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General

Proceedings from the Canadian Society of Respiratory Therapists Annual Conference May 3-5, 2024

Canadian Society of Respiratory Therapists

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Abstract

Conference abstracts

We are pleased to present a select number of abstracts from the proceedings of the CSRT Annual Conference. Held in Banff, Alberta, from May 3 to 5, 2024, this conference included topics delivered by individuals with expertise in various areas of respiratory therapy practice.

As evidenced by the following abstracts, the work of our colleagues in 2024 highlighted current research and practice innovations led by RTs. We have made every effort to include all abstracts accepted by the Program Committee before the publication deadline; however, please note that this collection does not represent the entire program (available at www.csrt.com).

The editorial board looks forward to receiving manuscripts from this conference for consideration for publication in the Canadian Journal of Respiratory Therapy to continue building the body of knowledge specific to our profession.

Please note these abstracts have not been peer-reviewed.

ESTABLISHING AND MAINTAINING FRC WITHIN OUR DEPARTMENTS AND PROFESSION

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Background: The past several years have been particularly challenging for Respiratory Therapists throughout Canada. There has been a large shift in leadership, expectations and clinical expertise within the clinical setting that has led to Respiratory Therapists being asked to do more with less. In addition, it has been noted that Respiratory Therapists are at risk for developing moral distress, depression, anxiety, stress and post-traumatic stress disorder. In a recent study, it was found that up to 25% of Respiratory Therapist respondents were considering leaving their jobs. Leaders of Respiratory Therapists are now faced with many competing challenges and opportunities when supporting their teams.

Methods: This presentation shares a framework for consideration in terms of supporting Respiratory Therapists in the clinical environment. Leveraging the didactic interpretation of Functional Residual Capacity (FRC), this framework creates a structured approach for leaders to consider how to support Respiratory Therapists in all clinical settings. Using a case-study approach, the concepts of **F**ostering an open and supportive environment, **R**eviewing resources available and **C**ollaboration with others will be explored by the facilitator and participants to share experiences, strategies and knowledge.

Results: Using the FRC framework as a guide, participants will have an opportunity to expand their knowledge and experience of possible resources and strategies to en-

hance supports for Respiratory Therapists in the clinical setting.

Discussion and Conclusion: Through the sharing of learned experience, this presentation provides an opportunity for Respiratory Therapists to engage in active conversation about strategies for supporting our colleagues, departments, communities and profession. Participants will be able to take this learned experience back to their respective clinical areas and support a discussion using the same framework.

VAPING. PANDORAS BOX IS OPEN. NOW WHAT?

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Background: The rapid rise in vaping prevalence in Canada has prompted urgent attention to the associated health risks and the need for effective cessation strategies. This abstract presents a comprehensive overview of vaping issues in Canada, focusing on cessation practices, cardiopulmonary risks, harm reduction, and health promotion strategies.

Methods: This presentation synthesizes data from recent studies, policy documents, and expert recommendations to provide a comprehensive analysis of vaping-related issues in Canada. We review the current landscape of vaping cessation programs, examine the documented risks of vaping to the cardiopulmonary system, explore harm reduction strategies for traditional tobacco users, and assess the effectiveness of health promotion and prevention models.

Results

- Current vaping cessation practices among youth and adults in Canada vary widely, highlighting the need for evidence-based strategies.
- Emerging research indicates significant cardio-pulmonary risks associated with vaping, emphasizing the importance of public health awareness.
- Harm reduction approaches for vaping among traditional tobacco users are gaining traction, but challenges remain in implementation and communication.
- Canada's health promotion and prevention models exhibit strengths and weaknesses in addressing vaping issues.

Discussion: We delve into the implications of the results, emphasizing the importance of evidence-based interventions in vaping cessation and addressing cardio-pulmonary risks. Furthermore, we discuss the complexities of harm reduction strategies and their alignment with traditional tobacco cessation efforts. The presentation also evaluates the current health promotion and prevention models in Canada to identify areas for improvement.

Conclusion: This presentation provides a comprehensive overview of vaping issues in Canada, offering insights into the current state of vaping cessation practices, cardiopulmonary risks, harm reduction, and health promotion strategies. Understanding these elements is crucial for shaping effective policies and interventions to mitigate vaping-related health concerns in the Canadian context.

DON'T WASTE A CRISIS: TURN IT INTO A GAME CHANGER

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Background: Healthcare crises, such as pandemics, natural disasters, or resource shortages, can be particularly challenging but also offer unique opportunities for improvement and innovation in healthcare delivery.

Introduction: Leaders need to recognize crisis as an opportunity to accelerate improvement for positive change and growth in respiratory therapy care. Instead of simply reacting to a crisis, leaders can use it as a catalyst for innovation, improvement and transformation.

Methods: Integrating technology and improving collaboration/adaptability

Crisis: Downtown Toronto ICU needs to create more room to manage COVID patients, acute care wards had refused to admit an ICU patient requiring high respiratory care needs such as tracheal suctioning and oxygen.

Change: Post acute complex continue care with nursing ratio of 1:6 unit flexed admission criteria, collaborated with IP team who could provide tracheal suctioning and setup a rotational schedule to provide suctioning every hour. Using telemonitoring via camera and vital sign setup, where the nursing team will receive a call to inform desaturations and changes in vital signs.

Results: Patient was able to avoid ICU admission for 1 year and able to free up ICU bed for COVID patients. Improving collaborative patient centered care designs

Crisis: Shortage of RTs to support routine monthly trach changes for 70 patients within the complex continuing care program

Change: RT and nursing collaborative designed a training and certification process and policy to support bedside nurses to provide trach changes in timely manner.

Result: 80% of the nursing staff were certified, patient received timely care and RT resources were focused in area most need.

Crisis: Increasing supply cost and financial constraints

Change: After assessing for opportunity in reducing of supply cost, a gap in Trach care management was identified. This respiratory therapy policy apply across all care settings within the organization, reinforces trach inner cannula changes every shift. However, there are 2 shifts in 24 hrs in acute care and 3 shifts in post-acute care. An accelerated change in the policy reduced the frequency of change in post-acute leading to a reduction of supply cost.

Result: an estimated cost saving of 90K annually

Discussion: Crisis is a catalyst for accelerated changes. Changes that normally would have taken months or years with working groups and approval by various hospital committees. There is great opportunities for respiratory therapist in post-acute care to influence interprofessional collaborations and practices, improving patient care delivery and brings positive impact to the organization.

Conclusion: Don't waste a crisis as every crisis lies great opportunities. Learning from challenges presented by emergencies and using those lessons to create a more robust, adaptable and patient centered delivery model.

EMERGING SEQUELA OF LONG COVID SYNDROME

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Globally over 780 million confirmed cases of COVID-19 with greater than 7 million deaths have been documented. The vast majority recover, however, a considerable proportion continue to experience symptoms and complications. A syndrome, 'Long COVID', presents a wide range of physical and psychological symptoms that require the skills of the Respiratory Therapist. This constellation of symptoms is best addressed through a multidisciplinary care model led by the respiratory professional. Team based care with a patient specific response will be discussed. The Respiratory Therapist will lead the way in this reimagined care model. This talk will highlight the assessment and team-based care required for the new cadre of patients. It must be emphasized that Long COVID is a SYNDROME and not a disease. It is an aggregate of symptoms involving multiple organs and that may deeply impair the lifestyle of the individual. Many patients do not present significant alterations on physical examination. The lived experience of patients mid- and long-term effects are yet to be fully understood. Evidence suggests that the impact extends beyond hospitalization to ongoing impaired quality of life, mental health and employment issues. Patients suffering with a range of symptoms feel 'abandoned' and 'dismissed' by healthcare providers. There are uncertainties about the optimal management. A multidisciplinary team must identify complications for clinical intervention, physical rehabilitation. The role of the RT leader in these cases will be discussed.

NAVIGATING PUBLIC mHEALTH APPS: HOW DO THEY FARE FOR COPD SELF-MANAGEMENT?

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Funding: *This research was supported by the Canadian Lung Association and Canadian Society of Respiratory Therapists' Operating Grants.*

Background: Mobile health applications (mHealth apps) can be useful resources to support patients needing support for their chronic obstructive pulmonary disease (COPD) self-management. Past clinical trials using mHealth apps for self-management in people with COPD show promise; however, many of these apps are not publicly available, with inconsistent reports on their qualities and features. Meanwhile, public COPD apps may be questionable in their credibility and safety as there is a lack of regulation on their features and designs. In our previous studies, we have 1) identified the common qualities and features included in COPD apps in past studies; 2) graded the qualities and features of public COPD apps using the MHealth Index and Navigation Database (MIND) framework (https://mindapps.org/); and 3) determined their appropriateness from the perspective of healthcare professionals and patients living

with COPD. Moving forward, we plan to initiate a pilot project to maintain an online repository of rated public COPD apps.

Implementation method: Participants: Individuals from various health disciplines will be recruited. A call for volunteers will be distributed across Canadian professional networks and recruited via snowballing technique. Participants must be interested in reviewing five to ten apps within the year after completing the mandatory app assessment training.

Design framework: The steps are informed from the TEACH-app framework: 1) Pre-conditions and pre-implementation; 2) Implementation; and 3) Evolution and Maintenance. MIND is a public website displaying the ratings of public mental health apps. We will collaborate with the MIND team to create a subsection on the MIND website dedicated to public COPD apps, providing information on their qualities and features to help inform patients and health professionals.

1. Step 1: Pre-conditions and Pre-implementation: Interested app raters will be trained to use the MIND framework by attending a 3 hour, standardized virtual program. Public COPD apps that are: 1) patient facing; 2) COPD-specific; 3) completely free to download; and 4) in English or French. Each app will be evaluated by at least two to three independent app raters.
2. Step 2 – Implementation: Eligible apps will be downloaded onto the app raters' personal device(s) and trialled for their features and functions (approximately 30 minutes). App raters will then complete the MIND assessment for each app using the rater platform.
3. Step 3 – Evolution and Maintenance: To keep the ratings of public COPD apps up-to-date, apps will be re-rated by another app raters approximately 6 to 12 months after the initial ratings. New apps will be rated and added onto the MIND platform. This standardized process is a continuous cycle as it aims to address the dynamic evolution of the public digital marketplace.

