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VIRTUAL

5th EPUAP Focus Meeting

Patient safety: Prevention and communication

26th May 2021

Sønderborg, Denmark

ABSTRACT BOOK

EUROPEAN PRESSURE ULCER ADVISORY PANEL

DANISH WOUND HEALING SOCIETY

Sønderborg

VIRTUAL

5th EPUAP Focus Meeting

PROGRAMME OVERVIEW

Wednesday 26th May 2021

Time (CET)	Stream A	Stream B	Stream C
09:00 – 09:10	Welcome by *Rolf Jelnes (Denmark)* and *Katrin Balzer (Germany)*, chairs of conference and *Dimitri Beeckman, EPUAP President (Belgium)*		
09:10 – 09:15	Welcome by *Stephanie Lose, Chairman of the Regional Council in Region of Southern Denmark*		
09:20 – 10:20	**Plenary 1: Quality management**; chair: *Jan Kottner (Germany)* • Quality in treatment, patient safety*; Karolina Olin (Finland)* • Quality management in pressure ulcer preventions - the Schleswig-Holstein experience*; Katrin Balzer (Germany)* • The importance of leadership*; Christina Lindholm (Sweden)* • Patient safety culture – is there a relationship to pressure ulcers?*; Ida Maria Bredesen (Norway)*	**Industry sponsor session** (09:15-10:15)	**Industry workshop: Using SEM measurement to enhance pressure ulcer risk prediction and targeting of prevention strategies***; Zena Moore* (09:30 - 10:15)
10.20 – 10.35	**Live Q&A session** with *Karolina Olin, Katrin Balzer, Christina Lindholm and Ida Maria Bredesen*		
10:35 – 10:50	Break, Exibition viewing		
10:50 – 12:05	**Plenary 2: Pressure ulcer prevention from different perspectives**; chair: *Maarit Ahtiala (Finland)* • Implementing Danish National Clinical Guideline*; Birgitte Skovgaard and Camilla Sørensen (Denmark)* • Preventing hospital acquired pressure ulcers in a 604 bed hospital: Leadership at all levels, knowledge and an organizational approach*; Anne Pontoppidan (Denmark)* • Patient participation in pressure ulcer prevention; *Britt Hansen (Denmark)* • Patient education and counseling*; Madeline Stenius (Sweden)* • Prevention in neonates and infants: 12 months of study for 12 months of life*; Serena Crucianelli (Italy)*	**Discussion 1: From guidelines to practice**; *Jane Nixon, University of Leeds, United Kingdom; Katrin Balzer, University of Lubeck, Germany*	
12:05 – 12:20	**Live Q&A session** with chair: *Maarit Ahtiala, Camilla Sørensen, Anne Pontoppidan, Britt Hansen, Madeline Stenius and Serena Crucianelli*		
12:20 – 12:50	Lunch break, Exibition viewing and Poster presentations		
12:50 – 13:35	**Plenary 3 Health technologies at the bedside**; chair: *Rolf Jelnes (Denmark)* • In Hospital @ Home, Using Telerehabilitation*; Ingebjørk Irgens (Norway)* • New materials to prevent pressure ulcer prevention*; Peter Worsley (United Kingdom)* • "High tech" or "low tech" mattresses: results of the Pressure2 Study*; Jane Nixon*	**Workshop: Pressure distribution in supine position***; Menno van Etten, Norway* (12:50-13:35)	
13:35 – 13:50	**Live Q&A session** with the chair *Rolf Jelnes, Ingebjørg Irgens, Peter Worsley, Jane Nixon*	**Live Q&A chat** with *Menno van Etten*	
13:50 – 14:05	Break, Exibition viewing		
14:05 – 15:20	**Plenary 4 Improving quality in practice**; chair: *Britt Hansen (Denmark)* • Introducing "In safe hands" – How is prevention undertaken at nursing homes in the municipality using new technologies? *Tina Lynge, Mie Russel (Denmark)* • Is it worthwhile? – The economic perspective*; Tina Lynge (Denmark)*	**Discussion 2: How to get the right prevention to the right patient at the right time;** speakers: *Zena Moore, Royal College of Surgeons in Ireland, Ireland; Jane Nixon, University of Leeds, United Kingdom; Katrin Balzer, University of Lübeck, Germany* (50min)	
15:20 – 15:35	**Live Q&A session** with chair: *Britt Hansen, Mie Russel and Tina Lynge*		
15:35 – 15:45	Closing session		

[1.1] RAISING PATIENT SAFETY TO NEXT LEVEL - ALSO IN THE PREVENTION AND CARE OF PRESSURE ULCERS

Karolina Olin[1]

1 Patient Safety Manager, Turku University Hospital, Finland

Patient safety movement in health care began already before the change of millennium, after publication of research results indicating the amount of preventable harm in hospital care. (1) The momentum was focused on the prevalence of adverse events in different contexts, understanding underlying factors affecting the safety of patients and finding tools, and protocols to be implemented in order to stop risks and adverse events before harm was caused. Development efforts were worldwide, and knowledge and example was sought from other high reliability organizations, such as from aviation and nuclear industry.

However, as safety research in health care has evolved during the last decades, it has been acknowledged, that health care as a system is far more complex, interconnected and dynamic than expected. This created a need to rethink also the management of safety – how is the safety of the patients sustained in the complexity of every day work? (2) In addition to learning from adverse events and near misses (Safety I), it might be beneficial to look also for teams and processes with high quality, good outcomes and satisfied customers and professionals. The surrounding health care system is as complex for all the patients and professionals. What happens in the front line, where risks are managed so that patients are not harmed? What does it look like, when the safety is something that is present every day? (Safety II) Broadening the lens from adverse events and risks towards also strengths and successes may reveal new lessons and solution, creating a novel roadmap to next level of patient safety.

Reference:

1. *Kohn et al. To Err Is Human: Building a Safer Health System. Institute of Medicine. 2000*
2. *Braithwaite, J. et al. Complexity Science in Healthcare Aspirations, Approaches, Applications and Accomplishments. A White paper. Australian Institute of Health Innovation, Macquarie University, 2017.*

[1.2] QUALITY MANAGEMENT IN PRESSURE ULCER PREVENTIONS-SCHLESWIG-HOLSTEIN EXPERIENCE

Katrin Balzer[1]

1 University of Lübeck, Nursing Research Unit; Institute for Social Medicine and Epidemiology, Lubeck, Germany

Background: Continuous quality management is important to monitor, maintain and advance desired levels of quality of care. These agreed quality levels of care are largely informed by evidence-based recommendations, in addition to legal, ethical and societal norms and values. Quality indicators provide reliable and valid information about the degree to which these expected levels of care are met. In Germany, hospitals and nursing homes are obliged to collect and report data on quality indicators regarding the quality of pressure ulcer (PU) prevention. While data on these indicators primarily serve external quality management, they can also be used for internal management.

