and difficulty managing patients' hemodynamic status and metabolic stability; all of which are unsafe for patients and can also contribute to nursing attrition.

This is a review of a framework currently in use in a tertiary intensive care unit (ICU) with high CRRT usage. It is intended to be adaptable for other similar departments and transferable to similar advanced skills and therapies that nurses manage.

Designing tomorrow's critical care complex: A holistic framework for adaptive intensive care unit (ICU) environments

Vininder Kour Bains, MSN, RN, CNCC(C), Tanya L. Campbell, MSN, RN, and Lena Farina, RT, Vancouver, BC

Clinical Practice

This presentation will embark on a transformative journey into the realm of healthcare innovation and intensive care unit (ICU) design by unveiling the meticulous process one organization embarked on to design a 60-bed "critical care complex" that seamlessly integrates versatility, safety, collaboration, and social justice. Attendees will delve into the strategic use of modular design, inclusive principles, and evidence-driven decision-making, ensuring adaptability to diverse patient populations, and will witness the synergy between innovation and organizational values, shaping the blueprint for the next generation of critical care facilities.

Abstract

Designing a future-proof 60-bed critical care complex (CCC) for our new hospital, while adhering to our organizational vision of collaboration, versatility, patient safety, and social justice, was no small task. This complex would house four critical care units (CCUs): the intensive care unit (ICU), cardiac ICU, cardiac surgery ICU, and the high-acuity unit (HAU).

The initial task involved determining the functional requirements for the CCC, including considerations, such as the size, designated spaces, and essential elements, followed by identifying the organizational values of innovation, versatility, social justice, and design to enable collaboration, both with patients and families and across critical care teams, as central to the CCC. The evidence was reviewed, and a wide net was cast to find design ideas, including engaging with diverse stakeholders, and simulation to test alternatives. To ensure versatility that could serve a variety of patient populations, now and into the future, modular design elements that allow for easy reconfiguration of patient rooms, equipment placement, and workflow adjustments were chosen. The physical layout of the patient rooms and team spaces were strategically structured to maximize sightlines. The principles of inclusivity and equity included wheelchair accessibility, gender inclusive spaces, and patient rooms equipped with tools to assist with communication for people experiencing language, sensory, motor, or physical barriers. By adhering to the organizational vision, a CCC was created that meets the immediate needs of diverse populations now and into the future.

Development of a frostbite protocol

Anita Au, RN, CBRN, Shabana Lalji, RN, CNCC(C), Ramanjit Deol, RN, Ashley Callahan, NSWOC, David Wallace, MD, MSc, FRCSC, Rimona Natanson, Pharm APS, Alice Shi, RD CP, Benji Choo, PT, Janna Di Pinto, SW, Alan Rogers, MBChB, MMed, FC Plastic Surgeon, FRCSI, MSc, FACS, Leslie Montgomery, OT, Son Nayoung, RN, and Kristine Laing, PA, Toronto, ON

Education

Hypothermia and frostbite injuries are a risk for people living in Canada. This presentation will focus on the development of a frostbite protocol with implementation of a treatment plan. A literature search within the last five years will be shared, offering

PRESENTATIONS

a comparison of the more common frostbite protocols being utilized. Included will be information on how intensive care unit (ICU) nurses can assess frostbite, identify the pathway to the management of frostbite through rewarming, the use of thrombolytics, and the management of pain.

Abstract
When a person is exposed to extremely cold temperatures or a wind chill reaching minus 30 degrees Celsius for at least two hours, hypothermia and frostbite can happen. In Canada, hypothermia, frostbite, and non-freezing cold injuries predominantly affect older adults, homeless, intoxicated people, adventurers, and military personnel. Approximately 90% of frostbite injuries occur on the limbs, the digits, or the face, with the potential to affect significant functional abilities, particularly when at risk for amputation. Upon literature review within the last five years, the management of frostbite is variable with the finding of numerous protocols. The aim of this quality improvement (QI) project is to investigate and develop an optimal treatment pathway and nursing practice in the management of frostbite patients.

Discharges with dignity

Melissa Guiyab, MN, RN, and Dorinda Sinnott, MSW, RSW, Toronto, ON

Clinical Practice
This presentation will review the needs of patients being discharged from hospital directly from a critical care unit (CCU) and will highlight the additional needs of patients with substance misuse, mental health issues, and the underhoused. To address this gap in care, resources such as discharge checklists and care kits were created, and partnerships with outpatient services were cultivated. This low-cost, clinically responsive initiative ensures a safe discharge process for both staff and patients.

Abstract
Background: As a large tertiary care centre on the front lines of the opioid epidemic, it is not uncommon for our staff to care for patients admitted for substance misuse. This clinical population is often complex from a medical and psychosocial perspective. In addition, they comprise the majority of patients either discharged home directly from the medical surgical intensive care unit (MSICU) or who leave against medical advice (AMA). Given that the vast majority of MSICU patients transfer to other facilities or inpatient units, there is no consistent process to facilitate this type of discharge.

Purpose: To develop a safe streamlined MSICU discharge process that staff can enact for patients experiencing substance misuse.

Method: Discharge checklists were created as a reference for the staff. For patients who are underhoused and/or have substance misuse issues, additional resources were created consisting of: care kits comprised of clothing, hygiene products, and resource materials, harm reduction kits, patient-specific care plans, and referrals to community supports.

Results: Discharge checklists are now available for staff to use. Care kits and harm reduction kits are readily available in the unit and are being dispensed as needed. The MSICU has developed partnerships with outpatient programs specialized in substance misuse, mental health issues, and housing support.

Conclusion: This low-cost, clinically responsive initiative supports the autonomy and dignity of patients and ensures a safe discharge process for both staff and patients.

Exploring public expectations of care and communication in intensive care units (ICUs): A cross-sectional web-based survey

Bethany Trotter, RN, Calgary, AB

Research and Quality Improvement
This presentation will delve into a survey conducted among Canadians, revealing their expectations of intensive care units (ICUs). Participants will discover strategies to effectively address and manage these expectations when communicating with the public. The current landscape of patient and family centred care (PFCC) in ICUs will be discussed, providing vital context for the study's purpose and significance. The goal is to bridge the gap between public perceptions and the reality of ICU care, ultimately enhancing communication strategies for a better patient and family experience.

Abstract
Background: Explaining critical illnesses to family members of intensive care unit (ICU) patients presents a complex challenge for healthcare providers (HCPs). Research highlights how insufficient communication from critical care staff can heighten stress and anxiety, and potentially lead to post-traumatic stress disorder (PTSD) among patients' families. Additionally, media portrayals of ICU care often create unrealistic expectations that deviate from actual practices.

Methods: Based on the validated Family Satisfaction in ICU (FSICU-24) questionnaire, a web-based survey was conducted in the fall of 2023 to gauge the public's expectations and needs preceding ICU admissions.

Results: Four hundred and eighty-nine respondents from across Canada participated in the study, providing valuable insights into their communication and care expectations within ICUs. These findings offer healthcare providers (HCPs) a deeper understanding of patients' family members' expectations on specifics like forms of communication, availability of various HCPs, preferred modes of support, and end-of-life (EOL) care. With this knowledge, HPCs can effectively navigate and bridge the gap between family expectations and the realities of ICU care, thereby improving communication and facilitating informed decision-making processes. Utilizing targeted interventions informed by empirical data, the study aims to cultivate a more supportive and unified ICU environment for patients and their families.

From chaos to clarity: The therapeutic potential of journals and diaries to recall the intensive care (IC) journey

Carly Hickey, MN, RN, CNCC(C), IBCLC, Oakville, ON

Clinical Practice

Critical care diaries and journals are significantly underutilized in the clinical setting and, yet, provide significant therapeutic benefit. Applicable to all critical care areas and demographics, the benefits of this creative outlet for both families and patients has been explored greatly. This presentation will summarize the evidence behind encouragement of journaling during the critical illness experience; educate about positive outcomes for patients, families, and care teams; identify barriers to implementation; and provide project implementation strategies for units and families at all accessibility and budget levels.

Abstract

It is often a gift when a patient survives a severe critical illness and leaves the intensive care unit (ICU) with full, or near complete cognitive function, similar to, or better than their admission baseline function. However, with higher rates of critical care survival come high rates of post-traumatic stress injury (PTSI) for both patients and family survivors. Critical care diaries and journals have been studied as a low-cost, family-directed care project that has promising therapeutic effects in the recovery period for both the patient and family. Though a low-cost project for families, there remains barriers to implementation in clinical settings. Considering the economic climate, journaling projects must be accessible and equitable to all patients.

Intra-abdominal hypertension (IAH) and abdominal compartment syndrome (ACS)

Tom Scullard, MSN, RN, CCRN, Farmington, MN

Clinical Practice

Intra-abdominal hypertension (IAH) frequently occurs in critically ill patients. Elevated IAH has adverse effects on many organ systems including the cardiovascular, respiratory, renal, gastrointestinal, and nervous systems. This presentation will provide the critical care nurse with the knowledge to minimize morbidity and mortality related to abdominal compartment syndrome (ACS). A case study will be presented to assist nurses in applying the information into everyday practice.

Abstract

Intra-abdominal hypertension (IAH) is a serious condition that can lead to abdominal compartment syndrome (ACS). When intra-abdominal pressures rise above 20 mmHg, it may cause end organ damage, long-term organ disfunction, and can be lethal if not identified and treated. It is essential that nurses recognize the risk factors leading to IAH, understand its pathophysiology, know how to correctly measure abdominal pressure, and what non-surgical medical treatment options exist, to help ensure appropriate management is taken to treat IAH and hypertension and abdominal hypertension.