Relevance

This pilot project advocates for the safety and credibility of public COPD apps, in partnership with multiple heath disciplines. If this pilot is successful, this could open the opportunity to include the evaluation of public apps for other lung diseases and promote patients to engage with this ongoing project.

STRATEGIES TO PROMOTE RT RETENTION AMONG THE MILLENNIAL AND GEN-Z GENERATIONS

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Background: Healthcare in Canada is witnessing a generational shift in its workforce, with millennials and Gener-

ation Z professionals entering the workforce in significant numbers. However, healthcare professions, including respiratory therapists, are facing the challenge of retaining these younger healthcare professionals. This presentation explores different strategies to enhance the retention of millennials and Gen Z respiratory therapists in Canada.

Introduction: As the healthcare landscape evolves, attracting and retaining the younger generation of healthcare professionals is essential for maintaining and improving high-quality patient care. As respiratory therapists play a crucial role in the healthcare system; their retention is critical. Therefore, understanding millennials and Gen Z's characteristics, expectations, and preferences is key to developing effective retention strategies.

Methods: This presentation employs a mixed-method approach. Surveys with respiratory therapists and respiratory therapy students from the millennial and Gen Z cohorts within Vancouver's lower mainland to gather insights into their career aspirations, job satisfaction, and factors influencing their decisions to stay in their current roles. Additionally, we analyzed existing literature on generational differences and workforce retention in healthcare.

Results: The presentation will highlight several key factors influencing the retention of millennials and Gen Z respiratory therapists in Canada. These include the importance of opportunities for professional development, mentorship programs, a supportive and inclusive work environment, work-life balance, and technology integration.

Discussion: The discussion section will analyze the importance of tailoring retention strategies to meet the unique needs and expectations of millennial and Gen Z respiratory therapists. Further the presentation will discuss realistic short- and long-term strategies that healthcare organizations can adapt into their current retention practices.

Conclusion: Retaining millennials and Gen Z respiratory therapists is essential for the future of healthcare in Canada. This presentation serves as a starting platform for healthcare leaders and organizations to invest in tailored retention strategies that will not only benefit the younger generation but also contribute to the overall improvement of patient care in Canada's healthcare system.

ESTABLISHING A PRACTICE FRAMEWORK FOR RESPIRATORY THERAPISTS IN PRIMARY CARE

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This presentation outlines a comprehensive project management initiative led by the Canadian Society of Respiratory Therapists (CSRT) to establish a post-licensure practice framework aimed at augmenting respiratory therapists' roles within interprofessional primary care teams. The project encompasses a multifaceted approach, integrating strategic planning, collaboration, and data-driven decision-making. Key objectives include the development of a robust project process and performance indicators in collaboration with CSRT staff, leading a five-member interprofessional workgroup to inform the project's foundation, and conducting an environmental scan to identify respiratory therapists' roles in primary care. A national survey, administered through the CSRT's platform, was crafted based on survey questions generated during the project. Data analysis, guided by the interprofessional workgroup, informed the creation of competencies that not only align with respiratory therapists' roles but also emphasize interprofessional collaboration, drawing inspiration from established frameworks such as those by the Canadian Interprofessional Health Collaborative. To ensure inclusivity and relevance, a focus group will be established to review and provide feedback on the competencies and background knowledge identified. The iterative process of developing and refining the practice framework document will be highlighted, showcasing the commitment to a thorough and collaborative approach. The ultimate outcome of this project summarized a comprehensive report to the CSRT, detailing the methodologies employed, the competencies identified, and the refined practice framework. The presentation aims to share insights into the project management strategies, collaborative processes, and outcomes, offering valuable lessons for organizations seeking to enhance the roles of healthcare professionals within interprofessional primary care teams.

THE EMPLOYED STUDENT RT PROGRAM

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This presentation will highlight the successful launch of the pilot ESRT program within Vancouver Coastal Health. Background to how this program came to exist will be highlighted and how research was used to gear our logic model. An overview of the processes of building our program, creating the job description, acquiring funding and determining approved clinical activities will be discussed. Results and lessons learned in our pilot year will be shared and discuss ways of improvement taken in 2024 year. Conclusion will include a summary and what we hope to see in the future of our program and how our program may be applicable across Canada.

NUTRITION TO REDUCE SEVERITY IN ASTHMA

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Background: Proper nutrition may play a role in reducing inflammation and therefore reduce severity of asthma.

Methods: Journal articles, randomized controlled trials, and systemic reviews were used to gather information for this research article. The year range from these studies ranged from 2007-2023. This research focused on all ages and populations that are diagnosed with asthma. The data for this research is limited due to the lack of research done on natural, nutritional interventions for diseases.

Results: Long term fruit and vegetable intake was associated with decreased asthma symptoms overtime. Additionally, increased intake of N-3 polyunsaturated fatty acids (PUFA's); also known as Omega 3's, had a positive correlation with decreased inflammation. This is due to the

inhibition of a PGE2 precursor that is a causative of inflammation in the body. Vitamin D also plays a role in inflammation. It can aid in lung growth in-utero and reduce the risk of asthma in a child by up to 40%. Vitamin D deficiency has been linked to increased asthma severity and prevalence.

Conclusion: Increasing take of fruits and vegetables, as well as N-3PUFA's are linked to reducing inflammation in the entire body, and may help reduce the severity of asthma, and/or amount of daily inhaled corticosteroid required.

WHAT MATTERS TO RTs: EXPLORING KNOWLEDGE GAPS AND RESEARCH PRIORITIES

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Background: Respiratory therapists (RTs) are expected to stay updated on technology, treatments, research, and best practices to provide high-quality patient care. They must possess the skills to interpret, evaluate, and contribute to evidence-based practices. However, RTs often rely on research from other professions that may not fully address their specific needs, leading to insufficient guidance for their practice. Additionally, there has been no exploration of knowledge gaps and research needs from RTs' perspectives to enhance their practice and patient outcomes. Methods: a modified Delphi Study. The participants in this study are/will be Canadian registered RTs. Results: Phase 1, the qualitative arm has been completed after focus groups with 40 RTs. Four major themes were identified relating to what these experts perceive as the practice-oriented gaps and necessary research priorities across the respiratory therapy profession. Based on Phase 1, 77 Likert scale items were generated for the Delphi Phase 2 arm. Round 1 of this Delphi will be released January 2024. Preliminary results on this Round and next steps will be presented.

Discussion: The findings of Phase 1 establish a fundamental understanding of the current gaps and the specific needs of RTs that require further investigation. Participants strongly emphasized the significance of research priorities that consider the breadth and depth of the respiratory therapy profession which underscores the complex nature of respiratory therapy and its application in practice.

Conclusion: The unique insights garnered from this study highlights the knowledge gaps and research needs specific to RTs. These findings pave the way for further exploration, discourse, and research aimed at understanding the specific contributions and requirements of RTs.

LONGEVITY AND GROWTH OF THE RT PROFESSION THROUGH NEW GRADUATE TRANSITION SUPPORTS

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Background/Introduction: Research and study of the new grad experience conclusively reveals that ALL new grads experience role stress, disillusionment and overwhelm upon entering the workplace. There is evidence of a theory-practice gap and a developmental lag between being a student and entering the workforce. The need for more formalized new graduate supports came out strongly in recent allied health consultation by the BC government that included 366 new graduates. Research shows us that failure to provide new graduate supports has a heavy cost in terms of burnout, retention, and recruitment. In BC, approximately 50% of new nursing graduates change their place of employment or leave nursing within two years. Further, between 44% and 66% of new graduate healthcare professionals report experiencing burnout in their first 3 years of their working life. When followed up 11-15 years after graduation, 42% of those who experience early career burnout have more frequent symptoms of cognitive dysfunction,

depression, and sleep dysfunction. For these reasons, and many more, it is important from both an individual and an organizational standpoint to scaffold resources and build supports aimed at mitigating the strains of transitioning from a student to that of a professional.

Methods: A comprehensive look at a current new graduate transition support program implemented in British Columbia that includes protected time for transition and onboarding supports in the first 18 months post-graduation. Pillars of the transition support program include:

1. Workshops to provide structured learning opportunities for new graduates to enhance their knowledge and skills. They cover topics such as the stages of new graduate transition and what to expect, navigating workplace culture, building tools to prevent burnout and build resilience, confronting difficult conversations, cultural sensitivity, professional practice expectations, and addressing common questions in the organization. There is also an interprofessional skill building workshop that incorporates hands on workstations and simulation sessions around recognizing deteriorating patients, mental health and de-escalation practices, palliation, and end of life care. The third workshop comprehensively addresses mental health, and a fourth workshop helps new graduates to envision a trajectory for their career and begin putting in place the necessary flagstones for advancement. These workshops help in bridging the gap between academic learning and real-world practice, increase confidence and competence, and cement the individual's future aspirations within their chosen career and health authority.
2. Community of practice discussions explore real-time issues among the new graduate community and increase the sense of connection and continuity among participants.
3. Funding for courses and workshops: individualized funding is provided to shore up entry level competencies specific to the allied health professional's needs and area of service.
4. Mentorship pairs new graduates with experienced professionals who guide and support them throughout their transition period. This personalized guidance helps new graduates navigate the challenges

they may face in their new roles, facilitating a smoother transition.