Objective: To provide insights into the quality of PU preventative care in German hospitals and nursing homes, especially in the Federal State of Schleswig-Holstein.

Methods: Data on quality indicators related to PU prevention will be summarised and analysed with regard to potential areas for quality improvement in PU prevention in German hospitals and nursing homes.

Results: Quality indicator data on PU prevention in hospitals repeatedly show a risk-adjusted PU incidence (PU category 2 or higher) below 1 % among adult patients. This incidence remained stable over the past years, both across all German hospitals and in Schleswig-Holstein. Quality indicator data provided by the hospitals in Schleswig-Holstein are within the nation-wide margins. Findings from independent peer review of cases with PU category 4 (sentinel event) indicate that specific PU-predisposing conditions, such as disturbed perfusion or mental disorders, are likely to be overlooked in clinical practice. Furthermore, patients with impaired self-care abilities or conflicting treatment goals appear to be challenging to health professionals' decision-making about the need for PU preventative measures. Also, for nursing homes quality indicator data suggest that approximately 20 % of residents at PU risk do not receive preventative measure as recommended by evidence-based guidance.

Conclusions: Although quality indicator data on PU incidence in German hospitals are likely prone to under-reporting, particularly the analysis of sentinel events sheds light on specific areas of insufficient PU prevention. Internal quality management activities should focus on these areas and support health professionals in the implementation of evidence-based PU prevention.

[1.3] LEADERSHIP- IMPLEMENTATION- FROM GUIDELINES TO BEDSIDE

Christina Lindholm[1]
1 Sophiahemmet University Stockholm, Sweden

Background: The ageing population increases the risks of pressure ulcer development. 70-80% of elderly people with pressure ulcers are treated in the communities. 25-50% of community nurses´ time is spent on wound management. Increased workload for nurses during the past years is reported. Prevention of pressure ulcers must have highest priority since pressure ulcers cause incredible suffering for the patients and huge costs for Society. Leadership of nursing and prevention of pressure ulcers is thus of utmost importance.

Results: Leadership includes: setting goals for prevention and treatment and a nurse leader is responsible for the overall patient security and a defender of the patient´s rights. A nurse leader interacts with subordinates and defends optimal and cost-effective nursing versus Human Relations- and Economy Departments.

The nurse leader is a coordinator of actions to prevent pressure ulcers and contacts with other professionals e.g. dieticians, occupational therapists, physiotherapists and must have a good support from a doctor.

Different leadership styles will be discussed; Transformational versus transactional.

Transformative leaders have the ability to extend their working tasks to take their team to the highest levels of excellence.

Transactional Leaders tend to stay to normal routines.

There are pros and cons with both types of leadership

It is reported that leaders with high emotional intelligence (EI) and transformative leadership leads to staff being more satisfied with their jobs and stretching out their efforts.

Ethical values of the leader play an important role for optimal performance of nursing, and attitudes are reported to influence outcome of pressure ulcer prevention actions.

An example of how pressure ulcer incidence could be dramatically reduced in a geriatric hospital where leadership played an important role will be presented.

Conclusion: Leadership plays an important role in the achievements of optimal routines for pressure ulcer prevention.

[1.4] PATIENT SAFETY CULTURE- IS THERE A RELATIONSHIP TO PRESSURE ULCERS?

Ida Marie Bredesen[1.2]
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2 University of South-Eastern Norway, Department of Nursing and Health Science, Drammen, Norway

Introduction: Pressure ulcers (HAPU) are adverse events that in many cases may be preventable. Despite extensive research and increased knowledge about patient-related PU risk factors, the prevalence and incidence of PUs is still high. Organizational factors could have an impact, but studies of organizational factors have shown inconclusive results.1 2

Aims: Association of selected ward organizational variables and patient risk factors on across-ward differences in hospital acquired PU (HAPU) odds in a sample of Norwegian hospitals

Methodology: We combined two cross-sectional studies from 2012, a PU prevalence using the EPUAP minimum data set and a patient safety culture study which used the Safety Attitudes Questionnaire (SAQ). Four hospitals, 84 wards and 1056 patients were included.

Results: A multilevel analysis showed an association between patient safety culture score and the presence of HAPU.

Conclusion: The odds of HAPU varied across wards and organizational variables as patient safety culture could explain some of the variation. However, high-risk patients will always challenge even wards with the best HAPU prevention.3 Newer studies still show inconclusive results.4 5 More research is still needed with more standardization of tools, variables, data sources and analysis for better comparison of studies about the association between patient safety culture and PUs.

References:

1. *Taylor JA, Dominici F, Agnew J, et al. Do nurse and patient injuries share common antecedents? An analysis of associations with safety climate and working conditions. BMJ Qual Saf 2012;21(2):101-11.*
2. *Ausserhofer D, Schubert M, Desmedt M, et al. The association of patient safety climate and nurse-related organizational factors with selected patient outcomes: A cross-sectional survey. Int J Nurs Stud 2013;50(2):240-52.*
3. *Bredesen IM, Bjoro K, Gunningberg L, et al. Patient and organisational variables associated with pressure ulcer prevalence in hospital settings: a multilevel analysis. BMJ open 2015;5(8):e007584.*
4. *DiCuccio MH, Colbert AM, Triolo PK, et al. Cracking the Code for Quality: The Interrelationships of Culture, Nurse Demographics, Advocacy, and Patient Outcomes. J Nurs Adm 2020;50(3):152-58.*
5. *Lee SE, Scott LD, Dahinten VS, et al. Safety Culture, Patient Safety, and Quality of Care Outcomes: A Literature Review. West J Nurs Res 2019;41(2):279-304.*

[2.1] IMPLEMENTING DANISH NATIONAL CLINICAL GUIDELINE FOR PRESSURE ULCER PREVENTION FOR ADULTS

Birgitte Skovgaard[1], **Camilla Leerskov Sorensen**[2]
1 Silkeborg Regional Hospital, Silkeborg, Denmark
2 Aalborg University Hospital, Aalborg, Denmark

Introduction: National Clinical Guidelines (NCG) are professional recommendations to ensure consistent treatment and prevention options with high professional quality across the country . The NCG for Pressure Ulcer Prevention for Adults addresses selected five points of impacts : The effect of care bundle combined whit an individual clinical judgment, Shared Decision Making (SDM), individual reposition turning regime, individual analysis of pressure exposure and protein intake.

