

# Abstracts from the Wounds Australia Conference 14-16 October 2024

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## Invited plenary

### Data Security and Compliance: Understand the importance of data security

Prof James A Charles<sup>1</sup>

<sup>1</sup>First People health Unit, Griffith University

**Aims** To provide update information on the requirements of individual practitioners, and health organisations about patient data security and compliance, including for Indigenous Australians.

**Methods** Reviewing recent grey literature on government policy, guidance, and requirements, especially Indigenous Data Sovereignty (IDS refers to the right of Indigenous Peoples to exercise ownership over Indigenous Data) and Indigenous Data Governance (IDG refers to the right of Indigenous Peoples to autonomously decide what, how and why Indigenous data are collected, accessed and used).

**Results** Digital technology progressing at such a rapid pace, it is difficult for individuals, businesses and governments to keep up, and understanding how to appropriately protect data. While businesses and health services are expanding their use of technology, and data collection, consumer awareness of the importance of data privacy and protection is increasing, and society is becoming more concerned about breaches and misuse. In many cases the protection of privacy especially digital data by governments has not kept pace with the public demand for data protection policy. Until recently i.e. prior to 2014 Australian's were relying predominantly on The Privacy Act 1988 (Privacy Act) for Data Security. There has been attempts to catch up with DFAT's review of the Privacy Act in 2014, 2017 and the development of the Notifiable Data Breaches scheme 2018. The Office of the Australian Information Commissioner (OAIC) 2024 introduction of 23 legislative proposals to the Privacy Act Review, and a new statutory tort for serious invasions of privacy. The Privacy Act now provides 13 Australian Privacy Principles (Principles) for protecting privacy. The Principles are standards for the collection, use, disclosure, quality and security of personal information and provide obligations on organisations concerning access. The OAIC is responsible for investigating breaches of the Principles. Accepting enforceable undertakings, seeking civil penalties and conducting assessments of privacy performances. The Maïam Nayri Wingara Indigenous Data Sovereignty Collective was formed in 2017 to develop Aboriginal and Torres Strait Islander data sovereignty principles.

**Conclusions** The OAIC is responsible for investigating breaches of the Principles. Accepting enforceable undertakings, seeking civil penalties and conducting assessments of privacy performances. The value of data has never been higher. The potential or actual loss of trade secrets and or intellectual property (IP) can impact future innovations and profitability. Enacting IDG requires Indigenous leaders, practitioners and community members to advocate and participate across all sectors and jurisdictions. Indigenous communities retain the right to decide which sets of data require active governance and inconsistent with the principles.

#### References

1. The Privacy Act 1988 (Privacy Act). <https://www.legislation.gov.au/C2004A03712/latest/versions>
2. Better protection of Australians' privacy <https://ministers.ag.gov.au/media-centre/better-protection-australians-privacy-12-09-2024>
3. The History of Indigenous Data Sovereignty <https://www.maiamnayriwingara.org/>
4. Maïam Nayri Wingara Principles <https://www.maiamnayriwingara.org/mnw-principles>

### AI: An Area of Interest

Mr Thomas Leong

CNC Sydney Local Health District Australia

An Introduction to Artificial Intelligence in Healthcare.

Artificial Intelligence (AI) in healthcare represents a fascinating blend of technology and medicine, with the potential to elevate patient care, refine diagnostics, and transform treatment options. AI involves creating computer systems that perform tasks requiring human intelligence, such as speech recognition, decision-making, and problem-solving. This is achieved through technologies like machine learning, neural networks, deep learning, computer vision, and robotics.

Currently, the most realistic AI we have is Artificial Narrow Intelligence (ANI), which performs specific tasks like face recognition and voice assistance. Artificial General Intelligence (AGI) and Artificial Superintelligence (ASI) remain conceptual and hypothetical, respectively.

Machine Learning (ML), a subset of AI, uses algorithms to learn from data and improve over time. It can classify data, such as sorting emails or predicting weather. Deep Learning (DL), a subset of ML, uses neural networks to process vast amounts of data and uncover complex patterns, ideal for tasks like autonomous driving.

Generative AI creates new content based on user prompts, identifying patterns from extensive datasets to produce original outputs.

In healthcare, AI's impact is profound. The CSIRO's "AI Trends for Healthcare" report highlights AI's role in improving diagnostic imaging, enhancing electronic medical records, predicting disease outbreaks, personalizing medicine, and ensuring data privacy and security.

In wound care, AI helps assess wounds, predict healing, enable remote monitoring, increase efficiency and accuracy, and train healthcare professionals.

Job displacement is a concern with AI's rise, but history shows technological advancements create new opportunities. The U.S. Bureau of Labor Statistics notes that AI can transform 40% of working hours into more productive activities. The World Economic Forum's "Future of Jobs Report 2023" predicts significant job changes, driven by AI and



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automation, emphasizing the need for reskilling and upskilling to meet new job demands. While some roles may decline, others, like data analysts and digital transformation specialists, are expected to grow. Embracing AI's potential can lead to innovative services and products, requiring continuous adaptation and learning.

## References

1. <https://www.javatpoint.com/advantages-and-disadvantages-of-machine-learning>
2. <https://www.ibm.com/topics/deep-learning>
3. <https://builtin.com/artificial-intelligence/deep-learning-applications>
4. <chrome-extension://efaidnbmninnibpcapcglclefindmkaj/https://aehrc.csiro.au/wp-content/uploads/2024/03/AI-Trends-for-Healthcare.pdf>
5. <https://www.weforum.org/publications/the-future-of-jobs-report-2023/2>

## Set the scene on education

Prof. Dr. Sebastian Probst<sup>1-5</sup>

<sup>1</sup>Geneva School of Health Science, HES-SO University of Applied Sciences and Arts, Western Switzerland, Avenue Champel 47, 1206 Geneva Switzerland

<sup>2</sup>Care Directorate, Geneva University Hospitals, Switzerland

<sup>3</sup>Faculty of Medicine, University of Geneva, Geneva, Switzerland

<sup>4</sup>Faculty of Medicine Nursing and Health Sciences, Monash University, Australia

<sup>5</sup>College of Medicine Nursing and Health Sciences, University of Galway, Ireland

sebastian.probst@hesge.ch

**Aims** The aim of the presentation was to explore the role of therapeutic patient education in improving self-management and outcomes for patients with chronic wounds, focusing on enhancing health literacy, patient empowerment, and multidisciplinary collaboration.

**Methods** The presentation synthesized findings from multiple qualitative and quantitative studies. It examined patient expectations, the efficacy of educational interventions, and the integration of digital tools like artificial intelligence (AI) and serious games in wound care education.

**Results** Key findings highlighted the need for patient-centered education tailored to individual needs. Educational interventions improved adherence to treatments and patient autonomy. Digital tools, including AI-based platforms and serious games, were shown to effectively engage patients and healthcare professionals in dynamic learning experiences. Additionally, multidisciplinary approaches facilitated better clinical outcomes.

**Conclusions** Therapeutic patient education, when personalized and integrated into care pathways, enhances patient knowledge, confidence, and engagement in self-management. It improves adherence, reduces complications, and supports better health outcomes. Advanced digital tools, combined with traditional methods, offer promising avenues for transforming wound care education and patient empowerment. Collaborative efforts and continuous education for healthcare providers remain crucial for implementing effective patient education strategies.

## Oral presentations

### A state-wide stocktake of wound management documentation and image capture processes

Ms Shifa Basjarahil<sup>1</sup>, Miss Catherine Leahy<sup>2</sup>, Mrs Sally Duncan<sup>3</sup>, Mrs Debbie Blanchfield<sup>4</sup>, Mrs Bev Gow-Wilson<sup>5</sup>, Miss Leah Pennay<sup>6</sup>

<sup>1</sup>SESLD - The Sutherland Hospital, Caringbah, Australia, <sup>2</sup>Western Local Health District, Australia, <sup>3</sup>Northern Local Health District, Australia, <sup>4</sup>Illawarra Shoalhaven Local Health District, Wollongong, Australia, <sup>5</sup>ACI, St. Leonards, Australia, <sup>6</sup>Southern New South Wales Local Health District, Australia

**Situation** Standard 5 of the NSW Health Standards for Wound Management requires that "agreed key information on all wounds is documented throughout the patient journey and across care settings". However, wound documentation is not standardised in NSW, and it is unclear how clinical information is documented and shared between providers.

**Actions taken** A group of clinicians and health information managers convened to undertake a stocktake of current practices for wound management documentation and image capture in NSW Health services. A survey was developed and shared with wound management clinicians across NSW to:

- gain a better understanding of existing practice related to documentation and image capture.
- identify variation in wound documentation.
- explore documentation barriers experienced by clinicians, hear suggestions for improvements and identify opportunities for state-wide improvement.

**Outcome** Ninety survey responses were received from clinicians working in 17 organisations. The stocktake identified variation and lack of standardisation in wound documentation practices between and within NSW Health services. Respondents reported that the lack of standardisation created barriers and difficulties for staff completing the documentation, in tracking a consumer's clinical progress, sharing documentation with other care providers, and monitoring service performance.

**Lessons learned** Evidence-based and consistent documentation is essential for provision of high-quality wound management, as well as for service improvement. Informed by the results from this stocktake, work is progressing in NSW Health to identify minimum documentation and data requirements for system-wide quality and safety monitoring, and the wound management documentation requirements for the upcoming NSW Health Single Digital Patient Record.

### District Nursing Journey from Paper to Digital

Mrs Mandy Bevan<sup>1</sup>

<sup>1</sup>Health New Zealand - Te Whatu Ora, Midcentral, Palmerston North, New Zealand

**Situation** Wound management requires a considerable amount of clinical resources. This District Nursing Service spends 55-65% of their clinical time on wound management during home visits and community clinics. Wound mapping and documentation relied entirely on manual processes with tracing over acetate and tape measures, along with intermittent photography. Practical challenges existed with photography as photos had to be transferred to a patient's file manually and photos came from multiple sources.

**Action(s) taken/treatment(s) provided** W undertook a 6-month pilot with a digital wound application within the District Nursing service commencing in September 2022. The digital wound application completely replaced the paper-based workflows as staff performed wound measurement and digital documentation through the application.

**Outcome(s)** An image was included in every evaluation in comparison to 20-50% of the time pre-trial. All wounds were mapped compared to approximately 20% of wounds pre-trial. All photos were appropriately labelled. There was an increased ability to offer support for nurses providing wound care 'off site'. There was the ability to monitor workloads, care consistency, and shift patients to supported self-management (where appropriate).

**Lesson(s) learned** Wound images became a core tool to evaluate care and wound healing trajectories. Patients could engage more in their wound care, as the images and measurements provided a feedback loop. Staff could seek support and guidance for patient care as the clinical records were available to all staff remotely. The pilot was a success and has now been scaled up to all District Nursing staff as a fully digital business-as-usual program.

## Changes in skin characteristics associated with chronic venous insufficiency: A quantitative investigation.

Dr Sharon Boxall<sup>1,2,3</sup>, Prof Keryln Carville<sup>2,3</sup>, Prof Shirley Jansen<sup>1,2,4</sup>

<sup>1</sup>Heart and Vascular Research Institute, Nedlands, Australia, <sup>2</sup>Curtin University, Bentley, Australia, <sup>3</sup>Silverchain Group, Osborne Park, Australia, <sup>4</sup>Sir Charles Gairdner Hospital, Department of Vascular and Endovascular Surgery, Nedlands, Australia

**Background/Purpose** Skin changes in CVI such are clinically observable but there is a paucity of quantitative research investigating the nature and progression of these changes. The purpose of this investigation was to objectively quantify changes in skin morphology and physiology, as well as changes in proteins on the lower legs of individuals with a venous leg ulcer as compared to individuals without chronic venous insufficiency (CVI).

**Methods** Sixty participants were recruited, 30 in each arm. Non-invasive measurements of: skin hydration, trans-epidermal water loss (TEWL), melanin, skin thickness, intensity (of ultrasound reflection), temperature and pH, were recorded at three positions, two on the lower leg and the abdomen as a control site. Skin blotting samples were collected to quantify types 1, 3, 4, 7 and 17 collagen, fibronectin, plasminogen activator inhibitor 1 (PAI1), heat shock protein 90 alpha (HSP90 $\alpha$ ), interleukin 1 alpha (IL1 $\alpha$ ) and vascular endothelial growth factor C (VEGF-C).

Results Melanin, TEWL, skin thickness, and hydration were elevated in the CVI group consistent with lipodermatosclerosis and oedema. The control site abdominal temperature was lower in the CVI group, but there were no differences at the leg sites. Skin thickness was increased in the leg in the CVI group. Collagen 1, 4, IL1 and albumin were higher in CVI compared to controls.

**Conclusion** This comparative study has measured significant changes in skin morphology in individuals with CVI as compared to healthy controls which was consistent with known pathophysiology and lipodermatosclerosis. Detection of cytokine IL1 probably reflects tissue injury.

## Controlling compression sub-bandage pressure in leg ulcer treatment and research

Dr Sharon Boxall<sup>1,2,3</sup>, Prof Keryln Carville<sup>2,3</sup>, Prof Shirley Jansen<sup>1,2,4</sup>

<sup>1</sup>Heart and Vascular Research Institute, Curtin University and Silverchain Group, Perth, Australia, <sup>2</sup>Curtin University, Bentley, Australia, <sup>3</sup>Silverchain Group, Osborne Park, Australia, <sup>4</sup>Sir Charles Gairdner Hospital, Vascular and Endovascular Surgery, Nedland, Australia

**Background/Purpose** Best practice treatment for venous leg ulceration includes the application of graduated compression therapy from toe to knee with the recommended pressure being 40mmHg at the ankle (1). However, the degree of pressure which should be applied to the foot is poorly described and seldom reported in the literature. The objectives of this investigation are:

1. To quantify the degree of pressure applied to the lower leg and the dorsum of the foot by a range of compression therapy modalities.
2. To identify inter-rater variation in compression pressures within a single type of compression therapy
3. To identify variation in pressures obtained by individual nurses across a range of compression modalities.

**Methods** Experienced nurses were recruited to participate in the study. Each nurse applied five varieties of compression therapy to the leg of a volunteer. The PicoPress<sup>®</sup> sub-bandage pressure monitor was used to record the pressures applied.

**Results** Individual nurses obtained different pressures depending on the type of compression therapy. The degree of inter-rater variation varied with different compression modalities.

**Conclusion** It is known from the literature that there is a great deal of variation in sub-bandage pressure on the lower leg applied by various clinicians (2). This study shows that there is also variation in pressures applied to the foot. This research has potential to contribute to changes in recommendations for compression of the foot during venous leg ulcer treatment and selection of compression type to optimise target pressures.

### References

1. Australian Wound Management Association Inc & New Zealand Wound Care Society. Australian and New Zealand clinical practice guideline for prevention and management of venous leg ulcers. Osborne Park, W. Australia: Cambridge Publishing; 2011. 132 p.
2. Boxall S, Carville K, Leslie G, Jansen S. Controlling compression bandaging pressure in leg ulcer research trials: A summary of the literature. *Phlebology*. 2019;34(8):501-14.

## Establishing an enhanced tertiary review pathway for diabetic foot ulcer using a centralised electronic database.

Ms Lucy Stopher<sup>1</sup>, Dr Sharon Boxall<sup>1,2,3</sup>, Ms Nicole Walsh<sup>5</sup>, Dr Mendel Baba<sup>6</sup>, Dr Emma J Hamilton<sup>7</sup>, Dr Olufemi Oshin<sup>8</sup>, Prof Shirley Jansen<sup>1,2,4</sup>

<sup>1</sup>Heart and Vascular Research Institute, Nedlands, Australia, <sup>2</sup>Curtin University, Bentley, Australia, <sup>3</sup>Silverchain Group, Osborne Park, Australia, <sup>4</sup>Sir Charles Gairdner Hospital, Department of Vascular and Endovascular Surgery, Nedlands, Australia, <sup>5</sup>Sir Charles Gairdner Hospital Department of Wound Management, Nedlands, Australia, <sup>6</sup>Sir Charles Gairdner Hospital Department of Podiatry, Nedlands, Australia, <sup>7</sup>Fiona Stanley Hospital, Murdoch, Australia, <sup>8</sup>Royal Perth Hospital, Perth, Australia

**Background/Purpose** Recent international guidelines for DFU recommend multidisciplinary team-based management for minimising tissue loss, however the vast distances in Western Australia are an impediment. The purpose of this project was to reduce delay and barriers to care in DFU.

**Method** Key members of the MDFU team set out to adopt a wound imaging and measurement system (Silhouette<sup>®</sup>, Aranz Medical, NZ) in a tertiary hospital multi-disciplinary setting, and subsequently network the technology to two other tertiary sites and elsewhere in WA.

**Results/Discussion** Smart technology can address many of the issues faced by remote peoples by bringing tertiary level advice and support to primary care. It can break down barriers by facilitating online specific teaching modules for sites e.g., ABPI and toe pressure measurement and wound management strategies. It can expedite transfer of those who really need it for infection control, tissue salvage, debridement, grafting etc and reduce transfer of those who, with support, can manage the patient locally in a more familiar environment near to family and carers and on country. By helping to upskill local HSPs all this serves to reassure the patient who is often isolated and vulnerable.

**Conclusion** The use of networked electronic health documentation can inform service delivery quantitatively and by producing trends in demand over time across the health sector enable focus to be directed to areas of unmet need, supporting funding initiatives to fill gaps in multidisciplinary care, ensuring gold standard can be offered to all patients.

## The Wound sandwich: development of an educational web-based resource

Mr Michael Breeze<sup>2</sup>

<sup>1</sup>Prince Of Wales Hospital, Randwick, Australia, <sup>2</sup>The Wound Sandwich, Sutherland, Australia

**Background/Purpose** The resignation of senior nurses following the COVID-19 pandemic has resulted in a gap of specialised wound care skill, experience and knowledge subsequently resulting in an observed increased number of inappropriate wound care practices and dressing selection. Inappropriate wound care compromises patient health outcomes and pro-long hospitalisation. The development of a web-based educational resource aims to support less experienced nurses to better manage ulcerated wounds in the absence of specialist nurses.

**Methods** Nursing staff working in an acute ward in a tertiary hospital were asked to describe their wound care learning needs. The information was mapped to provide the structure, evidence based content and format of the website pages<sup>(1-3)</sup>. A web-base designer and the first author designed a word press basic website over three-months.

**Results** The developed web-based educational resource provides a series of pages with specific content and descriptions for each type of wound (venous, arteriol, compression), five videos and approved graphical images. Tutorials on how to complete wound care dressings and twenty-five examples of pre-completed wound management care plans for venous ulcers, arterial ulcers, dehisced primary closure (at skin level), diabetic foot ulcers, split skin graft, skin graft donor sited, fungating wounds are embedded on the website. A taxonomy of 175 dressing brand, size, use, limitations, and the complimentary dressing to use with the product are included.

**Conclusions** The web-based resource offers an innovative approach to wound care education for nurses. Future studies are planned to measure the effectiveness of the web-based resource on nursing knowledge.

### References

1. Ilespie, B. M., Chaboyer, W., Allen, P., Morely, N., & Nieuwenhoven, P. (2014). Wound care practices: a survey of acute care nurses. *Journal of clinical nursing*, 23(17-18), 2618-2626. <https://doi.org/https://dx.doi.org/10.1111/jocn.12479>
2. Lommi, M., Raffaele, B., Tolentino Diaz, M. Y., Montini, G., Puleio, C., & Porcelli, B. (2023). Nursing outcomes in wound care management: A mixed method study. *Nursing open*, 10(4), 2249-2263. <https://doi.org/https://dx.doi.org/10.1002/nop2.1477>
3. Welsh, L. (2018). Wound care evidence, knowledge and education amongst nurses: a semi-systematic literature review. *International wound journal*, 15(1), 53-61. <https://doi.org/https://dx.doi.org/10.1111/iwj.12822>

## Cleanse: Protect: Restore: Caring for neonatal skin and our environment!

Associate Professor Margaret Broom<sup>2,4</sup>, Ms Mehal Sam, Professor Abdel-Latif E Mohamed<sup>3</sup>, Ms Ann Marie Dunk<sup>1,4</sup>

<sup>1</sup>Skin Integrity Research Group (SKINT) University Centre for Nursing and Midwifery, Department of Public Health and Primary Care, Ghent, Belgium, <sup>2</sup>Adjunct Associate Professor, University of Canberra, Canberra, Australia, <sup>3</sup>Australian National University, Medical School, College of Medicine, Biology and Environment, Canberra, Australia, <sup>4</sup>Synergy: Nursing and Midwifery Research Centre, University of Canberra and ACT Health, Canberra, Australia

**Background** It is well understood neonatal skin is at high risk of developing Incontinence Associated Dermatitis (IAD). Prevention of IAD is key to best practice. Guidelines in cleansing skin recommend a pH neutral skin wipe. Despite a myriad of products there is limited evidence regarding ecofriendly products suitable for neonatal skin.

**Methods** Over three-months (Dec23-Feb24) a quality Improvement project was conducted comparing three skin wipes; one each month (A: current product; B: baby-friendly; C: eco-friendly). Study aims included: 1) comparison of products; 2) incidence of IAD. Skin portfolio team reviewed guidelines and provided key education and support for staff. Study survey was developed to evaluate key factors, texture; packaging; scent and residual of product. Incidence of IAD was collected via digital records.

**Results** Interim results show an incidence of IAD Group A: 35%; B:23%; C:9% (n=78) during the 3 months. Key findings: during the comparison of products: Product A participants (25%) noting scent lingered in the isolette post skin application. Product B participants reported, "it tore easily", with several comments stating "it felt rough", highlighted by (15%) stating fluff remained on the skin surface. Participants also stated the need for a good seal and wastage of product due to difficulties in package design. Product C soft, flexible, and ecofriendly. Further analysis is currently underway.

**Conclusion** This study will provide evidence-based solution to the management and prevention of IAD within the speciality of neonatal care. Engagement and collaboration with industry may provide bespoke solutions to improving products for this vulnerable cohort.

## Platelet-rich plasma and fibrin-rich plasma in treatment of venous leg ulcers: A systematic review

Dr Ut Bui<sup>1</sup>, Dr Jane O'Brien<sup>1</sup>, Ass/Prof Linda Hansen<sup>2</sup>, Ass/Prof Christina Parker<sup>1</sup>, Ass/Prof Daisy Princeton<sup>3</sup>, Professor Sezer Kisa<sup>3</sup>

<sup>1</sup>Queensland University Of Technology, Brisbane, Australia, <sup>2</sup>University of Agder, Postboks, Norway, <sup>3</sup>Oslo Metropolitan University, Pilestredet, Norway

**Objectives** To evaluate the effectiveness, safety and cost-effectiveness of platelet-rich plasma and platelet-rich fibrin for the treatment of venous leg ulcers.