Lived experiences of the new graduate nurses' transition to critical care: Success and suggestions for improvements for continuity of the learning pathway

Eun Saem Cho, RN, and Carmen Naujokat, RN, Vancouver, BC

Research and Quality Improvement

This presentation features a learning pathway designed to prepare new graduate nurses for direct entry into critical care. This accelerated learning pathway begins during undergraduate studies with multiple phases to prepare each student for a smooth transition. The primary goal of the presentation is to showcase the lived experiences of the participants and the critical care nurses after completing the pathway. Key points include participant feedback on each phase, which provides insight into an individual's confidence levels, readiness for independent practice, experiences with support systems, and unit culture.

Abstract

Introduction: The nursing shortage is a global and direct threat to public health, which requires innovative interventions, especially in specialized areas such as critical care. A healthcare organization and an academic institution collaborated to create an accelerated four-step learning pathway for undergraduate students to directly transition into critical care (i.e., Critical Care Learning Pathway). This quality improvement project showcases the lived experiences of participants and nurses who completed the pathway, shedding light on successes and areas for improvement for future cohorts.

Methods: A survey with both Likert scale and open-ended questions consisting of six sections (each phase of the pathway, readiness for independence practice, and the adequacy of the support system) was conducted among all participants (n = 9). The average ratings and proportion in each rating for each question and the percentage of each score were assessed to analyze the trend in responses. Common themes were identified from written responses and further analyzed into pros and cons.

Results: The preliminary findings revealed that all nine participants would stay in a critical care setting, with 80% remaining in the current healthcare organization. Peer support and extended education had the most positive feedback, whereas lack of debriefing, mentors' lack of knowledge of the pathway and cultural differences were the main areas for improvement.

Conclusion: All nine participants said yes to staying in the critical care settings and the same facility, demonstrating a strong implication of the pathway in improving the staffing issue in critical care, both in the short and long term.

PRESENTATIONS

Next Top Model: A global environmental scan for the ideal intensive care unit (ICU) survivorship clinic model of care

Saleen Shivji, BScN, RN, and Carmel Montgomery, PhD, RN, Edmonton, AB

Research and Quality Improvement

As many as 80% of intensive care unit (ICU) survivors experience post-intensive care syndrome (PICS), an amalgamation of physical, cognitive, and mental health symptoms that impact health outcomes long term. ICU survivorship clinics have emerged as an invaluable resource for patients, offering comprehensive assessment, diagnosis, treatment, and support for PICS through their long-term recovery process. This presentation aims to explore the models of care utilized by ICU follow-up clinics worldwide through examination of their respective human, environmental, facilitation, and operational resources. The findings will underscore the importance and beneficial impact that these clinics have on intensive care survivorship.

Prerequisites

General knowledge of, and/or clinical experience with post-intensive care syndrome (PICS); follow-up clinics; care of critically ill patients; transitional care; management, organization and maintenance of a clinical setting; interdisciplinary collaboration; intensive care unit survivorship; post-ICU patient care; and cognitive, physical and mental health diagnoses of the critically ill patient would be an asset but is not required.

Abstract

After weeks of being sedated and intubated, intensive care unit (ICU) patients start the challenging transition back to their baseline independence. Without transitional support, patients carry the complexities of post-intensive care syndrome (PICS) into their long-term recovery process. PICS is a condition that affects ICU survivors' physical, emotional, and cognitive health. Diagnoses include, but are not limited to post-traumatic stress disorder (PTSD), delirium, confusion, nightmares, muscle weakness, sarcopenia, depression, and anxiety.

To address these challenges, ICU survivorship clinics have emerged as a useful resource for patients, aiding in their transition to independence post-ICU discharge. These clinics offer a variety of multidisciplinary services to help diagnose, treat, and support ICU survivors and their families through PICS. However, limited evidence is available regarding the optimal human, environmental and operational resources required for sustained and successful operation of these clinics.

To bridge this gap, this research employs a narrative review and an environmental scan, outlining the various models of care utilized in established ICU survivorship clinics amongst high-income countries. This research is crucial to ensure clinicians are promoting patient safety and equity, fostering long-term recovery, reducing readmission rates, and attending to the comprehensive needs of patients and their families. As part of a larger scale ICU survivorship initiative in Alberta, the findings will inform the creation of a logic model and briefing note. These user-friendly tools will be disseminated to stakeholders within Alberta Health Services for reference through the development and maintenance of new follow-up clinics.

One extravasation is too many: Deep dive into the process of improving practice for peripherally administered vasopressors

Vininder Kour Bains, MSN, RN, CNCC(C), and Jocelyn Hill, MN, RN, CVAA(C), VA-BC™, Vancouver, BC

Clinical Practice

The evolving research surrounding peripherally administered vasopressors challenges our assumptions about risks and benefits especially when an evidence-informed protocol is followed. This presentation will describe how one team engaged with stakeholders across multiple critical care settings to develop an evidence-informed protocol for safer administration of vasopressors through a peripheral intravenous catheter (PIVCs). As well, information in this presentation will outline the evaluation strategy to monitor the impact of this practice change on patient outcomes and share preliminary findings.

Prerequisites

Familiarity of common vasopressors used to support critically ill patients such as norepinephrine, phenylephrine, and vasopressin would be an asset, but not required.

Abstract

While vasopressors through peripheral intravenous catheters (PIVCs) are initiated especially in emergency situations, this approach has historically been discouraged in clinical practice and according to some organizational parental drug therapy manuals. This reluctance is rooted in the substantial risks associated with extravasation, where injuries extending to deeper tissues can lead to permanent loss of function or limb. Recent studies, initially conducted in peri-anesthetic care units (PACUs), and later replicated in other critically ill populations in both emergency departments (EDs) and intensive care units (ICUs), challenge conventional notions about these risks, particularly when the practice is guided by an evidence-informed protocol. Some studies underscore potential advantages, such as avoidance of central venous catheters and earlier initiation of sepsis protocols in certain clinical contexts. In this presentation, the literature, and information gathered through our stakeholder engagement (i.e., EDs, ICUs, PACUs in urban and rural settings) is summarized and illustrates how it informed the development of a clinical practice guideline. The guideline encompasses strategies to reduce the risk of extravasation, including consideration of patient characteristics, clinical context, PIVC size, location, and placement procedure, as well as recommended limitations on vasopressors including concentration administered, maximum doses, and duration. Furthermore, the presentation will outline measures aiming at reducing harm in the event of extravasation, such as strategies

for early detection (i.e., signage, site monitoring, and patient education) and fast response (i.e., extravasation response protocol). Additionally, the evaluation plan to monitor the impact of this practice change will be outlined and preliminary findings since implementation of our peripheral vasopressor guideline shared.

Orientation practices for registered nurses (RNs) in Canadian intensive care units (ICUs)

Michel Tao, Student, Carmel Montgomery, PhD, RN, Brook Przybylski, Student, Edmonton, AB, and Brandi Vanderspank-Wright, PhD, RN, CNCC(C), Ottawa, ON

Research and Quality Improvement

This presentation will identify the orientation practices for newly hired registered nurses (RNs) in intensive care units (ICUs). This pan-Canadian environmental scan focuses on unit demographics, training practices, preceptorship, mentorship, evaluation methods, post-orientation support, and the impact of the COVID-19 pandemic on orientation practices.

Abstract

Introduction: There is a lack of published literature regarding Canadian intensive care unit (ICU) orientation practices for registered nurses (RNs). This study aimed to identify orientation practices provided to newly hired RNs in Canadian ICU settings.

Methods: A pan-Canadian environmental scan was conducted using a retrospective, cross-sectional survey design. An electronic survey to the members of the Canadian Association of Critical Care Nurses (CACCN), managers, and clinical nurse educators (CNEs) was distributed. All Canadian ICUs were eligible to participate. The data were analyzed for overall trends using descriptive analysis. This study was part of a larger Canadian Institutes of Health Research (CIHR) funded project grant, with ethics approval from the University of Ottawa Ethics Review Board (ERB).

Discussion: There was a maximum of 27 survey responses for any question. Most ICUs tailored the length of unit orientation based on previous nursing experience (n = 22/25; 88.0%). New graduate RNs received the longest unit orientation (51.8 mean days, SD: 52.4), and RNs with previous ICU experience received the shortest unit orientation (14.8 mean days, SD: 20.4). A preceptorship or mentorship component was included among all responding ICUs (n = 22/22; 100%) included . Following the completion of orientation, n = 16/21 (76.2%) ICUs employed formal follow-up measures. Orientation procedures changed amid the COVID-19 pandemic within n = 10/16 (62.5%) ICUs.

Results: Findings suggest that there is variation in ICU orientation practices across Canada. This is the first step in identifying leading practices to inform nursing leadership about the optimal approach to orientation for RNs in the ICU.

Pupil light reflex (PLR) during mechanical ventilation (MV) is associated to post-extubation delirium following traumatic brain injury (TBI)

Annie Proulx, RN, Alexandra Lapierre, PhD, RN, Francis Bernard, MD, and Caroline Arbour, PhD, RN, Montreal, QC

Research and Quality Improvement

Delirium is highly prevalent among critically ill adults with traumatic brain injuries (TBIs), impacting their recovery and potentially prolonging mechanical ventilation (MV). This presentation will present preliminary findings from a two-phase pilot project examining the correlation between pupillary light reflex (PLR) measurements during MV and delirium occurrence after extubation. Clinical cases, descriptive correlation data from PLR, and delirium assessments will be included in this presentation.

Abstract

Background: Delirium is a frequent neurological complication observed in intensive care unit (ICU) patients following moderate to severe traumatic brain injury (TBI). However, there exists no specialized tool for early detection of delirium following TBI. This two-phase observational study explored the relationship between pupillary light reflex (PLR) measurements, obtained via pupillometry during mechanical ventilation (MV), and the incidence of post-extubation delirium in TBI patients.