Purpose: Identifying Pressure Ulcer Prevention of five points of impacts for implementation in Denmark.

Method: Using the GRADE system the quality of evidence was rated for each outcome. A baseline rating adjusted a downgrading or upgrading after considering eight assessment criteria. In the decisions to down- or up-grade they was relied on the judgement of a professional expert group. The expert group decided on a final level of evidence for each outcome, including meta-analysed and narratively synthesised outcomes to assign a value for the quality of evidence.

Results: Significant improvement was observed of a pressure ulcer bundle combined with individual clinical judgement and for SDM. For individual reposition turning regimes by using 300 tilt combined with an individual assessment of repositioning frequency, the evidens was weak. Two points of impact was valued to be good clinical practice. In this paper a case from Clinical Practice will confirm the need for implementation of the NCG.

Conclusions: This is the first NCG designed to determine the effects of care bundles on patient outcomes and the behaviour of healthcare workers in relation to fidelity with care bundles. Utilizing a bundle approach and SDM the knowledge to practice has the potential to impact positively on the quality of care and patient outcome.

Reference:

1 *The Danish Health Authority.*
2 *Skovgaard B, Dalsgaard LT, Hampton J, Nørbøge L, Jelnes R, Sørensen CLM, Melby BØ, Fremmelevholm A, Dreie H, Gram-Hansen J, Illum MB, Pedersen PU (2020). National Klinisk Retningslinje for Forebyggelse af Tryksår hos voksne over 18 år*
3 *H. Schünemann, J. Brożek, G. Guyatt, and A. Oxman, Handbook for grading the quality of evidence and the strength of recommendations using the GRADE approach, October 2013.*

[2.2] PREVENTING HOSPITAL ACQUIRED PRESSURE ULCERS IN A 604 BED HOSPITAL: LEADERSHIP AT ALL LEVELS, KNOWLEDGE AND AN ORGANIZATIONAL APPROACH

Anne Pontoppidan[1]
1 Nordsjællands Hospital, Hillerød, Denmark

Introduction: Nordsjællands Hospital is a regional teaching hospital with 604 beds in the Capital Region of Denmark. From 2010-2014, we participated in a National Patient Safety Program. The program introduced us to care bundles, one dedicated to preventing Hospital Acquired Pressure Ulcers (HAPU).

We designed and developed our own care prototype based on an organizational approach and acknowledging the challenges our staff and leaders face every day at ward level, close to the patients.

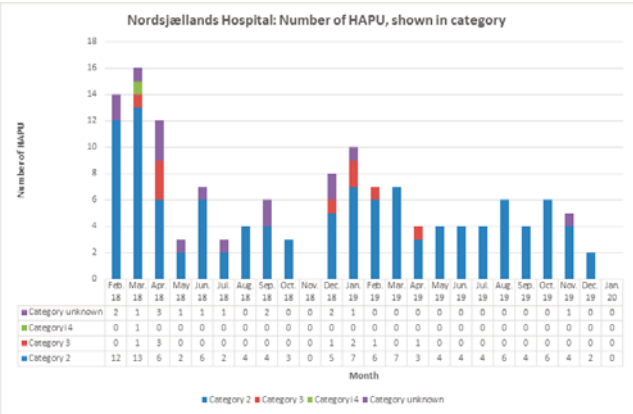
Aims: The aim is no HAPU above category 1 over the course of 100 days on each ward.

Methodology: We use the Model for Improvement with small-scale testing and data collection at ward level. The daily data collection consists of: Early risk assessment, re-assessment, risk patient identification, and monitoring HAPU-free progress every day at each ward.

Our work includes leadership at Micro, Meso and Macro levels, e.g.:

- Patient participation and relatives' involvement: Much can be learned from their stories
- Improving staff competency by reinforcing the efforts of 'ambassadors in preventing HAPU', a group of staff from each ward, including radiology, kitchen and facility management
- Learning from each HAPU at each ward by focusing on the contributing factors in the care pathway that led to the HAPU
- Huddles at micro, meso and macro level, using current data to see progress, discuss barriers and possible solutions as well as planning new initiatives, e.g. a group of leaders at ward level meets frequently to knowledge exchange
- Monthly report to the hospital board on results, learnings and challenges

Results: Our patients do not develop category 3 or 4 HAPU anymore. In addition, we find a decrease in patients with category 2 HAPU as shown in the figure below. All wards have reached our set goal except The Intensive Care Unit where the patients suffer from HAPU related to medical equipment.



Lessons learned:

- Knowledge on which patients developed pressure ulcers and which factors contributed to HAPU on each ward has shown to be an imperative in HAPU prevention
- Knowledge on time of the day and weekday where patients developed HAPU has led to reorganization of workflow on evening shifts in some wards, contributing to a decrease of HAPU
- Knowledge on periods with over admissions and concurrent data on HAPU has led to an improved over admission strategy which is intensely followed by the upper management
- Pressure-reducing mattresses & cushions now reach wards when needed

Next step is to visualize our approach in a model for Nordsjællands Hospital, showing the aspects and elements of HAPU prevention to initiate a maintenance strategy and hopefully as an inspiration for other professionals.

Conclusion: Adequate staffing plans, organization of workflow on the evening and night shifts and competent handling of bed occupancy is crucial for success.

Organizational learning and support have a central role in HAPU prevention and we address leadership at micro, meso and macrolevel. During the recent years, we have realized the strength in this approach combined with multidisciplinary teamwork.

Preventing HAPU is a daily endeavor for leaders; staff requires training, knowledge and skills, tools for clinical decision making and relevant equipment have to be available when needed.

References:

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Langley, G.J. et al. The improvement guide: A practical approach to enhancing organizational performance. Second edition. San Francisco, Jossey-Bass, 2014

[2.3] PATIENT PARTICIPATION IN PRESSURE ULCER PREVENTION

Britt Hansen[1]
1 Odense University Hospital, Plastic Surgery Department, Odense, Denmark

Introduction: There is a focus on patient involvement in clinical practice. The health professionals are responsible for preventing pressure ulcer, and several guiding regional documents dictate this.