**Methods** A systematic review, guided by the 2020 Joanna Briggs Institute systematic review of effectiveness, was undertaken on the existing evidence on the effectiveness, safety and cost-effectiveness of platelet-rich plasma and platelet-rich fibrin in the treatment of venous leg ulcers. Records were identified from Embase, Medline, CINAHL, Pubmed, the Cochrane Library, trial databases and registries. Randomised control trials, quasi-experimental studies, prospective cohort studies, case-controlled studies, pre-post designs, qualitative studies, descriptive studies, and mixed method studies that investigated these products in the treatment of venous leg ulcers were included. The included studies were assessed for methodological quality. Information related to general characteristics of included articles and relevant outcomes of interest were extracted and synthesised narratively.

**Results** We identified 2467 records with a final 33 studies meeting the inclusion criteria for data extraction. There were 26 studies that used platelet-rich plasma and eight studies used fibrin-rich plasma products. The results mostly indicated platelet-rich plasma and platelet-rich fibrin had a positive effect in promoting wound healing, including reduced ulcer size, shortened time to heal or to complete closure, reduced pain and oedema, reduced need for frequent administered interventions and safe.

**Conclusions** This systematic review found clear evidence indicating the effectiveness and safety of platelet-rich plasma and platelet-rich fibrin in treating venous leg ulcers.

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## Risk factors associated with surgical site infection following weight-bearing joint arthroplasties: A systematic review

Dr Ut Bui<sup>1</sup>, Ass/Prof Kathryn Kynock<sup>1</sup>, Dr Jane O'Brien<sup>1</sup>, Ms Julia Hindmarsh<sup>1</sup>, Ms Naaerah Daoodjee<sup>1</sup>, Ass/Prof Christina Parker<sup>1</sup>

<sup>1</sup>Queensland University of Technology, Brisbane, Australia

**Objectives** To identify risk factors associated with surgical site infection in adults undergoing a weight-bearing joint replacement.

**Methods** A systematic review, following the JBI methods for systematic reviews of etiology and risk, was undertaken to identify risk factors associated with the development of surgical site infection in adults who have undergone a weight-bearing joint replacement. Studies were identified from CINAHL, Medline, EMBASE, Emcare, Cochrane Library, and APA PsycINFO. Prospective and retrospective cohort studies, case-control studies, and analytical cross-sectional studies were included. Methodological quality assessment of included studies was undertaken using the JBI checklists. Information related to general characteristics of included articles and relevant outcomes of interest were extracted and synthesised narratively.

**Results** We identified 2034 records with a final 92 studies included in the review with most studies were conducted in the USA. Several factors were found to be associated with an increased risk for surgical site infection including: patient specific factors (gender, age), co-morbidity factors (systemic lupus erythematosus, congestive heart failure, type 2 diabetes, obesity, malnutrition, anemia), medication-related factors (corticosteroids, prophylactic antibiotics); procedure-related factors (operative time, operative room ventilation); post-operative related factors (opioids use, time to mobilise, length of hospitalisation) and other non-specific factors (operating room ventilation, season, environmental temperature, heatwaves when the operation was performed).

**Conclusions** For adult patients undergoing weight-bearing joint replacement surgery, several patient-specific and environmental risk factors have been identified that increase the risk of surgical site infection.

## Experiences and perceptions in prevention and management of surgical site infections: a mixed-methods systematic review

A/Prof Adam Burston<sup>1,2</sup>, Ms Eliza Humphrey<sup>4</sup>, Professor Elizabeth McInnes<sup>3,5,6</sup>, Ms Heilok Cheng<sup>3,5</sup>, Ms Mika Musgrave-Takeda<sup>3,5</sup>, Dr Ching Shan Wan<sup>3,5,6</sup>

<sup>1</sup>Australian Catholic University, Brisbane, Australia, <sup>2</sup>Nursing Research & Practice Development Centre, The Prince Charles Hospital, Chermiside, Australia,

<sup>3</sup>Australian Catholic University, Melbourne, Australia, <sup>4</sup>Australian Catholic University, Ballarat, Australia, <sup>5</sup>Nursing Research Institute, St Vincent's Hospital, Melbourne, Australia, <sup>6</sup>Menzies Health Institute Queensland, Griffith University, Gold Coast, Australia

**Objectives** To explore clinicians' and patients' experiences and perceptions about implementing evidence-based clinical practice to prevent and manage surgical site infections within hospital acute care settings.

**Methods** A convergent integrated mixed-methods systematic review was conducted using the Joanna Briggs Institute approach. Studies published in English from 2009 to March 2023 were identified through Medline, EMBASE, CINAHL, PsycINFO and Cochrane Central Library. Data from the eligible peer-reviewed studies were thematically analysed. Studies were critically appraised using the Mixed Methods Appraisal Tool and the Quality Improvement Minimum Quality Criteria Set.

**Results** Thirty-seven studies (16 quantitative, 17 qualitative, 3 mixed-methods, 1 quality improvement) met the eligibility criteria. Qualitative studies were at lower risk of bias than quantitative studies. Five themes were identified: 1) non-adherence by clinicians to insufficiently detailed and outdated guidelines, 2) inconsistent clinical practice due to knowledge deficit, 3) suboptimal collaborative interdisciplinary and patient-provider relationship, 4) need for infection surveillance to monitor and improve patient safety and quality of life, and 5) diverse attitudes towards surgical site infections among patients.

**Conclusions** There was need for up-to-date hospital guidelines to improve surgical site infection knowledge and ensure consistent evidence-based clinical practice. This review highlighted the significance of interdisciplinary and patient-provider collaboration, as well as infection surveillance in facilitating guideline adherence. Use and effectiveness of intervention bundles to improve these aspects of care need to be further evaluated.

## Effectiveness of Electrical Stimulation Therapy in the Treatment of Venous Leg Ulcers

Prof KeryIn Carville<sup>1,2</sup>, Ms Margaret Edmondson<sup>1</sup>, Ms Gordana Petkovska<sup>1</sup>, Ms Jo-Ellen Marshall<sup>1</sup>, Ms Sue Templeton<sup>1,3</sup>, Ms Sara Driver<sup>1,3</sup>

<sup>1</sup>Silver Chain Group, Osborne Park, Australia, <sup>2</sup>Curtin University, Perth, Australia, <sup>3</sup>Royal District Nursing Association, Adelaide, Australia

**Background** Chronic venous leg ulcers (VLU) increase pain, impair mobility, reduce QoL and increase costs. VLU prevalence varies from 3% for ≥60 years, to 5% amongst those ≥80 years.

Electrical stimulation therapy (EST) is delivered to stimulate wound healing via a small battery powered unit and two adhesive electrodes which deliver an automated and sub-sensory low voltage, biphasic and monophasic pulsed current over 48 hours. The device delivers EST between 250 and 500 micro Coulombs per second (µC/s), which is considered within the optimal therapeutic range.

**Aim** To investigate the efficacy and cost-effectiveness of a portable EST device in the treatment of chronic venous leg ulcers in a community cohort.

**Method** A prospective cohort study on a convenience sample of 50 community clients with VLUs is near completion. A 12-day cycle of EST treatment is delivered and baseline and ongoing assessments recorded. Follow-up measures are recorded at 6 and 12 weeks if the VLU is not healed. The 'Wound-QoL' tool and Frail Non-Disabled tool were used to assess QoL and frailty impacts.

**Results** On completion analysis will be conducted using Stata Statistical Software. A p-value from a two-sided test less than 0.05 will be considered statistically significant. Descriptive statistics will be presented as frequencies and proportions for categorical variables, and median and interquartile ranges (IQR) for continuous variables. Differences will be assessed using the Fisher's exact test, the Kruskal-Wallis test, and Mann-Whitney test, as appropriate.

**Conclusion** EST is an adjunct to healing chronic VLUs whilst reducing pain and health impacts.

## Validation of Clinical Signs and Symptoms of Local Infection in Perianal Wounds

Prof KeryIn Carville<sup>1,2</sup>, Ms Margaret Edmondson<sup>1</sup>, Professor Emily Haesler<sup>2</sup>, Dr Edward Raby<sup>3</sup>, Professor Mark Nicol<sup>4</sup>

<sup>1</sup>Silver Chain Group, Perth, Australia, <sup>2</sup>Curtin University, Perth, Australia, <sup>3</sup>Fiona Stanley Hospital, Perth, Australia, <sup>4</sup>University of WA, Perth, Australia

**Background** Perianal/pilonidal wounds commonly affect relatively young healthy individuals and impact on their quality of life, activities of daily living and financial status. Wound infection delays healing and signs of local wound infection<sup>1</sup> have not been validated in these wounds. Early and accurate assessment of infection ensures appropriate therapeutic interventions and improved healing outcomes.

**Aim** To validate the IWII Continuum<sup>1</sup> signs and symptoms in perianal wounds.

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**Method** A proof-of-concept study was conducted on a convenience sample of 20 individuals with non-healing perianal/pilonidal wounds and clinical signs and symptoms of infection. Diagnostic investigations included:

- Clinical signs and symptoms.
- Standard wound microscopy analysis and culture.
- Molecular 16S rRNA metagenomic sequencing of wound micro-organisms.
- Fluorescence of wound bacteria.
- Wound pH and temperature.

**Results** Descriptive statistics and multivariate analysis determined associations within and between the wound infection clinical signs and symptom variables and the results of the diagnostic investigations performed. Microscopy, rRNA sequencing and fluorescence of organisms proved the most reliable for validating clinical signs and symptoms of local wound infection in perianal/pilonidal wounds.

**Conclusion** Validation of signs and symptoms of local wound infection in perianal/pilonidal wounds ensures early therapeutic interventions and wound healing outcomes.

#### Reference

1. International Wound Infection Institute. Wound infection in clinical practice: principles of best practice. 2022. [Woundinfection-institute.com](http://Woundinfection-institute.com)

## Validation of Clinical Signs and Symptoms of Wound Infection

Prof Keryn Carville<sup>1,2</sup>, Adjunct Professor Emily Haesler<sup>2</sup>, Dr Edward Raby<sup>3</sup>, Professor Mark Nicol<sup>4</sup>, Professor Gogiro Nakagami<sup>5</sup>, Ms Joy Sears<sup>2</sup>, Dr Sharon Maclean<sup>2</sup>, Ms Lisa McGrath<sup>1</sup>, Ms Katrina Hulsdunk<sup>1</sup>

<sup>1</sup>Silver Chain Group, Perth, Australia, <sup>2</sup>Curtin University, Perth, Australia, <sup>3</sup>Fiona Stanley Hospital, Perth, Australia, <sup>4</sup>University of WA, Perth, Australia, <sup>5</sup>University of Tokyo, Tokyo, Japan

**Background** Reported prevalence of wound infection ranges from 13% to 75%, with variance associated with wound aetiology, clinical setting, geographic location and method of establishing infection status. Excessive and inappropriate use of antibiotics contributes to the global concern regarding antibiotic resistance. The Wound Infection Continuum (IWII)<sup>1</sup> clinical signs of wound infection had not previously been validated.

**Aim** To validate the IWII Continuum<sup>1</sup> signs and symptoms.

**Method** A proof-of-concept study was conducted on a convenience sample of 50 individuals with chronic wounds and clinical signs and symptoms of infection. Diagnostic investigations included:

- Clinical signs and symptoms.
- Standard wound microscopy analysis and culture.
- Molecular 16S rRNA metagenomic sequencing of wound micro-organisms.
- Fluorescence of wound bacteria.
- Wound blot analysis.
- Wound pH and temperature.

**Results** Descriptive statistics and multivariate analysis determined associations within and between the wound infection clinical signs and symptom variables and the results of the diagnostic investigations performed. Microscopy, rRNA sequencing and fluorescence of organisms proved the most reliable for validating clinical signs and symptoms of local wound infection in chronic wounds.

**Conclusion** Validation of signs and symptoms of local wound infection ensures early therapeutic interventions and potentially reduces the overuse of antibiotics.

#### Reference

1. International Wound Infection Institute. Wound infection in clinical practice: principles of best practice. 2022. [Woundinfection-institute.com](http://Woundinfection-institute.com)

## Effectiveness of Pressure Injury Prevention Care Bundles in Hospital Patients: A Systematic Review and Meta-Analysis

Prof Wendy Chaboyer<sup>1</sup>, Dr Sharon Latimer<sup>1</sup>, Ms Udeshika Priyadarshani<sup>1</sup>, Dr Emma Harbeck<sup>1</sup>, Professor Declan Patton<sup>2</sup>, Professor Jenny Sim<sup>3</sup>, Professor Zena Moore<sup>2</sup>, Ms Jodie Deakin<sup>1</sup>, Dr Joan Carlini<sup>1</sup>, Dr Josephine Lovegrove<sup>1</sup>, Professor Brigid Gillespie<sup>1</sup>

<sup>1</sup>Griffith University, Griffith University, Australia, <sup>2</sup>Royal College of Surgeons Ireland, University of Medicine and Health Sciences, Dublin, Ireland, <sup>3</sup>Australian Catholic University, Sydney, Australia

**Background/Purpose** Numerous interventions have been developed for pressure injury prevention, including care bundles. The aim of this study was to systematically review the effectiveness of pressure injury prevention care bundles on pressure injuries.

**Methods** Randomised controlled trials and non-randomised studies with a comparison group published in English after 2008 were included. Bundles with  $\geq 3$  components and implemented in  $\geq 2$  hospital services were included. Screening, data extraction and risk of bias assessments were undertaken independently by two researchers. Random effects meta-analyses were conducted. The certainty of the body of evidence was assessed using Grading of Recommendations, Assessment, Development and Evaluation (GRADE).

**Results** Nine studies (seven non-randomised with historical controls; two randomised) conducted in eight countries were included. There were 4-8 bundle components; most were core, and only a few were discretionary. Various strategies were used prior to ( $n=6$  studies), during ( $n=5$  studies) and after ( $n=2$  studies) implementation to embed the bundles. The pooled risk ratio for pressure injury prevalence (5 non-randomised studies) was 0.55 (95% confidence intervals 0.29-1.03), and for hospital-acquired pressure injury rate (5 non-randomised studies) it was 0.31 (95% confidence intervals 0.12-0.83). All non-randomised studies were at high risk of bias, with very low certainty of evidence. In the two randomised studies, the care bundles had non-significant effects on hospital-acquired pressure injury incidence density, but data could not be pooled.

**Conclusions** While some studies showed decreases in pressure injuries, this evidence was very low certainty. The potential benefits of adding emerging evidence-based components to bundles should be considered.

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## Advanced Surgical Management of Hidradenitis Suppurativa in The Axillae, Groin, Perineum And Genital Regions

Dr Rajiv Chandawarkar<sup>1</sup>

<sup>1</sup>The Ohio State University Medical Center, Columbus, United States

**Objectives** Hidradenitis suppurativa (HS), a chronic, relapsing inflammatory disease of skin, characterized by recurrent draining sinuses and abscesses, has been historically treated with medical management (antibiotics and immune modulators). With the advent of better reconstructive surgical techniques, the role of surgery in the treatment of HS has expanded, from being a last resort to a modality that is deployed earlier. Here we explore these options, demonstrate our techniques, and discuss results to emphasize their utility for a lasting durable cure.

**Methods** Retrospective review of patients with HS treated at a large university medical center.

Results Advanced reconstructive surgery enables a more curative excision of diseased areas. Locoregional, perforator flaps, free flaps, and propeller flaps allow better reconstruction of complex axillary, and groin/perineal/genital defects with similar fasciocutaneous tissue, and better cosmetic and functional outcomes. They can be used concurrently with immune modulators and postoperative antibiotics. Some flaps are easy to execute and can be performed even in resource-poor settings, whereas others need additional skills and organizational teams – which will be explained in detail. Last, the involvement of multidisciplinary teams including dermatologists, general surgeons, emergency-physicians and when needed, uro-gynecologists have been extremely vital for successful care.

**Conclusions** Hidradenitis can be treated durably, with low recurrence-rates with advanced reconstructive surgery (both in early and late stages) best deployed in the setting of a multidisciplinary care team.

## Establishment of a Wound Multidisciplinary Care Team (W-MDT) to treat debilitated patients with pressure injuries

Dr Rajiv Chandawarkar<sup>1</sup>

The Ohio State University Medical Center, Columbus, United States

**Objectives** Integrated care models have revolutionized complex clinical care of chronic illnesses including cancer or mental health. Here, we established a Wound Multidisciplinary Care Team (W-MDT) – to deliver higher quality, coordinated, collaborative care for patients with chronic pressure injuries.

**Methods** A W-MDT was set up in a large university medical center and results were recorded retrospectively. The steps taken included:

1. Establish the Wound-MDT core organizational structure: wound-care, orthopedics, plastic surgery, dermatology, general/colorectal surgery, infectious -disease, urology, and vascular-surgery. Inpatient case managers, social workers and physicians/nurses at the extended care facility were included and residents from various disciplines to provide a broader training opportunity.
2. Delineate functional roles and modes of communication between the team members.
3. 'Communicate-up': Secure support from the health system.

**Results** Seemingly this may not appear as a 'new-idea' in the outpatient comprehensive wound centers. However, our results indicate that establishing a wider W-MDT (including surgical, non-surgical, and support teams) provides a better value-added in all 3 settings: out-patient, inpatient and transitional care: Prompt evaluation and management led to fewer visits; Co-localized specialty clinics, information sharing, near-real-time communication reduced transportation-cost of debilitated patients; Prompt decision-making, strategic treatment planning with coordination of multiple services reduces care-time; Post-hospital care was patient-centered, more efficient, and cost-effective.

**Conclusions** A W-MDT provides better care for patients with pressure injuries. It requires a commitment from providers, patients and the health system. Lessons learned both in the organizational and operations management process will be shared.

## Australian community pharmacy wound management attitudes and practices: A cross-sectional survey

Ms Daisy Cheung<sup>1</sup>, Dr Carl R Schneider<sup>1</sup>, Dr Jack C Collins<sup>1</sup>, Dr Irene S Um<sup>1</sup>

<sup>1</sup>The University of Sydney School of Pharmacy, Faculty of Medicine and Health, The University of Sydney, Sydney, Australia

**Background/Purpose** Despite the active involvement of pharmacists and pharmacy staff in delivering wound care within community pharmacies, there is a scarcity of literature that addresses wound care management within the Australian context. The aim was to investigate wound care attitudes and practices of pharmacists and pharmacy staff in Australia.

**Methods** A national online cross-sectional survey targeting community pharmacists and pharmacy staff in Australia was conducted between January 2022 to August 2022. The survey included sections on attitudes and practice behaviours, comprising 9 and 14 Likert-type items, respectively. Descriptive and content analysis was performed.

**Results** A total of 151 responses were analysed, with 56% being pharmacists, 11% pharmacy staff and 33% unreported. Common practices that took place at least weekly included providing wound care products (83.9%), assessing wounds (64%), and counselling on pharmacotherapy (54.8%). However, most respondents reported never contributing to wound care research (81.8%), providing public education (70.8%) or documenting wound care services (61.3%). Almost all respondents (94.7%) expressed strong agreement that wound care is an important aspect of community pharmacy. While 61.3% of respondents felt confident in providing wound care advice, the vast majority expressed interest (92%) and perceived a need (86%) for further wound education.

**Conclusion** Reported behaviour reflects that respondents may not be practising to the full extent of their scope of practice in wound care, indicating a strong demand for additional wound management education for community pharmacy staff.

## Knowledge of community pharmacists and pharmacy staff on wound care: A cross-sectional survey

Ms Daisy Cheung<sup>1</sup>, Dr Carl R Schneider<sup>1</sup>, Dr Jack C Collins<sup>1</sup>, Dr Irene S Um<sup>1</sup>

<sup>1</sup>The University of Sydney School of Pharmacy, Faculty of Medicine and Health, The University of Sydney, Sydney, Australia

**Background/Purpose** Australian pharmacists and pharmacy staff play an active role in wound care in the community setting. Despite this, there is limited literature detailing wound care management practices. This study aimed to assess the wound care knowledge of pharmacists and pharmacy staff in the Australian community setting.

**Methods** A national cross-sectional electronic survey was conducted targeting community pharmacists and pharmacy staff across Australia between January and August 2022. The survey comprised of 37 items, with various question formats consisting of multiple choice, open-ended, true/false, image-based case-vignette,

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and matching questions to assess participants' understanding of wound healing stages, wound referral protocols, general wound care principles, acute minor wound identification and management, and dressing selection. Responses were analysed descriptively, and content analysis was performed. Multivariate linear regression was used to determine predictors of total knowledge scores.

**Results** A total of 120 complete responses were obtained, with 70% being pharmacists, 14% pharmacy staff and 16% were not recorded. The median knowledge score was 27 out of 37 (IQR=21,30; range= 5-37). Profession (pharmacist vs non-pharmacists), years of experience, and receipt of training were significant predictors of higher knowledge scores ( $p < 0.001$ ,  $R^2 = 0.347$ ). The general practitioner was selected as the predominant referral pathway ( $n=66$ , 43%). Wound care dressing knowledge reflected the poorest performance, with only 10 out of 103 participants (9.7%) correctly identifying all dressing types and their respective applications.

**Conclusion** This survey identified critical gaps in wound care knowledge among pharmacists and pharmacy staff, warranting the necessity for targeted educational interventions.

## I feel like a baby wearing a nappy...It's embarrassing: Patients' with incontinence-associated dermatitis

Dr Michelle Barakat Johnson<sup>1,2</sup>, Dr Michelle Lai<sup>2</sup>, Shifa Basjarahil<sup>3</sup>, Ms Jayne Campbell<sup>4</sup>, Dr Michelle Cunich<sup>5</sup>, Mr Gary Disher<sup>6</sup>, Ms Samara Geering<sup>7</sup>, Ms Natalie Ko<sup>8</sup>, Ms Catherine Leahy<sup>9</sup>, Mr Thomas Leong<sup>10</sup>, Dr Eve McClure<sup>11</sup>, Ms Melissa O'Grady<sup>11</sup>, Ms Joan Walsh<sup>3</sup>, Prof Kate White<sup>2</sup>, Professor Fiona Coyer<sup>12</sup>

<sup>1</sup>Sydney Local Health And University Of Sydney, Camperdown, Australia, <sup>2</sup>Sydney Local Health District and University of Sydney, Camperdown, Australia, <sup>3</sup>Sutherland Hospital, Sutherland, Australia, <sup>4</sup>Hunter New England Local Health District, Hunter New England, Australia, <sup>5</sup>Sydney Local Health District and University of Sydney, Camperdown, Australia, <sup>6</sup>NSW Ministry of Health, Sydney, Australia, <sup>7</sup>South Western Sydney Nursing & Midwifery Research Alliance, Western Sydney, Australia, <sup>8</sup>Concord Hospital, Concord, Australia, <sup>9</sup>Western New South Wales Local Health District, Orange, Australia, <sup>10</sup>Royal Prince Alfred, Camperdown, Australia, <sup>11</sup>Sydney Local Health District, Camperdown, Australia, <sup>12</sup>Royal Brisbane and Women's Hospital, Queensland University of Technology, University of Huddersfield, Brisbane, Australia

**Objectives** A qualitative study was conducted to explore the experiences of patients experiencing incontinence with or without incontinence-associated dermatitis (IAD) in the hospital, along with insights from their caregivers. The study sought to understand their perceptions, coping mechanisms, and the profound impact of these conditions on their well-being.