Methods: A convenience sample of 26 adults, with moderate to severe TBI and receiving mechanical ventilation, was enrolled. Phase I involved conducting PLR measurements using automated infrared pupillometry within the first three days of ICU admission. Phase II comprised independent extraction of post-extubation delirium data from medical records, by two raters. Point-biserial correlations (RPB) were employed to assess the association between PLR scores and post-extubation delirium presence. Additionally, student's t-tests were conducted to compare mean PLR scores between patients with and without delirium.

Results: Among TBI patients, 10 (38%) developed post-extubation delirium, while 16 (62%) did not. Significant correlations were observed between delirium occurrence and PLR variables: pupil constriction percentage (rpb[24] = -.526, p = .006) and constriction velocity (rpb[24] = -.485, p =.012). The t-test revealed significant differences in constriction percentage and velocity scores between TBI patients with and without delirium ($p \leq 0.01$).

Conclusion: The findings suggest that pupillometry during ICU mechanical ventilation could aid in identifying TBI patients at risk of post-extubation delirium. While further validation is warranted, this technological approach holds promise for ICU nurses to enhance delirium screening among TBI patients.

PRESENTATIONS

Reimagining family-centred care (FCC) in the context of post-intensive care syndrome-family (PICS-F): A call for renewed focus

Angie Grewal, BScN, RN, Carmel Montgomery, PhD, RN, and Holly Symonds-Brown, PhD, RN, Edmonton, AB

Education

In this presentation, critical care nurses will delve into the multifaceted realm of post-intensive care syndrome (PICS) and post-intensive care syndrome-family (PICS-F). Attendees will learn about PICS-F within the context of critical care nursing practice. Attendees will gain insight into the pivotal role of informal caregivers, defined as individuals providing unpaid care to family members or friends with illness or disability, and the unique challenges they face within the healthcare system. Through a critical examination of existing resources and literature gaps, opportunities for enhancing support systems tailored to the needs of family caregivers affected by PICS-F will also be presented.

Prerequisites

A minimum of one year of clinical experience as a critical care nurse in an adult medical-surgical intensive care unit (MSICU) would be an asset, but not required.

Abstract

Post-intensive care syndrome (PICS) is a complex phenomenon encompassing physical, cognitive, and mental health impairments that can persist long after a patient's discharge from the intensive care unit (ICU; Ågård et al., 2015; Cox et al., 2009; Choi et al., 2011; van der Merwe & Paruk, 2022). Of particular significance is its impact on family caregivers, termed as post-intensive care syndrome-family (PICS-F; Choi et al., 2019; Imanipour & Kiwanuka, 2020). Critical care nurses play a pivotal role in recognizing and addressing this often-overlooked aspect of family care.

Family caregivers are individuals who provide unpaid care for family members or friends with an illness or disability and bear the brunt of the burden associated with PICS-F (Law et al., 2021). Their physical, mental, and cognitive health can be significantly affected, yet their contributions are frequently taken for granted within both societal and healthcare contexts (Law et al.).

Drawing upon research by Law et al. (2021) and Taylor and Quesnel-Vallée (2017) highlight the profound impact of caregiving on caregivers' well-being. The strains of caregiving can manifest in various forms, including increased stress levels, compromised immune function, and heightened risk of depression and anxiety (Law et al., 2021).

Critical care nurses play an important role in recognizing and addressing the needs of family caregivers to enhance ICU survivor outcomes and promote the well-being of both survivors and their support networks (Imanipour & Kiwanuka, 2020). In doing so, we can foster a healthcare environment that supports the vital contributions of family caregivers in the post-ICU journey.

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Save our skin: Intensive care unit (ICU) pressure injury prevention initiative

Hetal Bambharoliya, RN, Allison Da Silva, RN, WOCC(C), and Wendy Campbell, BScPT, Med, Mississauga, ON

Clinical Practice

Pressure injuries (PIs) have a significant impact on patients, healthcare providers, and the healthcare system at large, with the intensive care unit (ICU) patient at the highest risk for pressure injury development. This presentation will provide an overview of the impact of pressure injuries, review the quality improvement tools utilized to sustain a 50% decrease in ICU-acquired pressure injuries, and improve interprofessional engagement in pressure injury prevention in a level 3 multi-site ICU. Participants will be encouraged to consider different strategies for engagement including accountability, thorough data collection and timely feedback, role clarification, standardization, leadership opportunities, and patient and family involvement.

Prerequisites

Basic knowledge of pressure injuries, assessment, and management of wounds. Evidence-based practice for prevention of pressure injuries for adult patients admitted to ICU would be an asset, but is not required.

Abstract
In critical care, patients face a heightened risk of pressure injuries (PIs) due to multiple factors, with prevalence rates ranging from 12–37%. At a community teaching hospital's two-level three medical/surgical intensive care units (MSICUs), pressure injuries were increasingly prevalent, exceeding 20% in monthly audits in 2022. This project aimed to streamline evidence-based practices, enhance interprofessional clinical competency in PI management and prevention in the ICU, with the goal of reducing hospital-acquired PI incidence and improving wound outcomes.

Monthly audits assessed PI prevalence and incidence, supplemented by weekly documentation audits to evaluate new PI occurrences, captures on admissions, and healed wounds to gauge the effectiveness of documentation and wound practices. A comprehensive plan was devised to enhance quality of care and mitigate incidence of PIs through evidence-based interventions and quality improvement methodologies, such as current state evaluation, the ADKAR Model of Change, and Plan-Do-Study-Act (PDSA) cycles for each intervention.

Over the course of a year, ICU hospital-acquired PI rates decreased from more than 20% to 10% across sites. Concurrently, there was a 48% increase in monthly healed wounds, indicating improvements in wound documentation and management. The increased engagement of staff was evidenced by the establishment of an interprofessional PI prevention champions team.

Interdisciplinary collaboration and engagement at all levels including the leadership team was deemed crucial in PI prevention in the ICU setting. Clear communication, peer recognition, and adherence to quality improvement (QI) methodologies were identified as essential factors in adopting new practices and fostering a culture conducive to pressure injury prevention.

Single centre nursing burn education quality improvement (QI) initiative

Caryn Dooner, RN, and Megan Johnstone, RN, Victoria, BC

Research and Quality Improvement
This presentation will discuss a quality improvement (QI) initiative at a single centre intensive care unit (ICU), examining the impact of structured education on nurse's confidence in providing care to patients with burns. The pearls and pitfalls will be discussed, as well as recommendations for sites looking to improve their nurses' confidence in provision of burn care in the context of a low-volume, high-complexity population.

Prerequisites
General knowledge of caring for patients with burns, requiring analgesia, intubation, and wound care would be an asset, but not required.

Abstract
Caring for patients with burns is a complex and highly specialized endeavour. This quality improvement (QI) initiative spans a single centre intensive care unit (ICU) and examines the impact of structured education on nurses' confidence in providing care to patients with burns. Bedside critical care-trained nursing staff identified the need to improve the care provided to patients with burns and led this initiative, using a mixed methods approach, including pre- and post-intervention surveys.

The educational intervention selected included the Canadian Burn Association Conference (CBAC 2022) and Advanced Burn Life Support (ABLS) certification. The survey results indicated that, on average, staff confidence was higher after attending a structured education initiative, and staff desire improved interdisciplinary relationships with plastic surgery providers and, overall, felt that they were inadequately prepared for wound care with current education and critical care training.

Limitations of this initiative include sample size and limited funding impacting educational follow-through. Future directions may include evaluating current programs from a moral distress standpoint, simulated learning opportunities, and evaluating implementation of structured rounds focused on wound care planning with the interdisciplinary team.

Supporting recovery: Patient perspectives of a nurse practitioner (NP)-led cardiac surgery follow-up clinic

Carmel Montgomery, PhD, RN, Angie Grewal, BScN, RN, Sarah Lartey, MN, RN, Stephanie Wold, NP, MN, RN, and Colleen Norris, PhD, RN, FAHA, FCAHS, Edmonton, AB

Research and Quality Improvement
This presentation will highlight the important role of the nurse practitioner (NP) in consistent follow-up of patients discharged after cardiac surgery. Information shared in this presentation will include an overview of the evaluation of a new NP-led follow-up clinic, including results from patient interviews.

Abstract
In response to increased demands on the healthcare system, there is a growing need for innovative care delivery methods that not only address these demands, but also enhance the patient's experience.

Nurse Practitioner (NP)-led clinics have demonstrated positive impacts on mortality rates, hospital admissions, and patient-reported outcomes. In Canada, NP-led clinics have been associated with a reduction in physician caseloads while maintaining or improving patient care.

In January 2022, the Alberta Heart Institute opened an NP-led cardiac surgery follow-up clinic. This study involved one-on-one video conference interviews with patients following their

PRESENTATIONS

NP clinic appointments, to gain insights into their experiences. The overwhelming feedback from patients supports the effectiveness of the NP-led clinic. Patients described the NP as professional, accommodating, and knowledgeable. The NP's comprehensive review of medications and lab values, assessment of wounds, and assistance in finding resources left patients feeling reassured. Both patients and their families reported that the NP instilled confidence in their ability to self-manage their care at home.