Results: Results from the new graduate transition program reveal a number of successes, failures, and challenges. Early on, engagement with the new graduate workshops was low for several identified reasons: challenges in terms of identifying and connecting with newly hired graduates in allied health streams since current HR and data collection methods do not support the streamlining of this data, misconceptions that workshops are "only for nurses", lack of knowledge about what the new graduate workshops entail and why they are beneficial, lack of manager support/understanding, and high workloads necessitating that new grads could not be released to attend. Hiring a dedicated Clinical Lead for Allied Health in 2022 to develop the new graduate program from an allied health lens was a first step in overcoming some of the challenges in connecting to managers and would-be participants and growing knowledge and support for the program. With this more focused approach, attendance and engagement has increased incrementally. In 2021/2022, attendance at all facets of the program, in all health authorities, totalled 80 persons. This increased in 2022/2023 to 217 participants: a 271% increase. Manager and participant mindset have shifted with regards to understanding the importance of this support piece. Dedicated resources, word-of-mouth and culture shift have led to improved methods of finding and connecting with allied health new graduates. Successes outlined in post-attendance surveys point towards a positive trajectory of learning and a sense of feeling supported robustly. New graduates report increased knowledge around organizational processes and professional expectations. They also describe improved confidence in navigating their transition stages and express gratitude in knowing who to contact to ask questions in a psychologically safe way. Those working rurally or in isolation report are demonstrating increased instances of communication and collaboration with their peers as a direct result of the community of practice sessions.

Discussion: The new grad transition program for allied health is two years young and there is a scarcity of data in terms of outcomes and impact. Only time will tell if this early career support resource translates into increased recruitment and retention. Going forward, it is important to nail down a solid method of identifying allied health new graduates as they are hired to ensure consistent engagement and participation with the program. Mentorship at this stage remains rudimentary in its offerings and requires a much more comprehensive framework to be rolled out and implemented in a meaningful way. It is imperative to build upon the current interprofessional offerings within the program as a means of solidifying teamwork and collaboration among healthcare teams. Finally, reimagining the program and its cornerstone offerings as evaluation data becomes available will be imperative to moving the program from 'initially effective' to 'definitively successful' over the long term.

Conclusion: Overall, the transition from a student to a working healthcare professional can be overwhelming due to the numerous challenges and demands they face. However, with proper support and mentorship, new graduates can successfully overcome these hurdles. New graduate transition support programming is showing early promise as a way to augment the recruitment and retention woes of a flagging healthcare system and produce a workforce that is resilient, inspired, and prepared to care.

PULMONARY REHABILITATION (PR) REIMAGINED: A DATA-INFORMED APPROACH TO PR MAINTENANCE PROGRAM DESIGN

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Background/Introduction: Pulmonary rehabilitation (PR) is a known and underutilized treatment option for those living with chronic lung disease. PR has been shown to improve functional exercise capacity, reduce dyspnea and improve the health-related quality of life of its participants. We know these positive effects of PR only continue if the therapy continues. Participants are encouraged to continue to use healthy living strategies, to exercise and to self manage their chronic lung condition. One way to support clients after the initial PR program is to continue with a maintenance PR program. In Canada, while there has been some consensus on how to design an effective PR program, there is little consensus on how to design an effective maintenance PR program. In addition to this issue, we know there are barriers to accessing maintenance PR programs, some reasons include: waitlists, lack of social support, inability to access programs in the community, exacerbations and anxiety. This is where telerehabilitation maintenance PR programs can play a role to improve access.

Methods: The characteristics of an effective maintenance telerehabilitation PR program are explored through a systematic search and review of the literature in those with chronic lung conditions. A systematic search was conducted across PubMed, CINAHL, and MEDLINE. Abstracts and full text journal articles published between 2014 to February 27, 2024, were carefully reviewed as part of this process. The results of this systematic review along with preliminary primary qualitative data collected from participants attending Poplar Pulmonary Wellness' Fitness Club (maintenance PR program) will be discussed.

Discussion: Overall maintenance programs are difficult to study as the design of each program varies dramatically. As well there are not a lot of studies looking at long term PR in respiratory conditions other than COPD. Studies show that telerehabilitation maintenance PR programs can help to maintain improvements in functional exercise capacity, reductions in dyspnea, and improvement with quality of life. Studies also show that they can prevent the risk of acute exacerbations in COPD including ER visits and hospitalizations. Programs that consist of unsupervised exercise training alone have not been shown to be as effective, while home based, supervised, long term maintenance programs have. One approach may be to seamlessly integrate the maintenance program with the initial PR program, as

regular check-ins with the same clinician have been studied to be an effective characteristic of maintenance PR programs.

Conclusion: Overall maintenance programs are difficult to study as the design and characteristics of each program is inconsistent. However, certain maintenance programs have been able to show positive outcome measures. Many of these programs through the use of telerehabilitation, allow for home based, supervised, and long-term programming. Thus far, these are the characteristics of an effective maintenance PR program and form the basis for our re-designed maintenance PR program.

AI AND RESPIRATORY CARE

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Background: The integration of Artificial Intelligence (AI) into healthcare has heralded a new era of innovation, offering both opportunities and challenges in decision-making and patient care. This review delves into the landscape of AI within respiratory care, exploring its benefits and limitations.

Methods: Employing a comprehensive literature review of peer-reviewed articles and case studies, this presentation investigates current and prospective applications of AI in respiratory care. Highlighted within are the capabilities of AI in swiftly analyzing vast datasets, particularly in aiding the diagnosis of chronic obstructive pulmonary disease (COPD), asthma, acute respiratory distress syndrome (ARDS), and its integration into the patient care trajectory, notably in thoracic surgery.

Results: Despite its prowess in data analysis, AI has yet to replicate the intricate skills and nuanced judgment exhibited by RRTs during hands-on patient interactions. While AI complements the expertise of respiratory professionals and will encourage more efficiency, the indispensability of human-centric care in respiratory therapy remains paramount.

Conclusions: The relationship between AI and respiratory professionals is synergistic, highlighting the potential for AI to enhance diagnostic accuracy, optimize therapeutic interventions, and streamline clinical workflows in respiratory care. While AI undoubtedly aids in the decision-making process, it is equally important for respiratory professionals to rely on their experience, expertise, and judgment. This symbiotic partnership thrives when respiratory professionals continue to ask critical questions, challenge assumptions, and integrate AI as a supportive tool rather than a replacement for human decision-making.

BEYOND THE BEDSIDE: RTS AS LEADERS

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Background: Respiratory therapists often feel limited in their careers due to the notion that they can only progress to become an RT educator or manager. Using a personal example this session will share techniques to learn about leadership skills and how to leverage them for career advancement in fields other than respiratory therapy.

Methods: Various frameworks to explore leaderships strengths, values and skills along with the

components of high performing teams will be discussed such as Clifton Strengths Finder, Necessary Conversations, and Psychological Safety.

Results: The presenter's learning and personal growth throughout her career will be shared as a case study including employee engagement results, staff feedback, and retention rates.

Discussion: More and more RTs are advancing into non-traditional leadership roles by leveraging their critical thinking, communication, and interpersonal skills. To support this growth RTs need to learn about the tools available so they can reflect on their own leadership styles and the makeup of their teams. Using personal scenarios and examples, the audience will be exposed to various challenges and techniques for leading effectively.

Conclusion: In order to continue to advance the profession RTs should learn more about their individual leadership style and strengths early on in their career and learn from the successes and failures of other RT leaders when considering progression.

BACK TO BASICS: MANUAL LUNG CLEARANCE TECHNIQUES

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Management of pulmonary secretions can be a primary concern for respiratory and neuromuscular disorders. Increased secretions may predispose patients to infection. There are a number of manual and mechanical methods for enhancing lung clearance. They include postural drainage, percussion/vibration, breathing techniques, PEP therapy, long volume recruitment, manual assisted cough and mechanical inexsufflation. In Ontario, the standard of practice for lung clearance for neuromuscular patients was the use of a mechanical in-exsufflation, the Philips CoughAssist(TM). May 2022 Philips issued a ship hold on the Philips CoughAssist (TM) and then discontinued the manufacturing and sale of the CoughAssist(TM) September of 2023. With no other mechanical device approved by Health Canada, the need for manual methods to improve peak cough flow was highlighted. Respiratory Therapists working with neuromuscular patients with evidence of a weak cough should train patients and their caregivers in manual methods for lung clearance techniques.

IMPLEMENTATION OF EIT AND CONSIDERATIONS FOR NOVEL THERAPIES

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Implementing new technology and practices presents challenges in any practice environment, but uniquely in pediatrics, where sharing practices and finding collaborators can be challenging. Electrical impedance tomography, only

recently available for clinical use in pediatrics, has many potential benefits, allowing individualization of ventilation using non-invasive real-time ventilation images. However, there can be limits, including time and resources to perform studies, particularly in times of surge and staffing shortages. Using EIT as an example, this presentation will focus on our implementation processes for novel therapies, using the KTA framework to continue improving and using champions to create change. It will highlight clinical challenges and considerations for novels therapies, and how purposeful implementation can be used to advocate for practice change.

UNLOCKING EXCELLENCE: QUALITY IMPROVEMENT FOR EVERYONE

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Background: In today's dynamic and challenging healthcare landscape, optimizing patient care and safety while fostering resilience and staff engagement is essential. While there are similarities and overlaps between quality improvement (QI) and healthcare research, there are critical differences. Healthcare research contributes to or develops knowledge, while QI uses established knowledge and solutions to improve processes and systems. Quality improvement projects may be more accessible and can provide tangible and swift results. Respiratory therapists can champion change and improvement through effective QI initiatives.

Methods: Participants in this talk will gain a comprehensive understanding of the differences between QI and clinical research, equipping them with the knowledge to embark on impactful QI projects. The speaker will highlight RT-led QI projects. Topics covered include identifying areas for improvement, forming collaborative QI teams, creating AIM statements, setting SMART objectives and utilizing data-driven decision-making to drive evidence-based improvements in patient care.

Results: This talk highlights the tangible benefits of QI in respiratory therapy departments, showcasing improved patient outcomes, increased efficiency, and avenues for professional development.

Discussion: By actively participating in QI initiatives, respiratory therapists can elevate their profession, leading to career advancement opportunities and bolstering the reputation of respiratory therapy within the broader healthcare community. In addition, participation in quality improvement may increase staff engagement.

Conclusion: This talk aims to equip respiratory therapists with the knowledge and tools to drive positive change, enhance patient care, and advance the field of respiratory therapy.

OXYGEN DOES NOT IMPROVE BREATHLESSNESS

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Background: Many patients, family members and health care professionals believe that oxygen

therapy is an effective treatment for shortness of breath. There are many myths and misconceptions regarding oxygen, and it is frequently misused or prescribed for patients that do not benefit from it.