**Methods** Semi-structured interviews were conducted across 18 wards in six acute/sub-acute hospitals in New South Wales, Australia. Patients experiencing incontinence, with or without IAD, were invited to participate, as well as family caregivers where patient interviews were not feasible. Thematic analysis was conducted on the transcripts.

**Results** Forty-one patients with incontinence (including ten with IAD) and three family caregivers were interviewed. Three key themes emerged from the participants' experiences: "incontinence interrupts every aspect of my life," "actively concealing and cloaking," and "perceived as irreversible." The normalisation of incontinence among the elderly was notable, often met with stoicism but accompanied by feelings of anxiety, embarrassment, and shame. Additionally, participants demonstrated limited awareness of IAD and experienced it as a painful condition characterised by itching and burning sensations, leaving participants distressed and irritable.

**Conclusion** The study highlights the urgent need for enhanced education and support for individuals dealing with incontinence and IAD. Healthcare professionals must work to reduce the stigma surrounding these conditions, provide comprehensive assistance in managing incontinence, and educate patients about preventive measures against skin and wound-related conditions such as IAD. Such initiatives are crucial for improving the well-being and quality of life of individuals affected by these challenging conditions.

## Silk a new biological dressing for superficial burns treatment: randomized controlled trial versus silver sulfadiazine

Dr Eric Dantzer<sup>1</sup>, Dr Anaëlle FAURE<sup>2</sup>

<sup>1</sup>Hia Sainte Anne Toulon FRANCE, La Garde, France, <sup>2</sup>Clinique Malartic, Ollioules, FRANCE

**Aim** Silver Sulfadiazine is currently the standard treatment for superficial burns. Caretaking may become an issue: duration of care can be too long and painful. We have evaluated the interest of a dressing based on natural silk with this indication.

**Method** SSD was compared to silk dressing (S) in the treatment of 2nd degree burns. Following diagnosis, the topical to be used was determined by drawing of lots. The SSD with fatty gauze was applied and covered with dry gauzes and bandages. Silk was applied directly on the lesion and covered with dry gauzes and bandages. Dressings were changed every 48 hours. SSD was changed with each dressing after cleansing the lesion with saline; silk was left in place until healing, only dry gauzes and bandages were changed. Pain, duration of care and healing time were assessed.

**Results** 80 patients were included. Surface average area treated was 5% in both groups. Pain (EVA) was evaluated between 3 and 4/10 for the SSD group and 0 to 2 for the S group. Dressing duration was 20-30 minutes for the SSD group and 10-15 minutes for the S group. The average healing time was 13 days for both groups. 2 infections, were observed in each group.

**Conclusion** The flexibility of silk facilitates smooth application on all surfaces Silk treatment has the same healing time as that obtained with SSD. Silk has allowed shorter treatments and less painful. silk dressing has reduced the cost effective of the treatment and the need for painkillers.

## Barriers to digital wound education or

Ms Sasha Drennan<sup>1</sup>

<sup>1</sup>New Zealand Wound Care Society, Auckland, New Zealand

Digital learning, online or blended learning is not a new phenomenon, the origins of such lay within historical correspondence courses or education broadcasting offered to remote communities in the Australian outback by television broadcasts. The advent of internet and the exponential growth of the World Wide Web for education by schools and universities has changed the attitudes held towards distance education.

In this presentation, I discuss the understanding of the contextual issues and differences for those utilising digital wound education.

The use of digital platforms, in an academic context, amongst post-graduate learners is becoming common, resulting in the need to adapt to a new learning environment beyond that of the traditional classroom. A literature search was conducted to correlate any findings of the research with present information utilising the Wound Care Integrated Learning Framework (W.I.L.F) as a demonstration of digital learning.

The W.I.L.F programme was designed and implemented after the author noted that fundamental wound care education needs were not addressed, resulting in an inconsistency of learning and an unsystematic approach to wound care. Designed as an online learning programme to ensure that nurses in any clinical setting were



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able to access the learning. Furthermore, this created an equity to those outside of the tertiary healthcare setting. The exponential growth of the programme from a local to national level, created questions of who actively.

A descriptive case study was used to examine who was engaging with WILF, why and the barriers to the engagement with the learning.

## Teaching Pressure Injury in a Comprehensive Care/Risk Management Framework

Mr Matthew Dutton<sup>1</sup>, Mrs Lucy Haver<sup>1</sup>, Mrs Kellee Barbuto<sup>1</sup>

<sup>1</sup>South Eastern Sydney Local Health District, Sutherland, Australia

**Situation** The NSQHS comprehensive care standard requires support for clinicians to develop, document and communicate comprehensive plans for patients' care and treatment. This includes a requirement for the education of staff in these areas. The comprehensive care standard is large and traditionally many of components of this standard are taught individually and not in a comprehensive care context. The provision of education for all of these areas individually fails to tie 'risk' together or consider a person centred approach and costs both time and money.

**Actions taken** South Eastern Sydney Local Health District (SESLHD) has brought three components of comprehensive care into one scenario based education session, these being pressure injury, falls and delirium. Tailored scenarios with patients with varying levels of risk for each of the components. This allows for staff to not only be educated in assessing risk for a patient but also aids in prioritising risk and the development of strategies to mitigate that risk.

**Outcome(s)** This process has been well received by staff. Not only are staff better able to assess risk, but this strategy also demonstrates that there are many strategies used to mitigate risk have a shared issues across categories e.g. hydration and nutrition is key to all three of these components. This reflects the Clinical Excellence Commission (CEC) model for Comprehensive Care: minimising Harm. Content has been able to be tailored to all sites within the district, both acute, subacute and community, and has been found to work well across the whole multidisciplinary team. Staff welcome risk assessment being taught in this manner finding it more efficient rather than being fatigued with multiple education sessions.

**Lessons learned** When presenting pressure injury education in a risk management framework from a holistic perspective, staff engagement is increased, and their time utilised more efficiently.

## Is the Wound the Priority? Exploring the Impact of the Social Determinants of Health

Ms Kylie Elder<sup>1</sup>, Ms Carmen Pout<sup>1</sup>

<sup>1</sup>Bolton Clarke, Bundoora, VIC, 3083, Australia

**Situation** Wounds occur in all populations, however for those who are experiencing homelessness, managing a wound may be very different. Individuals experiencing homelessness are impacted by multiple, complex social determinants of health such as a lack of housing, income, access to health services, food security, violence, discrimination, and social exclusion; up to 30-55% of health outcomes are a result of social determinants of health (1). A Homeless Persons Program in Metropolitan Melbourne delivers care by highly trained nurses using a rights-based approach. This presentation will discuss a client who is supported by this program demonstrating the impact of these determinants on goals of care, and the management approaches necessary to enable prioritisation of the wound.

**Action(s) taken/treatment(s) provided** The client presented for intervention for his circumferential venous leg ulcers after they started to impact on other aspects of his life. Wound management had been a lesser priority due to homelessness, food insecurity, substance use disorder, access to clean space and supplies, and equitable health interventions. To increase his engagement and acceptance of wound interventions, the nurse undertook advocacy to address the social determinants of his health needs. This included supported access to healthcare, warm referrals, supported appointment attendance and advocacy at point of care.

**Outcome(s)** Whilst the wound was never a priority for this client, utilising an approach addressing the social determinants of health led to significant improvements in the management of the wound, and other chronic health conditions.

**Lessons learned** Holistic assessment that considers the individual's social determinants of health is essential to realistic care outcomes.

### References

1. World Health Organization. Social determinants of health. WHO; 2024 [cited 2024 Feb 8]. Available from: [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1)

## Wound Hygiene in action: treating severe Lymphovenous Ulceration and Biofilm

Mr Taliesin Ellis<sup>1</sup>

<sup>1</sup>Barossa Hills Fleurieu LHN (SA), Hahndorf, Australia

A 70 yr old female living in regional SA has suffered with severe Right lower leg lymphovenous ulceration over the last 4 years. Whilst her wound almost healed with initial treatment after 4 months using Wound Hygiene and compression, she suffered wound breakdown followed by continuous wound presence despite best practice therapy. After suffering a pathological fracture of her R Tibia in 2023, then spending 6 months in acute and rehabilitation care, she was discharged into community care with significant tenacious slough and biofilm presence. Using Wound Hygiene principles including triple antiseptic therapy, microfibre (Debrisoft®) and sharp debridement plus BlastX® Wound Gel, the wound has made significant progress toward healing in 8 weeks.

## Healing wounds utilising CWSD when surgical debridement is not an option.

Ms Janine Ellison<sup>1</sup>

<sup>1</sup>Te Whatu Ora - Waikato, Taupiri, New Zealand

**Situation** 83 year old with a 2 month history of a deteriorating, non-healing wound post trauma. Betty has multiple episodes of cellulitis post-accident and she had been sent to the tertiary hospital multiple times for antibiotics. Both the orthopaedics and plastics teams declined surgical debridement due to her co-morbidities.

**Actions taken/treatments provided** I debrided the wounds using conservative sharp wound debridement (CSWD) at her bedside, I then applied powered negative pressure wound therapy (NPWT). I continued with weekly serial debridement in her home and NPWT until the wound was shallow enough to use conservative wound dressings and compression bandaging. Once healed she was given compression stockings to wear to control her lower leg oedema.

**Outcomes** It took three months from the start of my intervention but Betty healed completely without any surgical involvement and was managed at home for most of this time. Betty was at high risk of recurrent cellulitis from her large open wound which meant more nights in hospital for her and increased cost for the organisation. The serial CWSD debridement's greatly influenced her healing and created a positive outcome for Betty.

**Lessons learned** Following the completion of a NZ wound society debridement course I am confident in using CSWD skills in challenging situations such as Betty's

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case. Despite surgical debridement not being an option we can still achieve good clinical outcomes with CSWD. Overall this also means achieving hospital avoidance and reducing costs to the health system.

## Priority Topics for Wound Research in Australia: A Consensus Study

Dr Kathleen Finlayson<sup>1</sup>, Dr Ut Bui<sup>1</sup>, A/Prof. Christina Parker<sup>1</sup>, Dr Jane O'Brien<sup>1</sup>  
<sup>1</sup>Queensland University of Technology, Kelvin Grove, Australia

**Objectives** To identify and prioritise future wound research areas to inform allocation of research resources to the areas of greatest need.

**Methods** Three modified online Delphi surveys were undertaken on research priorities, on chronic wounds, acute wounds, and fundamental science related to wounds respectively. Random samples of Australian multidisciplinary expert clinicians, scientists and/or researchers (stratified by areas of expertise) participated. Survey items were based on scoping reviews of existing evidence on the three areas. Participants rated their level of agreement/disagreement on Likert scales for each item and provided rationale for decisions. The final ranking was based on software calculated median scores and 30–70% inter-percentile range for each item.

**Results** Following multi-round voting analysis, agreement was reached to retain 102 chronic wound items, 54 acute wound items; and 50 fundamental science items as research priorities. The highest rated chronic wound research items were pain management, compression therapy to prevent venous leg ulcers, and management of heel pressure injuries; while the highest rated acute wound items were topical antimicrobial agents, health professionals' knowledge of acute wound care, and implementing evidence-based wound management; and the highest rated science items were inflammation in burn wounds, understanding of wound repair, and inflammation in chronic wounds.

**Conclusions** The identified priorities differed substantially according to wound type, however they encompassed well known challenges in wound care – management of leg ulcers and pressure injuries, managing inflammation and infection, and implementing evidence into practice – highlighting the significant impact wounds have on quality of life and health system resources.

## Innovation - How a Digital Tool takes A Client from Hopelessness to Happiness

Mrs Beth Freeman-Gray<sup>1</sup>, Mrs Jessica Pappin  
<sup>1</sup>Pop Up Health, Dulwich, Australia

**Situation** Whilst chronic hard to heal wounds pose great challenges in the community setting, the issue of client engagement, concordance and mindset is often a greater challenge. This case depicts a common theme of clinical, wellbeing and economic benefits in less than eight weeks.

**Actions taken/treatments provided.** The client with a venous leg ulcer resulting from a spider bite in 2019 was admitted to Pop Up Health in 2021. A year of 3.5 nursing visits per week saw further clinical deterioration and client disengagement. The introduction of a digital wound measuring application supported clinical decision making based on percentage change in surface area, and client engagement with quantifiable weekly outcomes. The pathway enabled the introduction of compression wraps antimicrobials and an electrical stimulation device.

**Outcomes** The client is now positive and concordant with care with her simple goal being achieved of “having a bath and going for a swim” for the first time in six years. Whilst TIMERS is our assessment tool of choice, the addition of digital application device has built staff confidence, provided a vehicle to question next steps and improve our communication to the multidisciplinary team involved in the client's care.

**Lessons learned** Standard clinical photography is valuable but poses many variances to guide early best practice in the field. From a consumer perspective, wound photography can be confronting and challenging seeing improvement. The provision of a percentage surface area change at the time of the client visit was superior and valuable.

## Evaluation of a risk-based bundle to prescribe and implement interventions to prevent pressure injury

Prof Paul Fulbrook<sup>1,2</sup>, Dr Josephine Lovegrove<sup>3</sup>, Ms Saroeun Ven<sup>1,2</sup>, Ms Sarah Schnaak<sup>2</sup>, Ms Tracy Nowicki<sup>2</sup>  
Australian Catholic University, Brisbane, Australia, <sup>2</sup>The Prince Charles Hospital, Brisbane, Australia, <sup>3</sup>NHMRC Centre of Research Excellence in Wiser Wound Care, Gold Coast, Australia

**Purpose** To explore the relationship between the prescription and implementation of pressure injury preventative interventions following risk assessment combined with a risk-stratified intervention bundle.

**Methods** A prospective, observational study was undertaken. The charts and bedsides of 341 adult inpatients were examined. Data collection included pressure injury risk level, preventative interventions, and evidence of intervention implementation.

**Results** Most patients (68.6%) were at risk of pressure injury and most interventions were prescribed according to risk level for most patients but evidence from direct observation and/or documentation indicated intervention implementation rates were relatively poor. Of nine interventions mandated for all patients, compliance with three patient/carer-focused interventions was particularly poor with evidence indicating they had been implemented for 3–10% of patients. As well, nutritional screening-related interventions were implemented poorly. Clinically-indicated implementation of heel-elevation devices and bariatric equipment were low for at risk patients and implementation of interventions for patients with existing pressure injury was sub-optimal. Significant proportions of several interventions that were observed to have been implemented were not documented as such.

**Conclusion** While most interventions were prescribed according to patient risk level, implementation of interventions was poor overall. The results may in part be due to failure to document interventions rather than omitting them. The results highlighted several deficiencies in care, particularly relating to evidence of implementation, patient involvement and nutritional screening. The results will be used to inform and improve future PI prevention practice within the study hospital and may be used to inform and benchmark PI preventative practices in other hospitals.

## Using clinical judgement versus a structured tool to assess pressure injury risk and implement interventions

Prof Paul Fulbrook<sup>1,2</sup>, Dr Josephine Lovegrove<sup>3</sup>, Ms Saroeun Ven<sup>1,2</sup>, Dr Sandra Miles<sup>1,2</sup>  
<sup>1</sup>The Prince Charles Hospital, Brisbane, Australia, <sup>2</sup>Australian Catholic University, Brisbane, Australia, <sup>3</sup>NHMRC Centre of Research Excellence in Wiser Wound Care, Gold Coast, Australia

**Purpose** To assess agreement of pressure injury risk-level and differences in preventative intervention prescription between nurses using a structured risk assessment tool compared to clinical judgement.

**Methods** An interrater agreement study was conducted (2019–2022). Paired nurse-assessors were allocated randomly to independently assess pressure injury risk using a structured tool (incorporating the Waterlow Score), or clinical judgement; then prescribe preventative interventions. There were 150 acute patient participants.

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**Results** Ninety-four nurse assessors participated. Absolute agreement of *not-at-risk* versus *at-risk-any-level* was substantial, but absolute agreement of *risk-level* was only fair. Clinical judgement assessors tended to under-estimate risk. Where risk-level was agreed, prescribed intervention frequencies were similar, although structured tool assessors prescribed more interventions mandated by standard care, while clinical judgement assessors prescribed more additional/optional interventions. Structured tool assessors prescribed more interventions targeted at lower-risk patients, whereas assessors using clinical judgement prescribed more interventions targeted at higher-risk patients.

**Conclusion** There were clear differences in pressure injury risk-level assessment between nurses using the two methods, with important differences in intervention prescription frequencies found. Further research is required into the use of both structured tools and clinical judgement to assess pressure injury risk, with emphasis on the impact of risk assessments on subsequent preventative intervention implementation. The results of this study are important for clinical practice as they demonstrate the influence of using a structured pressure injury risk assessment tool compared to clinical judgement. Our findings do not support a change in practice that would exclude the use of a structured pressure injury risk assessment tool.

## Blue light Photobiomodulation therapy to reactive healing: A pilot study in high-risk lower extremity wounds

Ms Robyn Giddins<sup>1</sup>

<sup>1</sup>NSW Health, Hornsby, Sydney, Australia

**Introduction** the increasing number of elderly patients and diabetics preceding an increasing prevalence of lower limb ulcerations not responding to standard treatment. There is dire need for new modalities to reactivate healing, reducing visit frequency and/or time in hospital, subsequently increasing capacity to access to specialist care and the prevention of long-term foot complications.

**Methods** Photobiomodulation therapy (PBMt) in wound management uses non-thermal light energy to stimulate local cellular activity within the tissues via absorption by endogenous chromophores. The Hornsby ku-ring-gai Hospital (NSLHD), High-Risk Foot Service introduced the EmoLED device (400-430nm, 120mW/cm<sup>2</sup>) to treat non-healing lower extremity wounds for as little as 60 seconds at each dressing change weekly, for up to 12 weeks adjunctively. Data was collected via a Silhouette 3D camera and enabled an assessment of wound healing trajectories pre and post intervention while informing a cost-benefit analysis.

**Results** 26 non-healing wounds completed the pilot for analysis. Average wound duration was 65.26 weeks. Average wound size reduction was 82%, 13/26 (50%) of non-healing wounds healed, 10/13 (77%) remaining non-healing wounds attained strongly positive healing trajectories. The cost-benefit analysis reported an average reduction in per-wound spend of \$484.50 on unrequired consumable and prescriptions.

**Conclusions** The Hornsby ku-ring-gai Hospital have since implemented the EmoLED device and are expanding to other areas of the hospital including surgical wards for non-healing pressure ulcers

## Postoperative wound care education given to patients: a prospective study

Prof Brigid Gillespie<sup>1</sup>

<sup>1</sup>Griffith University & Gold Coast Health, Gold Coast, Australia

**Objectives** Approximately 50% of readmissions can be avoided through postoperative education and attentive follow-up. Furnishing patients with information empowers them to recognise situations needing medical intervention. This study describes the postoperative wound care education provided to patients and the demographic and clinical variables predicting the receipt of surgical wound care education in two Queensland hospitals.

**Methods** This prospective correlational study included structured observations, field notes, and an electronic chart audit. Surgical patients and nurses were observed during postoperative wound care. Field notes were recorded to capture the wound care education provided by nurses. Descriptive statistics were used to describe nurses and patients. Multivariable logistic regression model was used to test associations among predictors: gender, age, case complexity, wound type, dietetic consultation, postoperative days, and receipt of postoperative wound care education.

**Results** 154 nurses who provided surgical wound care to 257 patients were observed. Across the two hospitals, 71/257 (27.6%) instances of wound care involved postoperative wound education. Wound care education focussed on maintaining the integrity of the wound dressing and removing and replacing the dressing. Three out of the seven predictors were significant: gender ( $\beta=-0.776$ ,  $p=0.013$ ), hospital site ( $\beta=-0.702$ ,  $p=0.025$ ), and number of postoperative days ( $\beta=-0.043$ ,  $p=0.039$ ). These predictors accounted for 7.6–10.3% of the variance in postoperative wound care education patients received.

**Conclusions** Additional research is required to identify strategies to enhance the consistency of postoperative wound care education provided to patients.

## The Burden of Surgical Site Infections

Prof Brigid Gillespie<sup>1</sup>

<sup>1</sup>Griffith University & Gold Coast Health, Gold Coast, Australia

**Objectives** The objective of this presentation is to present an evidence-based compilation of the research on the burden of surgical site infections (SSI) focusing on impacts related to clinical outcomes, healthcare costs, and patient experience. Strategies to improve the prevention of SSI will be outlined.

**Methods** Data will be extracted from studies reporting the incidence and prevalence rates of SSIs and presented in tables and figures. Studies examining global estimates of SSI will be included. Relevant cost-of-illness studies detailing the economic burden of SSI from the healthcare system perspective will be distilled. Studies reporting the qualitative impacts of SSI on patients' well-being, experience, and quality of life will be presented.

**Results** SSI constitutes 10-30% of all healthcare-associated complications and incidence rates range from 0.9-17%. These rates vary based on geographic region, surgical specialty and procedure, and patient characteristics. Global rates of SSI development up to 30 postoperative days for general surgical procedures were estimated at 11%. In Australia, the average cost of treating SSI was A\$18,314 per patient. Indirect costs related to absenteeism and premature death were valued at A\$23 million and A\$948.1 million. Patients described the profound psycho-social impacts of SSI relative to the disruption of their daily routines, repercussions for family members, and financial hardship.

**Conclusions** The burdens of SSI relative to clinical, economic, and patient impacts are largely unknown but are likely to be underestimated. Currently, there are limited SSI surveillance programs in Australia to guide decision-making and inform improvement initiatives.

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## Negative pressure wound therapy with instillation and dwell time on spinal cord injury pressure ulcers

Dr Min Zhang<sup>1</sup>, Dr Nicola Fleming<sup>1</sup>, Dr Xinchen Gu, Dr Sally Kiu-Huen Ng<sup>1</sup>

<sup>1</sup>Austin Health, Heidelberg, Australia

**Background** A third of patients with spinal cord injuries are affected by pressure ulcers<sup>1</sup>. These wounds are challenging to treat, often requiring multiple surgeries and recurrent hospitalisations<sup>2</sup>. Negative pressure wound therapy with instillation and dwell time is a relatively recent non-invasive adjunct that can facilitate the healing of complex wounds by providing wound cleansing capabilities. This case series describes the effect of negative pressure wound therapy with instillation and dwell time in combination with a liquid antiseptic wound irrigation solution containing hypochlorous acid/sodium hypochlorite on the management of pressure ulcers in spinal cord injury patients.