The factors facilitating and limiting the involvement of relatives in the intensive care unit (ICU)

Annie Proulx, RN, Caroline Arbour, PhD, RN, and Marie-Pascale Pomey, MD, Montreal, QC

Research and Quality Improvement

Partnership in care is an approach that considers patients as members of an interdisciplinary team, combining their experiential knowledge with the scientific knowledge of healthcare professionals (HCPs). However, people hospitalized in intensive care units (ICUs) aren't able to develop this partnership, so relatives become substitutes. This presentation will showcase the findings of a recent qualitative study exploring the various factors that both enable and hinder the participation of relatives in providing direct care in an ICU. Insights gathered from key stakeholders including managers, doctors, nurses, patients, and their relatives, and specific recommendations designed for implementation across all organizational levels will be shared.

Abstract

Background: Despite the existence of guidelines intended to standardize practice, the engagement of relatives in direct care within critical care units (CCUs) remains intricate and inconsistent. This study aims to discern the challenges hindering the implementation of these guidelines by examining the factors that either facilitate or impede the involvement of relatives in the intensive care unit (ICU).

Methods: A qualitative descriptive study was carried out. A total sample of 17 participants including patients, families, healthcare professionals, and managers, were recruited. During semi-structured interviews, the participants were asked about the involvement of relatives in care in an ICU and about the factors facilitating and limiting the involvement of relatives.

Results: Five prominent themes emerged from the data analysis: 1) the necessity for cultural adaptation, 2) supportive norms and policies for involving loved ones in care, 3) the necessity for skill development among both relatives and healthcare professionals, 4) the dynamics between dyads and healthcare providers, and 5) contextual and human factors that impede the care partnership.

Conclusions: This study describes the phenomenon of involvement according to the different stakeholders and according to the different levels of commitment. The involvement of loved ones in direct care is viewed favourably by all participants. The two main organizational factors that influence the participation of relatives are the restrictive visiting policy and the complex care environment. For relatives, their involvement depends on the information provided and the attitude of the nurses.

The intensive care unit (ICU) follow-up clinic – An opportunity to be seized for specialized nursing care

Annie Proulx, RN, Émilie Lévesque, MD, Caroline Arbour, PhD, RN, and Virginie L'Heureux-Lebeau, RN, Montreal, QC

Clinical Practice

Advances in intensive care unit (ICU) treatments have increased the number of survivors who require specialized care for ICU-related sequelae. In response to this phenomenon, ICU follow-up clinics are being implemented across Canada. Despite their increasing popularity, little is known about the profile of ICU survivors and specific health-related needs encountered in these clinics. The exact nature and impact of nursing interventions provided in such clinics is also poorly understood. This presentation will provide insights on these questions based on a recent experience in implementing and running such a clinic in Montreal, QC.

Abstract

Intensive care unit (ICU) survivors often face multiple long-term, health-related complications, known as post-intensive care syndrome (PICS), that together or individually diminish functional outcomes and quality of life. A healthcare model in the form of multidisciplinary specialized clinics could provide the necessary services specific to ICU survivors' healthcare needs.

A tertiary care centre in the province of Quebec set up a post-ICU follow-up clinic to address this care issue. The clinic includes an assessment with an intensive care nurse, a visit to the ICU (optional), and a personalized intervention plan formulated in interdisciplinary collaboration among the patient, the relatives, the nurse, and an intensivist.

Since the clinic's inauguration, nearly 100 people have benefited from this service. People seen at the clinic are admitted to the ICU for a variety of reasons. The most common diagnoses are pulmonary problems, sepsis, cardiogenic shock, and traumatic injuries. On average, 75% of the people who have benefitted from this service are men, and the mean age is 60. The main complaints of these clientele are loss of endurance, insomnia, activities-related dyspnea, and memory loss. In addition to assessing the clientele, the nurse's role is to teach patients about PICS and healthy lifestyle habits. Interdisciplinary interventions are then implemented according to the individual's needs.

This holistic approach helps to improve the quality of life of people after ICU hospitalization, and to improve their long-term health outcomes. Nurses' expertise is crucial to the follow-up of ICU survivors.

Unblocking blocks! Reviewing heart blocks and interventions including temporary pacemakers!

Lara Parker, MSN, RN, CNCC(C), and Hannah Rosenberg, MN, BA, RN, Burnaby, BC

Education

In this presentation, heart block rhythms will be analyzed from an anatomy and physiology perspective including understanding the disruption in the regular electrical conduction pathways. Links to imbalance in oxygen supply and demand will be highlighted, and interventions for symptomatic patients will be explored including applying temporary pacemakers and firstline medications.

Abstract

All critical care nurses in Canada require knowledge on electrocardiogram (ECG) analysis, including heart block rhythms. Depending on your critical care unit (CCU) of practice, heart block rhythms are not seen as often as some of the other ECG rhythms. This presentation on heart block rhythms will be to refresh and review the four types of heart block rhythms. Each rhythm will be analyzed from an anatomy and physiology perspective, including understanding the disruption in the regular electrical conduction pathways. Importantly, focus on imbalance in oxygen supply and demand will be highlighted for each. After analysis, interventions for symptomatic patients will be explored, including applying temporary pacemakers and firstline medications. Temporary pacemakers will be explored from application, to initiation, to achieving capture.

Urine trouble: Diabetes insipidus (DI), cerebral salt wasting (CSW), and syndrome of inappropriate secretion of antidiuretic hormone (SIADH)

Shirley Marr, MHScN, MHEd, RN, CNCC(C), Mississauga, ON

Clinical Practice

This presentation will discuss the differences and similarities between diabetes insipidus (DI), cerebral salt wasting (CSW), and syndrome of inappropriate secretion of antidiuretic hormone (SIADH), focusing on the causes, assessments, and treatments, including a discussion around commonly used medications that may be linked to causes.

Prerequisites

General knowledge of hormones and how they influence urine output would be an asset, but not required.

Abstract

Diabetes insipidus (DI), cerebral salt wasting (CSW), and syndrome of inappropriate secretion of antidiuretic hormone (SIADH) are disorders of urine output that are often confused, but with careful assessments the differences can be seen and understood. Urine output is not the cause, but the symptom of these diseases. Once understood, acceptable treatments can be implemented to prevent complications. This presentation will review, compare, and contrast each disorder related to its cause, presentation, and treatment. Common critical care medications that may influence the development of these disorders will also be presented.

Concurrent (60 minutes)

Concurrent sessions (60 minutes) provide more extensive exposure in the content area. Important information related to the topic and takeaway resources/ideas will be offered.

"ChatGPT, help my patient?" An overview of artificial intelligence (AI) in critical care

Tashina McCluskey, MN, RN, CNCC(C), Grand Bay-Westfield, NB

Clinical Practice

The critical care environment has always been at the forefront of advancing expertise in healthcare. As technology continues to progress, the pivotal role of artificial intelligence (AI) cannot be ignored. This presentation will explore how AI is revolutionizing critical care nursing, and healthcare, by enabling early detection and diagnosis of critical conditions, predicting patient outcomes, and personalizing treatment plans.

Abstract

The integration of artificial intelligence (AI) is leading the way in revolutionizing healthcare delivery, as critical care technology advances. AI can facilitate early detection and diagnosis of critical conditions, predict patient outcomes, and personalize treatment plans to individual patient needs. Through these processes, AI can enhance patient outcomes and optimize operational workflows.

But, this interplay between AI systems and human healthcare professionals (HCPs) is not without challenges and considerations. Knowledge regarding proper use and interpretation of this evolving technology must not only be obtained, but also maintained. The tools need to be both robust and reliable when dealing with critically ill patients. Ethical issues, such as privacy concerns, must also be acknowledged.

Recognition of AI technology, both those currently available in critical care and those that are on future horizons, holds the key to unprecedented advancements in patient care and operational efficiency, as well as elevating the standard of critical care delivery. By understanding not only the potential and

capabilities of AI, but also the potential challenges, critical care nurses can navigate this growing landscape with confidence, ensuring every patient receives the highest level of tailored, precision-driven care when they need it most.

A teachable moment: Precepting in critical care

Michelle House-Kokan, EdD, MSN, RN, CNCC(C), CCNE, and Simmie Kalan, MN, RN, CNCC(C), Vancouver, BC

Education

Precepting in a critical care environment can be both rewarding and challenging. In this engaging and interactive presentation, participants will have the opportunity to expand and hone their abilities as either new or experienced preceptors by exploring and engaging with teaching techniques that help guide clinical conversations, give effective feedback, promote critical thinking, and assess learning.

Abstract

Research has shown that the role of the preceptor is crucial to the successful integration of nurses new to the critical care setting. However, most critical care nurses have not had the opportunity to become formally prepared for this vital role. There are many responsibilities associated with being a preceptor, including supporting the development of clinical judgement and decision making, giving effective feedback, and assessing learning. Preparation in adult learning theory and practice, together with the opportunity to engage with and apply various techniques in a safe learning environment, prepares and supports preceptors to undertake these responsibilities.

Accidental hypothermia

Tom Scullard, MSN, RN, CCRN, Farmington, MN

Clinical Practice

This presentation will provide critical care nurses with the knowledge to recognize and care for the patient experiencing accidental hypothermia. Discussion will include defining accidental hypothermia, how it affects different body systems, and a review of current rewarming practices.

Abstract

Accidental hypothermia is defined as an unintentional drop in core body temperature of less than 35 degrees Celsius. There are multiple reasons patients develop accidental hypothermia. Primary hypothermia usually occurs in cold and wet conditions. Secondary hypothermia can occur in the hospital due to different diseases and conditions. This presentation will cover the most common causes of accidental hypothermia, the different stages of accidental hypothermia, as well as the clinical signs and symptoms. Accidental hypothermia affects multiple organ systems. The pathophysiology of accidental hypothermia effects on the neurologic, cardiac, respiratory, and renal systems will be discussed to help provide the critical care nurse with the skills to minimize complications and mortality. Treatment revolves around preventing further heat loss and rewarming the patient. Various rewarming techniques ranging from passive rewarming to extra-corporeal life support will be explored. A case study will be analyzed to assist nurses in applying the information learned from this presentation into everyday practice.