Methods: I investigated this issue in depth as part of my final project for my Masters at Harvard University. I reviewed recent scientific literature, combined the latest results and prepared a short thesis and presentation. I also created educational videos.

Results: Oxygen therapy is appropriate treatment for dyspnea only in certain lung conditions. There are negative side effects of oxygen therapy.

Discussion: Oxygen therapy is overused in situations where it is not helpful in decreasing dyspnea.

Many patients and family members have misconceptions about the effectiveness of oxygen in treating dyspnea. There is a high need for education re: oxygen therapy and when it is appropriate, the treatments that actually do decrease dyspnea and the negative side effects of oxygen therapy.

Conclusion: Oxygen therapy is not used appropriately at times, and it can result in negative side

effects, wasted resources and mistrust between patients and clinicians. There is a high need of education regarding the effectiveness of oxygen therapy and other therapies that might be more appropriate.

THE 3 WISHES PROJECT: A FRAMEWORK FOR RESPIRATORY THERAPISTS FOR ENHANCING COMPASSIONATE END-OF-LIFE CARE

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Background: Healthcare clinicians are often called upon to respond to new and increasingly complex challenges within a strained health care system. Respiratory therapists and other healthcare clinicians may experience exhaustion and moral injury while facing these challenges, including caring for dying patients and their families. Unique to the role of a respiratory therapist is the physical discontinuation of mechanical ventilation from dying patients, often in the presence of family members who they may not have met before. This responsibility brings with it the potential for emotional burden and moral injury unique to the respiratory therapist's responsibilities during end-of-life care. Research has shown that the progression of moral injury to moral distress can be mitigated when clinicians are engaged in acts of compassion while providing care. Developed in 2013 in the ICU at St. Joseph's Healthcare Hamilton, the 3 Wishes Project provides a framework for enhancing compassionate care through eliciting and implementing final wishes of patients, families and/or clinicians to honour the dying patient, to ease family grief, and to make aspects of work more meaningful.

Methods: While numerous interviews were conducted with staff, managers and families during the implementation, evolution and formative evaluation of the 3 Wishes Project from 2013-2023, this abstract presents findings from a qualitative descriptive analysis of transcripts from 11 participants (6 interviews conducted with respiratory therapists caring for dying patients during the project's demonstration phase, and 5 paired interviews conducted with the respective family members of those patients). Interviews were audio-recorded, transcribed and analyzed using qualitative content analysis.

Results: Interview data from the respiratory therapists reflect 3 main themes: (1) the overall experience of discontinuing advanced life support; (2) the impact of the 3 Wishes Project on the patient's family; and (3) the impact of the 3 Wishes Project on respiratory therapists. While their role in discontinuing invasive or non-invasive mechanical ventilation at the end of life was unchanged, acts of compassion associated with the 3 Wishes Project changed the way that respiratory therapists experienced the terminal extubation they performed. Respiratory therapists frequently stated how their experiential education in caring for patients in the 3 Wishes Project seemed to bring comfort to grieving families. In their own interviews, family members echoed this sentiment about the holistic support they experienced from the interprofessional team. In distressing and emotionally charged situations, respiratory therapists reported that witnessing or participating in individualized acts of compassion was professionally rewarding when caring for dying critically ill patients.

Conclusion: The 3 Wishes Project empowers respiratory therapists as key members of the clinical team to intentionally offer compassionate end-of-life care. Providing a framework to call forth humanism in their practice can help to build an interprofessional community of compassion throughout a critically ill patient's trajectory. This has the potential to mitigate the impact of moral injury for respiratory therapists related to death in the ICU.

"ROAD TRIP" - NON-OPERATING ROOM ANESTHESIA (NORA): CONSIDERATIONS, SAFETY AND EFFICIENCY AND A CASE STUDY

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Introduction: Non-operating Room Anesthesia (NORA) represents a growing field of medicine with an increasing trend in the number of cases performed over the last decade. As a result, there is a demand for anesthesia to be delivered outside of the "normal" environment. Before the administration of anesthesia starts, anesthesia care teams must take a lead role in the care redesign process for NORA and prioritize patient safety to ensure effective anesthesia delivery.

Methods: Systematic literature and narrative reviews will be used to look at this rapidly growing area of anesthesia care. Case study reporting will also be used to examine clinical relevance to the information presented on this topic.

Results: With the increasing demand for minimally invasive procedures, an aging patient population with numerous co-morbidities, and the pressures of making healthcare dollars count, non-operating room anesthesia(NORA) has become more common. Data extracted from these reviews will be used to discuss general and specific special considerations for NORA with safety and patient care in mind.

Discussion: It is vital that anesthesia care teams have a comprehensive understanding of the unique challenges of delivering NORA to ensure the same level of safety is maintained compared to the traditional OR environment.

Conclusion: The delivery of non-operating room anesthesia will become commonplace in the future. Technological advances have created a range of procedures and interventions available to patients across the wellness spectrum. Anesthesia care teams will play a large role in developing and refining strategies to provide adequate anesthesia needs in a safe and efficient manner.

EQUITY, DIVERSITY & INCLUSION IS THE GOAL - BUT HOW DO WE GET THERE?

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Introduction: Equity, Diversity and Inclusion (EDI) is a focus of many educational programs and seeks to reduce historical inequities and barriers faced by marginalized communities. But in reality, EDI is the target that programs should be aiming to achieve. There is a need to strategize on how to achieve the target of EDI in educational programs.

Methods: This presentation will focus on a number of strategies that facilitate more equitable and inclusive access to education. Strategies that will be discussed include trauma-aware environments, culturally responsive education, and universal design in learning. There will also be discussion that with an increase in diversity and inclusion, physical and psychological safety must be an important consideration. The evidence on all of these strategies will be reviewed and discussed.

Discussion: Following a review of the strategies and evidence from the literature there will be a discussion on how best to incorporate these strategies into respiratory therapy education, including in classroom and lab environments, simulation, and clinical environments.

Conclusion: Educational programs need to reduce inequities and improve diversity and inclusion for marginalized communities. This presentation will promote discussion on specific strategies that can be incorporated in the respiratory therapy profession.

DEVELOPING A LEADING PRACTICE IN HEALTHCARE

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Background/Introduction: The extraordinary pressures in hospitals with resource limitations caused by the pandemic has significantly increased waitlists for assessment and

treatment of patients requiring intensive services in mental health. It requires upscaling of resources to meet urgent demands, which taxes the system further, and patients deteriorate clinically as they wait for services, a missed opportunity for early intervention and prevention.

Methods

System Planning and Strategy

- Leverage core services leadership and multi-year service area planning.
- Align with Roadmap to Wellness, within Ontario's Plan to build a strong mental health system.
- Establish creative partnerships between hospital and community, develop care pathways, and wraparound supports to provide stepped service for appropriate patients to receive timely assessments and treatment in the community while easing the overall system pressures.

Coordinated Approach

- Plan, execute, and monitor a coordinated referral from hospital to community.
- Develop resources for day treatment program in the community.
- Leverage hospital's ambulatory follow-up services for wrap-around service.

People-Centred, teams were:

- Engaged in the planning, design, development, implementation, and evaluation of the program through integrating their experiences and perspectives.
- Empowered as active partners in health services and education planning and delivery.

Evaluation Methodology

- The measurable objectives targeted in the evaluation used mixed method, quantitative indicators and qualitative information collected, with a clear connection between the measurable objectives and the indicators.
- Quantitative program measures (e.g., #Patients referred from waitlist and from unsuccessful treatment groups from the hospital).
- Quantitative clinical measures [e.g., %Improvement in behavior (distress tolerance, diaphragmatic breathing, DBT-informed approaches for mood and anxiety)].
- Qualitative measures (e.g., patients' perspective, family feedback).

Results: The program improved access to eating disorder treatment, and met the regional requirements for community-based eating disorders program:

- Addressed local/regional needs to service geographical locales and service population.
- Provided evidence-based care from hospital outpatient to community care by interprofessional teams (addressed mental health and dietary/nutritional components).
- Offered solution for transition aged youth who experience service gaps in continued care.
- Serviced 8 patient cohorts, with varying levels of presenting severity and comorbidities (launched October 2022).

Discussion: An upstream solution focused on a stepped care intensive and therapeutic eating disorders program model was developed and launched in the community, built resources and capacity in interprofessional teams, and received patient cohorts transferred from hospital to community. The sustainability of the program depends on continued monitoring:

- Leverage agile project management principles, incrementally and iteratively build program components starting from day treatment with low acuity patients.
- Debrief after each patient cohort for lessons learnt to apply to next cohort, include team and patient family feedback.
- Quarterly, process mapping to identify program strengths, opportunities, and future state planning.
- Visioning exercise to plan for a Live-In treatment model and algorithm for younger more severely affected patients with a schooling component as a care continuum.

Conclusion: Awarded a Leading Practice for being innovative, people-centred, and evidence-informed. It demonstrated a positive change related to safe, reliable, and accessible care, using an integrated service design. The sustainability plan and methodology can be replicated/adapted to develop new programs and spread to other organizations externally.

EVOLVING PRACTICE IN ANESTHESIA: TARGET CONTROLLED INFUSIONS

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Ideally, the goal when administering IV anesthetics is to deliver and maintain a particular dose of medication necessary to obtain the desired clinical effect at the site of action (the receptor).

Dose-response relationship for intravenous anesthesia agents can be divided into three parts:

1. The relationship between administered dose and plasma concentration (the pharmacokinetic phase)
2. The relationship between effect organ concentration and clinical effect (the pharmacodynamic phase)
3. The coupling between pharmacokinetics and dynamics phases.