**Methods** This is a prospective single centre pilot study of a series of spinal cord injury patients presenting with pressure ulcers that require hospital admission and surgical management. Eligible patients include adults with stage 3-4 pressure ulcers on the sacral or trochanteric region. The primary outcome will be the percentage of fibrinous surface area of the wound present before and after treatment with negative pressure wound therapy with instillation and dwell time.

**Results** Patient recruitment is currently ongoing and the results from data collection will be available at the time of the conference.

**Conclusion** This study hopes to highlight the clinical benefits of incorporating negative pressure wound therapy with instillation and dwell time for treating challenging pressure ulcers in spinal cord injury patients to yield a healthy wound bed without multiple debridement in the operating theatre and facilitate subsequent wound closure and/or flap reconstruction.

### References

1. Shiferaw, W.S., Akalu, T.Y., Mulugeta, H. et al. The global burden of pressure ulcers among patients with spinal cord injury: a systematic review and meta-analysis. *BMC Musculoskelet Disord.* 2020 May 29;21(1):334.
2. Adamson SR, Whitty S, Flood S, et al. Surgical management of pressure ulcers in spinal cord injury patients. *ANZ J Surg.* 2023 May;93(5):1348-1354.

## The Challenges faced by Older Adults during Chronic Oedema Management within the Community

Ms Aria He<sup>1</sup>

<sup>1</sup>Catholiccare, Cabramatta West, Australia

**Objectives** This pilot study's objective is to investigate the perceived challenges associated with chronic oedema management in the ageing population that is receiving home care assistance. Potential solutions to these barriers will be explored to facilitate independent management of their oedema.

**Methods** Subjective data was collected from adults over the age of 65 currently receiving home care management for their lower limb oedema with a Sydney aged care provider. Clients were questioned on the challenges they experienced during treatment and their opinions on potential improvements to the current system. These responses were collated and coded into themes highlighting common barriers and suggested solutions presented by the participants.

**Results** At the time of submitting this abstract 28 participants have been included in the data collection. The primary challenges were difficulty using assistive equipment, difficulty donning/doffing garments, discomfort with compression and concurrent medical considerations. Participants suggested improving assistive equipment, temperature regulation/breathability in material choice, and placing greater emphasis on carer education.

**Conclusions** Given the high proportion of older individuals living with chronic oedema, it is essential to develop an effective and achievable management plan to maximise health outcomes for aging Australians. This likely includes further research and development into assistive technology, suitability of materials and educational resources. This pilot study could inform further research to corroborate these findings to other populations and demographics.

## Hydrosurgical debridement outside of theatre in a Nurse Led Service

Mrs Lishelle Holloway<sup>1</sup>

<sup>1</sup>Health New Zealand, Waikato District, Hamilton, New Zealand

In our Nurse Led Wound Specialist service we see numerous lower leg ulcers which are under treated with the use of conventional debridement methods. Conventional wound debridement methods are time intensive, and a good outcome is highly dependent on the practitioner's skill and confidence. The most effective form of debridement is surgical but not always appropriate for our patient population due to comorbidities.

Hydrosurgical debridement was introduced to four patients with lower leg ulcers in our specialist service, both outpatient and inpatient. It was used for ulcers where progress had stalled due to on-going bacterial burden. Topical Emla was applied to the ulcers 30mins before debridement and Pentrox was used during the procedure, topical analgesia was key to tolerance outside of theatre.

Hydrosurgery was tolerated well in both settings, all non-viable tissue was removed and ulcers were returned to a granulating base. Emla and Pentrox met all patients' requirements during debridement. The prescribing of these analgesia's were no obstacle due to prescribers within our team. Patient A's ulcer reduced by 22% three weeks post hydrosurgery, prior to debridement it had reduced by 21% over six weeks. Other patient healing rates are still being collated.

The selection of ulcers for hydrosurgery was the most difficult aspect of the process. Initial selection included the most chronic ulcers, the "worst" ulcers within our service but we did not see the best outcomes and progress. The selection of ulcers required consideration of all factors including comorbidities, concordance factors and earlier detection of bacterial burden.

## A time-based algorithm for driving efficiencies in Wound-care: The Clock is ticking!

Dr Mark Jackson<sup>1</sup>, Ms Nicola Morley<sup>1</sup>

<sup>1</sup>Gold Coast University Hospital, SOUTHPORT, Australia

Health care services throughout most Australian jurisdictions have adopted a tiered- system of escalating expertise in the provision of wound care services and resources.

Despite the establishment of these tiered services there can still be a delay in recognition and diagnosis of complicated wounds, prompt referral to trained clinicians and timely-intervention to improve wound healing within a reasonable time frame.

The effect of delays in initiation and ineffective or inappropriate wound care has a huge cost for the community in terms of: 1) prolonged patient suffering, 2) personal and community social & economic burden, 3) burden on highly trained staff with sought-after skill-sets and healthcare resources (wound-care teams) and 4) wasted money spent on inefficient allocation of care and resources.

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In addition to organising wound services geographically and with organisational tiers (each with increased staff skill sets, equipment and resourcing), it is important to introduce a time dimension to the effective delivery of wound care services. The main focus must be achieving faster healing (and relief of suffering) with efficient delivery of care and resources from a limited base.

We propose a time-based adaptable algorithm which is broadly applicable to wound care throughout Australia. This is presented and explained for the purpose of re-prioritisation of access to higher-tiered services and improved coordination of wound care teams.

This will require improved primary care training in effective initial assessment (including risk factors and the identification of potentiating factors and diagnosis of complicating pathologies) and simple wound-care techniques. If there is limited initial improvement, then, early referral (and acceptance into) higher tiered services will be necessitated for rectification of pathological and physiological problems and escalation of wound therapies.

The tiered system can also be linked to provision of “wound-care formularies” – necessitating referral to a higher tier for provision of more expensive consumables. This will allow some limitation on overuse of expensive products and services. Funding appropriate to the level of service and training can also be constrained according to the time-based algorithm. However, further modelling is required before such constraints on funding can be introduced.

## Concordance to Compression Therapy Factors: Two Delphi Studies

Dr Chloe Jansz<sup>1,2</sup>, A/Prof William McGuinness<sup>3</sup>, Prof Sonja Cleary<sup>2</sup>

<sup>1</sup>Healthcare United, <sup>2</sup>RMIT University, <sup>3</sup>La Trobe University

**Background** The research aimed to pinpoint the factors that influence concordance with Compression Therapy (CT) from the perspective of both patients and clinicians. CT is recommended for managing Venous Leg Ulcers (VLU). Actual concordance with CT falls short of the desired levels (MacGregor, 2013). To illustrate this issue, a thorough scoping review was conducted to uncover the factors affecting concordance to CT, revealing a substantial gap in existing literature.

**Methods** In the pursuit of comprehensive insights, a research team embarked on two Delphi studies as part of a professional doctorate. The Delphi study consisted of four phases, brainstorming, refining the identified factors, ranking them based on importance, and ultimately arriving at a final consensus (Okoli & Pawlowski, 2004).

**Results** The results derived from both cohorts, comprised of 19 patients and 25 clinicians, were subjected to statistical analysis including frequency distribution, standard deviation, and Kendall W Coefficient. Notably, the analysis demonstrated moderate to strong Kendall W Coefficients across all cohorts and factor groups showing consensus in the definite list of factors rank. In addition, all lists achieved statistical significance (Zanotti & Chiffi, 2015).

The culmination of these efforts led to the identification of 105 factors in total, delineating 53 facilitators and 52 barriers to concordance with CT. These factors encapsulate a spectrum of considerations ranging from practical constraints to psychological barriers encountered by both patients and clinicians.

**Conclusions** This research not only unearthed the complexities surrounding patient concordance with CT but also offered a comprehensive inventory of influencing factors from both patient and clinician. This holistic understanding serves as a foundational step towards enhancing concordance with CT, ultimately improving VLU management outcomes.

### References

MacGregor, L. (2013). Principles of compression in venous disease: A practitioner's guides to treatment and prevention of venous leg ulcers. *International Wound Journal* (Ed.).

Okoli, S. & Pawlowski, D. (2004). The Delphi methods as a research tool: An example, design consideration and application. *Journal of Information and Management*, 42(1): 15-29, <https://doi.org/10.1016/j.im.2003.11.002>

Zanotti, R. & Chiffi, D. (2015). A normative analysis of nursing knowledge. *Nursing Inquiry*.23(1): 4-11

## Far West Local Health District Clinical Nurse Consultant Chronic and Complex Wound and Stoma Clinic

Mrs Megan Jordan<sup>1</sup>

<sup>1</sup>Far West Local Health District, Broken Hill, Australia

**Situation** X Local Health District did not have an outpatient chronic wound and stoma specialist service, therefore making it a challenge to comprehensively review patients with chronic and complex wounds/ stomas. This was identified as an area for development, to improve patient outcomes and meet key deliverables.

**Action(s) taken** To address this issue, X-LHD implemented a trial Clinical Nurse Consultant (CNC) led wound and stoma clinic. Patients were seen in the clinic weekly, whilst continuing to receive care from their primary wound care provider. Telehealth appointments were also offered for remote sites within X-LHD. Wound care plans were developed through comprehensive assessments and integration of the persons patient-reported outcome measures (PROMS) survey results. To strengthen the wound care workforce, a Registered Nurse (RN) was upskilled in the clinic for eight weeks.

**Outcome(s)** For the patients seen in the clinic there was a 41% reduction in Emergency Department presentations and a 12% reduction in primary wound care providers occasions of service. Additionally, patients reported that they felt reassured, empowered and valued. The RN upskilled in the clinic saw a 70% improvement in their own chronic wound clinical skills and competency.

**Lesson(s) learned** Restrictions to workload capabilities arose due to the clinic having a sole CNC to manage the service. Overall, the clinic provided a more comprehensive clinical setting for patients with stomas and chronic wounds that was previously unavailable. The model of care allowed for integration of Patient Reported Measures, leading to improved patient and health service outcomes.

## Collaborating across settings to strengthen wound management services in a regional community

Dr Kate Kennett<sup>1</sup>, Dr Sarah Mollard<sup>2</sup>, Linda Kay<sup>3</sup>, Clinton Gibbs<sup>3</sup>, Fiona Ryan<sup>2</sup>, Vicky Bradford<sup>2</sup>, Kash Reddy<sup>2</sup>

<sup>1</sup>Agency For Clinical Innovation, St Leonards, Australia, <sup>2</sup>Healthy North Coast, Port Macquarie, Australia, <sup>3</sup>Mid North Coast Local Health District, Port Macquarie, Australia

**Situation** Wound management may be provided in emergency, inpatient, primary care, aged care, outpatient, or community settings. Despite the number of care settings, consumers face challenges accessing wound management, especially in a regional community. Barriers include:

- Lack of access to the right care at the right time
- Gaps in healthcare worker capability
- Lack of collaboration between services
- High cost of providing care
- Uncertainty about when or where to present for care.

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**Actions taken** A NSW local health district and primary health network has partnered with a state-wide organisation to strengthen partnerships between local care providers and enhance delivery of collaborative management to people living with wounds in the community. HealthPathways wound management pathways informs the project.

**Outcomes** Stakeholders from residential and community aged care services, hospitals, general practice, and other community services were engaged with communications, surveys, working groups and workshops to identify barriers to providing wound management, discuss solutions and select project interventions. In 2024, the project is strengthening relationships between providers via a local wound management community of practice, updating and promoting local referral pathways, and identifying wound management capabilities and education for residential aged care staff.

**Lessons learned** Wound management stakeholders are passionate about improving service provision and outcomes for consumers in their community. There is strong will to enhance collaboration between professionals and care settings. Taking time for stakeholder engagement and relationship building ensures interventions meet the community's needs and creates a strong foundation for ongoing wound management collaboration.

## Defining and communicating capabilities for wound management

Dr Kate Kennett<sup>1</sup>, Dr Sue Monaro<sup>2</sup>, Lucinda Matheson<sup>3</sup>, Laura Mattocks<sup>4</sup>, Maree Connolly<sup>5</sup>, Beverly Gow-Wilson<sup>1</sup>, Debbie Blanchfield<sup>5</sup>, Matthew Dutton<sup>6</sup>, Shifa Basjarahil<sup>6</sup>, Karla MacTaggart<sup>7</sup>

<sup>1</sup>Agency For Clinical Innovation, St Leonards, Australia, <sup>2</sup>Clinical Excellence Commission, St Leonards, Australia, <sup>3</sup>Health Education & Training Institute, St Leonards, Australia, <sup>4</sup>Northern NSW Local Health District, Byron Bay, Australia, <sup>5</sup>Illawarra Shoalhaven Local Health District, Wollongong, Australia, <sup>6</sup>South Eastern Sydney Local Health District, Sydney, Australia, <sup>7</sup>Hunter New England Local Health District, Taree, Australia

**Situation** Building workforce capability in the management of wounds is important to strengthen the provision of evidence-based care and improve patient outcomes. To build capability, it is necessary to identify the knowledge and skills required by multi-disciplinary healthcare workers who provide wound management.

**Actions taken** A group of clinicians, educators, and project managers led an initiative to develop a wound management capability framework. This capability framework applied to all disciplines who provide clinical or personal care to people at risk of or living with chronic wounds, in varied care settings. The process involved reviewing existing capability tools and refining the framework with feedback from modified Delphi surveys, workshops, and a state-wide consultation.

**Outcomes** The [Wound Management Capability Framework](#) was published as an online resource in July 2023. The framework includes six domains of practice, incorporates 26 capabilities and 73 sub-capabilities described across three advancing levels of proficiency. To support uptake of the framework, a [self-reflection tool](#) enables clinicians to identify their current strengths and professional development goals. An [education mapping tool](#) matches available learning resources to the Framework's capabilities. The capability framework is used by NSW health services to strengthen the capability of their wound management workforce.

**Lessons learned** Wound management requires collaborative practice across disciplines and care settings. Developing a capability framework consistent with requirements of all healthcare workers ensures that wound management is an inter-disciplinary practice. Tools enabling individuals to apply the framework to their role and scope of practice supports appropriate clinical practice, professional development, and reflection.

## Does the foot fit? Changes to Waste Management Procedures

Ms Sally Kime<sup>1</sup>

<sup>1</sup>Bolton Clarke, Werribee, Australia

**Situation** Clinical waste is defined as waste produced from health care that has the potential to cause disease, injury, or public offence. Including items such as needles/syringes/body fluids/cytotoxic waste/suspected infectious waste/used wound products and used Personal Protective Equipment. In a large community nursing organisation, there are processes to support the management and removal of this clinical waste in the community setting.

This presentation will discuss a palliative client who was supported with wound management in the home, with inoperable arterial disease and risk of whole foot auto-amputation. The method of disposal of this amount of human tissue waste was not captured in the existing organisational policy.

**Action(s) taken/treatment(s) provided** Case conference with staff providing care was held to discuss options for disposal of a whole foot as biomedical waste. Further collaboration with the infection and prevention clinical nurse consultant, nurse practitioner in palliative care and clinical nurse wound management was undertaken. Review of waste management procedures to support care and appropriate disposal of large anatomical waste occurred by the team until consensus was reached.

**Outcome(s)** Clinical waste management policy was amended to include large amount of human tissue. The anatomical part was to be bagged and placed in a large infectious waste community collector and transported to an office site for timely disposal by a waste contractor.

**Lesson(s) learned** Whilst this scenario is rare, it highlights that large amounts of human tissue waste can occur outside the acute setting and provision for disposal is required in the home setting.

### References

Industrial waste resource guidelines, clinical and related waste – operation guidance. EPA Victoria sourced at [www.epa.vic.gov.au](http://www.epa.vic.gov.au).

## An Evidenced-Based Program in Reducing IAD Prevalence Among Hospital Patients- A Quasi-Experimental Translational Study

Ms Natalie Ko, Associate Professor Michelle Barakat-Johnson, Mrs Shifa Basjarahil, Mrs Jayne Campbell, Associate Professor Michelle Cunich, Mr Gary Disher, Mrs Samara Geering, Dr Michelle Lai, Ms Catherine Leahy, Mr Thomas Leong, Dr Eve McClure, Ms Melissa O'Grady, Mrs Joan Walsh, Professor Kate White, Professor Fiona Coyer

<sup>1</sup>Concord Repatriation General Hospital, Concord, Australia

**Objectives** This study aimed to assess the impact of an intervention bundle on the prevalence and severity of incontinence-associated dermatitis (IAD) across six hospitals in New South Wales. The best practice intervention bundle comprised the best practice IAD guidelines and categorisation tool, five education modules, incontinence assessment and management tools, structured skin care regime, and a patient education brochure.

**Methods** This quasi-experimental study involved head-to-toe skin inspections and incontinence assessments of patients during February to March 2020 (pre-intervention) and July to August 2021 (post-intervention) across 18 wards in six hospitals (three wards per hospital) in New South Wales.

**Results** A total of 1897 patients underwent assessment (pre-intervention = 964, post-intervention = 933). Pre-intervention incontinence prevalence was 35.6% (N = 343) and 37.6% (N = 351) in the post-intervention cohort. Hospital-acquired IAD prevalence was 6.71% pre-intervention and 4.27% post-intervention; a 36.3% reduction (p=0.159). The post-intervention cohort exhibited higher patient acuity and double incontinence prevalence compared to the pre-intervention group.

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**Conclusion** The multisite implementation of best-practice IAD prevention and treatment strategies led to a meaningful reduction in hospital-acquired IAD prevalence and severity and continued improvements years after its implementation, indicating successful sustainability of the intervention. These findings suggest the effectiveness of the intervention bundle in mitigating IAD among hospital patients.

#### References

Barakat-Johnson M, Basjarahil S, Campbell J, Cunich M, Disher G, Geering S, Ko N, Lai M, Leahy C, Leong T, McClure E, O'Grady M, Walsh J, White K, Coyer F. Implementing best available evidence into practice for incontinence-associated dermatitis in Australia: A multisite multimethod study protocol. *J Tissue Viability*. 2021 Feb;30(1):67-77. doi: 10.1016/j.jtv.2020.10.002.

Beekman D, Campbell J, Campbell K, Chimentão D, Domansky R, Gray M, et al.

Incontinence-associated dermatitis: moving prevention forward. *Wounds International*. 2015.

Beekman D, Van den Bussche K, Alves P, Hilde B, Ciprandi G, Coyer F, et al. The

Ghent Global IAD Categorisation Tool (GLOBIAD). Skin Integrity Research Group - Ghent

University; 2017.

## Black Phosphorus, a new antimicrobial material for reduction of wound infection and management of healing

Dr Zlatko Kopecki<sup>1</sup>, Dr Hanif Haidari<sup>1</sup>, Prof Sumeet Walia<sup>2</sup>, A/Prof Aaron Elbourne<sup>2</sup>

<sup>1</sup>University of South Australia, Adelaide, Australia, <sup>2</sup>RMIT University, Melbourne, Australia

**Background / Objectives** Current treatment modalities of cutaneous wound infections are largely ineffective, attributed to the increasing burden of antimicrobial resistance. *S. aureus* a commonly wound-associated pathogen continues to pose a clinical challenge, suggesting that new alternative therapeutic materials are urgently required to provide optimal treatment. The objective of this study was to demonstrate antimicrobial and healing promoting properties of a layered allotrope of phosphorus termed Black Phosphorus nanoflakes (BPNFs).

**Methods** Wider deployment of BPNF material requires extensive biological validation. Using latest *in-vitro* and *in-vivo* pre-clinical models including cytotoxic evaluation and live animal imaging system we studied the antimicrobial and healing promoting properties of BPNFs. Lastly, we optimise the eutectic gels delivery of BPNF in ambient light to broaden the clinical applications of BPNFs in wound management.

**Results** The antibacterial potential of BPNFs against wound pathogens was demonstrated with over

99% killing efficiency at ambient conditions, while remaining non-toxic to mammalian skin cells. In addition, *in-vivo* validation of BPNFs using a preclinical model of *S. aureus* acute wound infection demonstrates that daily topical application significantly reduces infection (3-log reduction) comparable to ciprofloxacin antibiotic control. Furthermore, the application of BPNFs also accelerates wound closure, increases wound re-epithelization, and reduces tissue inflammation compared to controls, suggesting a potential role in alleviating the current challenges of infected cutaneous wounds.

**Conclusions** For the first time, this study demonstrates the potential role of BPNFs in ambient light conditions for clearing a clinically relevant wound infection with favorable wound healing properties.

#### References

Layered Black Phosphorus Nanoflakes Reduce Bacterial Burden and Enhance Healing of Murine Infected Wounds (2023). *Advanced Therapeutics*, 6 (11), 2300235. <https://doi.org/https://doi.org/10.1002/adtp.202300235>

## A systems approach to strengthening wound management in NSW

Catherine Leahy<sup>2</sup>, Dr Kate Kennett<sup>1</sup>, Regina Osten<sup>1</sup>, Beverley Gow-Wilson<sup>1</sup>, Dr Sue Monaro<sup>3</sup>, Annie Walsh<sup>4</sup>, Dr Paresh Dawda<sup>1</sup>

<sup>1</sup>Agency for Clinical Innovation, St Leonards, Australia, <sup>2</sup>Western NSW Local Health District, Orange, Australia, <sup>3</sup>Clinical Excellence Commission, St Leonards, Australia, <sup>4</sup>Northern Sydney Local Health District, Sydney, Australia

**Situation** Wound management is provided across all care settings in NSW, with significant associated costs for consumers and the system. Treating chronic wounds in emergency, admitted and non-admitted settings is expected to cost \$3 billion in NSW over the next ten years without intervention.

**Actions taken** The NSW Health Chronic Wound Management Initiative commenced in 2019 when all local health districts received funding to enhance their wound management services. The Chronic Wound Management Taskforce convened in February 2020 to lead development of system strengthening interventions to improve delivery of evidence-based wound management and the experience of care for people living with chronic wounds.

**Outcomes** In 2021/2022, over 6,800 hospital admissions were avoided for the management of chronic wounds in NSW public hospitals, with a cost saving of \$82 million. Since 2021/2022, the Chronic Wound Management Initiative has implemented a chronic wound patient reported measure, a wound product formulary, consumer experience videos, a capability framework, a virtual care guide, a self-assessment of performance across the state, updated wound management HealthPathways, and performed a stocktake of documentation practices. Next steps for the Initiative include improving data, patient information, and cross-sector collaboration.