Acute respiratory distress syndrome (ARDS) and extracorporeal life support (ECLS): Understanding the patient pathway from referral to treatment

Oliver Nicola De Laurentiis, MN, RN, CNCC(C) and Allison Somers, BScN, RN, CNCC(C), CON(C), Toronto, ON

Clinical Practice

Acute respiratory distress syndrome (ARDS) is a common critical care diagnosis that requires care excellence. This presentation will differentiate ARDS management in tertiary care, focusing on the phases before and after implementing extracorporeal life support (ECLS). This presentation will offer valuable insights into the procedures used to enhance patient outcomes, discuss the interventions preceding ECLS deployment, and highlight strategies employed during ECLS management to provide a better understanding of ARDS care. Clarifying detailed care processes will broaden awareness of unique and complex challenges, while sharing advancements within the critical care landscape.

Abstract

Extracorporeal life support (ECLS) utilization for acute respiratory failure has witnessed a significant surge, driven by technological advancements, promising research findings, and the repercussions of the COVID-19 pandemic. Extensive evidence substantiates its efficacy in severe acute respiratory distress syndrome (ARDS) cases unresponsive to conventional treatments. While ECLS can be lifesaving for selecting ARDS patients, it is a complex and resource-intensive therapy with potential risks, necessitating judicious application and specialized proficiency.

Specialized centres are essential for effective ECLS administration. Due to its complexity, care professionals working in environments without ECLS support are instrumental in facilitating prompt patient referral and coordinating transportation for timely intervention. Furthermore, understanding patient trajectories within ECLS centres is vital, as optimal patient outcomes rely on seamless coordination among various disciplines.

This work advocates for specialized collaboration and knowledge dissemination to cultivate a shared understanding of optimal practices, challenges, and advancements within ECLS facilities. It further delves into the technical nuances of managing ARDS, highlighting the importance of information exchange among healthcare practitioners to enhance patient outcomes.

Beyond the intensive care unit (ICU): Post-intensive care syndrome (PICS) severity and survivorship strategies

Carmel Montgomery, PhD, RN, Angie Grewal, BScN, RN, Saleen Shivji, BScN, RN, Lazar Milovanovic, MD, FRCPC, Sarah Andersen, MD, MS, FRCPC, and Oleksa Rewa, MD, MSc, FRCPC, Edmonton, AB

Research and Quality Improvement

This presentation will discuss patient-reported symptoms of post-intensive care syndrome (PICS) in the intensive care unit (ICU) Survivorship Clinic in Edmonton, Alberta. Discussion will include PICS, its prevalence, assessment, and treatment. A descriptive analysis of PICS symptoms and severity reported by patients referred to the clinic will be presented along with results of the PICS assessment.

Abstract

Patients admitted to intensive care units (ICUs) are at high risk of developing complications related to their stay. ICU survivors are demonstrating signs of post-intensive care syndrome (PICS), a collection of symptoms including physical, cognitive, and mental health dysfunction that has been shown to significantly affect patient-centred outcomes. PICS appears following critical illness and persists after discharge from the ICU and the hospital.

Multidisciplinary post-intensive care (PIC) clinics have been implemented to support patients with PICS to assess their symptoms and implement treatments to improve overall function, survival, and quality of life.

Burns 101: Burn management within the first 48 hours

Anita Au, RN, CBRN, Shabana Lalji, RN, CNCC(C), Leslie Montgomery, OT, Ashley Callahan, NSWOC, Alice Shi, RD, CP, Rimona Natanson, Pharm APS, Janna Di Pinto, SW, Stephanie Mason, MD, PhD, FRCSC, and Son Nayoung, RN, Toronto, ON

Clinical Practice

This presentation will provide clinicians with information to understand how to initially manage burn patients, with a partial thickness burn of more than 10 percent (10%) of the body surface area, within the first 48 hours. Information will include evaluating the depth of the burn, the steps on management of the patients, including fluid resuscitation, and implementing nursing care of the burn wounds. Criteria will be reviewed to enable clinicians to identify burn patients that require referral to a burn centre.

Abstract

Burn injuries, specifically high percentage burns, can cause immune and inflammatory response, metabolic changes, and distributive shock that are challenging to manage and can lead to multiple organ failure. The first 48 hours are crucial for clinicians to manage fluid resuscitation and close monitoring of burn patients with and without inhalation injury. This presentation by an interdisciplinary team is for clinicians interested in the initial management, evaluation, and identification of appropriate referral of the burned patients.

Enhancing goals of care (GOC) discussions in the intensive care unit (ICU): Results of a systematic review of effectiveness

Nathalie DiLabio, BScN, RN, Brandi Vanderspank-Wright, PhD, RN, CNCC(C), Aimee J. Sarti, MD, FRCPC, Med, and Amanda Vandyk, PhD, RN, Cornwall, ON

Clinical Practice

Having effective goals of care (GOC) discussions is critical to ensuring patient care reflects their beliefs, values, and ethics, particularly in the intensive care unit (ICU) context. Findings from a systematic review examined the effectiveness of interventions aimed at optimizing these discussions. These interventions focused on bolstering healthcare professionals' (HCPs') confidence and competence in facilitating GOC conversations, as well as supporting family members and substitute decision-makers. This presentation will present an insightful analysis of how these interventions can be applied in nursing practice, research, and education to overcome the prevalent challenges in serious illness communication in the ICU.

Abstract

Despite the recognized importance of goals of care (GOC) discussions in critical care for aligning treatment with patient preferences and values, these discussions face operational ambiguity due to a lack of a universally accepted definition and various barriers, such as communication challenges and a culture of curative care.

This systematic review, modelled on the Joanna Briggs Institute Review of Effectiveness, included studies that employed various strategies to enhance GOC discussions, including educational programs for healthcare professionals (HCPs), support for surrogate decision-makers (SDM), and the use of technological aids. The interventions reviewed showed promise in improving HCPs' communication skills, confidence in conducting GOC discussions, and fostering interprofessional collaboration and a supportive environment for these discussions. For SDM and families, interventions focused on providing information and support to facilitate more informed decision-making.

Despite the varied and innovative approaches to enhancing GOC discussions, the review highlights the need for further research to standardize assessment methods for these discussions, evaluate the impact on patient outcomes, and determine the optimal timing for initiating goals of care discussions in the adult, intensive care unit setting. This review underscores the complexity of GOC discussions and the necessity for multifaceted interventions to support both HCPs and SDMs alike.

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Enhancing nurse well-being and resilience: Implementing a peer support program in a critical care setting

Annie Mazmanian, BScN, RN, RP(Q), MACP, Fonthill, ON

Clinical Practice

The presentation discusses the development and significance of a nurse peer support program in critical care settings. This support program emphasizes addressing nurse well-being, resilience, and highlighting the challenges nurses face. The purpose is to share the benefits of such a program, providing a framework for fostering a supportive community. Following this presentation, attendees will understand the importance of addressing job-related stress, recognize the benefits of peer support in enhancing well-being, and gain insights into program objectives and components. Strategies for implementation and integration within hospitals will be explored, emphasizing the role of peer support in creating a positive work environment and improving patient care outcomes.

Abstract

In the demanding landscape of critical care, nurses often encounter unique stressors and emotional challenges that can impact their mental health and job satisfaction. Recognizing this, this presentation aims to share the importance and benefits of instituting a structured support system with the primary focus on addressing the pressing issues of stress and burnout among nurses, which can detrimentally affect patient care and staff retention rates. By establishing a nurse peer support program, healthcare institutions can create a safe space for nurses to share experiences, seek guidance, and receive emotional support from their peers. The program not only fosters camaraderie and solidarity, but also enhances nurses' coping mechanisms and resilience in the face of adversity. By investing in nurse well-being through initiatives like the nurse peer support program, healthcare institutions can cultivate a resilient workforce capable of delivering high-quality care.

From concept to practice: Implementing a computerized deterioration index score to trigger critical care response team (CCRT) consultation

Neala Hoad, RN, Heather Salt, RN, Joanna McCullough, RN, Jorden Younger, RN, Kimberley Blomfield, MN, RN, Katryn Love, BScN, RN, France Clarke, RRT, Andrea McKnight, NP, MScN, DNP, Gabriel Bucoy, RN, Kevin Fatyas, BSc, Rachael Gray, Lanxi (Nancy) Du, Dan Perri, MD, BscPhm, FRCPC, and Erick Duan, MD, MSc, FRCPC, Hamilton, ON

Clinical Practice

Clinical decision support systems are invaluable tools aiding healthcare professionals (HCPs) with medical decision making. This presentation delves into the integration of a cognitive computing deterioration index (DI) model aimed at notifying the critical care response team (CCRT) about potential patient deterioration outside of the intensive care unit (ICU). This presentation will explore the CCRTs experiences with piloting and deploying this model to inform and prompt consultations. Information will include the successes, challenges, and future considerations for gauging its impact on patient care, outcomes, and workflow. Included will be case studies outlining the transformative potential of a DI model to enhance clinical vigilance and patient outcomes.

Abstract

Background: Electronic clinical decision support systems play a crucial role in aiding clinicians and healthcare teams with medical decision-making. Among these systems, a cognitive computing deterioration index (DI) model aims at detecting potential patient deterioration and alerting clinicians in real time based on a validated score using documented vitals, demographics, and lab abnormalities.

Objective: The objective was to pilot, validate, and implement a computer-based DI score to identify clinical deterioration early and trigger proactive critical care response team (CCRT) consultation with the aim of improving patient outcomes.