Despite that, many patients are still suffering from pressure ulcer during their hospital stay, and the experiences are that patients are not involved in pressure ulcer prevention.

The literature shows that patients don't get information of actions to prevent pressure ulcer, and that their options to gain participation in prevention of pressure ulcer, depends on the patients previous experiences with pressure ulcer1, 2

The aim of the study is to investigate whether patients who have contracted a pressure ulcer during hospitalization, find themselves involved in the prevention of pressure ulcer, and if so, in what way the patients feel involved in the prevention of pressure ulcer.

Methodology: Three interviews were conducted with patients who have contracted a pressure ulcer during hospitalization. The interviews were transcribed and themed, based on thematic analysis.

Results: The patients do not feel involved in the prevention of pressure ulcer, and they call for close contact and interaction with the health professionals. Patients must themselves ask for preventative measures to avoid pressure ulcer.

Conclusion: Patients experience care, where they don´t feel involvement and participation in pressure ulcer prevention. The results show furthermore that the staff at the hospital does not work to prevent pressure ulcers. The regional guideline for prevention of pressure ulcer is not rooted in clinical practice.

References:

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2. *MCINNES, E., CHABOYER, W., MURRAY, E., ALLEN, T. & JONES, P. 2014. The role of patients in pressure injury prevention: a survey of acute care patients. BMC Nursing, 13, 1-15.*

[2.4] PATIENT EDUCATION AND COUNSELING

Madeleine Stenius[1]
1 Aleris Rehab Station, Academy, Solna, Sweden

Introduction: Aleris Rehab Station conducts medical rehabilitation for people with spinal cord injuries (SCI), orthopedic injuries, stroke, Multiple Sclerosis (MS), as well as other neurological disorders, in both outpatient and inpatient form. After a SCI or MS, the body will encounter many problems; the worst that can happen is not to end up in a wheelchair, as so many people think.

Complications of pressure ulcers (PU) and urinary tract infections were the leading cause of death for SCI patients in the mid-1950s, nowadays a golden standard has been developed in order to prevent these complications. Still 95% develop PU in category 3-4 due to paralysis, muscle atrophy, bone decalcification and sensory loss and 10% of those die. For people with MS is Moist Associated Skin Dermatitis -MASD a big issue due to that 80% are incontinent with leakage problems or use a "just in case diaper". Wet, swollen skin becomes more fragile, especially when friction is involved, and the person is in great risk of developing MASD or a pressure ulcer.

Aims: Prevent PU and MASD with raised awareness of the importance of skin checks, toilet routine, personnel adapt technical aids and transfer technique to improve quality of life.

Methodology: Every month we conduct lecture for our patients in how to prevent and heal PU.

It all started with an idea that became a film and an aftercare treatment program in a project: How to reduce the occurrence of new pressure ulcers / recurrences after a flap surgery, in 2000. I realized that we needed to educate patients more than just bedside when they already had PU or after a flap surgery. For people who will live an active life in a wheelchair, it´s crustal to know your bodily functions and create good routines. We provide and facilitate self-management structured education in a level appropriate to their situation. Skin integrity and toilet issues are problematic subjects filled with many taboos and prejudices. Therefore, I have made customized courses, films, books and folders for staff and patients with SCI, Spina bifida and MS.

The material is specially adapted for the patient group and their caregivers. We perform education with a holistic approach, both lectures (oral and DVD) and practical training in skin checks, changing positions in a bed/wheelchair, adapting technical aids, sitting posture, pressure mapping and about bowel- and bladder disorders. We also provide written materials (folders, books). It is also necessary to find the root of the problem, check what caused the wound and deal with the problem to obtain a sustainable result.

Results: We can see that patients and their caregivers react faster than before and because of that can stop the progression of the wound before it goes too far. The number of SCI persons needing a flap surgery in the Stockholm area has decreased.

Conclusion: An early detection and increased ulcer risk awareness among the patients and their caregivers might be the most important factor to prevent and heal PU and MASD/IAD. The behavioral and prevention education for all the patients and staff in the rehabilitation process is fundamental for the outcome.

References:

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2. *Ryggmärgsskador A Holtz, R Levi. Studentlitteratur AB 2006 ISBN 9789144032283*
3. *Shit happens – Bowel and bladder disorders; M Stenius, Rehab Station Stockholm 2012.*
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5. *Trycksår - Med livet som insats, M Stenius, Rehab Station 2016 ISBN 978-91-639-0147-8.*
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[2.5] PREVENTION IN NEONATES AND INFANTS: 12 MONTHS OF STUDY FOR 12 MONTHS OF LIFE

Serena Crucianelli[1], Guido Ciprandi[1], Mario Zama[1]
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Introduction: Newborns and infants represent a special subset of patients, the most fragile and neglected among pediatric ages. Due to their skin immaturity, peculiar body proportions and being totally dependent to external care they' re likely to present the highest risk of developing pressure ulcers when hospitalized, especially in intensive care and operatory settings. Moreover they're at very high risk for device related injuries that when involving such moldable cartilages will lead to disfiguring consequences.

Aims: We here underline specific risk factors and actions to be taken in order to increase awareness and finally reduce the incidence and therefore the impact of pressure injuries since the very first ages of life.

Methodology: Since 2019 a prospective study aimed at preserving skin integrity in hospitalized children aged less than 12 months is set. All inpatients aged <12 months admitted to intensive, sub intensive and surgical setting underwent to a preventing protocol which was previously shared with all nurses of involved settings as a quality improvement project. This consisted of continuos head to toe skin checks from the admission, to discharge, including pre and post surgery. At risk areas and devices are promptly protected using adherent polyurethane foam and fluidized positioners. Long duration Surgical procedure related pressure injuries (LDSPs-PU) were considered as those presenting within 48 hours from surgery lasting more than 1 hour and half. Incidence of pressure injuries reported in this 12 months of study are retrospectively compared to institutional rate recorded in 2018. The grading of all pressure injuries staged according to NPUAP/EPUAP criteria, was compared to those reported during the previous year.

Results: In 12 months of study, 515 patients, average 117 days, mean hospitalization time of 21 days were screened. Of those 23 reported pressure injuries, 95% of which localized in the cephalic area, 16% of which caused by devices. In 2018, 537 children, average 130 days mean hospitalization time 24 days, were admitted to the same settings, 123 of those reported pressure injuries (123 vs 23 pts, 22.9% vs 4.5%). 429 children underwent LDSP, 2 reported a 1°grade PU.