**Lessons learned** The prevention of expected admissions for wound management in 2021/2022 resulted from improvement efforts at local health district level and motivation generated by commencement of state-wide activity. Considering the significant development and implementation of system strengthening interventions that has occurred since 2022, admissions to hospital for wound management is expected to decline further in NSW.

## Clinician Knowledge of Incontinence-Associated Dermatitis: A Multisite Survey of Healthcare Professionals

Miss Catherine Leahy<sup>1</sup>, Associate Professor Michelle Barakat-Johnson, Mrs Shifa Basjarahil, Mrs Jayne Campbell, Associate Professor Michelle Cunich, Mr Gary Disher, Mrs Samara Geering, Ms Natalie Ko, Dr Michelle Lai, Mr Thomas Leong, Dr Eve McClure, Ms Melissa O'Grady, Mrs Joan Walsh, Professor Kate White, Professor Fiona Coyer

<sup>1</sup>Western NSW LHD, Orange, Australia

**Objectives** Knowledge of incontinence-associated dermatitis (IAD) is crucial for clinicians to improve patient care. Clinician knowledge of IAD was measured before and after a multicentre implementation study of a best practice intervention bundle (including five education modules) in New South Wales to improve prevention and management of IAD. Their knowledge was measured using the 18-item Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD).

**Methods** Know-IAD was administered pre-intervention (November 2019 to January 2020) and post-intervention (May 2021 to June 2021) across 18 wards at six hospitals in New South Wales. The survey covers three knowledge domains: Aetiology and Risk, Classification and Diagnosis, and Prevention and Management. Participants included nurses, doctors, allied health professionals, and students.

**Results** There were 428 pre-intervention and 357 post-intervention participants. There were improvements in mean scores of all knowledge domains (Aetiology and Risk: 7.5%; Classification and Diagnosis: 26.4%; Prevention and Management: 24.6%) and the mean overall score (16.5%). Participants who completed IAD education had significantly higher mean scores than staff who partially completed or not did complete education: overall survey ( $p < 0.001$ ), Aetiology and Risk domain ( $p = 0.004$ ), Classification and Diagnosis domain ( $p < 0.001$ ), and Prevention and Management domain ( $p < 0.001$ ).

**Conclusion** Prior to the intervention, clinicians had limited knowledge of classification and diagnosis, and prevention and management of IAD compared to its causes and risk factors. Addressing these gaps through education resulted in improved knowledge in all domain areas, complementing the other components of the intervention to improve prevention and management of IAD.

## Supporting wound management services to grow through adoption of virtual care modalities

Catherine Leahy<sup>2</sup>, Dr Kate Kennett<sup>1</sup>, Shane Delves<sup>1</sup>, Amy-Lea Bolger<sup>4</sup>, Emily Laszuk<sup>5</sup>, Dr Michelle Barakat-Johnson<sup>3</sup>, Aaron Jones<sup>3</sup>

<sup>1</sup>Agency For Clinical Innovation, St Leonards, Australia, <sup>2</sup>Western NSW Local Health District, Orange, Australia, <sup>3</sup>Sydney Local Health District, Sydney, Australia,

<sup>4</sup>Murrumbidgee Local Health District, Wagga Wagga, Australia, <sup>5</sup>Southern NSW Local Health District, Bega, Australia

**Situation** People living with chronic wounds need timely access to wound management services. Developments in technology and community familiarity with digital communication have opened opportunities to increase service options via virtual care modalities. There is growing interest about virtual care in wound management services, with many innovative solutions emerging, while others are uncertain about how to incorporate virtual care into their service models.

**Actions taken** A group of clinicians and virtual care managers convened to develop guidance about ways to utilise virtual care modalities to increase consumer access to care and improve collaboration between care providers. The group explored virtual care best practices, existing wound management virtual care services and their experiences to develop the guidance resource.

**Outcomes** The [chronic wound management virtual care guide](#) was published online in November 2023. The guide includes sections describing:

- Ways to organise the delivery of chronic wound management using virtual care.
- Elements of chronic wound management care that can be delivered using virtual modalities.
- Tips about delivering virtual wound management consultations, including pre-consultation preparation, technology and therapeutic environment consideration, wound assessment, and educational approaches.

**Lessons learned** Virtual care modalities can be used in many ways for many purposes in wound management services. Clinicians and service managers value learning about existing wound management virtual care services to help them envisage what may be possible and suitable for their service. This state-wide resource not only assists in identifying potential virtual care pathways but also supports other services in establishing safe and effective approaches.

## Clinicians' Perceptions of Enhanced Recovery After Surgery Protocols in Australia: A National Survey

Dr Josephine Lovegrove<sup>1,2</sup>, Dr Georgia Tobiano<sup>1</sup>, Professor Wendy Chaboyer<sup>1</sup>, Associate Professor Rhea Liang<sup>3,4</sup>, Dr Keith Addy<sup>5</sup>, Dr Joan Carlini<sup>6</sup>, Ms Olivia Harbeck<sup>1</sup>, Professor Brigid Gillespie<sup>1,5</sup>

<sup>1</sup>NHMRC Centre Of Research Excellence In Wiser Wound Care, Griffith University, Southport, Australia, <sup>2</sup>School of Nursing, Midwifery and Social Work, The University of Queensland & UQCCR, Herston, Australia, <sup>3</sup>Robina Hospital, Gold Coast Hospital & Health Service, Robina, Australia, <sup>4</sup>Faculty of Health Sciences, Bond University, Robina, Australia, <sup>5</sup>Gold Coast University Hospital, Gold Coast Hospital & Health Service, Southport, Australia, <sup>6</sup>Department of Marketing, Griffith University, Southport, Australia

**Background/Purpose** Surgical site infection is an ongoing healthcare burden in Australia and one of the most common postoperative complications. Enhanced Recovery After Surgery (ERAS<sup>®</sup>) protocols are perioperative care pathways which, among other benefits, reduce surgical site infection rates<sup>(1,2)</sup>. However, their use in Australia is limited, and Australian clinicians' perceptions of ERAS is unclear.

**Methods** A national survey of anaesthetists, surgeons and nurses was undertaken in July-November 2023. Invitations with survey access were emailed via professional colleges. The 30-item survey comprised demographics, ERAS perceptions, knowledge (education/learning preferences), and future planning sections. Descriptive and inferential statistics were used to describe professional groups and compare responses based on discipline.

**Results** Responses from 26 anaesthetists, 36 surgeons, and 116 nurses (total 178) across six states and two territories were included. More anaesthetists (100%) and surgeons (83.3%) had previously participated in patient care using ERAS than nurses (41.7%;  $p < .01$ ). Over half of respondents perceived they were knowledgeable (40.3%) or very knowledgeable (13.6%) about ERAS, but nurses' knowledge was significantly lower than other professions ( $p < .001$ ). Most respondents agreed ERAS improves patient care and financial efficiency, is a reasonable time investment, and the majority supported broad implementation of ERAS (87.8%). Seminars/lectures from international and national leaders was the preferred ERAS learning method (41.3%), while the greatest barrier to ERAS knowledge was the lack of provided information (62.6%).

**Conclusion** Promotion of ERAS implementation and education at clinician and facility levels is needed to improve understanding and uptake of ERAS, and subsequently patient outcomes including surgical site infection rates.

### References

- Li, N., Wei, S., Qi, Y. & Wei, W. (2023). The effects of enhanced recovery after surgery on wound infection, complications, and postoperative hospital stay in patients undergoing colorectal surgery: A systematic review and meta-analysis. *International Wound Journal*, 20(10), 3990-3998. <https://doi.org/10.1111/iwj.14287>
- Wang, Y., Zhang, F., Zheng, L., Yang, W. & Ke, L. (2023). Enhanced recovery after surgery care to reduce surgical site wound infection and postoperative complications for patients undergoing liver surgery. *International Wound Journal*, 20(9), 3540-3549. <https://doi.org/10.1111/iwj.14287>

## Reporting Accuracy of Pressure Injury Categorisation in an Acute Tertiary Hospital: A Four-year Analysis

Dr Josephine Lovegrove<sup>1,2,3</sup>, Professor Paul Fulbrook<sup>3,4,5</sup>

<sup>1</sup>NHMRC Centre Of Research Excellence In Wiser Wound Care, Menzies Health Institute Queensland, Griffith University, Southport, Australia, <sup>2</sup>School of Nursing, Midwifery and Social Work, The University of Queensland & UQCCR, Herston, Australia, <sup>3</sup>Nursing Research & Practice Development Centre, The Prince Charles Hospital, Chermiside, Australia, <sup>4</sup>School of Nursing, Midwifery & Paramedicine, Australian Catholic University, Banyo, Australia, <sup>5</sup>Faculty of Health Sciences, University of the Witwatersrand, Braamfontein, South Africa

**Background/Purpose** Pressure injury categorisation affects treatment and management decision-making and use of resources, and severe hospital-acquired pressure injury is used to benchmark care quality. This study aimed to determine the reporting accuracy of pressure injury categorisation by bedside clinicians, compared with nurse experts.



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**Methods** A secondary analysis of pressure injury incident and validation data from an acute tertiary hospital was undertaken. All pressure injuries reported in adults between 2016-2019 that were subsequently validated by nurse experts were analysed. Absolute agreement was measured using percentages, with inter-rater agreement reported using Kappa measures of agreement.

**Results** Of 6186 pressure injuries, the category was reported correctly in 67.3%, with an overall moderate level of inter-rater agreement by category ( $\kappa = .567, p < .001$ ). Of those found to be non-pressure injuries when validated (18.3%,  $n=1129$ ), most were reported originally as stage 2 (41.2%) or stage 1 (30.5%), and 13.4% were categorised initially as unstageable. The majority reported initially as stage 1, stage 2, suspected deep tissue or mucosal pressure injury were validated, whereas only half of those reported as stage 3 or 4 were validated and less than a third of those reported initially as unstageable were validated.

**Conclusion** While moderate agreement of categorisation was found between clinicians and nurse experts, overall differential diagnosis and categorisation of severe injuries were inadequate, which has implications for patient care and institutional penalties. These results highlight the importance of effective validation processes. Education efforts focused on improvement of diagnosis and accurate categorisation of severe and unstageable pressure injuries are required.

## Implementation of a modified early warning score in community nursing to recognise deterioration of patients.

Ms Cassandra Luke<sup>1</sup>, Mrs Sonia Knight<sup>1</sup>  
<sup>1</sup>Canberra health services, Canberra, Australia

**Situation** The absence of a Modified Early Warning Score (MEWS) tool in Community Nursing at Canberra Health Services (CHS) posed challenges in identifying and responding to deteriorating patients in home or clinic settings, especially those with chronic wounds susceptible to infections.

**Action(s) taken/treatment(s) provided** A Quality Improvement (QI) initiative was launched to introduce a MEWS tool across the Community Care Program (CCP) within CHS. A working group adapted a suitable MEWS tool and developed an education/training package for clinicians using COMPASS® program as a reference. Mandatory training was implemented, and a trial of the MEWS tool was conducted across two community nursing teams. The initiative also included developing protocols to guide clinicians in promptly escalating care when potential infections were detected in patients with chronic wounds.

**Outcome(s)** Integration of the MEWS tool significantly enhanced clinicians' confidence and skills in recognising a deteriorating patient conditions, particularly in patients with chronic wounds at risk of infection. Early escalation of care based on MEWS proved effective in ensuring timely intervention and patient safety. Feedback from audits and evaluations showed positive outcomes, with improved documentation and increased use of ISBAR during clinical handovers.

**Lesson(s) learned** Implementing standardised tools like MEWS in community care settings improves patient safety and care quality, especially in vulnerable populations such as those with chronic wounds. Education and training empower clinicians to identify and respond to acute deterioration effectively, including recognising signs of infection in chronic wounds. Continuous evaluation and incorporation of best practices are crucial for sustaining improvements in patient care.

The introduction of the MEWS tool in the CCP represents a significant step towards achieving NSQHS Standard 8 - Recognising and Responding to Acute Deterioration, aligning with organisational goals for quality improvement and patient-centred care. Protocols for escalating care in patients with chronic wounds further enhance patient outcomes and safety.

## Interdisciplinary high risk foot service care: A qualitative exploration of patient and carer experiences

Ms Sarah Manewell<sup>1,2</sup>, Ms Georgina Frank<sup>1</sup>, Ms Vanessa Nube<sup>1</sup>, Professor Sarah Dennis<sup>2,3,4</sup>, Professor Cathie Sherrington<sup>2,5</sup>, Professor Hylton B Menz<sup>6</sup>, Dr Serene Paul<sup>2</sup>

<sup>1</sup>Sydney Local Health District, NSW Health, Australia, <sup>2</sup>The University of Sydney, Australia, <sup>3</sup>South West Sydney Local Health District, NSW Health, Australia, <sup>4</sup>Ingham Institute for Applied Medical Research, Australia, <sup>5</sup>Institute for Musculoskeletal Health, Australia, <sup>6</sup>La Trobe University, Australia

**Objectives** To investigate the patient's, and where appropriate their carer's, perceptions about care received at two interdisciplinary specialist high risk foot services for the management of diabetes-related foot ulceration.

**Methods** Patients with diabetes-related foot ulceration who attended at least four appointments in the previous three months were invited to participate. Also, if a carer attended at least two of these appointments, both the patient and their carer were invited to participate. Individual and paired semi-structured interviews were conducted. Audio recordings of the interviews were transcribed and analysed using inductive thematic analysis.

**Results** Interim results for eight patients and two carers show emerging themes regarding care priorities, including the importance of: continuity of care, particularly good rapport in patient-clinician relationships, patient centred management and consistency in advice; feeling heard if concerns arise; and, learning about their diabetes-related foot ulcer management.

**Conclusions** This study is ongoing. Early findings have highlighted the importance of continuity of care and supporting patients to actively participate in their care. In view of the complex care needs for patients with diabetes-related foot ulceration and limited previous investigation of the patients and carers experience, when complete, findings from this study will be helpful in guiding patient-centred care and strengthening service planning.

**Disclosures** Funds from a Wounds Australia research grant support the conduct of this study.

## Barriers and Facilitators to Implementing Pressure Injury Prevention and Management Guidelines: a Mixed-methods Systematic Review

Dr Ching Shan (Angela) Wan<sup>1,2,3</sup>, Ms Heilok Cheng<sup>1,2</sup>, Ms Mika Musgrave-Takeda<sup>1,2</sup>, Mr Mark Guosheng Liu<sup>1,2</sup>, Dr Georgia Tobiano<sup>3,4</sup>, Mr Jake McMahon<sup>1,2</sup>, Professor Elizabeth McInnes<sup>1,2,3</sup>, Mr Jake McMahon

<sup>1</sup>Nursing Research Institute, St Vincent's Health Network Sydney, St Vincent's Hospital Melbourne & Australian Catholic University, Melbourne, Australia, <sup>2</sup>School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Melbourne, Australia, <sup>3</sup>National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Griffith University, Gold Coast, Australia, <sup>4</sup>Gold Coast University Hospital, Gold Coast Health Nursing and Midwifery Education and Research Unit, Gold Coast, Australia

**Objectives** To synthesise quantitative and qualitative studies on hospital clinicians' and inpatients' views on barriers and facilitators to implementing pressure injury prevention and management guidelines.

**Methods** A convergent integrated mixed-methods systematic review was conducted based on the Joanna Briggs Institute approach. English language peer-reviewed studies published from 2009 to May 2021 were identified from Medline, EMBASE, CINAHL, PsycINFO and Cochrane Central Library. Studies that reported hospital clinicians' and patients' views on pressure injury-related practices and barriers to implementing guidelines in acute and subacute settings were included. The Mixed Methods Appraisal Tool was used in critical appraisal. Quantitative data was transformed into qualited data, then thematically analysed with the qualitative data. Barriers and facilitators were mapped to the Theoretical Domains Framework.

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**Results** Fifty-five out of 14488 studies (29 quantitative, 22 qualitative and 4 mixed-methods) met the inclusion criteria. Most were at low risk of bias. Four main themes represent factors thought to influence the implementation of pressure injury guidelines: 1) nurse-led multidisciplinary care, 2) patient participation in care, 3) practical difficulties in implementing strategies, and 4) diverse attitudes towards pressure injury prevention and management. Most barriers were mapped to the “Knowledge” and “Environmental Context and Resources” domains. Most facilitators were mapped to the “Environmental Context and Resources” domain.

**Conclusions** These review findings highlight key factors that may influence the implementation of evidence-based pressure injury guidelines. An end-user-informed intervention may require an implementation strategy bundle that promotes multidisciplinary care and patient participation and addresses practical and attitudinal barriers to guideline uptake.

## Nurses' Views on Prophylactic Dressings to Prevent Pressure Injuries for Hospital Patients: A Qualitative Study

Mr Jake McMahon<sup>1,2,3</sup>, Professor Paul Fulbrook<sup>1,4,5</sup>, Dr Ching Shan Wan<sup>1,2,3</sup>, Associate Professor Louisa Lam<sup>1,5</sup>, Ms Jane Rodgers<sup>2,3,7</sup>, Dr Nicola Straiton<sup>2,7</sup>, Professor Elizabeth McInnes<sup>1,2,3</sup>

<sup>1</sup>School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Fitzroy, Australia, <sup>2</sup>Nursing Research Institute, St Vincent's Health Network Sydney, St Vincent's Hospital Melbourne, Australian Catholic University, Darlinghurst, Australia, <sup>3</sup>National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Griffith University, Gold Coast, Australia, <sup>4</sup>Nursing Research and Practice Development Centre, The Prince Charles Hospital, Brisbane, Australia, <sup>5</sup>School of Therapeutic Sciences, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa, <sup>6</sup>School of Public Health and Preventive Medicine, Monash University, Clayton, Australia, <sup>7</sup>St Vincent's Health Network Sydney, Darlinghurst, Australia

**Objectives** To understand, from nurses' perspectives, the factors that influence and sustain the low-value use of prophylactic dressings to prevent pressure injuries in hospitalised adults in tertiary hospitals in Melbourne and Sydney.

**Methods** A qualitative, descriptive study. Purposive sampling was used to recruit nurse managers, clinical nurse consultants, clinical nurse educators and bedside nurses working on medical-surgical wards in two Australian tertiary hospitals. Face-to-face or videoconference semi-structured individual interviews were conducted and audiotaped. Recordings were transcribed verbatim and analysed thematically using an inductive approach.

**Findings** Sixteen interviews were conducted with four nurse managers, two clinical nurse educators, two clinical nurse consultants and eight registered nurses. Participants mentioned prophylactic dressings were indiscriminately used on low-risk patients as a one-off preventative strategy for pressure injuries. They described this inappropriate use of prophylactic dressings as a potentially harmful practice because the skin was not inspected under the dressings resulting in pressure injury development. Three themes were identified as key factors perpetuating and sustaining the low-value prophylactic dressings-related practices: *False sense of security; Drivers sustaining practice; Gaps in pressure injury education*. These themes reflect the importance of stopping prophylactic dressing overuse due to the missed opportunities in skin inspection under areas prone to pressure injuries, and nurses' education on the appropriate use of prophylactic dressings.

**Conclusions** There is a complex interplay of factors contributing to the overuse of prophylactic dressings for pressure injury prevention. Addressing these factors through targeted interventions could reduce the low-value use of dressings and enhance patient care outcomes.

## Skin tear research in the acute hospital setting: 10-year prevalence, cause, prevention and dressing types.

Dr Sandra Miles<sup>1,2</sup>, Professor Paul Fulbrook<sup>1,2</sup>, Mr Damian Williams<sup>2,3</sup>

<sup>1</sup>Australian Catholic University, Banyo, Australia, <sup>2</sup>The Prince Charles Hospital, Chermside, Australia, <sup>3</sup>Royal Brisbane & Women's Hospital, Herston, Australia

**Background/Purpose** Hospital-acquired skin tears may seem minor but are traumatic wounds that may cause unnecessary suffering, increase hospital costs and become chronic if left untreated. One Australian hospital conducted studies of skin tears over a decade.

**Methods** A ten-year hospital wide skin tear point prevalence audit study was undertaken in a tertiary Queensland hospital. All patients consented to a full body skin inspection and audit processes were well-controlled. Based on early audit findings of non-adherence to skin tear dressing policies, an intention-to-treat pilot study using a non-inferiority double-blind randomised controlled trial was undertaken to compare healing effectiveness of two standard dressings (adhesive silicone foam versus meshed silicone interface).

**Results** A hospital-acquired pooled prevalence of 5.5% (95% CI 4.5-6.7) was found (overall pooled prevalence of 8.9%) with 616 skin tears reported, of which 374 (60.7%) were hospital-acquired. The largest proportion of skin tears (40.1%) was those with no skin flap, while falls or collisions were the main causes.

Baseline characteristics were similar in both arms of the trial, with 86% of skin tears fully healed at three weeks in the adhesive silicone foam group, compared to 59% in the meshed silicone interface group.

**Conclusion** Over a decade, a downward trend in hospital-acquired skin tear is encouraging for the hospital's focus on improving documentation and combining skin tear and falls prevention strategies. Dressing trial results suggest an adhesive silicone foam dressing may be superior, as it produced clinically significant healing of skin tears at 3-weeks compared to a meshed silicone interface dressing.

## A systematic review of movement monitoring devices to determine pressure ulcers risk in adults

Prof Zena Moore<sup>1</sup>

<sup>1</sup>Royal College of Surgeons in Ireland, University of Medicine and Health Sciences, Dublin, Ireland

**Introduction** Immobility is a primary risk factor for pressure ulcer development. However, patient movement is not easy to assess in practice. We wanted to understand the role of movement devices in the determination of pressure ulcer risk.

**Methods** Using systematic review methodology, we included research studies employing a prospective design, written in English, assessing adult patients' movement in bed using a movement monitoring device. We searched in March 2021 using several databases, and returned 1537 records, of which 25 met the inclusion criteria. Data were extracted using a pre-designed extraction tool and quality appraisal was undertaken using the Evidence-based librarianship (EBL).

**Results** Nineteen different movement monitoring devices were employed, using a range of physical sensing principles focussed on quantifying the number and types of movements. In four studies the monitoring system was compared to PU risk assessment tools, with a variety of high and low correlations observed. Four studies compared the relationship between movement magnitude and frequency with variability in results also identified. Two studies found that those who made less movements developed more PU, however, also unexpectedly found that PUs occurred in both low movers and high movers. Two studies focused on the concordance with recommended repositioning based on the results of the monitoring device, which increased with use of the device.

**Conclusions** A wide range of physical sensors can be used to detect the frequency of movement. Some correlation exists between parameters of movement and PU risk/incidence, however, the heterogeneity of approaches limits generalisable recommendations.