Methods: A phased approach to evaluation and implementation was conducted. From November 2021–January 2022, CCRT registered nurses (RNs) piloted the DI score by conducting real-time chart reviews to evaluate each alert for appropriateness. Through collaboration with the Digital Solutions team, scores embedded within the electronic health record to identify patients at risk of death within 38 hours, code blue within 12 hours, requiring transfer to the intensive care unit (ICU) or a CRRT consult were evaluated. Through iterative multidisciplinary consultation, discussion, and review, a clinical and communication workflow and optimizing interface with workstation and mobile alert technology were developed.

Results: Since June 2023, real-time bedside assessment and CCRT consultation has been implemented. Over an eight-month period, the centre has responded to DI alerts for 531patients (≥18 years old, excluding those with a palliative/comfort care code status). The use of a DI score is a feasible and helpful tool for the CCRT, with the potential to positively impact patient care.

From monitors to milk: Supporting lactation for critically ill parents in the intensive care unit (ICU)

Carly Hickey, MN, RN, CNCC(C), IBCLC, and Erin Turcato, BScN, RN, IBCLC, Toronto, ON

Clinical Practice

Obstetrical critical illness is rare, making care for this population a perishable skillset. One of the greatest challenges to navigate is determining goals of care (GOC) for supporting lactation, due to the lack of evidence-based research, questions of safety for the parent, questions of safety of the milk,

and the sensitive nature of breast and chest care. This presentation will share information about the value of human milk, review lactation physiology, and guide specialty care needs of a post-partum gestational parent regarding lactation.

Abstract
Most expecting parents eagerly anticipate the arrival of a healthy baby and the experience of birth. Families interested in breast/chest feeding may take additional steps to prepare by attending breastfeeding classes. What happens to lactation goals when the gestational parent becomes critically ill and there is a sudden and unexpected admission to the intensive care unit (ICU)? Goals of care (GOC) for the critically ill gestational parent typically focus on resuscitation, recovery, and reunion of parent, baby, and family unit. Lactation care is often an afterthought and may be considered during the non-critical rehabilitation period. Bringing awareness to the importance of early assessment, specialist consultation, and initiation of milk expression has positive impacts for the infant and parent.

Glycemic Emergencies and Ketoacidosis

Brenda Morgan, MSc, RN, CNCC(C), London, ON

Clinical Practice
This presentation will review insulin and glucagon physiology and pathophysiology and will apply this knowledge to the recognition and management of diabetic emergencies.

Abstract
Dysregulated metabolism due to abnormalities of insulin production or function is a major and rapidly rising health crisis in Canada and around the world. Nurses who practice in any area of healthcare routinely encounter patients with Type 1 Diabetes Mellitus (T1D), Type II Diabetes Mellitus (T2D) and Metabolic Syndrome. Each one of these disorders is associated with a host of long-term complications that can impact virtually every body system. It is imperative that all nurses understand the pathophysiology of these common conditions, recognize complications of both the disease and pharmacological treatments and are able to support interventions and health teaching designed to mitigate the risk of complications. Further, many patients admitted to critical care for cardiovascular, neurovascular/neurological, or renal emergencies or interventions arrive as a result of progression of these diseases. As well, patients may present with life-threatening complications of either their disease or the disease treatment, including hyper- or hypoglycemia with or without ketoacidosis, as well as ketoacidosis with euglycemia.

This presentation will provide a review of the metabolic role of the pancreatic hormone insulin (released from beta cells) and glucagon (released from alpha cells), and the mechanism by which they lead to complications. The remainder of the presentation will focus on recognizing and intervening for glycemic emergencies and ketoacidosis.

Implementation of an extra corporeal membrane oxygenation (ECMO) training program for intensive care unit (ICU) nurses; the practices change in a formerly perfusionist run ECMO centre

Amélie Fleury-Larocque, BN, RN, Boisbriand, QC

Clinical Practice
The use of extra corporeal membrane oxygenation (ECMO) has greatly increased worldwide since the 2009 H1N1 pandemic. This presentation will describe the incentive of implementing an ECMO training program for experienced intensive care unit (ICU) nurses in a centre where ECMO patients were previously perfusionist managed. Learning methods that were used to create the program will be shared, as well as the optimization of nurses' role and recognition of their clinical expertise after the training program.

Abstract
In the last decade, the emergence of extra corporeal membrane oxygenation (ECMO) therapy has brought some challenges among hospital organizations. Perfusionists are the professionals that manage the ECMO console, but their staffing is insufficient. This has led to cancellations of surgeries in one centre. To tackle this problem, a multidisciplinary team was built to create an ECMO training program for intensive care unit (ICU) nurses to take care of ECMO patients in collaboration with perfusionists. A description of the educational process and the early results are summarized below.

The educational process included enrolling two nurses into the adult practitioner course offered by the Extracorporeal Life Support Organization (ELSO). Following course completion, the ECMO nurses, physicians, and perfusionists designed a three-day training program including lectures, in situ simulation, and a workshop to prepare nurses for their new role. Following successful completion of the training program, and gathering clinical bedside experience, nurses were allowed to modify ECMO console settings to meet prescribed targets. Twenty (20) ECMO patients have since been monitored, almost exclusively by the 18 ECMO-trained nurses who completed the program, totalling 1,200 hours of patient care.

The training program provided better use of human resources and increased access to available technology for patient care. This resulted in an increase in ECMO capacity in the ICU without negatively impacting the operation room (OR) faculty that would have previously resulted in cancellation of surgeries.

PRESENTATIONS

Navigating from crisis to control: A deep dive into diabetic ketoacidosis (DKA) management in intensive care unit (ICU) through a case study

Keying Ren, RN, Toronto, ON

Clinical Practice

Effective diabetic ketoacidosis (DKA) management is a crucial skill for critical care nurses to address hyperglycemia, acidosis, and electrolyte balances swiftly, thereby preventing life-threatening complications, such as cerebral edema and acute kidney injury, while ensuring comprehensive patient monitoring, support, and education. In this presentation, a case scenario will be used to navigate through the essential processes involved in recognizing DKA and intervening with insulin therapy, fluid resuscitation, and electrolyte management, including the pathophysiology, precipitating factors of DKA, and management strategies in special populations.

Abstract

Diabetic ketoacidosis (DKA) is a severe complication of diabetes, marked by acute metabolic disruption due to insulin deficiency, leading to ketosis and severe hyperglycemia. While DKA may be the first sign in 25–40% of patients with type I diabetes, it also affects at least 34% of patients with type II diabetes. The significant increase in DKA admissions highlights the necessity for nurses to be proficient at managing this condition, which requires prompt and strategic interventions to stabilize those in critical condition.

This presentation will navigate through the complexities of DKA management, using a case study of a patient with chronic kidney disease (CKD) who was initially treated for DKA and later readmitted with euglycemic DKA, illustrating the rapid recognition, diagnostic considerations, and the multidisciplinary approach required for effective DKA management in the intensive care unit (ICU). Emphasis will be placed on key management strategies, such as fluid resuscitation, insulin therapy, and electrolyte balance. The discussion will also extend to the distinct challenges encountered in managing special patient groups, including those who are pregnant, have CKD, or present with euglycemic DKA.

Pulmonary hypertension (PH) classification treatments

Brenda Morgan, MSc, RN, CNCC(C), London, ON

Education

Pulmonary arterial hypertension (PAH) is a life-threatening and life-shortening condition. The cause of PAH is classified into five (5) causative subgroups. This presentation will examine the pathophysiology of pulmonary hypertension and describe the clinical significance of this disease. Brief case presentations of patients with three different mechanisms for hypertension will be examined with the potential treatment options for each subgroup explored.

Abstract

Pulmonary arterial hypertension (PAH) is a life-shortening condition that can quickly become acutely life-threatening. PAH is a very serious disease that affects many patients in critical care units (CCUs). The disease may be underdiagnosed and is significantly underappreciated. Yet, acute exacerbations can occur in conjunction with other medical emergencies, causing patients to have catastrophic deterioration. The presumed cause of PAH can be subdivided into five (5) categories, with each subgroup being treated differently based on the mechanism of disease. Primary PAH referred to idiopathic pulmonary artery hypertension (IPAH) develops for no known reason. More frequently, PAH develops progressively as a complication of another chronic disease, with heart disorders and hypoxemic pulmonary conditions being the most common. Acutely, PAH can develop because of severe respiratory disorders including acute respiratory distress syndrome (ARDS). Less common causes include chronic pulmonary embolism, sickle cell disease, and sarcoidosis.

This presentation will examine the pathophysiology of pulmonary hypertension and describe the clinical significance of this disease. Brief case presentations of patients with three different mechanisms for hypertension will be examined with the potential treatment options for each subgroup explored.

Re-imagining and re-defining education: Implementing equity, diversity, and inclusivity (EDI) in a critical care nursing curriculum

Jasmine Yong, BN, RN, and Tiffany Case, BN, RN, Coquitlam, BC

Education

A report detailing Indigenous-specific racism and discrimination in healthcare in British Columbia was a wake-up call for all Canadian healthcare providers (HCPs). This report triggered the re-imagining of how nursing education is conceptualized and delivered within the British Columbia Institute of Technology (BCIT). This presentation describes the design and implementation of the Equity Walk-Through, a concrete educational approach to addressing equity, diversity, and inclusivity (EDI) within the critical care nursing program. Participants will be challenged and inspired to consider how they can act toward dismantling inequities in critical care practice and education, becoming change agents in promoting inclusive healthcare environments.