Conclusion: A preventing protocol empowered by educational involvement of health professionals allowed a drastic reduction of the institutional incidence of pressure injuries in pediatric patients, within the first age of life, admitted to intensive, sub-intensive settings from 22,9% to 4.5%. Moreover, LDSPs-PU were 0,47% both on the occipital area. Pressure injuries recorded had a significative lower staging; < 3 graded (all.) respect to those reported in the previous year (> 2 degree n.60%). The remaining injuries still occurring are probably still preventable by interventions aimed at increasing awareness of peculiar risk factors typical of this special subset of pediatric patients.

References:

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[3.1] ULCER HEALING, PATIENT SAFETY AND SATISFACTION USING VIDEOCONFERENCING IN THE PRESSURE INJURY FOLLOW- UP

Ingebjørg Irgens[1]

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Introduction: A goal of the specialized health care service is to provide the right treatment to the right patient at the right time, and to collaborate with the local health care providers in a way that benefits all participants. If this interaction also provides safe and secure knowledge translation and guidance on- site, we will be closer to succeed in collaborating for the benefit of the patient.

Aims: Provide safe, secure and satisfactory follow- up to the patient at home, in collaboration with the local health care providers.

Methodology: New, innovative technology used in the outpatient clinics, is compare to today's outpatient follow- up model where the patients have to physical attend the outpatient clinic for treatment. The project used encrypted, privacy secured equipment, approved by the data protection authority, the ethical committee and the Data Protection Officer. We measured and compared the healing, satisfaction, safety and cost- benefit in the two groups.

Results: The videoconference service has proved cost-effectiveness, by making the consultations more efficient, avoiding misunderstandings because messages is directed to the right recipients at the same time, and the specialist healthcare workers are able to focus on patient-directed work. Infection spreads are avoided, and the impact on both the environment and the socioeconomically health costs are positive, because a lower number of transportations to the hospitals.

Conclusion: The patients gain greater ownership to their own condition and to the follow- up, by being directly involved in the discussion about their treatment. We believe this way of interacting has a great transfer value also to other users suffering from chronic conditions. For particularly vulnerable patient groups, videoconferencing will provide easier access to the specialized health care service, regardless of the geographical location of the patient. We think videoconferencing is a great supplement to today`s health care service.

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3. *https://www.regjeringen.no/no/dokumenter/meld.-st.-7-20192020/id2678667/*
4. *http://sunhfintranett/modules/module_123/proxy.asp?iCategoryId=7&iDisplayType=2&iInfoId=13085 (English translation in progress).*

[3.2] NEW TECHNOLOGIES TO PREVENT PRESSURE ULCERS

Peter Worsley[1]
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Introduction: Pressure ulcers are caused by prolonged exposure to pressure or pressure in combination with shear. Depending on an individual's health status and comorbidities they maybe at higher risk of developing pressure ulcers, often associated with impaired mobility. Several technologies have been created to monitor individuals' posture and mobility to inform intelligent interventions.

Aims: To review different monitoring technologies and their clinical application for pressure ulcer prevention.

Methodology: A series of bioengineering technologies have been evaluated in a lab-based setting and applied to a series of clinical evaluations. The presentation will discuss the development of these techniques and the machine learning approaches used to efficiently analyze key parameters. The results from clinical evaluations will be described, including studies in the community setting and with individuals who are spinal cord injured.

Results: Continuous pressure monitoring and actimetry were shown to accurately assess both large scale and small-scale movements in sitting and lying postures. Deep learning could also predict postures with a high degree of accuracy (>80%). These approaches were used to identify movement patterns in patients at risk of pressure ulcers. In particular, significant ($p<0.05$) association with level and severity of spinal cord injury were noted. These were associated with individuals who developed pressure ulcers.

Conclusion: Technologies can play a significant role in objective monitoring of patients at risk of pressure ulcers. Intelligent algorithms can be used to provide personalized care depending on the mobility status of the individual.

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[3.3] PRESSURE RELIEVING SUPPORT SURFACES FOR PRESSURE ULCER PREVENTION - PRESSURE 2, CLINICAL AND HEALTH ECONOMICS RESULTS OF A RANDOMISED CONTROLLED TRIAL

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Introduction: Specialist mattresses used for prevention lack high quality effectiveness evidence.

Aims: We aimed to compare clinical and cost effectiveness of 2 mattress types.

Methodology: Multicentre, Phase III, open, prospective, parallel group, randomised, controlled trial in 42 UK secondary/community in-patient facilities (1, 2).

Acute admission high risk in-patients were randomised to alternating pressure mattress (APMs) or high specification foam (HSF) for maximum treatment phase 60 days. Primary outcome: time to development of new PU Category≥2 from randomisation to 30 day post-treatment follow-up in intention-to treat population. Trial registration: ISRCTN 01151335

Results: Randomised 2029 patients (1016 APMs: 1013 HSF) who developed 160(7.9%) PUs.

Primary endpoint: there was insufficient evidence of a difference between groups for time to new PU Category≥2 Fine and Gray Model Hazard Ratio HR=0.76, 95%CI0.56-1.04); exact P=0.0890; absolute difference 2%). There was a statistically significant difference in the treatment phase time to event sensitivity analysis, Fine and Gray model HR=0.66, 95%CI, 0.46-0.93; exact P=0.0176); 2.6% absolute difference).

Secondary endpoints: there was no evidence of a difference between groups for all secondary endpoints including: new Category≥1 in 350(17.2%) patients HR(95%CI)=0.83(0.67-1.02),p-value=0.0733), absolute difference 3.1%; new Category≥3 developed in 32(1.6%) patients HR(95% CI)=0.81(0.40-1.62),p=0.5530), absolute difference 0.4% and; of healing of pre-existing PU Category2s 89/145 (61.4%) healed HR(95% CI)=1.12(0.74-1.68),p=0.6122, absolute difference 2.9%.

The within trial and long term analysis showed APM to be cost effective compared to HSF, however the difference in costs models are small and QALY gains very small.

Conclusion: In high risk in-patients, we found insufficient evidence of a difference in time to PU development at 30-day final follow-up, which may be related to a low event rate affecting trial power. APMs conferred a small treatment phase benefit. Patient preference, low PU incidence and small group differences suggests the need for improved targeting of APMs with decision making informed by patient preference/comfort/rehabilitation needs and the presence of potentially modifiable risk factors such as being completely immobile, nutritional deficits, lacking capacity and skin status.