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## The Impact of SEM Measurement on Pressure Ulcer Prevention Care Pathways – A Systematic Review

Prof Zena Moore<sup>1</sup>

<sup>1</sup>Royal College of Surgeons in Ireland, University of Medicine and Health Sciences, Dublin, Ireland

**Introduction** Elevated sub epidermal moisture (SEM) is an indicator of early-stage pressure ulcer (PU) damage. Detection of SEM enables healthcare practitioners' to target anatomy-specific interventions for at-risk patients. We investigated if identifying elevated SEM in at risk patients and correspondingly implementing enhanced PU prevention interventions, reduces the incidence of PUs.

**Methods** Using systematic review methodology we included original research that reported the impact that assessment using SEM measurement had on healthcare practitioners' delivery of PU care pathways in at risk adults. The search was conducted in May 2023 using several databases. Data were extracted using a pre-designed extraction tool and quality appraisal was undertaken using the Evidence-based librarianship (EBL).

**Results** Ten studies, published between 2017 and 2022, met our inclusion criteria. Of these, 9 reported a change in practice arising from use of SEM measurement, with reference to: 1. Impact on care delivery e.g. use of guided care pathways, 2. Changes to specific interventions offered to patients, e.g. increasing the use of repositioning and 3. Changes in care planning, for example, an increase in the percentage of patients offered different elements of prevention care plans. Meta-analysis of 7 studies showed an odds ratio of PU development of 0.36 (95% CI: 0.24-0.53;  $p < 0.00001$ ), for those cared for using SEM measurement and subsequent targeted PU prevention care planning.

**Conclusions** Implementing SEM assessments in patients at risk of developing PUs prompts anatomy-specific clinical actions. The subsequent implementation of enhanced and targeted prevention leads to reductions in hospital-acquired PU incidence.

## Effectiveness of advanced healing techniques after diabetic foot surgery

Miss Nicola Morley<sup>1</sup>

<sup>1</sup>Queensland health, Australia

**Background / Purpose** Advanced healing wound modalities such as negative pressure wound therapy (NPWT), with instillation (NPWTi) and ultrasonic wound debridement (USWD) play an important role in creating an environment to facilitate granulation and oedema management if surgical closure is not possible in the diabetic foot. This study evaluates the efficacy of using advanced wound devices (AWD) inclusive of NPWTi, USWD, NPWT to create a non-inflammatory environment through eradication of biofilm and bacteria, to allow delayed assisted wound closure (DAWC) on wounds that would otherwise have secondary intention.

**Methods** A single-centre retrospective cohort study design utilising data from 474 cases (2014-2021) who underwent surgical procedures for diabetic foot conditions were analysed. The effectiveness of AWD (n=216) was compared with patients in the usual care group (n=258) who did not undergo treatment with AWD.

**Results** The AWD healing method demonstrated noteworthy performance; hospital length of stay was only 11.4 days and a healing time of 98.7 days or 14 weeks. The observed differences in LOS and time to heal between these methodologies were statistically significant. AWD method consistently outperformed standard care and secondary healing across all cohorts. This highlights the favourable attributes of the AWD approach in various clinical scenarios when primary healing is unattainable.

**Conclusion** Primary closure proved the fastest healer with the shortest LOS. The DAWC technique was effective for "non-closable" wounds that with assistance could in fact close. Using the DAWC technique combined with advanced modalities, notably USWD + NPWTi, reduced healing times, LOS, and mortality.

## Accelerating Wound Healing in Older Patients: A Four-Case Analysis of Photobiomodulation Therapy

Dr Catherine Norton<sup>1</sup>, Mrs Jill Pellizzon

<sup>1</sup>Heal With Laser, West End, Australia

**Situation** Wound healing in older patients presents a significant clinical challenge, particularly in cases of venous ulcers and traumatic wounds. MLS Laser Therapy, a form of Photobiomodulation, has emerged as a potential therapeutic approach to accelerate wound healing. This abstract summarises the outcomes of MLS Laser Therapy in four older patients, including two with venous ulcers and two with non-healing wounds.

**Actions taken** Four patients (two with venous ulcers and two with non-healing wounds) underwent MLS Laser Therapy. The PBM parameters were as follows: wavelength (808nm and 905nm), power (1.5W), frequency (1000Hz), with an energy dose of 3.99 Joules/cm<sup>2</sup> per session, administered over the wound area.

Treatment was provided three times a week for a period of four weeks. Efficacy was evaluated through wound surface area measurement, pain assessment using the Visual Analogue Scale (VAS), and photographic documentation before and after the treatment period.

**Outcomes** Statistical analysis demonstrated significant wound size reduction in all patients. The venous ulcer patients exhibited a 95-100% reduction in wound surface area, while the patients with accidental wounds showed a 100% reduction. Pain levels also decreased across all cases, with an average drop in VAS scores from 8 to 2. Photographic evidence supported these findings, showing notable improvement in wound appearance.

**Lessons Learned** The case studies indicate that MLS Laser Therapy can significantly enhance wound healing in elderly patients, regardless of the wound etiology. The therapy was effective in accelerating healing rates, reducing wound size, and alleviating pain in both venous ulcers and traumatic wounds.

These findings suggest that MLS Laser Therapy could be a valuable adjunctive treatment in the management of wound healing in the elderly, encouraging further research in this area to optimise treatment protocols.

## Champion change: Screening of chronic lower limb oedema in older people receiving home care support.

Ms Maree O'Connor<sup>1</sup>, Professor Suzanne Kuys, Dr Helen Badge, Dr Michael Steele

<sup>1</sup>Lymphoedema Education Solutions, Mont Albert, Australia

**Purpose** This study aimed to explore the prevalence, characteristics, and predictors of chronic oedema in older people living in the community with home care assistance through a screening program.

**Methods** Between 2020 and 2022, case managers screened 460 clients to detect the presence of oedema. The tool consisted of a 10-second pitting test on parts of the foot and ankle. Oedema was compared with factors including age, gender, hypertension, diabetes, congestive heart failure, wounds, history of cellulitis, mobility level, home care support, medications associated with oedema and polypharmacy.

Data from 459 clients was analysed. Continuous data with an independent sample t-test and categorical data with Chi-Square test. Univariate and multivariable logistic regression analyses determined predictors of chronic oedema.

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**Results** Mean age was 80.34 (SD 7.44) years, 68.6% were female. Prevalence of chronic oedema was 38.1% (n = 175), of which 85.4% (n = 147) had bilateral oedema. Multivariable logistic regression showed being female (OR:1.517, p = 0.076), having congestive heart failure (OR:3.73, p < 0.001) and the use of a mobility aid (OR: 2.381, p <0.001) were associated with an increased risk of oedema. Dementia was associated with a lower risk (OR: 0.592, p= 0.056) of oedema. Age was not shown to be associated with the risk of oedema (OR: 1.019, p = 0.154).

**Conclusion** This is the largest known Australian study of older people with chronic oedema living in the community with home care assistance. A screening program with possible predictors should be considered for this population.

## Assessing nurses' attitudes towards pressure ulcer prevention: an updated systematic review

Prof Tom O'Connor<sup>1</sup>  
<sup>1</sup>RCSI, Dublin 2, Ireland

**Objective** In nursing, attitudes are considered to be of crucial importance because they help understand how people perceive issues and processes in care, and how they determine what is important, good, relevant and appropriate. Therefore, given that PU prevention is a multifaceted problem, attitudes may be important in influencing behaviour.

**Method** Using systematic review methodology, we considered published quantitative studies focusing on nurses' attitudes toward pressure ulcer prevention as measured using psychometric tests. The search was conducted in April 2022, using several databases. Thirty five studies met the inclusion criteria. Data were extracted using a pre-designed extraction tool and all included studies were quality appraised using the EBL Appraisal checklist.

**Results** In this first update, the mean attitude score was 69% (SD= 14%, min 33.6%, max 89%). A separate analysis of the new studies alone included in this first update (n=14) indicates a mean attitude score of 62.25% (SD: 17.9%; median: 14), suggesting a 10.75% lower mean attitude score than previously found. In total, 46% (n=16) yielded a score  $\geq$  75%. Conversely, In Avsar et al., (2019), 86% (n=18) of studies yielded positive attitude results. Studies from the Middle East showed the lowest scores (mean 55%; SD: 15%; median 53%; n=9), with studies from Europe displaying the highest scores (mean 79%; SD: 6%; median 79%; n=12).

**Conclusion** Nurses are relatively positively disposed towards pressure ulcer prevention. However, there are differences across continents. Despite this, the nurses have difficulties reflecting this positive attitude into actual preventative strategies.

## The impact of pressure ulcer prevention education on health care assistants' knowledge and skills

Prof Tom O'Connor<sup>1</sup>  
<sup>1</sup>RCSI, Dublin 2, Ireland

**Introduction** Pressure ulcers (PUs) are a significant clinical issue, and their prevention is a priority for health care settings. Older adult patients are susceptible to PUs due to the presence of co- morbidities and reduced mobility. Health care assistants (HCAs) represent most of the workforce in long-term care settings and play a significant role in PU prevention and the provision of education is an integral component of PU prevention. The overall aim of this systematic review (SR) was to investigate the impact of education for health care assistants on their knowledge and skills in PU prevention and on the incidence of PUs.

**Methods** Using systematic review methodology and the PRISMA guidelines, in November 2021 key databases were searched, with no limitations on date of publication. Methodological quality of the studies was evaluated using the Evidence-based Librarianship checklist. Data was analysed using narrative and meta-analysis.

**Results** The search yielded an initial 449 records, of which 14 met the inclusion criteria. Eleven studies (79%) reported outcome measures of HCA knowledge scores, with four studies reporting a statistically significant improvement in knowledge scores post education intervention. Nine studies (64%) found a statistically significant reduction in prevalence (OR 1.69, p= 0.01) and incidence rates (OR 2.20, 95%, p<0.0001) post-education intervention.

**Discussion** This SR affirms the benefits of education of health care assistants on knowledge and skills of PU prevention and on PU incidence. However, there was broad methodological heterogeneity and low-quality evidence within the included studies.

## What Do We Know About the Care of Wounds in People with Dementia

A/Prof Christina Parker<sup>1,2</sup>, Dr Margaret MacAndrew<sup>1,2</sup>, Dr Jane O'Brien<sup>1,2</sup>, Dr Kathleen Finlayson<sup>1</sup>, Dr Ut Bui<sup>1,2</sup>, Mr Jack Mitchell<sup>1</sup>

<sup>1</sup>Queensland University of Technology, Faculty of Health, School of Nursing, Kelvin Grove, Australia, <sup>2</sup>Centre for Healthcare Transformation, Kelvin Grove, Australia

**Purpose** To determine what is known about wound care for people living with dementia by reviewing and synthesising the existing evidence to highlight current wound care practices.

**Methods** Using Whittemore and Knaff's framework, a systematic scoping review of evidenced-based guidelines, evidence summaries, reviews, original research (including quantitative or qualitative designs), international consensus documents or statements related to wound care for people living with dementia, was conducted. CINAHL, Medline, Cochrane, JBI and PsychInfo search engines and professional websites were searched between March and October 2023.

**Results** Thirty-five published articles related to assessment, management, and prevention of wounds in people living with dementia were included. Synthesis of results from included articles were categorised as either general wound care (n=3), skin tears (n=7), pressure injuries (n=15), nutrition (n=9), surgical wounds (n=5) or incontinence associated dermatitis (n =1), with some articles traversing multiple categories. No evidence was found for the wound types of arterial leg ulcers, venous leg ulcers, diabetic foot ulcers, or general skin care to prevent wounds.

**Conclusions** This review has outlined the limited evidence that we have about the assessment, management and prevention of wounds for people with dementia. While current guidelines include recommendations that may be appropriate for wound care in this population of people, there is a need for further research to inform future guidelines on dementia-specific prevention and management strategies.

## Burn Wound Fluid Biochemistry Reflects Wound Severity and Could Assist Clinical Decision Making

Prof Tony Parker<sup>1,2</sup>, Dr Tuo Zang<sup>1,3</sup>, Dr Daniel Broszczak<sup>1</sup>, Dr Cody Frear<sup>1,5</sup>, A/Prof Bronwyn Griffin<sup>6</sup>, Prof Andrew Holland<sup>7</sup>, A/Prof Mark Fear<sup>8</sup>, Prof Roy Kimble<sup>9</sup>, Prof Fiona Wood<sup>8,10</sup>, A/Prof Leila Cuttle<sup>9,4</sup>

<sup>1</sup>Tissue Repair and Translational Physiology Group, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology, Kelvin Grove, Australia, <sup>2</sup>Centre for Biomedical Technologies, Queensland University of Technology, Kelvin Grove, Australia, <sup>3</sup>Centre for Children's Health Research, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology, Brisbane, Australia, <sup>4</sup>Centre for Children's Burns and Trauma Research, South Brisbane, Australia, <sup>5</sup>Faculty of Medicine, University of Queensland, Herston, Australia, <sup>6</sup>School of Nursing and Midwifery, Griffith University, Nathan, Australia, <sup>7</sup>The Children's Hospital at Westmead Burns Unit, Kids Research Institute, Department of Paediatrics and Child Health, Sydney Medical School, The University

of Sydney, Sydney, Australia, <sup>8</sup>Burn Injury Research Unit, School of Biomedical Sciences, The University of Western Australia, Perth, Australia, <sup>9</sup>Children's Health Queensland, Queensland Children's Hospital, South Brisbane, Australia, <sup>10</sup>Burns Service of Western Australia, Perth Children's Hospital and Fiona Stanley Hospital, Perth, Australia

**Background** While burn wound treatment generally involves 'de-roofing' of blisters, little attention has been paid to the biochemical composition of the blister fluid or burn wound exudate for its diagnostic or prognostic potential to assist in early clinical decision making.

**Methods** We examined the protein and metabolite composition of clinical paediatric burn blister fluid and negative pressure samples using liquid chromatography - tandem mass spectrometry and gas chromatography - mass spectrometry approaches respectively. The resulting mass spectra were analysed using multivariate statistics and various bioinformatics techniques, such as gene ontology and pathway enrichments.

**Results** We found that the blister fluid composition could discriminate burns of different clinical depth classification (superficial-partial thickness; deep-partial thickness and full-thickness); time to healing and time since burn injury. Identification of the molecules associated with more severe burns may provide insight into the expected wound healing trajectory and prediction of patients at risk of poor healing outcomes. Interestingly, the molecular profiles in blister fluid provided evidence of increased Neutrophil Extracellular Trap (NET) pathway activation, relative to the time from burn injury to sample collection. Therapeutic targeting of the NET pathway may stimulate improved burn wound healing outcomes.

**Conclusion** With further validation, the results of this study could translate to aid in clinical decision making or development of novel treatments. The findings also provide new insights into the early stages of burn wound biology in children.

## Molecular Characterisation of Paediatric Burn Blister Fluid Exosomes

Dr Marija Mijalkovska<sup>1,2</sup>, Dr Tuo Zang<sup>3,4</sup>, Dr Natalie Turner<sup>3</sup>, Dr Daniel Broszczak<sup>1</sup>, Prof Roy Kimble<sup>5</sup>, Prof Murray Mitchell<sup>3</sup>, A/Prof Leila Cuttle<sup>3,4</sup>, Prof Tony Parker<sup>1,2</sup>

<sup>1</sup>Tissue Repair and Translational Physiology Group, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology, Kelvin Grove, Australia, <sup>2</sup>Centre for Biomedical Technologies, Queensland University of Technology Kelvin Grove, Queensland, Australia, Kelvin Grove, Australia, <sup>3</sup>Centre for Children's Health Research, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology, Brisbane, Australia, <sup>4</sup>Centre for Children's Burns and Trauma Research, South Brisbane, Australia, <sup>5</sup>Department of Paediatric Surgery, Urology, Burns and Trauma, Children's Health Queensland, Queensland Children's Hospital, South Brisbane, Australia

**Background** The protein composition and genetic cargo of exosomes from burn blister fluids have not been described, despite their role in regulating cellular behavior in injury and disease.

**Methods** A protocol initially developed for plasma samples was adapted for isolating exosomes from burn blister fluids. Pooled 10 mL blister fluid samples from two groups of 10 patients with superficial partial thickness burns or deep partial thickness burns were processed using ultracentrifugation and subsequent size exclusion chromatography. Basic characteristics of the isolated exosomes were determined by Nanoparticle Tracking Analysis (particles / mL), Western Blot (established exosome markers), and Transmission Electron Microscopy (morphology). The protein content was examined by Liquid Chromatography Tandem Mass Spectrometry and the miRNA cargo was analysed using Next-Generation sequencing.

**Results** The protein composition was different between superficial partial and deep partial thickness burns, with superficial partial burns exhibiting proteins associated with immune system activation whereas proteins from deep partial thickness burns were more associated with protein folding and metabolism. Approximately 80 million single-end small RNAseq reads were generated, revealing differentially expressed miRNAs involved in tissue regeneration, scar formation, and other cellular processes. These findings provide insights into the roles of miRNAs although further analysis is required to confirm their functions.

**Conclusions** This study successfully isolated and characterized exosomes from paediatric burn blister fluid, uncovering significant differences in molecular composition between superficial partial and deep partial thickness burns. The results open new avenues for potential therapeutic interventions involving exosome delivered cargo found to regulate scarring processes and outcomes.

## Assessing the healthcare costs associated with venous leg ulcer compression bandages – a scoping review

Prof Declan Patton<sup>1</sup>

<sup>1</sup>RCSI, Dublin, Ireland

**Introduction** The venous leg ulcer (VLU) cost burden is expected to rise dramatically over the coming years. Given that compression therapy is the gold standard of treatment, this scoping review aimed to provide an overview of monetary costs in economic evaluations of treatment with compression bandages among adults with VLU.

**Method** A scoping review was conducted in February 2023. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used.

**Results** Ten studies met the inclusion criteria. Three comparisons were made: 1. *4 layer compression versus no compression* (3 studies). One study reported that 4 layer compression was more expensive than usual care, while the 2 other studies reported the converse. Within the three studies, the odds of healing were greater with 4 layer bandaging (OR: 2.20; 95% CI: 1.54-3.15;  $p=0.001$ ). 2. *4 layer compression versus other compression* (6 studies). Three studies presented the mean annual costs per patient associated with treatment (all costs). The MD is £172 (£150- £194;  $p=0.401$ ). All studies showed faster healing rates in the 4 layer study groups. 3. *Compression wrap versus inelastic bandage* (one study). Compression wrap was less expensive than inelastic bandage (£201 vs £335, respectively) with more wounds healing in the compression wrap group (78.8%,  $n=26/33$ ; 69.7%,  $n=23/33$ ).

**Conclusion** The results indicate that the costs of compression therapy are inconsistent. Future studies in this area are needed and these should use specific methodological guidelines to generate high-quality health economic studies.

## Enhancing early pressure injury detection: sub-epidermal moisture, ultrasound, epidermal hydration, pain, and temperature case study.

Hannah Wilson<sup>1,2</sup>, Prof Declan Patton<sup>1,2,3,4,5</sup>, Dr Aglecia Moda Vitoriano Budri<sup>1,2</sup>, Dr Fiona Boland<sup>6</sup>, Professor Tom O'Connor<sup>1,2,3,4,7</sup>, Professor Ciarán Osmond McDonnell<sup>8</sup>, Dr Himanshu Rai<sup>9,10</sup>, Professor Zena Moore<sup>1,2,3,4,7,11,12,13,14</sup>

<sup>1</sup>Skin Wounds and Trauma Research Centre (SWaT), Royal College Of Surgeons In Ireland (RCSI) University of Medicine and Health Sciences, Dublin, Ireland, <sup>2</sup>School of Nursing and Midwifery, RCSI University of Medicine and Health Sciences, Dublin, Ireland, <sup>3</sup>Fakeeh College of Health Sciences, Jeddah, Saudi Arabia, <sup>4</sup>School of Nursing and Midwifery, Griffith University, Queensland, Australia, <sup>5</sup>Faculty of Science, Medicine and Health, University of Wollongong, Wollongong, Australia, <sup>6</sup>Data Science Centre, School of Population Health, RCSI University of Medicine and Health Sciences, Dublin, Ireland, <sup>7</sup>Lida Institute, Shanghai, China, <sup>8</sup>Department of Vascular Surgery, Mater Misericordiae University Hospital, Dublin, Ireland, <sup>9</sup>Cardiovascular Research Institute Dublin (CVRI Dublin), Mater Private

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Network, Dublin, Ireland, <sup>10</sup>School of Pharmacy and Biomolecular sciences, RCSI, University of Medicine and Health Sciences, Dublin, Ireland, <sup>11</sup>Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia, <sup>12</sup>Department of Public Health, Faculty of Medicine and Health Sciences, Ghent University, Ghent, Belgium, <sup>13</sup>University of Wales, Cardiff, United Kingdom, <sup>14</sup>National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Menzies Health Institute Queensland, Queensland, Australia

**Situation** Pressure injuries pose significant risks to patients, necessitating early detection to prevent complications. This case study investigates the effectiveness of integrating comprehensive evidence-based assessment modalities for early pressure injury detection in a consenting 68-year-old male participant following cardiothoracic surgery in an Irish acute hospital.

**Action(s) taken/treatment(s) provided** Pre and post-operative assessments utilised sub-epidermal moisture measurement, ultrasound, temperature, epidermal hydration and the numeric pain intensity scale. Although visual skin assessment at the sacrum appeared normal one day preoperatively, sub-epidermal moisture and ultrasound revealed pressure injury development in the subdermal tissues. Additionally, borderline epidermal hydration and elevated sacral temperature were observed. The participant denied the presence of pressure area-related pain.

**Outcome(s)** Two hours postoperatively, non-blanching erythema indicated the pressure injury had emerged to the superficial skin surface. Sub-epidermal moisture and ultrasound confirmed pressure injury progression, supported by a decreased epidermal hydration and cooler sacral temperature relative to the adjacent skin. Notably, the participant reported pressure area-related pain once alert and orientated.

**Lesson(s) learned** Integrating multiple assessment modalities enhances early pressure injury detection, overcoming limitations of visual skin assessment<sup>1</sup>. Sub-epidermal moisture demonstrated superior feasibility compared to ultrasound, epidermal hydration and thermography, particularly in detecting early tissue changes. Furthermore, pain experienced at the sacrum suggests its association with pressure injury development, emphasizing the importance of pain assessment in at-risk individuals<sup>2</sup>. This case study underscores the importance of comprehensive assessment to prevent pressure injury complications.