Abstract

Equity, diversity, and inclusivity (EDI) are not merely 'woke' concepts, but ideas whose time is long past due. Nursing education is pivotal to ensure the maximization of nurses' privileged position as advocates for inclusion within the healthcare system. However, nursing curricula are content-heavy and often compressed, and this is even more pronounced in advanced programs, such as critical care. Further, there is an inherent dissonance with implementing EDI within the critical care

environment, where many critically ill patients are sedated or unresponsive. Nevertheless, a report from British Columbia explains that systemic inequities can be dismantled only if all interested and affected parties participate, in every environment where healthcare is provided and received.

This presentation will describe the creation of an Equity Walk-Through exercise as a concrete, practical approach to begin dismantling inequity and supporting inclusion in critical care nursing education. Based on initial work by EQUIP Health Care, the Equity Walk-Through exercise challenges students to view healthcare through the lens of the receivers, identifying if the healthcare environment is culturally and emotionally safe. By implementing the Equity Walk-Through, critical care educators are tasked with reimagining and redefining the possibilities of EDI within critical care education, and learners are challenged and supported to actualize EDI in their critical care nursing practice. With this presentation, the hope is to create dialogue among critical care nurses and educators, inspiring them to reimagine and redefine concrete ways to adopt and action the principles of EDI in their respective work environments.

Revising the Canadian Association of Critical Care (CACCN) Standards for Critical Care Nursing Practice

Brandi Vanderspank-Wright, PhD, RN, CNCC(C) and Sarah Crowe, MN, PMD-NP(F), NP, CNCC(C) on behalf of the Canadian Association of Critical Care Nurses (CACCN)

Research

The Canadian Association of Critical Care Nurses (CACCN) Standards for Critical Care Nursing Practice have undergone several revisions since inception. This presentation will share how the 5th edition of the Standards were revised using a systematic review and a modified-Delphi consensus process. The methodology and subsequent methods will be underscored to provide a reproducible process for future revisions. The session will conclude with a presentation of the 6th edition of the CACCN Standards for Critical Care Nursing Practice.

Supporting new graduate nurse transition to critical care settings

Brandi Vanderspank-Wright, PhD, RN, CNCC(C), (Nominated Principal Investigator), Michelle Lalonde, PhD, RN, (Co-Principal Investigator), and Amanda Vandyk, PhD, RN, (Co-Principal Investigator) on behalf of the CIHR Project Grant #407408 Research Team.

Research

The transition of new graduate nurses into specialized settings like the intensive care unit (ICU) and emergency department (ED) is multifactorial. Key considerations include advanced knowledge and skills acquisition, familiarization with the clinical context, and socialization into large multidisciplinary teams. At present, there are few formalized interventions and evidence-informed guidelines to support new graduate nurse transition into critical care settings. This presentation will provide an overview of the results of a multi-phased/multi-method project that included two systematic reviews, a pan-Canadian survey, an interview study, as well as two environmental scans. Findings from this study will be used to build formal recommendations in partnership with both Canadian Association of Critical Care Nurses (CACCN) and the National Emergency Nurses Association (NENA) aimed at supporting transition of new graduates into these specialty contexts.

The diamond of death: Complications of massive blood transfusion.

Shirley Marr, MHScN, MHEd, RN, CNCC(C), Mississauga, ON

Clinical Practice

This presentation will discuss the four major complications of a massive blood transfusion that are influenced by blood bag additives, how to assess, prevent, and treat each one, and will also explore the relationship between each complication.

Prerequisites

General knowledge of aspects of blood clotting, and acid base balance would be an asset, but not required.

Abstract

For years a triad of death has been used to help clinicians to prevent and treat complications of massive transfusion: hypothermia, coagulation, and acidosis. Recently a fourth element, hypocalcaemia was added to make a diamond of death. Calcium, in particular ionized calcium, is lowered during massive blood product transfusion, due to the citrate additive in blood bags. Calcium is a critical element in clotting, but is also necessary for the maintenance of acidosis and hypothermia. It has been suggested that the diamond of death may not be the end of the complication as a pentad of concern. This presentation will review the influence of calcium on homeostasis and how to prevent or treat the complications of the diamond of death.

PRESENTATIONS

Oral Posters (20 minutes)

These presentations are being provided via 20-minute oral presentations and also printed poster.

Evaluation of best practice guideline champions at reducing hospital-acquired pressure injuries in an intensive care unit (ICU)

Simon Donato-Woodger, RN, Toronto, ON

Research and Quality Improvement

Hospital-acquired pressure injuries (HAPIs) are a significant source of morbidity and mortality for intensive care unit (ICU) patients. This oral poster and poster presentation will detail a quality improvement (QI) project at the Scarborough General Hospital ICU, from May 2023–June 2024. Nursing staff volunteers were trained according to best practice guidelines for pressure injury prevention (PIP) and introduced to the unit to conduct audits and educate staff on preventing and caring for HAPIs. Adherence to best practices was assessed via bedside rounding and audits of electronic documentation, as well as the overall rate of HAPIs on the unit over the concurrent timeframe.

Abstract

Hospital associated pressure injuries (HAPIs) occur when a patient's skin is eroded by a variety of causes, such as prolonged immobility, impaired circulation, and increased oxygen demand (Cox et al., 2022). As the skin breaks down, underlying tissues are exposed to infection and impaired circulation (Alderden et al., 2017).

With the high rates of pressure injuries (PIs) and the recently high rates of nursing staff turnover at Scarborough Health Network's (SHN's) intensive care unit (ICU), the proposed intervention to mitigate this problem is to train Wound Care Champions (WCCs), committed to providing education and monitoring the unit's adherence to best practices, regarding HAPI prevention.

SHN's care bundle for ICU registered nurses (RNs) includes nursing care activities related to pressure injury prevention (PIP), such as turning and repositioning, keeping patient briefless, applying prophylactic dressings, keeping patients' heels elevated, using the Braden Scale Assessment, and assessing tubing and equipment to ensure they aren't creating pressure spots on the patient's skin (RNAO, 2016).

This quality Improvement (QI) project will evaluate the effectiveness of this new educational initiative by assessing the adherence to the care bundle, as well as the HAPI incidence rates before and after introducing the WCCs to the general site ICU. The WCCs are critical care RNs, recruited from the three ICUs at SHN, who receive specialized education on the Registered Nurses' Association Ontario (RNAO) best practices guidelines on pressure injury staging and wound assessments.

References

Alderden, J., Rondinelli, J., Pepper, G., Cummins, M., & Whitney, J. (2017). Risk factors for pressure injuries among critical care patients: A systematic review. *International Journal of Nursing Studies*, *71*, 97–114. https://doi.org/10.1016/j.ijnurstu.2017.03.012

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Registered Nurses' Association of Ontario {RNAO] (2016). *Assessment and management of pressure injuries for the interprofessional team* (3rd ed.). https://rnao.ca/sites/rnao-ca/files/Pressure_Injuries_BPG.pdf

Occult hypoxemia: An important consideration for patients with darker skin pigmentation

Shirley Marr, MHScN, MHEd, RN, CNCC(C), Mississauga, ON

Clinical Practice

Oxygen saturations from pulse oximetry is one of the most common and relied-on measurements assessed and acted on within hospitals. These readings are often used by clinicians to decide when intubation or other invasive ventilation is required. This was especially important during the recent COVID 19 pandemic. This oral poster and poster presentation will provide information regarding pulse oximetry oxygen saturation and its accuracy in people with darker skin pigmentation.

Prerequisites

General knowledge of normal parameters of blood gas and pulse oximetry would be an asset, but not required.

Abstract

Oxygen saturations from pulse oximetry is one of the most common and relied-on measurements assessed and acted on within hospitals. These readings are often used by clinicians to decide when intubation or other invasive ventilation is required. This was especially important during the recent COVID-19 pandemic, however there is considerable evidence suggesting that patients with darker skin pigmentation experience higher readings. This informaiton is not well known by staff. Overestimation of oxygen saturation can lead to a delay in treatment and even death. This critically important, but not well understood, gap needs to be recognized by critical care nurses to advocate for change to ensure the healthcare provided is equal to all patients.

What were they doing to get shot? An exploration of critical care trauma nurses' perceptions and lived experiences caring for persons with gunshot injuries

Jennifer Hodder, BN, RN, CCN, Oakville, ON

Research and Quality Improvement

Nurses are bearing witness to the rise of gun violence, with critical care trauma nurses (CCTNs) caring for the most impacted. This oral poster and printed poster presentation will present the themes generated from an exploratory descriptive study: please keep me safe; we care for everyone; making sense of the senseless; and the toll of bearing witness. From these themes this presentation and poster will highlight the complex social and structural roots of gun violence (GV), give way to the experiences of CCTNs and the necessary changes of trauma centres to recognise that 'we are all human (with trauma)'.

Abstract

We are experiencing a rise in gun violence, and nurses bear witness to this trend. For many, gun violence (GV) is viewed as a 'wicked' public health epidemic with complex social and structural roots. Yet, it is critical care trauma nurses (CCTNs) who care for those most impacted, navigating complex feelings, family needs and very sick patients.

To answer the question of "What can I do, from here, at the bedside?" a qualitative exploration into the perceptions and lived experiences of CCTNs caring for individuals with gun violence injuries (GVI) began. Embedded with community-based consultations, CCTNs were interviewed, and a focus group conducted. Thematic analysis led to the themes: please keep me safe; we care for everyone; making sense of the senseless; and the toll of bearing witness.

Telling the stories of CCTNs caring for persons with GVI will attempt to answer the above question, "What *can* we do from the bedside?" Beginning with recognizing that 'we are all human in trauma', CCTNs and trauma centres can: engage in equity and diversity (EDI) training; engage with CCTNs emotional intelligence through mental health supports (peer and professional), debriefings, and guided self-reflection; recognize there is a toll to bearing witness; consider offering trauma and violence-informed (TVI) approaches to care and policy development; recognize the unique subspecialty of critical care trauma nursing by providing national level certification; and bridge critical care with the community to improve relationships, build trust, and provide catharsis for CCTNs.