Until recently, when intravenous anaesthetic agents were used for the induction and maintenance of anaesthesia, they were administered by manual/hand blousing or through simple infusion pumps. TIVA (total intravenous anesthesia) pumps are programmed by clinicians to deliver a constant infusion rate based on a volume/concentration/time/weight-based formula and considered by many as a pharmacodynamic guided practice of delivering medica-

tions. TIVA is a less accurate way to achieve optimal drug plasma concentrations and is often associated with "over shooting", excessive drug utilization and costs, delayed emergence, and other unwanted side effects during the administration of intravenous anesthetics. TCI (Target Controlled Infusions) is a relatively new intravenous anesthetic modality that uses sophisticated computers with powerful processors allowing clinicians to input pertinent patient demographics, volume and concentration of medications and to set a target plasma concentration to achieve a desired site organ effect. TCI pumps use pharmacokinetic mathematical models to calculate the amount of drug required to reach a set/target plasma concentration and to predict and adjust the flowrate of the drug required to achieve and maintain a desired depth of anesthesia (pharmacodynamic effect). TCI pumps also employ a real time plasma concentration (calculated)-time graph display in relation to the set target concentration and can be used to forecast a time when the patient may become aware as the plasma concentration dissipates after titrating down or discontinuing the infusion. This presentation will discuss the theories of pharmacokinetic modelling with intravenous anesthetics and the application of modern TCI technology in the clinical setting.

FROM COMPLIANCE TO COMPASSION: CREATING MEANINGFUL PATIENT ENGAGEMENT IN HEALTH EDUCATION

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Authentic patient engagement in health education programs helps students develop interpersonal competencies and human capabilities as well as an appreciation of the complexities of the healthcare system. Curriculum and learning activities that incorporate the patient perspective help ensure students graduate with an enhanced understanding of the patient experience, fostering a people-centered approach in their professional work. Patient partners can also be engaged at a higher level in health education, acting in an advisory capacity or offering a unique perspective to inform strategy. In 2021 Accreditation Canada incorporated two new standards related to patient partnerships to the Requirements for Accreditation, thus requiring RT programs to take a planful approach in integrating patient partners into their programs. The School of Health and Public Safety at SAIT wanted to take an approach that didn't just 'tick the box' for accreditation, but focused on creating truly meaningful engagement with patients, guided by an overarching School strategy, and supplemented with tools and resources to support success. Modelling the way, the School engaged a patient partner early on in the journey to help develop the strategy and provide input into key tools and resources. Within the School, the goal is for all health programs to develop a program specific patient partner plan and to use the tools to build meaningful patient engagements that enhance the program curriculum and student experiences, align with the School strategy, and support development of career-ready graduates. A high-quality patient engagement program requires thoughtful planning, education and resources. This presentation will share SAIT's learnings through this journey, from the development of our strategy to current state, and the next steps on our path forward. The tools and resources developed to support meaningful engagement of patient partners will be shared, including evaluation approaches for continuous improvement.

THAT DAM CART! USABILITY TESTING IN DIFFICULT AIRWAY MANAGEMENT

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Background / Introduction: Difficult airways are often unexpected, complex, time limited, and anxiety producing. Calgary Zone in AHS sought to design tools to enable the team to move through clinical situations quickly and efficiently by identifying strategies and providing tools and cognitive aids. Human factors usability testing can be used to create and refine tools that have been tried and tested prior to implementation to avoid human error and increase efficiency.

Methods: Usability testing was performed in 2019 on the Calgary Zone adult acute care difficult airway tools; Difficult Airway Management (DAM) cart, Airway Management Pause (AMP) and the Difficult Airway Algorithm which were designed to work together as a system. Simulation with a multidisciplinary team was performed 3 times with different users. After almost 4 years of clinical use, these tools are being tested again in Sept 2023. Changes are being informed by collected feedback and audits as well as the addition of a medication for reversal of neuromuscular blockade after rocuronium administration in life-threatening emergencies to avoid cricothyrotomy.

Results: Thirteen participants; 6 RRTs and 7 MDs with 3 to 30 years of experience (average 13 years) of airway management from Emergency, Critical Care and Anaesthesia completed usability testing. All participants had responded to a difficult airway situation within the last 6 months. Further refinements to the DAM tools were implemented following usability testing in 2019. Changes were made to all of the tools to better align them as a system including the addition/ removal of some equipment, improved equipment grouping per task, and aligned visual indicators and terminology across the tools.

Discussion/ Conclusion: Usability testing is a validated human factors technique that focuses on evaluating a product with end-users who complete typical tasks with the device or tool. The goal of usability testing is to identify any usability issues, collect objective data, and determine user satisfaction. This is a relatively novel approach in healthcare. Usability testing is used in other complex high risk industries (military, aviation, rail, nuclear) and product development. Healthcare is also a complex high risk industry but it has been slow to adopt usability testing. This is an

important technique to reduce the potential for human error and leverage clinical insight.

ULTRASOUND-GUIDED PERIPHERAL VASCULAR CANNULATION IN AND OUT OF THE OPERATING ROOM

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Background: Venous and arterial access and cannulation are cornerstones of anesthesia provision. Though landmark techniques through feel and sight are successful in most clinical scenarios, clinicians struggle with difficult access in other – often urgent – clinical situations with acutely-ill patients. In these instances, failures and complications are not uncommon. Ultrasound-guided vascular cannulation (USGVC) has been shown to improve the procedure success rate and reduce its associated complications. Increasing expectations in the standards of care for insertion of IVs and arterial lines have expanded to include AAs using ultrasound for this purpose in our region. AAs now routinely use US for difficult access in various perioperative settings. Taking this technology outside of the operating room when consulted by staff on the wards also helps the care of patients who would otherwise be waiting for PICC access or going without IV therapy.

Objectives: 1. Review the essentials of ultrasound technology and its application in peripheral anatomical identification of arteries and veins. 2. Provide the results of a survey of teaching hospital sites across Canada and use for discussion re this emerging trend. 3. Review tricks and tips (Pearls) of the use of USGVC in venous and arterial cannulation in various clinical settings. 4. Discuss how AAs in Halifax are using USGVC as part of our advanced clinical role on the anesthesia care team at Nova Scotia Health. 5. Demonstrate the techniques of USGVC including types of devices and probes used as well as applications available. 6. Discuss potential training program/policy for Ultrasound use in vascular cannulation and the frequency and initial number of successful attempts required to reflect competency.

Discussion: Open the floor to questions and discussion regarding current and future use of ultrasound in anesthesia at various teaching hospitals in Canada.

TO BE OR NOT TO BE FRIENDS ONLINE? RESPONSIBLE USE OF SOCIAL MEDIA BY RESPIRATORY THERAPISTS

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Background: Social media are widely used to communicate, advertise, give an opinion or advice, influence a group, expand and diversify professional network. When active online, respiratory therapists (RTs) may also promote their profession and field of expertise as well as promote health and prevent disease among individuals, families and communities. In doing so, RTs should be aware of issues related to the use of social media in their personal and professional lives and remember that they engage their professional liability.

Discussion: What are the issues related to the use of social media on RTs' personal and professional lives? When online, should they keep those last two separated? What are their professional responsibilities and ethical obligations? Ultimately, what are the best practices to adopt to avoid missteps?

Conclusion: Despite the undeniable advantages associated with social media, its use by RTs requires consideration of all issues involves. Thus, for a responsible use of social media, it is necessary to weigh the advantages and the risks involved and to aim for the best balance possible. At all times, RTs must maintain their professional independence, demonstrate professionalism and respect for confidentiality, image and reputation of all those concerned. Last but not least, they should always manage their publications with scientific rigour, which will form, over time, a permanent tattoo in the virtual universe of social media.

THE FUTURE OF ANESTHESIOLOGY: STARING INTO THE CRYSTAL BALL

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Introduction: The presentation aims to address the pressing issue of the projected workforce shortage in anesthesia and its implications for healthcare delivery in Canada. With projections indicating a significant gap in anesthesia providers, there is an urgent need to explore innovative solutions to ensure the continued delivery of high-quality anesthesia care.

Methods: This presentation will utilize a comprehensive approach to assess the anesthesia workforce shortage, examining recent projections and trends in healthcare demand. Additionally, it will explore potential strategies for expanding the anesthesia workforce, including the expanded utilization of anesthesia associates (AAs). Furthermore, the presentation will delve into the transformative role of emerging technologies, such as Artificial Intelligence (AI), in enhancing anesthesia delivery and patient outcomes.

Results: The analysis of workforce projections reveals a significant gap between the demand for anesthesia services and the available workforce to meet it. To address this shortfall, the presentation advocates for the expansion of the anesthesia workforce through the expanded integration of anesthesia assistants (AAs) into anesthesia practice. Additionally, the exploration of emerging technologies showcases the potential of AI to optimize patient monitoring, drug dosing, and overall efficiency in anesthesia delivery.

Discussion: The findings underscore the critical need for proactive measures to address the anesthesia workforce shortage in Canada. By embracing innovative solutions such as the utilization of anesthesia assistants and leveraging emerging technologies like AI, healthcare systems can enhance anesthesia delivery, improve patient outcomes, and mitigate the impact of the workforce gap. This presentation encourages dialogue and collaboration to shape the future of anesthesia care in Canada.

CHARACTERISTICS OF RAPIDLY MANUFACTURED VENTILATORS: A SCOPING REVIEW

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Background/Introduction: The mechanical ventilator shortage caused by the Sars-CoV-2 (Covid-19) respiratory virus revealed healthcare systems worldwide were not equipped to handle mass-casualty events. Rapidly manufactured ventilators (RMVs) are low-cost machines made from readily available materials capable of performing the basic requirements of mechanical ventilation and posed a potential solution when intensive care unit ventilators were occupied. In the current literature, a plethora of RMVs exist in a variety of designs and capabilities; however, a lack of universal standards regarding their design and testing procedures restrict their safe introduction into the clinical setting. Standards for medical devices, like the International Organization for Standardization (ISO), help ensure safe, reliable and effective performance while also reducing the risk for recalls or adverse events.

Methods: This scoping review (Joanna Briggs Institute) collected and synthesized all available evidence on RMVs for critically ill patients. An electronic search was completed in: Ovid MEDLINE (1946 to April 2022), Ovid EMBASE (1947 to April 2022), Cochrane (1947 to April 2022), Cochrane Database of Systematic Reviews (2005 to April 2022), Cochrane Central Register of Controlled Trials (March 2022 to April 2022), CINAHL (1937 to April 2022), Elsevier (Compendex and Scopus) (1972 to April 2022), IEEE Xplore (2000 to April 2022), and ACM Digital Library (1951 to April 2022). A search of the grey literature was completed in Google Scholar. Two reviewers screened and extracted data with a third for disagreements. Endnote and EPPI-Reviewer software were used for citation management and data extraction.