1. Gefen A, Brienza DM, Cuddigan J, Haesler E, Kottner J. Our contemporary understanding of the aetiology of pressure ulcers/pressure injuries. *International wound journal*. 2022;19(3): 692-704.
2. Wilson H, Moore Z, Avsar P, Moda Vitoriano Budri A, O'Connor T, Nugent L, Patton D. Exploring the Role of Pain as an Early Indicator for Individuals at Risk of Pressure Ulcer Development: A Systematic Review. *Worldviews Evid Based Nurs*. 2021;18(4): 299-307.

## What is the prevalence of chronic venous disease among healthcare workers? A scoping review

Prof Declan Patton<sup>1</sup>

<sup>1</sup>RCSI, Dublin, Ireland

**Background** Chronic venous disease (CVD) occurs due to structural or functional disturbances to the venous system of the lower limbs. Signs and symptoms include leg pain, swelling, varicose veins and skin changes, with venous ulceration ultimately occurring in severe disease. We wished to assess the prevalence of CVD amongst healthcare workers.

**Method** A scoping review of existing publications exploring the prevalence of CVD among healthcare workers was conducted in July 2022. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used.

**Results** A total of 15 papers met the inclusion criteria. The mean sample size across all studies was 7361 (SD: ±1798). The total cohort included nurses, physicians, non-physician health care providers; technicians, rehabilitation therapists, audiologists and social workers and non-specific health care workers. The methods and tools used to estimate the prevalence of chronic venous disease varied throughout the studies and included self-reporting questionnaires, physician-made diagnoses, clinical and physical examinations using the CEAP classification system, and Doppler ultrasonography. Among the participants the mean prevalence of CVD was 58.5% and the mean prevalence for varicose veins was 22.1%.

**Conclusion** There is an increased prevalence of CVD in healthcare workers when compared to the general population. Therefore, there is a need for early diagnosis and the use of preventative measures to protect healthcare workers from CVD and varicose vein development.

## A Review of Evidence for Biodegradable Temporising Matrix Use in the Vascular Surgery Population

Dr Angus Pegler<sup>1</sup>, Dr Vivienne Moul<sup>1</sup>

<sup>1</sup>Sunshine Coast University Hospital, Birtinya, Australia

**Background/Purpose** Biodegradable Temporising Matrix (BTM) is a synthetic dermal substitute used primarily in burns and reconstructive surgery. BTM facilitates wound coverage to prevent infection, limits pain with dressings, and prepares or prevents the requirement for skin grafts or flaps. This study reviews the literature examining BTM in Vascular Surgical patients and adds evidence from outcomes of patients treated at the Sunshine Coast University Hospital.

**Methods** Literature review was performed for studies reporting BTM use in Vascular Surgical patients. Outcomes of graft success and wound healing were reviewed and collated. This evidence was combined with outcomes of patients treated with BTM at the Sunshine Coast University Hospital.

**Results** Use of BTM in Vascular Surgical patients has only recently been described in the literature and is limited to small studies demonstrating promising outcomes. BTM is applied following revascularisation in patients who require arterial intervention. Following application, patients routinely undergo negative pressure wound therapy with further applications of BTM and split thickness skin grafting as required. Outcomes of an additional fourteen diabetic and neuroischaemic wounds are reported from the Sunshine Coast University Hospital. Ten (71%) cases had underlying osteomyelitis, and 50% required revascularisation prior to application. These also demonstrate positive results with eight (57%) cases healed at between 20-387 days follow-up. No grafts failed or required removal.

**Conclusions** Application of BTM appears safe and effective for the management of both diabetic and non-diabetic ulceration in the Vascular Surgery population.

## Challenges to Implementing Topical Wound Oxygen Therapy for Non-Healing Ulceration in a Vascular Surgery Department

Dr Angus Pegler<sup>1</sup>, Dr Vivienne Moul<sup>1</sup>

<sup>1</sup>Sunshine Coast University Hospital, Birtinya, Australia

**Objectives** Cyclical topical wound oxygen therapy can significantly increase the likelihood of healing and reduce time to healing for chronic diabetic foot ulcers. Topical oxygen therapy was recently introduced in the Vascular Surgery Department at the Sunshine Coast University Hospital using the Topical Wound Oxygen Therapy (TWO2) device (AOTI) as an adjunctive therapy for non-healing ulceration following unsuccessful conservative management. This study outlines the challenges encountered during implementation and reports initial outcomes of this novel treatment.

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**Methods** All patients who have undergone topical oxygen therapy since implementation in June 2023 were included. Challenges encountered during implementation were identified through consultation with involved multi-disciplinary stakeholders. Data regarding wound size and characteristics were collected prospectively throughout the treatment course. Patients were continued on therapy until the wound was healed, or therapy was ceased due to skin grafting, poor tolerance or adherence.

**Results** Ten patients received topical wound oxygen therapy since June 2023. Therapy was provided through a daily outpatient clinic appointment. Challenges to implementation included staff education, cost, and logistic considerations. Five patients were treated for diabetic foot ulceration (50%), four (40%) for radiation induced ulceration, and one (10%) for other causes. Four patients (40%) achieved wound healing, three (30%) underwent treatment until biodegradable temporising matrix or split thickness skin grafting occurred, two (20%) ceased treatment due to poor tolerance, and one (10%) is ongoing.

**Conclusions** Implementation of topical wound oxygen therapy is feasible and treatment is well tolerated. Early results suggest a positive effect in patients with previously non-healing ulcers.

## Stage Four Pressure Injury healed utilising 0.2% hyaluronic acid topical range, with basic wound care

Mrs Kirily Podkriznik<sup>1</sup>, Mrs Edwina McDonald, Mrs Hayley Nugara, Mrs Amy Bodley, Mrs Katusha Muratore  
<sup>1</sup>Monash Health, Clayton, Australia

**Situation** A fifty-one year old woman, living independently, presented to the Emergency Department with lower limb cellulitis and unmanaged lymphoedema. Incidentally an unstageable pressure injury was discovered in her right gluteal fold. The initial dimensions documented of the wound were 15cm long by 4cm wide by 6cm deep. Discovery of this pressure injury resulted in a six month admission over the acute and subacute settings. In the acute setting the Plastics Surgery Team dictated conservative wound care with strict mobility limitations.

**Action** Upon being transferred to subacute the patient was referred to the Stomal Therapy Team who initiated a new wound care regime initially utilising a 0.2% hyaluronic acid and 1% silver sulfadiazine combination treatment cream along with basic packing, these dressings were attended to daily. After 11 weeks, treatment was then changed to daily 0.2% Hyaluronic acid cream application with antimicrobial packing and foam to secure.

**Outcome** With twice weekly reviews by the Stomal Therapy Team and slight modifications to the wound care regime, this wound was completely healed prior to discharge.

**Lesson Learned** The end results of healing a significant, life impacting wound, utilising 0.2% hyaluronic acid topical range and basic dressings has highlighted that a cost effective cream can greatly compliment simple, affordable and accessible dressings to help heal complex wounds.

## International consensus on the definition and timeframe of a hospital acquired pressure injury.

Mrs Kathren Puyk<sup>1</sup>, Mrs Michelle Tuck<sup>1</sup>, Mrs Judy Reeves<sup>1</sup>, Mrs Hermione Shea<sup>1</sup>, Professor Tracey Bucknall<sup>1,2</sup>  
<sup>1</sup>Alfred Health, Melbourne, Australia, <sup>2</sup>Deakin University, Burwood, Australia

**Background/Purpose** Pressure Injuries have a significant impact on the patient and healthcare organisations. Many studies discuss the prevalence rate of a hospital acquired pressure injury but few define the time frame used to measure this harm. This study aimed to identify the time frames used internationally to report a hospital acquired pressure injury and to obtain expert consensus on what time frame defines this injury.

**Methods** This research used a Delphi survey design. Expert participants were identified through national and international organisations. International consenting experts comprised of 43 individuals from 11 countries, 42 were nurses. Three rounds were conducted from September 2022 to June 2023. A percentage level agreement or consensus was set at >70%. Items with less were removed.

**Results** This research highlighted the different international interpretations of defining a hospital acquired pressure injury in organisations varying from 0 hours to 96 hours from admission. After three rounds expert consensus was reached. 100% of experts identified a pressure injury present on admission/community acquired was up to 24 hours from admission, with some variation for Deep Tissue Injury and Unstageable pressure injuries.

**Conclusions** Inconsistencies in hospital acquired pressure injury definitions impact incident reporting, coding, and correct allocation of harm from a pressure injury as present on admission or a hospital-acquired complication. This impacts benchmarking across point prevalence studies. Using expert consensus, an International hospital acquired pressure injury definition was reached. Future research could use this time to support benchmarking in point prevalence and incidence studies. Further research is recommended to test this Delphi consensus.

## Making a Difference – Silicone Super Absorbent Polymer Dressings in Patients with Cancerous Wounds

Ms Tabatha Rando<sup>1</sup>  
<sup>1</sup>Royal Adelaide Hospital, ADELAIDE, Australia

**Background** Cancerous wounds present a challenge to both patients and clinicians. They may develop because of a primary tumour growth in the skin due to metastasis, or due to skin invasion by tumours emerging from within the body. Cancerous wounds may present as a crater-like ulcer, or as raised nodules with a fungating cauliflower-like appearance which make dressings difficult to apply. They are associated with malodour, necrosis, significant pain, bleeding, peri-wound moisture associated skin damage and secondary infection.

**Aim** To evaluate the performance of Silicone Superabsorbent Polymer (SSAP) dressings in patients with cancerous wounds.

**Methods** A clinical evaluation was undertaken to detail the characteristics and performance of SSAP dressings by nursing staff in acute care hospital and outpatient wards. Nursing staff completed a product evaluation form post dressing procedure in patients with cancerous wound(s). Outcome product evaluation measures included exudate management, peri-wound condition, self-report comfort of dressing, ease of use, ability of dressing to maintain its integrity during wear time and overall clinical performance of the SSAP dressing.

**Results** Twenty-six nurses over 9 acute care wards and 1 outpatient department, completed a total of 41 product evaluation forms caring for patients with cancerous wounds. The majority of evaluations noted exudate was contained within the dressing, with atraumatic dressing change and patient comfort being rated “good to excellent”. The impact of wound topography on dressing function and incidental findings will also be presented.

**Conclusions** The use of SSAP dressings is an option to support patients with cancerous wounds.

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## A Training Module for Assessing Pressure Injuries among Nursing Home Residents with Darker Skin Tones

Mrs Udeshika Priyadarshani Ravilal Devananda Sugathapala<sup>1,2,3</sup>, Professor Aindralal Balasuriya<sup>5</sup>, Professor Brigid M Gillespie<sup>1,2,4</sup>, Professor Wendy Chaboyer<sup>1,2</sup>, Dr Sharon Latimer<sup>1,2</sup>

<sup>1</sup>School of Nursing and Midwifery, Griffith University, Gold Coast Campus, , Australia, <sup>2</sup>NHMRC Centre of Research Excellence in Wiser Wound Care, Griffith University, Brisbane, , Australia, <sup>3</sup>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, , Sri Lanka, <sup>4</sup>Gold Coast University Hospital and Health Service, Gold Coast, , Australia, <sup>5</sup>Department of Para Clinical Sciences, Faculty of Medicine, General Sir John Kotelawala Defence University, , Sri Lanka

**Objective** To describe the development and implementation of a research assistant training module for the assessment and classification of pressure injuries in older individuals with darker skin tones residing in nursing homes.

**Methods** The training module was developed based on social constructivism theory and the integrated interactive teaching model. Module content, derived from a review of pressure injury literature, covered the knowledge and skills for pressure injury assessment and classification in darker skinned individuals. Four Bachelor of Nursing prepared research assistants in Sri Lanka were recruited and trained using the new training module. Using pre and post-tests, scored out of 20 points, mastery of the theory and practical components were assessed.

**Results** This training module was underpinned by pressure injury clinical practice guidelines and a validated skin tone tool. It was delivered through face-to-face lectures, small group discussions, and practical application sessions. Photographic images were used to assess skills in classifying pressure injuries. The mean pretest score was  $9 \pm 1.6$  (95% confidence interval 6.4–11.6) with assessment and classification into different stages of pressure injury knowledge lacking. The mean post-test score was  $16 \pm 0.8$  (95% confidence interval 14.7–17.3) indicating an improvement of the participants' ability to assess and staging pressure injuries. The time required to deliver the module content, including classroom and practical-based activities, was 7 hours.

**Conclusions** Early pressure injury detection among older individuals with darker skin tone is challenging but this module can be used as a new tool for training nurses in assessing pressure injuries.

## Pressure Injuries in Nursing Home Residents with Darker Skin Tones: A Prospective Cohort Study

Mrs Udeshika Priyadarshani Ravilal Devananda Sugathapala<sup>1,2,3</sup>, Dr Sharon Latimer<sup>1,2</sup>, Professor Brigid M Gillespie<sup>1,2,4</sup>, Professor Aindralal Balasuriya<sup>5</sup>, Professor Wendy Chaboyer<sup>1,2</sup>

<sup>1</sup>School of Nursing and Midwifery, Griffith University, Gold Coast Campus, , Australia, <sup>2</sup>NHMRC Centre of Research Excellence in Wiser Wound Care, Griffith University, Brisbane, , Australia, <sup>3</sup>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, , Sri Lanka, <sup>4</sup>Gold Coast University Hospital and Health Service, Gold Coast, , Australia, <sup>5</sup>Department of Para Clinical Sciences, Faculty of Medicine, General Sir John Kotelawala Defence University, , Sri Lanka

**Objective** To measure the prevalence and incidence of pressure injuries among nursing home residents with darker skin tones.

**Methods** A multisite cohort study involving 210 consenting residents ( $\geq 60$  years old) from nine Sri Lankan nursing homes. Semi-structured observations and chart audits were used to collect data from July to October 2023. Baseline assessments included head-to-toe skin evaluations to determine pressure injury prevalence, Braden Scale, and Fitzpatrick skin tone assessments. Weekly follow-ups for 12 weeks assessed pressure injury incidence.

**Results** Participants age ranged from 60 to 105 years with a median of 76.8 (interquartile range 72.6 – 82.9) years. Most (96.7%; 203/210) residents had a light to dark brown coloured skin tone while the rest were deep black. One third (29.5%; 62/210) had mild to severe pressure injury risk according to the Braden Scale. Pressure injury point prevalence at baseline was 8.1%; (17/210) (95% confidence interval 4.8%–12.6%). Cumulative incidence was 17.1% (36/210) (95% confidence interval 12.3%–22.9%). Incidence density was 15.8 residents per 1000 resident weeks (95% confidence interval 11.1–21.9 per 1,000 resident weeks). Most pressure injuries were located on the ankle at baseline (29.4%; 5/17) and in the follow-up period (27.8%; 10/36). Stage I pressure injuries were most common: 58.8% (10/17) at baseline and 44.4% (16/36) during follow-up.

**Conclusions** About one in six nursing home residents with darkly pigmented skin developed a new pressure injury over 12 weeks. Despite staff and resource constraints, there remains a need to focus on the prevention of pressure injuries.

## Calciophylaxis wounds on the lower legs of a renal patient healed using wet dressings.

Dr Susan Redmayne<sup>1</sup>

<sup>1</sup>Family Medical Practice @ 2325, NULKABA, Australia

A community-based end-stage female renal patient had developed a full thickness necrotic wound caused by calciophylaxis on her lower left leg, in late 2019.

In the absence of many international publications to provide guidance, wet dressings were chosen to debride the necrotic tissue from the wound. A method of using three types of hydro-responsive wet wound dressings was developed in a sequence as the wound moved through the healing processes. Dressings were changed three times a week.

The necrotic tissue was quickly debrided from the wound and full healing was achieved in three months. Hyperhydration and the importance of the peri-wound cell care was newly acquired knowledge. The patient developed several other wounds on her lower right leg which were fully healed using the same wound care regime.

Wounds caused by calciophylaxis are rare and so having the ability to manage and provide the wound care for this patient in Covid lockdown over a thirteen-month period was unique. The use of wet dressings avoided the need for surgical debridement and concurrently provided localised pain relief. Health professionals need more education around this condition so that such wounds are quickly identified and acted on before the renal patient develops sepsis. Further research is needed using this wound management process on other patients to see if it can be widely beneficial. Medical treatment with sodium thiosulphate was used for two weeks, was this enough? The identification of risk factors leading to wounds caused by calciophylaxis in renal patients is required.

## A Case Series of Failed FTSG Describing Clinical and 3D-Surface Imaging Change Following Amnion Allografting

Dr Gagandip Sanghera<sup>1</sup>, Ms Allison Sutherland<sup>1</sup>, Mr Michael Wagels<sup>1</sup>, Ms Melanie Hickson<sup>1</sup>, Mr Lachlan Yaksich<sup>1</sup>

<sup>1</sup>Princess Alexandra Hospital, Brisbane, Australia

**Background** Human amnion tissue has been used for many centuries to treat ulcers, ocular surface pathology, lacerations and burn injuries. Amnion, like other placental tissue products, is known to produce anti-inflammatory, antibacterial, immune-modulating effects as a function of growth factors and extracellular chemical stimuli innate to this tissue in addition to providing a biological scaffold for re-epithelisation.



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**Method of Intervention** Two patients (male, average age 75yo) were reviewed at the SLAM clinic following a recent failed FTSG relating to resection of various skin carcinoma. Significant medical histories included a mix of respiratory, vascular, urology and endocrine pathology as well as prolonged nicotine dependency. Following debridement, a lyophilized full-thickness human amnion allograft was immersed in saline, draped over the wound bed and covered with Hypafix. 3D surface scanning was conducted at initial presentation, post-debridement and after allograft implantation.

**Observations and Outcomes** Of the two cases, the first received a single amnion allograft and was followed up weekly. Day 19 post-grafting, the amnion had completed resorbed into the original wound bed which had closed without complication. The second case required two allografts seven days apart. Whilst there was evidence of circumferential granulation tissue by Day 7, there was also exudate present and further debridement required. After the second allograft, the amnion had resorbed and wound closed; however, focal hyper-granulation was observed and managed with AgNO<sub>3</sub> cauterisation. 3D surface scanning was compared with clinical photos and determined to have utility as a method to evaluate superficial tissue remodelling.

**Conclusions** Amnion allograft intervention has potential to accelerate secondary intention closure following FTSG.

## Venous outflow under compression when the deep and superficial venous systems are incompetent

Ms Monika Samolyk<sup>1</sup>, Mr Martin Forbes<sup>2</sup>, Prof Neil Piller<sup>3</sup>

<sup>1</sup>Regional Wounds Victoria (Gateway Health), Wangaratta, Australia, <sup>2</sup>Regional Vascular Services, Melbourne Institute of Vascular Interventional Radiology, Bendigo, Australia, <sup>3</sup>Flinders Centre for Innovation in Cancer, College of Medicine and Public Health, Flinders University and Medical Centre, Bedford Park, Australia

**Background** In February 2024, a 63-year-old (height 203 cm) male with recurrent left lower limb wounding over seven years, presented to our interdisciplinary lower limb circulation diagnostic clinic. Whilst a vascular sonographer scanned the lower limbs, the advanced practice wound nurse consultant/ lymphoedema practitioner screened for chronic oedema/lymphoedema. The left leg showed extensive chronic deep vein thrombosis, an incompetent great saphenous vein and below knee stage 2 lymphoedema. The right deep and superficial systems were competent and chronic oedema/lymphoedema of the right leg was absent. A Doppler examination of the bilateral lower limb arteries was normal.

**Objectives** To investigate the effects of an adjustable compression inelastic wrap on the main venous outflow of an incompetent great saphenous vein, when alternate venous outflow is either obstructed or incompetent.

**Methods** In early April 2024, the participant will have bilateral distal great saphenous vein diameters measured by duplex scanning with no wrap, an adjustable below the knee and a full lower limb wrap. All measurements will be recorded with mild, moderate, and strong compression, both in the lying and standing positions, after appropriate positional equilibration.

**Results** The anticipated outcomes of this study are to inform the potential for wound healing in this and similar participants, and to assist in future practice improvement and encourage more research.

**Conclusions** Controversy remains regarding the therapeutic effects of compression in deep venous incompetence. It is anticipated that the response of the incompetent great saphenous vein to different levels of compression will add to the understanding of the therapeutic consequences of compression therapy.

## Early diagnosis of Charcot neuro-osteoarthropathy using MRI and effect on patient outcomes: seven-year retrospective audit.

Dr Deborah Schoen<sup>1</sup>, Dr Laksh Lakkhoo, Dr Sharlene Vu, Dr Joanna Scheepers

<sup>1</sup>The University Of Western Australia, Nedlands, Australia

**Background** There remains a paucity of research comparing the diagnostic and therapeutic outcomes between Magnetic Resonance Imaging (MRI) and x-ray modalities for Charcot neuro-osteoarthropathy CNO. This retrospective study investigates the use of offloading devices, duration of offloading and final footwear outcomes dependent on imaging at diagnosis.

**Methods** Medical records from a secondary hospital high-risk foot clinic in Perth, Western Australia, were systematically reviewed. Data collected included baseline medical history, location of CNO, Eichenholtz stage or Chantelau and Grutznel grade at diagnosis, type and duration of offloading, and final footwear outcomes.

**Results** Twenty-eight patients met the inclusion criteria. All had diabetes and peripheral neuropathy. All patients received either an MRI (43%) or x-ray (57%) to confirm the diagnosis of active CNO. 5 (17.9%) patients who were diagnosed on MRI had grade 0 CNO whilst 23 (82.1%) patients who were diagnosed on x-ray had stage 1 CNO. No statistical significance was found between the type and duration of offloading, resolution of CNO, footwear and transtibial amputation (TTA) outcomes across those diagnosed with MRI or x-ray.

**Conclusion** No statistical significance in patient outcomes was found between those diagnosed with grade 0 on MRI and those diagnosed with stage 1 on x-ray.

## Measuring high-risk foot patient experiences and satisfaction through their journey in Australian tertiary hospital clinic

Dr Deborah Schoen<sup>1</sup>, Dr Gareth Cooper, Dr Anthony Gielens, Dr Alinda Lee, Dr Greg Lewis, Dr Damyn Packwood-Tuhakaraina, Dr Cara Westphal, Dr Kirsten Neilson

<sup>1</sup>The University Of Western Australia, Nedlands, Australia

**Background** To assess patient experiences and perspectives with care received at an Australian tertiary hospital high-risk foot clinic and the care's impact on the patients' reported quality of life (QoL).

**Methods** A mixed methods cross-sectional study recruited patients attending the tertiary hospital high-risk foot clinic over a five-month period and assessed the patients using the Wound-QoL-17 tool, a patient satisfaction survey, and the Australian Diabetic Foot Minimum Dataset.