Posters (print)

Poster presentations are available in the exhibit hall for viewing and interacting with presenters.

End-of-life (EOL) discussions from the critical care outreach team (CCOT) nurse perspective: An interpretive descriptive study

Marley Gregorio, BScN, RN, CNCC(C), London, ON, Brandi Vanderspank-Wright, PhD, RN, CNCC(C), Ottawa, ON, and Yolanda Babenko-Mould, PhD, RN, London, ON

Research

This poster will review results from an interpretive descriptive study examining the role of critical care outreach team (CCOT) nurses in end-of-life (EOL) discussions. CCOT nurse's responses revealed areas in which they felt improvements could be made that would support their practice, patients, and families better, as well as support a shift towards normalizing EOL conversations and keep things "lurching forwards."

Abstract

Background: The critical care outreach team (CCOT) acts as a consulting service within hospitals to mobilize resources for patients requiring a higher level of care, with up to one-third of consultations involving patients near end of life (EOL). There is evidence that CCOT nurses are first responders for consultations that include involvement in EOL discussions. However, their role is not well-defined in practice or in the literature. Additionally, there is no known research literature examining this role within the Canadian context.

Methods: Utilizing a qualitative interpretive descriptive approach, researchers engaged CCOT nurses in one-to-one, individual semi-structured interviews to elicit responses to the overarching research question "How do CCOT nurses describe their current involvement in EOL discussions?" Participant responses were analyzed using thematic analysis.

Results: Preliminary analysis suggests that one theme that emerged among CCOT nurse participants was the notion of "Doing Better." This theme reflects areas in which CCOT nurse participants felt that EOL discussions could be improved. CCOT nurse responses centred around four subthemes: support for the CCOT nurse, support for the patient and family, normalizing conversations, and lurching forward.

Discussion and Impact: This study may fill gaps in understanding of CCOT nursing practice, providing knowledge upon which to inform education and role descriptions. This study may also contribute to a greater understanding of the CCOT nursing role within the interdisciplinary team and lead to better processes for early decision making with critically ill patients.

PRESENTATIONS

Dynamique d'équipe lors d'une réanimation cardiorespiratoire

Brenda Couturier, RN, Hélène Lavoie, BN, RN, Kristine Nadeau Couturier, BN, RN, et Valerie Coulombe, RN, Edmundston, NB

Pratique clinique

Cette session sera axée sur l'amélioration de la dynamique d'équipe lors d'une réanimation cardiorespiratoire. Afin d'améliorer cette dynamique, des simulations d'arrêt cardiaque ainsi que des comptes-rendus d'équipe devraient être effectués. L'importance des rôles et responsabilités de chacun, la minimisation des interruptions non nécessaires et une bonne connaissance des différents algorithmes sont primordiales.

Abstract

Les arrêts cardio-respiratoires sont fréquents dans un milieu hospitalier. Plusieurs facteurs peuvent influencer le déroulement d'une réanimation et avoir un impact sur le pronostic. On retrouve : la dynamique d'équipe, la minimisation des arrêts lors des compressions thoraciques, la connaissance des algorithmes et la pratique de simulation d'arrêt cardiaque.

Pour obtenir une équipe hautement performante, chacun des membres de l'équipe doit avoir un rôle prédéfini. Le chef d'équipe doit avoir une vision globale de la réanimation et fournir des conseils aux autres membres. Après la réanimation, il organise une discussion d'analyse et de critiques constructives en vue d'améliorer la prochaine tentative de réanimation.

Pour minimiser les interruptions des compressions thoraciques, il faut éviter une analyse prolongée du rythme et la vérification fréquente ou non nécessaire du pouls. Il peut être bénéfique d'effectuer une échographie pour déceler les causes réversibles. Elle doit être effectuée en moins de 10 secondes par un médecin formé et expérimenté.

Les simulations permettent une meilleure connaissance et maîtrise des algorithmes. Les membres du personnel peuvent pratiquer plusieurs rôles et voir avec lequel ils sont plus à l'aise.

Le pronostic de la réanimation dépend de plusieurs éléments sur lesquels les travailleurs de la santé peuvent exercer une influence. Avec les simulations et les comptes rendus post évènements, la dynamique d'équipe peut être améliorée, les interruptions des compressions thoraciques minimisées et les différents algorithmes mieux maîtrisés. Même si l'équipe soignante croit avoir donné les meilleurs soins possibles aux patients, il y a toujours place à amélioration.

Shape me into a burn nurse: Development of an educational pathway

Anita Au, RN, CBRN, and Ashley Callahan, NSWOC, Toronto, ON

Sustainable Practices

More than 100,000 Canadians receive life-saving care in our Canadian intensive care units (ICUs). Nurses identified insufficient staffing contributed to worsening mental health. A provincial burn unit with 14 beds, pre-COVID had 46 staff and post-COVID had 20 regular and part-time staff. As part of a recruitment strategy, a critical care sponsorship program is offered to nurses, new graduates, externs, and international nurses with or without ICU experience. This poster will share the educational pathway reflecting the different entry-levels of nursing experience with a burn orientation program based on the American Burn Competencies (American Burn Association, 2017) for burn nurses.

Abstract

More than 100,000 Canadians receive life-saving care in our Canadian intensive care units (ICUs). Yet, the Canadian Institute for Health Information (CIHI) reported the province of Ontario has just 661 registered nurses (RNs) per 100,000 people, far below the average for the rest of the country at 825 (CIHI, 2023). Insufficient staffing is identified by nurses themselves as a third priority for worsening mental health during annual licensing. This shortage of nurses affects the quality of healthcare being provided. Thus, recruitment of healthcare staff is one of the top initiatives identified by Critical Care Services Ontario (CCSO; 2024). In the pre-COVID time, the unit had 46 staff and post-COVID, 20 regular full-time and part-time staff. The burn unit is a provincial unit with 14 beds. Thus, the hospital, working with CCSO, offers a critical care sponsorship program to nurses, new graduates, externs, and international nurses with ICU experience and non-ICU experience. A burn-specific educational pathway was created to recognize the different entry levels of nursing experience. As no Canadian standards exist, the American Burn Competencies and Standards for Burn Nurse is used as a guide in the development of a burn-specific orientation program.

References

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Sounding the alarm on falls – A quality improvement (QI) initiative

Melissa Guiyab, MN, RN, Charlotte Usas, OT, and Amber Robertson, PT, Toronto, ON

Research and Quality Improvement

In-hospital falls are a common adverse event that can have a significant impact on the patient and the organization. This poster outlines the implementation of a quality improvement (QI) initiative aimed at decreasing falls rates in an adult medical-surgical intensive care unit (MSICU) and will present an assessment that identifies patients at increased risk of falls, as well as falls prevention strategies.

Abstract

Background: Patient falls are a common safety event in hospitals. Critically ill patients are at high risk of falling based on falls risk factors. This risk is often mitigated by other factors such as nurse-to-patient ratios. When the MSICU moved from an open concept floor plan to individual patient rooms, the falls rate increased from 0.59 in 2019 to 1.35 in 2021. This highlighted that a new system was needed to identify those at the highest risk for falls.

Purpose: To develop a standardized process for identifying patients at extremely high risk of falls in the MSICU and implementing a patient-specific care plan to decrease fall risk.

Method: A review was conducted of MSICU patients who had falls reported in the hospital's safety reporting system over a 12-month period. This information was used to identify additional falls risk factors and develop strategies to decrease falls risk. Staff subsequently received education on falls risk assessment, identifying patients at highest risk for falls, and implementing a patient-specific care plan.

Results: Approximately 70% of nursing and mobility team staff received education on this new process. Staff were able to identify patients at highest risk for falls and implement appropriate falls prevention strategies as evidenced by routine audits and discussion at morning safety huddles.

Conclusion and next steps: Falls prevention requires interprofessional effort and it is anticipated that over time the falls rates will start to decline.

A wound care champion program for preventive pressure injury (PPI) in intensive care units (ICUs)

Yoon Yang, RN, Whitchurch-Stouffville, ON

Clinical Practice

This poster will focus on the implementation of a Wound Care Champion (WCC) role in the intensive care unit (ICU) for preventive pressure injury (PPI). With a WCC role, the aim for the ICU team will be to continuously improve the acquired pressure injury (PI) rate over prevalence and audits with early investigation.

Abstract

In 2023, a hospital in Ontario initiated a comprehensive care bundle to address the alarming rate of seven hospital-acquired pressure injuries (HAPI) per month. This care bundle emphasizes key interventions, such as turning and repositioning every two hours, prophylactic dressings, heel booties, and routine skin assessments.

In collaboration with Wound Canada and the Registered Nurses' Association of Ontario (RNAO), the hospital introduced a Wound Care Champion (WCC) program. This program aims to reduce pressure injuries (PIs) often caused by insufficient knowledge, inattention, and delayed intervention, with a focus on improving wound treatment to expedite healing, minimize the duration and the severity of the wounds.

Critical elements of the WCC program include educating all intensive care unit (ICU) nurses on the care bundle to standardize practices. The WCC assembled a team that meets regularly to discuss, formulate, and implement best practices while fostering a collaborative approach to wound care. The program emphasizes mentoring, sharing new resources, and auditing wound care processes.

With the implementation of the WCC program, a notable reduction in PI incidents has occurred, with early stage wound care investments demonstrating faster healing. To sustain these gains, the WCC role is recommended to continue organizing educational programs for ICU nurses to reinforce best practices and collectively commit to effective wound prevention and management.

PRESENTATIONS