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[4.1] INTRODUCING "IN SAFE HANDS"- HOW IS PREVENTION UNDERTAKEN AT NURSING HOMES IN THE MUNICIPALITY USING NEW TECHNOLOGIES?

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Introduction: Improvement of patient safety and quality in primary care sittings. How prevention was undertaken at nursing homes and home care settings in Sonderborg municipality.

Through the development of a collaborative approach, and by using the improvement methods, was it possible to make improvement in preventing pressure ulcers, involving patients and relatives, building capability in improvement methods and leadership involvement. The work took place in the home-based care, community care home, and nursing home for elderly people.

Aims: (0) zero Pressure Ulcer or 300 days between last Pressure Ulcer for patients in homecare and nursing homes in Sonderborg municipality before 2016. At the same time building skills in improvement for the frontline staff and leaders. Involving patients and relatives in the improvement work.

Methodology: The method we used was based on the science of improvement, and the model for improvement.

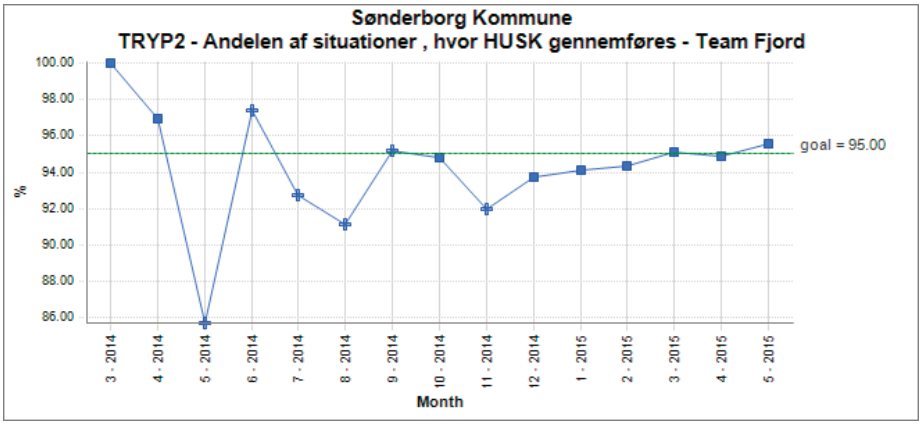
Results: More than 85% of the units have more than 100 days since last pressure ulcer, 60% is more than 200 days, and 38% have more than 300 days since the last perssure ulcer. Today, several nursing homes have gone several years since last pressure ulcer. Improvement in the community care setting have made it safer to be patient in the community setting.

Intervention: Pressure ulcer bundle, patient and relative involvement, building improvement capacity for frontline staff and leadership.

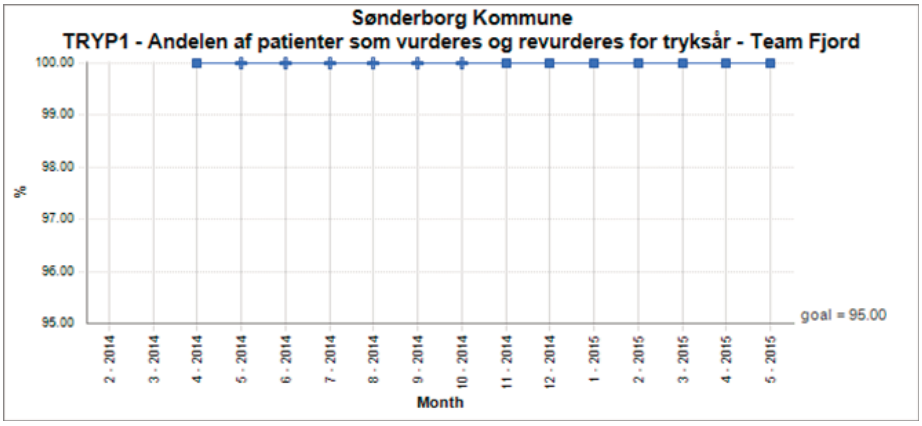
Pressure ulcer bundle:

1. Risk asses all patients in risk for pressure ulcer.
2. Patients in risk screens every day for
    3. H – Skin: Inspect skin
    4. U – Surface: Ensure patient is on the right mattress, cushion, with no creases or wrinkles
    5. S – Mobilization, position switch, encourages self movement and repositioning.
    6. K – Nutrition: Keep well hydrated, meet patient's nutritional needs
3. Re-assessment if the patient's condition/needs change.
    3. Acute illness
    4. Discharge from hospital
    5. Change in nutritional status
    6. Changes in functioning

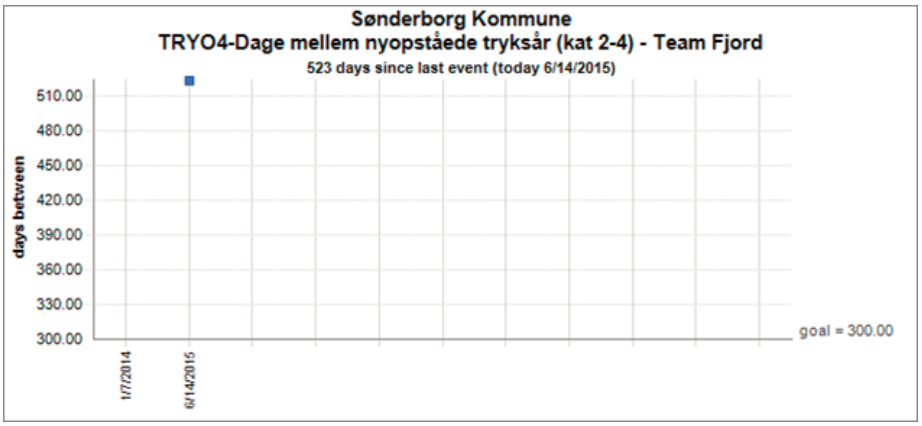
Home-based care: Compliance on the pressure ulcer bundle:



Assessment and reassessment:



The out com is 523 days since the last pressure ulcer:



Conclusion: The breakthrough was when we realize that the work of preventing PU was much bigger than preventing PU itself, it was a total new approach of doing the work. Having a systematic approach were a culture of continues learning and improving back the new way of living.