**Results** Eighty-five patients attending the clinic participated in the study, with an average age of 63.9 ( $\pm$  13.9) and 83.5% male. The total global wound-QoL-17 score had a median of 2.3 with a 95% CI of [2.3,2.7]. The median values of the wound-QoL-17 subscales were 1.8 with 95% CI [1.8,2.1] for "Body", 2.8 with 95% CI [2.6,3.1] for "Psyche", and 2.2 with 95% CI of [2.4,2.9] for "Everyday Life". The patient satisfaction reported a high satisfaction level with the clinic and staff, with common themes of improvement relating to accessibility (24%). Correlations between global wound score and patient satisfaction themes of staff satisfaction, clinic rating, and patient understanding were statistically insignificant when comparing the wound-QoL-17 to any aspect of the patient satisfaction survey.

**Conclusions** The observed relationship between the levels of patient satisfaction and their QoL was too slight to infer a definitive conclusion and would benefit from further research studies involving larger populations.

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## Bilateral Foot Calciphylaxis management by High Risk Foot Service – outpatient amputation

Ms Saskia Schwarzer<sup>1</sup>

<sup>1</sup>High Risk Foot Service, Liverpool Hospital, Liverpool, Australia, <sup>2</sup>South West Sydney Limb Preservation and Wound Research, Liverpool, Australia

**Situation: Outline of case study situation** Patient referred to High Risk Foot Service from GP for management of bilateral foot wounds. Presented as bilateral dry necrosis to the level of mid metatarsals managed by only her husband. Was diagnosed with calciphylaxis diagnosed 12 months prior following a lengthy admission. Patient was offered bilateral below knee amputation which she declined. Management included bathing in antiseptic wash, povidone iodine paint, drying with hair dryer and dressing with a bluey.

**Actions taken/treatments provided: Actions, treatments, materials and analytical procedure used** Establishing trust with patient and husband to develop a management plan. Developing treatment strategy that fitted into patients busy schedule of medical appointments, including dialysis three times weekly.

Outpatient removal of necrotic tissue and bones at the level of the metatarsal shaft by podiatrist. Ongoing removal of bone fragments and non-viable tissue to obtain wound healing within 1 year.

Use of calcium alginate dressings in debridement and management of bleeding.

**Outcomes: Summary of the results in sufficient detail to support lessons learned** Safe and effective outpatient removal of necrotic tissue and exposed bones to allow wound healing. Able to be fitted for footwear and able to mobilise short distances and transfer. Development of trust and a relationship with patient to allow for treatment despite fears of amputation.

**Lessons learned: Lessons learned during case study treatment** Debridement and removal of necrotic tissue in the outpatient setting by Podiatrist saved tissue, prevented major amputation and preventing admission.

Ideal dressing management should be considered in conjunction with involvement of patient and family.

Removal of necrotic tissue and bone fragments allows for better pain and wound management.

## Tackling sustainability and waste in wound management

Mrs Lynette Thomas<sup>1</sup>

<sup>1</sup>HNELHD, Wallsend, Australia

**Objectives** A growing concern for the environment from the outcome of waste in health care provision triggered action by a community health service in Australia. Government health and environment policies are in place to address waste and sustainability. The local health service aim is to be carbon and waste neutral by 2030.

**Methods** A stakeholder working party included community nurses, nurse unit managers, a finance & procurement manager, infection prevention and control nurse, Sustainability Project Officer and a Nurse Practitioner Wound Management. Surveys across community nursing sites with response on what was the use of the plastic resealable plastic bags and alternatives to consider. A trial that was supported by infection prevention and control occurred on alternative, reports from procurement and feedback survey occurred pre, during and post the trial. Consumer engagement occurred through rounding interviews. Measurement on use and costings occurred.

**Results** Consumers engaged in the project echoed clinicians concerns on use of the plastic bags.

12 months prior to implementation, procurement data reported 22,850 single use resealable plastic bags were ordered by sites. Since implementation, no single use resealable plastic bags have been procured and nil adverse events reported. Finance reports indicated significant cost saving benefits in using alternative option.

**Conclusions** Adopting an alternative option to the single use resealable plastic bags is of benefit to address environmental concerns and meet policy without any adverse events identified. Plan to cease single use resealable plastic bags across all community sites in the health service is being considered.

## Lower extremity ulcers in General Medicine: Observational study on aetiology, risk factors and management

Mrs Larelle Upton<sup>1</sup>

<sup>1</sup>Alfred Health, Prahan, Australia

**Objectives** Prevalence of lower extremity ulcers is rising due to an increase in population risk factors such as advanced age, dyslipidaemia, smoking, diabetes and. This study aims to identify aetiology, risk factors and management of lower limb ulcers in General Medicine patients.

**Methods** A combined retrospective and prospective cross-sectional observational study was undertaken of General Medicine patients with lower limb ulcers admitted to a major metropolitan health service during a period of March to December 2023. Patients were identified through an internal database of patients referred to the Wound Clinical Nurse Consultants, and data was retrieved from the electronic medical record.

**Results** A total of 89 patients met the inclusion criteria. Median age was 76.8 years, and 48% were men. Aetiologies included venous (40%), mixed (25%), other (15%), pressure (11%), diabetic (6%) and arterial (3%). Risk factors were age > 55 years (90%), hypertension (64%) and heart failure (58%). 40% had cellulitis as an associated diagnosis. 69% of patients with venous ulcers had compression therapy initiated. 99% of patients had wound dressings and two-thirds of patients were given antibiotics. The most common outpatient referral was to wound clinic or community nursing.

**Conclusions** Accurate diagnosis of ulcer type is imperative as treatment differs significantly depending on the underlying pathology. Clear understanding of targeted investigations, management and appropriate follow-up will reduce complications, accelerate healing and improve quality of life. There is a need for further investigation with larger cohorts to determine areas for improvement in identifying and managing lower extremity ulcers.

## Hospital-Acquired Pressure Injury incidence rate in Palliative Care patients admitted to an acute hospital setting

Ms Sarooun Ven<sup>1,2,4</sup>, Dr Michael Steele<sup>1,2</sup>, Professor Paul Fulbrook<sup>1,2</sup>, Associate Professor Adam Burston<sup>1,2</sup>, Dr Josephine Lovegrove<sup>3</sup>, Dr Sandra Miles<sup>1,2</sup>, Ms Susan Prince<sup>4</sup>

<sup>1</sup>Australian Catholic University, Brisbane, Australia, <sup>2</sup>Nursing Research & Practice Development Centre, The Prince Charles Hospital, Cherside, Australia, <sup>3</sup>Griffith University National Health and Medical Research Centre of Research Council Centre of Excellence in Wiser Wound Care, Gold Coast, Australia, <sup>4</sup>Palliative Care Unit, The Prince Charles Hospital, Cherside, Australia

**Objectives** To describe the four-year incidence rate of pressure injury (PI) in adult inpatients admitted under the palliative care (PC) team in an acute hospital setting.

**Methods** A 16-bed Palliative Care Unit (PCU) at a tertiary hospital in Queensland, Australia. Retrospective data from three databases, 1) hospital incident reporting, 2) audit database, and 3) coding data, were used to identify hospital-acquired pressure injuries (HAPI) cases of PC patients. Data were also collected from patient medical charts and the Palliative Care Outcomes Collaboration database for patient demographics and clinical information. Descriptive statistics describe the patient demographics and characteristics. Chi-Square and Mann-Whitney U tests reported the association between acute PC versus End-Of-Life (EOL) patients.

**Results** The overall HAPI incidence rate was 4.15% (n=92) for the four-year period, with a rate of 2.7% in those in the acute PC cohort (n=60; 65%), and 1.44% in those at EOL (n=32; 35%). Many patients in the acute PC cohort were in the deteriorating PC phase (n=48; 52.2%) when a PI developed. Hospital Length of Stay (p=0.019) in the acute PC cohort was significantly longer (p<0.05).

**Conclusions** This study highlights differences in the HAPI incidence rate across the inpatient PC population. Notably, the clinical goals of care for acute PC and EOL patients differ; therefore, further research is needed to assess PI risk in the context of prevention for acute PC patients.

## Pressure injury risk assessment for palliative care patients in acute hospital settings: A scoping review

Ms Saroeun Ven<sup>1,2</sup>, Professor Paul Fulbrook<sup>1,2</sup>, A/Prof Adam Burston<sup>1,2</sup>, Dr Josephine Lovegrove<sup>2,3</sup>, Dr Sandra J. Miles<sup>1,2</sup>

<sup>1</sup>Australian Catholic University, Brisbane, Australia, <sup>2</sup>Nursing Research & Practice Development Centre, The Prince Charles Hospital, Chermanside, Australia, <sup>3</sup>Griffith University National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Gold Coast, Australia

**Objectives** To investigate what is known about pressure injury (PI) risk assessment for acute palliative care patients and identify which PI risk assessment tools are most appropriate for this cohort.

**Methods** The Population-Concept-Context mnemonic framed the search strategy for the review, which included studies of any design, as well as articles and guidelines relating to PI risk assessment in acute palliative care patients. The protocol was registered prospectively with Open Science Framework. Five nursing/health databases (CINAHL, MEDLINE, Scopus, Web of Science, EMBASE), Google Advanced Search, and three grey literature databases were searched.

**Results** Initial searches returned 2,576 results, with fifteen articles meeting the inclusion criteria. Twenty PI risk assessment tools/methods were identified; however, no articles reported the use of a PI risk assessment tool designed specifically for acute palliative care patients. Additionally, definitions used to describe palliative care patients were inconsistent, and no articles clearly defined the differences between acute palliative care patients and those at end-of-life.

**Conclusions** Active PI prevention for acute palliative care patients is necessary to prevent avoidable reductions in quality of life and potential complications of hospitalisation such as infection and pain. Risk assessment is the crucial first step to PI prevention. The results of this review clearly identify the need to develop a new PI risk assessment tool for acute palliative care patients, which accurately accounts for their cohort specific needs.

## Barriers and Facilitators to De-implementing Alternating Pressure Air Mattresses Overuse: a Qualitative Study

Dr Ching Shan (Angela) Wan<sup>1,2,3</sup>, Ms Mika Musgrave-Takeda<sup>1,2</sup>, Professor Brigid Gillespie<sup>3,4</sup>, Dr Georgia Tobiano<sup>3,4</sup>, Professor Elizabeth McInnes<sup>1,2,3</sup>

Nursing Research Institute, St Vincent's Health Network Sydney, St Vincent's Hospital Melbourne & Australian Catholic University, Melbourne, Australia, <sup>2</sup>School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Melbourne, Australia, <sup>3</sup>National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Griffith University, Gold Coast, Australia, <sup>4</sup>Gold Coast University Hospital, Gold Coast Health Nursing and Midwifery Education and Research Unit, Gold Coast, Australia

**Objectives** To explore bedside nurses' and occupational therapists' perceptions of the barriers and facilitators to de-implementing alternating pressure air mattresses (APAM) overuse for pressure injury prevention in an acute care setting.

**Methods** Face-to-face or videoconference focus groups with bedside nurses and semi-structured individual interviews with occupational therapists were conducted in a tertiary hospital in Melbourne, Australia. Participants were purposively sampled from medical, surgical, subacute and geriatric rehabilitation wards. Interviews were audiotaped, and the transcripts were first thematically analysed inductively. Barriers and facilitators identified as themes were then deductively mapped to the Theoretical Domains Framework (TDF) and behaviour change techniques (BCTs).

**Results** Thirteen nurses and four occupational therapists were interviewed. Four themes on barriers and facilitators to APAM overuse were identified, which included: 1) nurses using APAM as a one-off quick fix to replace with repositioning (TDF: Intentions domain); 2) junior staff lacking understanding about pressure relief equipment (TDF: Knowledge domain); 3) nurses being overcautious about pressure injury risk related to downgrading APAM (TDF: Professional Role and Identity domain); and 4) having ward-based nursing and occupational therapy clinical champions to improve interdisciplinary collaboration (TDF: Environmental Context and Resources domain). The mapped BCTs included individual- and organisational-level strategies, including clinical decision aids, multidisciplinary-team-based education workshops, audit and feedback mechanisms and clinical champions.

**Conclusions** The TDF and BCT mapping from the identified barriers and facilitators has informed the development of a multi-level, multifaceted de-implementation intervention to reduce APAM overuse, which will be evaluated in a de-implementation intervention trial.

## Nutritional Interventions for Preventing and Treating Pressure Injuries: a Cochrane Systematic Review and Meta-Analysis

Dr Gero Langer<sup>1</sup>, Dr Ching Shan (Angela) Wan<sup>2,3</sup>, Dr Astrid Fink<sup>4</sup>, Dr Lukas Schwingshackl<sup>5</sup>, Dr Daniela Schoberer<sup>6</sup>

<sup>1</sup>Institute of Health and Nursing Sciences, Martin Luther University Halle-Wittenberg, Germany, <sup>2</sup>Nursing Research Institute, St Vincent's Health Network Sydney, St Vincent's Hospital Melbourne & Australian Catholic University, Melbourne, Australia, <sup>3</sup>National Health and Medical Research Council Centre of Research Excellence in Wiser Wound Care, Griffith University, Gold Coast, Australia, <sup>4</sup>Department of Health, District administration Groß-Gerau, Germany, <sup>5</sup>Institute for Evidence in Medicine, Medical Center - University of Freiburg, Faculty of Medicine, University of Freiburg, Germany, <sup>6</sup>Institute of Nursing Science, Medical University Graz, Austria

**Purpose** This is a Cochrane systematic review update aiming to assess the effects of different nutritional interventions for preventing and treating pressure injuries.

**Methods** Randomised controlled trials published until May 2022 were identified from the Cochrane Wounds Specialised Register, the Cochrane Central Register of Controlled Trials, Medline, EMBASE and CINAHL. We included trials in people with or without existing pressure injuries, comparing at least two nutritional interventions to prevent or treat pressure injuries. The Cochrane risk of bias tool for randomised trials was used for critical appraisal. Where appropriate, a random-effects model was used in the meta-analyses. GRADE was used to assess the certainty of evidence.

**Results** Thirty-three trials with 7920 participants met the inclusion criteria. Eleven trials compared six types of nutritional interventions to prevent pressure injuries. The evidence about the effects of these six nutritional interventions on pressure injury incidence compared with standard diets is very uncertain. Twenty-four trials compared ten types of nutritional interventions for pressure injury treatment. Compared to standard diets, energy, protein and micronutrient supplements may slightly increase the number of healed pressure injuries (Risk Ratio 1.45, 95% CI 1.14 to 1.85). However, the evidence is of low certainty due to the lack of high-quality research. The evidence on arginine supplementation use in pressure injury treatment is inconsistent and of very low certainty with the combination of different micronutrients.

**Conclusion** Caution should be made when prescribing particular nutritional interventions for preventing or treating pressure injuries. Individualised nutrition care plan based on malnutrition status is suggested.

## Consumers tell their stories to promote evidence-based and person-centred chronic wound management

Julianne Whyte<sup>2</sup>, Brad Rossiter, Catherine Leahy<sup>3</sup>, Dr Kate Kennett<sup>1</sup>, Beverley Gow-Wilson<sup>1</sup>, Jenny Casperson<sup>1</sup>

<sup>1</sup>Agency For Clinical Innovation, St Leonards, Australia, <sup>2</sup>Amaranth Foundation, Corowa, Australia, <sup>3</sup>Western NSW Local Health District, Orange, Australia

**Situation** People living with chronic wounds have described the impacts on their relationships, mental wellbeing, sense of self, and many other aspects of their lives. Chronic wound consumers can face misunderstanding about the complexity of their needs, resulting in stigma of “non-compliance” or exclusion from decision-making<sup>1</sup>.

**Actions taken** Listening to consumer stories is a powerful way to influence clinician practice as stories can create empathy, broaden understanding, and generate motivation to improve practice<sup>2</sup>. Clinicians and consumers partnered to tell the stories of people who have lived with chronic wounds with the aim to increase health worker compassion and provide inspiration to provide evidence-based and person-centred chronic wound management.

**Outcome** Four videos were produced featuring consumers describing their personal experiences of living with a chronic wound, psychosocial impacts, the importance of receiving person-centred care and why evidence-based wound management is essential to improve consumer outcomes. The videos have been used across NSW for clinical education, consumer advocacy, quality improvement projects and to increase awareness of wound management services. Tools developed to facilitate use of the videos include a reflective-practice guide, a consumer information flyer, and information for tertiary educators about how to incorporate the videos in student learning.

**Lessons learned** This initiative emphasises the importance of consumer narratives in healthcare, illustrating their capacity to cultivate empathy among clinicians and drive improvement in practice. Collaboration between healthcare providers and consumers, with a focus on patient centred care and evidence-based approaches, facilitates positive change, awareness, and advocacy in chronic wound management.

### References

1. The Agency for Clinical Innovation (2021). Organisational models of care for chronic wound: Evidence check. Experiential evidence: healthcare consumers and carers. [https://aci.health.nsw.gov.au/data/assets/pdf\\_file/0011/665516/Organisational-models-of-care-for-chronic-wound-experiential-evidence-healthcare-consumers-and-carers.pdf](https://aci.health.nsw.gov.au/data/assets/pdf_file/0011/665516/Organisational-models-of-care-for-chronic-wound-experiential-evidence-healthcare-consumers-and-carers.pdf)
2. Ingram, C. (2021). Storytelling in medical education, clinical care, and clinician well-being, Archives of Medicine and Health Sciences, 9, 337-344.

## Getting under the skin of a grade 1 pressure injury

Prof Peter Worsley<sup>1</sup>

<sup>1</sup>University Of Southampton, Southampton, United Kingdom

**Introduction** The most common type of pressure ulcer is a stage 1, characterized by non-blanchable erythema over intact skin [1]. However, little is known regarding the local changes in skin structure and function over the site of injury. The aim of this study was to evaluate changes in skin over the site of a stage 1 pressure ulcer in cohort of elderly inpatients.

**Methods** This was a single center case controlled longitudinal cohort study based at a large university hospital (UK). Skin was characterized in 50 patients over 2-3 time points using an array of measurements including biophysical (Transepidermal water loss, hydration), biomarkers (inflammatory markers in sebum, corneocytes) and imaging (optical coherence tomography). Two sites were assessed including the stage 1 pressure ulcer and a control site (10mm away) (Figure 1).

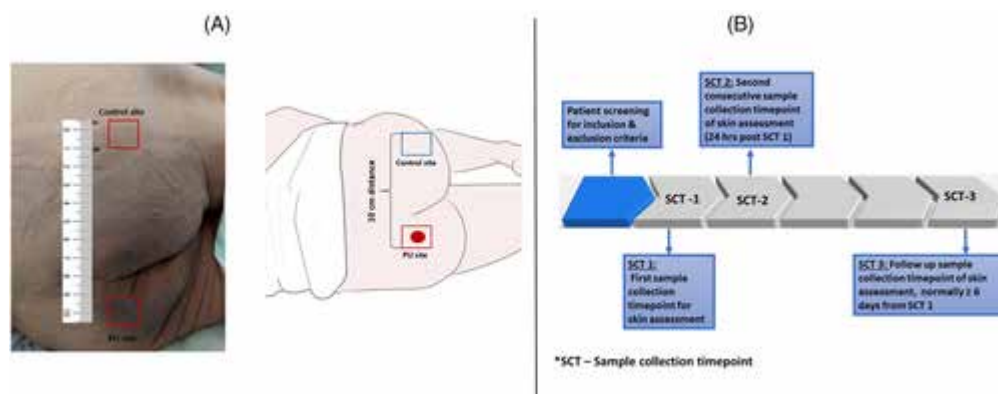


Figure 1. (A) Measurement sites of the stage 1 pressure ulcer. (B) Time course of measurements

**Results** There were significant difference between the PU site and control site in skin barrier function (Figure 1A), inflammatory biomarkers (Figure 1B) and corneocyte properties (Figure 1C). By contrast, there were no differences between stratum corneum hydration levels, with a high degree of inter-subject variability. The optical coherence tomography revealed distinct differences in skin roughness and microvascular function.

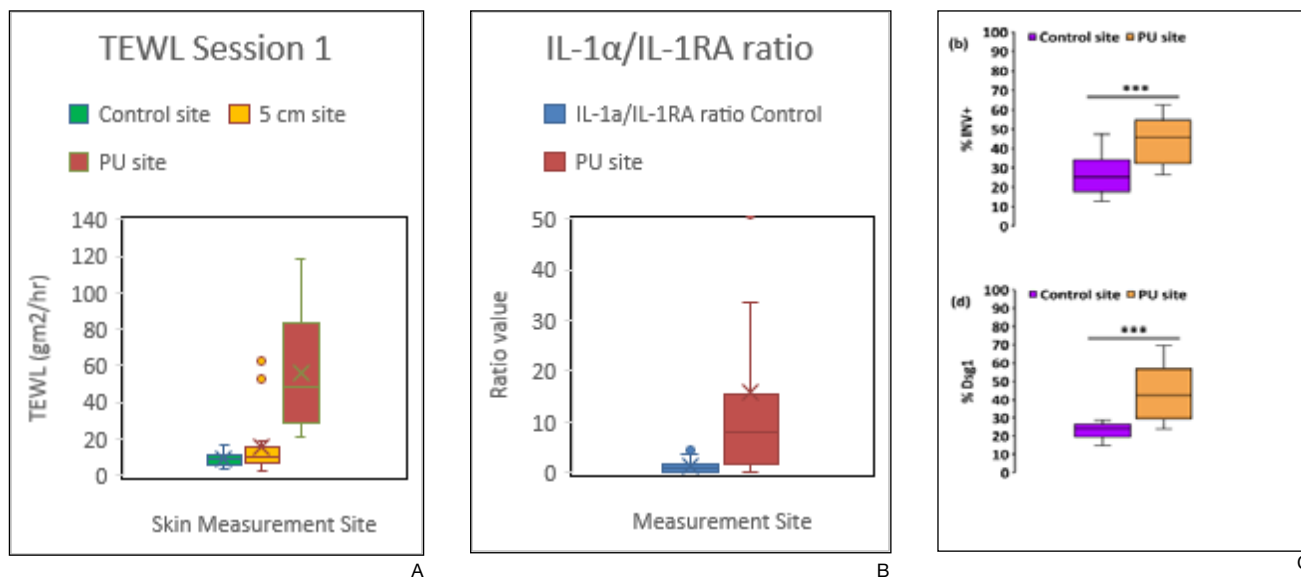


Figure 2. Values from PU and control site for (A) TEWL, (B) cytokines and (C) % INV corneocyte envelopes and % Dsg1.

**Conclusions** This study represents a comprehensive characterization of local changes in skin structure and function over stage I pressure ulcer, with distinct changes in skin barrier, inflammation and cell properties observed. These have the potential to support skin assessment when diagnosing damage.

**References**

1. PUAP/NPIAP/PPPIA. In: E Haesler, ed. Prevention and Treatment of Pressure Ulcers/Injuries 2019.