Results: The systematic search resulted in the inclusion of 52 articles (53 RMVs) after an initial 3803 identified. Four categories (operating, performance, other general features, and engineering components) created based on the information from six RMV guidance documents described the characteristics of the RMV designs and are presented in textual and graphical form. There was a large amount of variability in the characteristics of the RMVs, with some including several design elements and quality testing, while others including very few.

Discussion/Conclusion: Based on the synthesis of the 53 RMVs and six previously published RMV guidance documents, 11 suggestions regarding RMV design, performance and testing are provided. These suggestions may serve as a useful tool for development of universal standards such as those published by the ISO or for teams wishing to design their own RMV.

THE FUTURE OF INHALED ANESTHETICS

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Background: Volatile anaesthetic agents play a crucial role in modern anaesthesia practice, providing a safe and effective means of inducing and maintaining anaesthesia during surgical procedures. There has been a change in practice in the field of anaesthesia with the increase usage of intravenous medications used for maintenance of anaesthesia that sometimes help mitigate the uses of volatile anaesthetics and their effect on the environment. Is there a difference between the two methods of achieving anaesthesia on the environment? Should Desflurane continue to be used as an inhaled anesthetic? What can practitioners do to help with the environmental impact of the uses of anaesthetic gases?

Methods: Blue-zone technologies have emerged as a promising solution for the capture and removal of exhaled volatile anaesthetic agents in the healthcare setting. By utilizing advanced filtration and purification mechanisms, Blue-zone technologies captures waste volatile anesthetic gases before they are released into the surrounding environment. This contributes to environmental sustainability by reducing the release of harmful gases that can be released into the atmosphere. Interior Health Authority (IHA) has adapted several of its operating room theatres throughout IHA in collecting anaesthetic waste gases, using Blue-zone technology to ensure a sustainable healthcare.

Results: Addressing climate change and sustainability is a strategic priority for Interior Health Authority. Mitigating greenhouse gas emissions is part of IHA's strategic direction for the next few years. The use of Blue-zone technologies has resulted in a significant impact on the business portion of running a Health Authority. In a time of one year, IHA has recovered anesthetic waste gas that is equivalent to 280 cars being taken off the road. The carbon offset that IHA has achieved in just the infancy of the use of this technology, is substantial and paving the way for the future, while engaging its workers in the process, while being able to maintain high-quality, sustainable healthcare system.

Conclusion: We will explore the uses of volatile anaesthetic agents in clinical practice and highlight the benefits of integrating Blue-zone technologies for exhaled, anaesthetic gas capture. We will discuss the role of innovative technologies and promoting a safer and more sustainable healthcare environment and how our healthcare facilities can minimize their environmental footprint too.

WHY I DIDN'T WANT STUDENTS: PITFALLS AND PRACTICES IN PRECEPTORSHIP

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Background: As a profession, we need to ensure we are replacing ourselves with skilled clinicians as we move toward retirement. A key element of this education is clinical training and preceptorship. Most RT programs have a robust preceptorship program, but how do we ensure students are being optimally educated in the clinical environment. Is there a need for more standardized, regular preceptor training for staff by accredited RT programs (Jones-Boggs Rye,

Resp Care 2009)? What are the models of preceptorship utilized by accredited RT programs in Canada? What skills do successful preceptors need to possess to provide the best learning experience for RT students (Aldhahir, Resp Care 2020)? I have picked up a few recommendations for preceptors in Respiratory Therapy during my time as an educator at NBCC. I plan to make several changes to my own practice to be a better preceptor as I return to my practice as an AA.

Methods: This presentation will be rooted in a literature review, using primarily PubMed and CINAHL. Some subjective data/information (survey based) will need to be collected from accredited RT Programs in Canada to demonstrate the variety of preceptorship models. Several articles have been identified to highlight best practices in preceptorship, both in Respiratory Therapy and other health fields (nursing, medicine), though a literature review is still underway.

Results: The research around Respiratory Therapy programs in general is quite limited, though a few articles exist in American publications. There is a moderate amount of literature on preceptorship in nursing and medicine. A literature review is still underway. What has been reviewed to date supports the 'lessons learned' during the presenter's time as a clinical instructor with an accredited Respiratory Therapy program.

Conclusion: As there is so much variety in preceptorship models across Canada, there may be a need to offer a more standardized approach to preceptorship in terms of following Best Practices. The research has highlighted specific techniques to be an effective preceptor to Respiratory Therapy students.

WHEN AI SENDS HELP: SAFER & MORE EFFICIENT OXYGEN THERAPY

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Background: Oxygen therapy has been used for more than a century and has contributed to the survival of patients in all fields. Although risk associated with hypoxemia are well known, failure to maintain target saturation is often an issue. Moreover, liberal use of oxygen therapy is also associated with hazardous events such as hyperoxemia and denitrogenation absorption atelectasis. This study aimed to identify if AI may help lower occurrences of both hypoxemia and hyperoxemia in oxygen therapy.

Methods: The cohort study includes adults (aiming 250) of all ages and all diagnosis who required supplemental oxygen during their hospital stay between June 2024 and March 2024. Adults are allocated into two groups: Ai driven oxygen therapy (AiOx) and Conventional therapist driven oxygen therapy (CTOx) for which constant monitoring will be used to identify saturation fluctuation.

Results: All results are still preliminary as it is an ongoing study. A similar study was conducted by Dr Simon at IUCPQ in 2022 where 1000 patients needing supplemental oxygen were included. For patients in ED, Saturation was found to be on target 85.4% of the time with AiOx. Moreover, Hyperoxemia (Sat>95%) was found 0.4% of the time while severe hypoxemia (sat<85%) were found 1.4% of the time with AiOx. As control, CTOx patient saturation were found 51.3% of the time on target, 3.6% above 95% and 2.0% below 85%.

Discussion: Although Simon et al found AiOx may be reducing the occurences of hyperoxemia and hypoxemia in patients needing supplemental oxygen, more independant datas are needed to fully establish correlation between reducing said hyper/hypoxemia occurences and improve outcome in patients.

Conclusion: Ai application in oxygen therapy shows promising potential by providing superior results compared to conventional therapist driven oxygen therapy.

AA SCOPE IN AN URBAN CENTRE AND BARRIERS TO GROWTH IN A RURAL SETTING

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Rationale: Certified Clinical Anesthesia Assistant (CCAA) scope of practice varies dramatically between facilities. Anesthetists in some hospitals recognize CCAA as competent practitioners, continuously pushing for CCAAs to cover more areas with remote staff anesthesia coverage under medical directives. Identifying barriers to the CCAA practice evolution should help standardize practice nationwide.

Objectives: Present CCAA practice in a large rural centre. Compare scope of CCAA practice in a rural vs urban centre. Identify barriers to the scope of practice in a rural centre.

Methods: Describe CCAA areas of practice as well as roles and responsibilities at University Health Network, Toronto. Describe CCAA areas of practice in Royal Victoria Hospital, Barrie. Identify barriers for advancing practice at the rural facilities using personal experience.

Discussion: Discussion on identifying barriers to development of CCAA practice at the facilities from the participants at the conference and feedback on the possible solutions.

Conclusions: Urban hospitals have a wide scope of practice for CCAA profession, guided by medical directives with mostly remote anesthesia supervision. Rural hospitals are still struggling to utilize CCAAs to their trained potential, limited by various barriers. Presenting CCAA scope of practice at a large urban facility and comparing to other facilities may help identify common barriers to advancing CCAA practice in facilities where the scope is limited.

LET'S TALK ABOUT RACE: UTILIZING VIRTUAL REALITY SIMULATION TO FOSTER MICROAGGRESSION NAVIGATION SKILLS IN RT STUDENTS

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In an increasingly diverse world, conversations surrounding race and microaggressions have become paramount in fostering inclusivity and equity. Microaggressions during clinical placement, can pose significant barriers to effective

learning and professional development for respiratory therapy students. Subtle, often unintentional acts of bias can erode a student's confidence, self-esteem, and sense of belonging within the clinical environment. One of the primary ways in which microaggressions hinder learning is by creating a hostile or unwelcoming atmosphere. When students experience microaggressions, whether they are based on race, gender, ethnicity, or any other characteristic, it can lead to feelings of isolation and marginalization. Microaggressions can also perpetuate stereotypes and biases, potentially leading to incorrect assumptions about a student's competence or suitability for a particular role. This can limit opportunities for hands-on experience, assignments, and mentorship, all of which are crucial for comprehensive learning in clinical settings. In a pilot program, an innovative educational approach was explored, that leverages virtual reality (VR) simulations to educate students on recognizing and responding to microaggressions effectively, to optimize their clinical education experience and learning opportunities. This new approach explores the implementation of a cutting-edge educational tool designed to immerse students in real-life scenarios where microaggressions may occur. Through this virtual reality experience, students are provided with a safe and controlled environment to practice recognizing and addressing microaggressions. The theoretical framework underpinning this VR simulation will be examined, drawing from principles of experiential learning, empathy-building, and cultural competence. Additionally, data and insights from our pilot program will be presented, demonstrating the positive impact of VR-based microaggression training on student awareness and response skills. Furthermore, the practical considerations and challenges associated with integrating VR technology into educational settings will be examined, addressing issues such as accessibility, scalability, and ethical concerns. Lessons learned from this pilot program can be used in other educational institutions and organizations employing respiratory therapists as staff. This presentation aims to provide educators, researchers, and policymakers with valuable insights into the potential of VR simulations as a transformative tool for fostering discussions about race, promoting empathy, and equipping learners with the 3 skills to navigate microaggressions, ultimately contributing to more inclusive and respectful learning environments in respiratory therapy.