Another breakthrough was when we realize that subject matter knowledge alone can´t eliminate PU. To work preventive and eliminate pressure ulcer you need to bring in the science of improvement.

Al in all this way of working saved patients from the discomfort and pain it is to have a pressure ulcer, and the staff regained the joy in work and felt a psychological safe

[4.2] IS IT WORTHWHILE? THE ECONOMIC PERSPECTIVE

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Introduction: Is it worthwhile?

You might think –is it worthwhile? You might think from your perspective think

we don`t have the time or resources for doing this?

I would argue, can you afford not to? Because as it is now, you are willing to spend time and money on treating a PU.

Aims: The aim was to find out if it was cost-effective to work preventive in relation to PU in a community setting.

Methodology: To find the real saving for working preventive with the PU bundle the researchers used a formula: ICER which stands for Incremental cost-effectiveness ratio. The formula takes the Cost of implementing the PU bundle minus the cost of the standard treatment of PU.

Divided with the effect of implementing the PU bundle minus the effect of the standard treatment.

$$\frac{\text{Omkostninger af Tryksårspakken}_{2017} - \text{Omkostninger af Standard behandling}_{2013}}{\text{Effekt af Tryksårspakken}_{2017} - \text{Effekt af Standard behandling}_{2013}}$$

That gives the money saved for each prevented PU

Results: By working preventive and implementing the PU bundle, we saved 217 patients form the discomford and pain it is to have a PU. And at the same time the study showed that we have released 2.6 mio dkr that could be used for other services or needs for the patients in the municipality. Not to mention what the change of culture meant to the staffs joy- and meaningfulness in the work. All in all a win- win situation.

References: This analysis was initiated by the Danish Society for Patient Safety together with Sønderborg municipality and carried out by 5 students from Aalborg university as a part of their Medical market access semester task.

[5.1] IMPLEMENTATION OF EVIDENCE-BASED SKIN CARE PRACTICES IN NURSING HOME RESIDENTS: STUDY PROTOCOL FOR A MIXED METHODS PROCESS EVALUATION ALONGSIDE THE SKINCARE TRIAL

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Introduction: Adequate skin cleansing and skin care for care-dependent elderly people can help to improve skin health and to prevent common skin diseases. However, there are no evidence-based guidelines for daily skin care in care-dependent people. Therefore, an evidence-based skin care program was developed, which is being tested for its usefulness and feasibility in the SKINCARE trial, a cluster-randomized controlled trial involving 20 nursing homes in Berlin (NCT03824886) [1].

Aims: This process evaluation aims to evaluate the feasibility and downstream effects of the evidence-based skin care program and to record changes in the processes of nursing skin cleansing and skin care.

Methodology: Based on existing implementation and evaluation frameworks [2,3], the process evaluation assembles data on (i) the execution of pre-planned implementation strategies and the evidence-based skincare program (reach and fidelity of the intervention), (ii) mechanisms of change, and (iii) relevant contextual factors. The study uses a mixed methods design, combining quantitative data collection in all trial nursing homes (n=20) and qualitative data collection in a subsample of 10 nursing homes. Quantitative data collection comprises standardized surveys among nurses, the local SKINCARE-project teams and nursing managers at the end of follow-up to capture information on activities to change routine practices and potentially relevant context factors such as the staff's knowledge and attitudes regarding skin care support and local leadership. A major element of the qualitative data collection are non-participatory observations of episodes of nursing assistance with body care, complemented by brief interviews with nurses and focus group discussions with local project teams. The qualitative data will be collected at different times, alongside the trial (baseline, after 3 and 6 months).

Results: The results of the process evaluation provide an important basis for assessing the practicability of the skin care program and the plausibility of the potential effects measured in the SKINCARE trial.

Conclusion: The results will allow valid conclusions regarding future large-scale evaluation and implementation of the evidence-based skincare program. They will also deliver important insights into essential nursing care activities such as assistance with body care.

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[5.2] WOUND CARE ASSISTANCE - AMBIENT OR DIGITAL SUPPORT SYSTEMS IN WOUND CARE?

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Introduction: In Germany, the prevalence of people with chronic wounds is increasing. A standardized, regular documentation is mandatory to evaluate wound management and healing. Still, documentation is often insufficient, resulting in the loss of relevant patient data.

Computer-based nursing documentation has been shown to improve the quality of documentation. We developed a Wound Care Assistant (WCA), an ambient technology based on the Amazon Echo Show® which allows documentation to be recorded through voice input directly at the point of care. The WCA integrates the documentation of patient relevant information into the wound care process and additionally structures the process based on relevant practice guidelines.

Aims: The study sought to identify if nurses experience support through the WCA and barriers and facilitators that influence the process.

Methodology: We performed a pilot simulation study with a total of 14 nurses. Participants were asked to perform wound care on a patient-actor with the help of the WCA. An observation was carried out by two members of the interdisciplinary research team using a structured observation protocol. Also, participants were asked about their experiences with the WCA. Data were analyzed qualitatively. Categorization was performed by 3 researchers using qualitative content analysis based on Mayring (1994).

Results: The participants were nurses from various care settings with different skills, qualifications and experiences regarding wound care. Each simulation took about 90 minutes. 11 categories were identified: (1) usability, (2) technical equipment, (3) guidance through the process, (4) nursing aspects, (5) communication/interaction, (6) positive feedback, (7) method, (8) outlook, (9) implementation, (10) impact on self-image of nurses, (11) technical difficulties. Several barriers could be identified, e.g. the disrupted communication with the patient during WCA voice input, but also facilitating aspects, e.g. the simultaneous wound care and documentation.

Conclusion: The WCA as an ambient system to support nurses in wound care received mostly positive feedback from the participants, but it takes practice and familiarization. Open questions remain especially concerning nurse-patient communication.

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[5.3] THE PANNICULUS CARNOSUS MUSCLE: ITS ANATOMY IN HUMAN HEELS AND ITS ROLE IN PRESSURE ULCER PREVENTION

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3 National University Health System, Singapore, Singapore

Introduction: The panniculus carnosus (PC) is a thin muscle present in the cutaneous layer of many mammals, and in certain parts of the human body. The PC has traditionally been considered vestigial in humans, but studies of the human palm have demonstrated that the PC functions biomechanically as a cushion to protect soft tissues against mechanical injury at the wrist [1]. Could a similar function occur at the heel? Heels are among the most common sites for pressure ulcers to occur. In this work, we ask whether there is any PC layer present in human heels, and if so, whether its presence may play a protective role in preventing pressure ulcers of the heel.