TO BREATHE OR NOT TO BREATHE - AN ALTERNATE APPROACH TO APNEA TESTING

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Background/Introduction: Apnea is a key component in the clinical determination of brain death. Apnea testing is a complex procedure, both physiologically and logistically. While modifications to the traditional approach of ventilator disconnect/oxygen catheter insertion have been described in the literature, apnea testing protocols are not standardized at a national, provincial or local level. Globally, variation is seen in the number of tests, timing of apnea testing and the PaCO2 target required to confirm brain death. Modifications to apnea testing protocols proposed in the literature focus primarily on optimizing oxygenation, describing the adjustment of oxygen insufflation and maintenance of positive end expiratory pressure (PEEP). Complications associated with apnea testing include hemodynamic instability, hypoxemia, arrhythmia, elevated intracranial pressure and air leaks, leading to the early termination of testing and inconclusive findings. Moreover, de-recruitment and subsequent atelectrauma are further complications associated with interruption and re-initiation of mechanical ventilation. In terms of organ transplantation, the complications listed above have the potential to compromise the viability of organs being considered for donation.

Method: A literature search from 2004 to present will be conducted using PubMed and the key words "apnea testing", "neurological determination of death" and "brain death".

Results: A comparison of the current methods of apnea testing will be presented. A local approach using the exogenous administration of CO2 while the patient remains connected to the ventilator will be explored as a safe and reliable alternative to conventional methods.

Discussion: The challenges associated with conventional testing will be discussed along with the potential benefits of the exogenous CO2 method.

Conclusion: Future updates to apnea testing protocols should strive for standardization, promoting not only oxygenation but also patient stability and organ viability.

"JUST SAY YES": RESPIRATORY THERAPY-LED CLINICAL INITIATIVES: POCT LUNG ULTRASOUND AND NEAR INFRARED SPECTROSCOPY

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Background: The only thing constant in medicine is change. This presentation focuses on how Respiratory Therapy took leadership roles in two innovational changes in a Neonatal Intensive Care Unit.

Methods: Effective change must start with evidence-based proof that the change is safe and effective, with a clinical desired outcome. Safe and effective change requires criteria be met, policy and procedures, approval from the stakeholders, an education plan, an implementation plan, sustained competency and finally data collection to show the change has had the desired clinical outcome.

Results: For the two innovations that were Respiratory Therapy led, Lung Ultrasound has reduced the number of times an infant is radiated while in our NICU, for identification of pneumothorax and it has changed clinical policy for the administration of surfactant. Currently, it is being assessed within our unit for endotracheal tube placement. NIRS, in our NICU has become another vital sign in caring for patients who are predisposed to cerebral pathologies. By understanding the CrSO2 and fraction of oxygen extracted, it is an early warning to when the systems auto-regulation

is no longer able to provide enough oxygen at the cellular level for metabolism.

Discussion: Effective change occurs when a process is implemented and has sustained positive clinical outcomes. Conclusion- Respiratory Therapy is an underutilized resource within the health care system, by continuous contribution to effective clinical change we become a more integrated and integral part of the health care team.

STANDARDIZING CLINICAL PROCESSES FOR ALBERTA'S HOME VENTILATION PROGRAM

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Background: When the Respiratory Outreach Program (ROP) was amalgamated within the Provincial Integrated Respiratory Services (PIRS) model the team developed a standardized approach to practice. While a 24/7 respiratory hotline was already in use to support patients and families, the patient experience would vary depending on the home location of both the clinician and client. There was no rubric for what warranted a home visit other than location. The PIRS strategy included both standardization, and service expansion that integrated within several provincial structures to address gaps in care for artificial airways and home ventilation.

Objectives: To become familiar with the new PIRS initiatives regarding home ventilation, and the new strategic directions and collaborative partnerships that resulted from provincialization.

Methods: Qualitative analysis of patient, respiratory therapists, and respirologists reports of current state of home ventilation, ventilators used in rural EDs, and ventilators in use during ground transport where an RT is not on the transport team.

Results: The new tools will be released at the conference. Patient Quote: "If it wasn't for your program, I would never have been able to return to my home. Thank you so much for answering my phone call".

Discussion: To showcase how the PIRS team applied a provincial lens to service delivery by leveraging specialized knowledge, collaborative partnerships, geography, and technology to integrate within several other Alberta Health Services portfolios.

SEDATION DURING NON-INVASIVE VENTILATION

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Introduction: Non-invasive ventilation (NIV) is a life-saving intervention for patients with acute respiratory failure (ARF). Patients may find NIV intolerable and ultimately fail NIV requiring intubation and invasive mechanical ventilation (IMV). Sedation may improve a patient's NIV tolerance. However, this practice has not been adopted by intensivists as the risk of over-sedation resulting in respiratory depression, inability to protect the airway, and inadvertent need for intubation are all large deterrents of sedative use in NIV. Dexmedetomidine (dex) is a relatively new sedative. It promotes patient wakefulness, has no effect on respiratory drive, has important analgesic properties, and reduces delirium.

Research question: We hypothesize that dex compared to placebo will reduce NIV failure and need for IMV in hospitalized adults with ARF.

Methods: We performed the "Non-invasive ventilation and dexmedetomidine in critically ill Adults: apragmatic pilot randomized controlled trial (inDEX trial)".

Results: Eighteen patients were recruited from three different countries. We had a consent rate of 90.9%, and protocol adherence of 100%.

Conclusion: In conclusion, a full trial is feasible to definitively determine if dexmedetomidine may prevent intubation and mortality at 28 days.

TRANSIENT TACHYPNEA OF THE NEWBORN AND RESPIRATORY DISTRESS SYNDROME - WHAT'S NEW AND WHAT SHOULD AN RT DO

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Transient Tachypnea of the Newborn and Respiratory Distress Syndrome are two of the most commonly occurring neonatal respiratory conditions worldwide. In addition to occurring commonly, the treatment of both conditions comes with potential morbidities and even mortality making their impact and potential burden of illness considerable. Proper management of both of these conditions will have Respiratory Therapists in lead roles in the application of both the science (i.e.. evidence based) and the "art" of their clinical skills to effect safe treatment and care with minimal morbidity. This presentation seeks to illustrate "What's True?" and update the RT's understanding of current and key pathophysiology concepts that underpin and support the rationale and evidence for our current therapeutic options as well as explain why others are not indicated. It will also draw from current literature findings to update and summarize "What's New?" and highlight both proven as well as interesting and emerging but not yet proven interventions in these two conditions. Finally, it will use case studies, pictures and other techniques to address " What's an RT to do?" and the "art" of applying the management and interventions discussed. This focus on the "art" addresses a gap in the literature around the practical steps in applying, titrating, troubleshooting and monitoring of the treatment modalities for these conditions. This will include a few select examples of non-respiratory care that directly influence outcomes that the RT should be aware of as a member of a multi-disciplinary team.

A RETROSPECTIVE REVIEW OF A NOVEL APPROACH FOR DETERMINING OPTIMAL PEEP

Pete Dhillon RRT & Daniel Jewers BHSc, RRT (PD and DJ contributed equally); Andrea Irwin MPH, BScN, RN; Sheena Morton BScN, RN; Gwen Knight; Andrea Soo PhD; Michelle Cyca RRT; Dr. Sean Bagshaw; Dr. Dan Zuege; Dr. Ken Parhar BScH, MSc, MD, FRCPC
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Background: Positive end expiratory pressure (PEEP) is the pressure that remains in the airways at the end of exhalation during invasive mechanical ventilation. This value can be set by the clinician to minimize ventilator induced lung injury. As with any ventilation parameter, PEEP should be used judiciously and specifically tailored for each patient to promote lung protective ventilation. Determining the optimal PEEP for patients on mechanical ventilation is critical to improve overall oxygenation, pulmonary compliance and lung recruitment. Setting the appropriate PEEP avoids atelectrauma by preventing overstretching and cyclical closing of alveoli further lessening ventilator induced lung injury (VILI). Despite all of the benefits in determining the optimal PEEP, there are inconsistent methods across intensive care units and many lack a standardized procedure.

Objectives: 1. To review a novel approach in determining the optimal PEEP via a decremental PEEP study which balances oxygenation, compliance, and driving pressure while minimizing ventilator induced lung injury. 2. To share preliminary data (survey and observational) comparing a previous method of optimal PEEP to the novel approach. 3. To present results of a survey assessing the acceptability of the novel method among users of the PEEP study.

Methods: Our team has developed a novel methodology to determine the optimal PEEP in a step wise approach that is safe, time efficient (when compared to conventional techniques), potentially more accurate and requires no specialized equipment. This decremental method incorporates compliance, oxygen saturations, mean airway, plateau and driving pressures as well as the concept of linearity to best choose an optimal PEEP range, while allowing the medical team to consider the patient pathology and clinical conditions prior to selecting the optimal PEEP. The observational study presented involves a retrospective review of 100 pre-implementation and 100-200 post implementation PEEP tables. Analysis is ongoing to compare patient outcomes such as oxygenation, weaning, workload, and use of post-extubation supportive therapies with the novel method in comparison to the old method used in Alberta. A survey was performed among users of the new PEEP method to assess its acceptability using the framework of acceptability.

Results: Our team has recently enacted this novel approach in the Calgary Zone and are currently collecting patient specific data to support its efficacy and efficiency within Critical Care. Comparing our pre-implementation and post implementation qualitative data, it was found that the selected optimal PEEP was slightly higher than the previous procedure and that the time it took to find the optimal PEEP was significantly less. The survey respondents suggest the pathway is acceptable without increasing workload or opportunity costs of other important care processes. As preliminary data continues to filter in, the team will analyze the findings with the goal of exploring the implications on oxygenation, increasing ventilator free days, and improving workload at the bedside for frontline Respiratory Therapists.

Discussion: Optimal PEEP can be determined many ways. Currently no consistent standardized practice or gold standard exists. We hypothesize that the current methods being used in Calgary direct to a lower optimal PEEP, an unnecessary use of higher FiO2's, impaired ventilation and potentially cause longer days on mechanical ventilation. The novel approach has demonstrated consistent PEEP setting that balance oxygenation, driving pressure, and compliance while reducing workload. We will continue to collect data and present the teams findings at this conference.

Conclusion: Identification of the optimal PEEP using our novel method can be performed safely, efficiently and at the same time minimizing risk for ventilator induced lung injury. Future studies will be required to determine clinical outcomes associated with the use of this novel PEEP titration method.

A PRACTICAL OVERVIEW OF THE REVISED PARDS GUIDELINES

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Patients in the PICU with pediatric acute respiratory disease can be exceptionally challenging. Best practice recommendations were developed from the Pediatric Acute Lung Injury Consensus Conference, which were updated in 2023. This lecture will highlight the evolution of pediatric lung disease, identify key clinical guideline changes from the 2015 consensus to the 2023 consensus, include clinical case studies that represent the strengths and weaknesses of these practice guidelines., and will list what resource limited settings in outlying communities can do to optimize care of critical pediatric patients.

VENTING WISELY

Pete Dhillon RRT & Daniel Jewers BHSc, RRT (PD and DJ contributed equally); Andrea Irwin MPH, BScN, RN; Sheena Morton BScN, RN; Gwen Knight; Andrea Soo PhD; Dr. Sean Bagshaw; Dr. Dan Zuege, Dr. Ken Parhar BScH, MSc, MD, FRCPC
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Background: Despite receiving considerable healthcare resources, ICU patients are at significant risk for death and severe morbidity. Many ICU patients receive mechanical ventilation and have hypoxemic respiratory failure (HRF) or acute respiratory distress syndrome (ARDS). These conditions are associated with particularly high risks of death and prolonged need for ICU care. Evidence-based, life-saving therapies exist for mechanically ventilated patients (e.g., conservative oxygen administration, protective ventilation, and prone positioning) but are variably applied. Every day, patients across Alberta are dying from these lethal conditions never having had the opportunity to receive readily available lifesaving interventions.

Objectives: Review the Venting Wisely Pathway and its implementation of a standardized approach to the care of mechanically ventilated patients with hypoxemic respiratory failure and ARDS. Review the creation of a multidis-

ciplinary care pathway called "Venting Wisely." Review the epidemiology and survival of mechanically ventilated patients in Alberta including those with hypoxemic respiratory failure and ARDS Present pre/post-implementation adherence to best practices following initiation of the Venting Wisely Pathway.

Methods: This innovative, evidence-informed multidisciplinary pathway was developed and validated by an interprofessional group of clinicians in Alberta (physicians, respiratory therapists, and nurses) using a modified Delphi consensus process and recognized international evidence-based guidelines and survey methodology. This pathway aims to improve recognition of HRF and ARDS, as well as reduce evidence care gaps by emphasizing optimal and appropriate use of evidence proven lifesaving therapies (protective ventilation, prone positioning), while de-emphasizing unproven and more expensive treatments (e.g., inhaled pulmonary vasodilators). Venting Wisely is a comprehensive multidisciplinary 42 element care pathway. Here is a brief summary of 5 keys steps: Step 1. Measure height. Prescribe ventilator tidal volumes based on height and sex. Step 2. Screening for HRF. Screen all patients nightly for HRF. Step 3. Protective Ventilation. For HRF patients, use protective ventilation. Step 4. Neuromuscular Blockade Agents. For patients with moderate-severe ARDS help improve ventilator dyssynchrony. Step 5. Prone Positioning. For patients with moderate-severe ARDS to help expand lungs.

Results: The Venting Wisely pathway improves adherence to best practice in Calgary as measured by the composite fidelity score. Analysis is ongoing to assess clinical outcomes in the formal type 1 hybrid implantation-effectiveness study.

Discussion: Maintaining the status quo will lead to:

1. Continued suboptimal patient outcomes, including excess avoidable mortality and morbidity.
2. Continued avoidable resource utilization (ICU and hospital patient days), as well as use of expensive and non-evidence-based therapies within our already strained provincial ICU system.
3. Continued sub-optimal patient and family experiences related to avoidable need for mechanical ventilation and the need for inter-facility transfer to access care supports not yet implemented effectively in some units.
4. A disproportionate impact to capacity in the ICU, should a respiratory pandemic occur (e.g. COVID-19).

Venting Wisely will improve patient outcomes:

1. By improving survival,
2. Reducing variability in practice
3. Enabling centers to provide better care and management within their health zones
4. Optimize pre-existing capacity to allow a better ability to handle a surge in patients during a respiratory failure epidemic/pandemic.

Conclusion: The Venting Wisely pathway will improve the value of the care we provide to patients by reducing resource utilization. We know that patients with HRF and ARDS are responsible for a large portion of health care spending in ICU alone (not accounting for hospital costs) annually in Alberta. High ICU patient capacity and workload is associated with increased cost, worse patient outcomes, and provider dis-satisfaction. Use of a pathway will increase the capacity and sustainability of the healthcare system allowing more efficient resource use.

THE IMPACT OF SKIN-TO-SKIN CARE ON PULMONARY MECHANICS: A SYSTEMATIC REVIEW

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Introduction: Since the inception of skin-to-skin care (SSC) in the neonatal intensive care unit (NICU), its positive impact on various aspects such as physiological stability and pain management, have been well established. However, there is less evidence available on the impact and safety for infants requiring both invasive and noninvasive modes of respiratory support.

Methodology: A systematic review examining the effect of SSC on infants requiring all modes of respiratory support, including invasive and noninvasive mechanical ventilation was performed. The electronic databases of PubMed, CINAHL Plus, Maternity and Infant Care and Scopus were searched. Articles published after the year 2000 on patients admitted to NICU on any mode of respiratory support examining any outcome measure related to pulmonary mechanics were included. Due to the heterogeneity of the inclusion criteria in terms of population, methods, and outcome measures examined, a narrative synthesis was utilized to explore the results.

Results: Thirteen articles met the inclusion criteria. The included studies attained consensus that infants that receive SSC while on advanced modes of respiratory support demonstrate maintained or improvement in cardiorespiratory stability. Two non-blinded randomized control trials (RCT) demonstrated a significant reduction in mortality and duration of required respiratory support in the SSC group compared with cot care, however, one RCT found no change in mortality rates between the SSC and cot care groups. None of the studies reported adverse events such as unplanned extubation, loss of peripheral intravenous cannula or severe bradycardia or desaturation requiring early termination of skin-to-skin care.

Conclusion: Skin to skin care for any duration with either parent has been shown to significantly improve pulmonary mechanics in infants of any age requiring respiratory support in the NICU. It has also been demonstrated to be a safe procedure for critically ill infants on advanced modes of respiratory support, such as invasive mechanical ventilation without incidence of unplanned extubation or peripheral line dislodgement.

NEW GUIDELINES FOR THE MANAGEMENT OF ARDS

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Clinical practice guidelines (CPGs) are developed to assist clinicians in providing evidence-based treatment strategies. Acute respiratory distress syndrome (ARDS) is caused by many different etiologies, but with similar clinical presentation. The previous guidelines for ARDS were published in 2017 by the European Society of Critical Care Medicine (ESICM) and were recently updated in 2023. These updated guidelines include the most up-to-date evidence that provide 6 new recommendations for management of acute hypoxemic respiratory therapy (AHRF), and 3 previous recommendations have been changed. This presentation aims to provide a clear explanation for the new recommendations, as well as the rationale for changing previous recommendations.

A CAREGIVER'S PERSPECTIVE ON THE TRANSITION FROM NICU/PICU TO THE COMMUNITY SETTING AFTER 587 DAYS OF ADMISSION

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Caring for a micro-preemie is a journey filled with profound challenges, unwavering resilience, and boundless love. After 587 days, strictly admitted to the NICU/PICU with their child, the presenter brings a unique perspective to the field of respiratory therapy (RT) as a mother to a medically fragile child and a student respiratory therapist. From navigating multiple surgeries, extubation failures, hemodynamic instability, intense grief, and palliative care, as a caregiver navigating the delicate balance between medical interventions and nurturing a complex pediatric patient is something respiratory therapists may not have privy to. To explore the crucial role of respiratory therapists in providing essential support and training to pediatric caregivers, let's investigate the significance of the RT's expertise in enhancing the well-being and care quality of young patients with respiratory needs. Moreover, this relationship underscores the vital partnership between healthcare professionals and caregivers in the pediatric context. As a caregiver to a complex pediatric patient, the following key points will be the focus of this presentation while providing an alternative approach for respiratory therapists to consider when planning or implementing future educational programs for caregivers. These discussion points include the journey of a post-23-weeker, exploring patient/family-centred care, navigating transitions, reviewing caregiver training and innovative teaching methods for caregivers. By shedding light on this extraordinary story of what it is to become a medical parent, the presenter continues to promote and foster stronger parent-medical practitioner relationships in the context of preemie/pediatric caregiving.

FROM ICU TO HOME: THE CHALLENGES OF THE TRANSITION

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Background/Introduction: Home ventilation is often seen as a complete and different way of ventilating patient compare to what we can see in a hospital context. Respiratory therapist that work at the hospital don't necessarily see the whole journey of their patient once they leave their unit. We don't realize that some of them end up going home needing a ventilatory support. The transition from hospital/ICU to home for those patient require a lot of organization and planning to make sure they go home safely with all the care they need. It can be quite challenging for the respiratory therapist doing it and the patient living this big transition. Here, we will analyze and explain what is done in order to get those patient home with all the support they need to increase their quality of live and insure their safety.

Methods: Follow step by step protocols put in place after years of research and studies to identify the population that could benefit from home ventilation and how to adapt that ventilation to their everyday life. Home ventilation regroups various conditions that makes every case different. The respiratory therapist in charge of that patient needs to adapt his work to each situation.

Results: Presenting of clinical case studies in adult and pediatric population to demonstrate their pathway from ICU to home care ventilation. Overview of the overlapping skills and knowledge base that you acquire in both ICU and home care ventilation fields as a respiratory therapist. The case studies will focus on the initiation and follow-up of noninvasive ventilation in ALS, COPD and pediatric patients.

Discussion: The transition from ICU to home care ventilation could be overwhelming, all the new technologies to learn, the different ventilatory strategies adapted for a very different clientele. Let's talk about the journey of ventilated individuals, their mental resilience and how you end up being a part of their lives. The impact of your clinical expertise on their physical, mental and psychological well-being.

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