Aims: The chief goals are to determine whether a PC muscle layer is present in human heels, and to analyse whether a PC muscle layer improves load distribution or pressure protection in human heels.

Methodology: To assess human microanatomy, heels from eight cadavers were dissected and analyzed by histology. To examine the biomechanical function of the PC, a 3D mathematical model of a simplified human heel was constructed and simulated in a supine position, looking at the change in soft tissue deformation during weight-bearing, depending on whether a PC layer is present or absent.

Results: In cadavers, we found a PC layer with thickness 0.63 to 1.71 mm was present in all heels examined. In computational simulations of heel tissue undergoing mechanical deformation during supine weight bearing, we found that the PC functioned effectively to redistribute load around the posterior of the heel bone, decreasing the strain and stress on soft tissues around the bony prominence of the calcaneus.

Conclusion: Our work suggests that a thin layer of PC muscle is commonly present in human heels, and that the elastic properties of this muscle layer would likely play a significant role in natural protection against pressure-induced injuries. Future work should examine whether this sheet-like muscle is vulnerable to scarring or poor regeneration after an initial injury.

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[5.4] PRESSURE INJURY CHARACTERISTICS AND NURSING INTERVENTIONS IN OLDER AND VERY OLD PERSONS

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Introduction: Pressure injuries (PIs) are highly prevalent in older adults in general1, in older hospitalized patients2, 3 and nursing home residents4. However, a detailed insight into PI prevalence, characteristics and used treatment strategies in older and very old persons is still missing.

Aims: The aim of this study was to report on characteristics of PIs and treatment strategies in persons 65-79 years and 80 years or older.

Methodology: This is a secondary data analysis of data collected within the "Nursing Care Quality" measurement in Austria. We used data from the years 2016, 2017 and 2018 from all participating institutions (hospitals, geriatric institutions and nursing homes). We included data from older (65 -79 years) and very old persons (80 years or older) to assess the prevalence, characteristics and treatment strategies of PIs.

Results: The majority of participants was 65 years or older (6791; 63.5%). Persons between 65 and 79 years had statistically significantly less medical diagnoses (3.2) and were less care dependent (64.3) than persons 80 years or older (3.9; 53.6). Persons 80 years or older suffered statistically significantly more often of a PI category 2 or higher (3.8%) than persons 65-79 years of age (2.8%). Most of the PIs in both age groups were category 2 and located at the sacrum. In both age groups the most used interventions for persons with a PI were the application of a moisturiser/barrier cream to protect the skin (86.4%; 86%), followed by floating heels/heel suspension devices (75.7%; 79.1%). Repositioning in bed according to a time schedule was statistically significantly more often conducted in persons 80 years or older with a PI (64.5%) than in persons between 65 and 79 years with a PI (51.4%).

Conclusion: Our results showed that most PIs were category 2 and located at the sacrum. Therefore, we highly recommend detailed skin inspection at the sacrum in old and very old persons. One internationally recommended treatment strategy is repositioning, which was conducted in only 50% of the persons 65-79 years. In daily nursing practice, repositioning persons between 65 and 79 years with a PI should receive more attention.

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[5.5] PRONE POSITIONING OF PATIENT IN THE INTENSIVE CARE UNIT (ICU) - DEVELOPMENT OF HEAD SUPPORT AND POSITIONING EQUIPMENT

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Introduction: Prone position is used in the Intensive Care Unit as a postural therapy to improve patient oxygenation (1). Prone position causes large substantial challenges in patient care. Pressure sores located to the face are the major complication to prone position (1)

In prone positioning, using correct positioning support is essential to avoid pressure damages (1). Previously used equipment has been developed for shorter perioperative use and may be unsuitable for the longer-term prone positioning often required for ICU patients. The lack of sufficient support and positioning equipment has often resulted in use of alternative methods such as recovery position, towels or similar to support the patient's head.

In this study, we gathered experiences from 15 ICUs in Denmark and from companies that develop head support and equipment for prone positioning. The conclusion is that equipment currently available is insufficient to meet requirements for head support and positioning for prone positioning of ICU patients.

Aim: The aim of this study was to develop and test an inflatable pillow for prone positioning which will not cause pressure damage on facial structures.

Methodology: This process was a continuous development and improvement of prototypes in clinical practice, through gathering of experience and dialogue with the producer resulting in desired adaptations. In total, four individual versions were made, based on feed-back and clinical interaction.

Results: The inflatable pillow prototypes were tested on two individual patients receiving treatment in prone position. This has resulted in prototype 3.0. It is available as an air-filled two-layer pillow with the possibility of pressure adjustment. It is ring-shaped; the ring can open to allow respiratory tubes to be positioned without disconnecting, therefore enabling relevant care. It is made in transparent material.

Conclusion: The prototype developed allows correct positioning, pressure relief, observation and care, taking into account the patient's individual anatomy and enables invasive monitoring. Future studies will focus on testing different sizes.

Disclaimer: Development project in collaboration with Levabo ApS.

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[5.6] BRADENSCORING IN THE CLINICAL SETTINGS - IS IT WORTHWHILE?

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Introduction: Braden scoring in the clinical setting – is it worthwhile?

Methodology: In order to evaluate the correctness of risk assessment in the prevention of pressure ulcers we undertook a survey at 2 acute emergency units at Sygehus Sønderjylland, Denmark. At one unit 8 nurses made a risk assessment on the same patient within a couple of hours. At the other unit 10 nurses did it likewise on a different patient.

Results:

UNIT 1
Patient: Male, 79 years of age, amputated at femoral level on the right side some years ago was admitted to the hospital due to an infection of unknown cause. He was a wheel chair user in everyday life and at home he used a lift for transferal to bed. He had urinary incontinence. On examination he had severe sensory neuropathy

The risk assessment was as follows:

Observer	Perception	Moisture	Mobility	Activity	Nutrition	Shear	Score	Risk
Nurse 1	3	3	2	2	4	1	15	medium
Nurse 2	2	3	2	2	4	2	15	medium
Nurse 3	2	3	2	2	4	1	14	medium
Nurse 4	3	3	2	2	3	1	14	medium
Nurse 5	3	4	1	1	4	1	14	medium
Nurse 6	2	3	1	2	2	1	11	high
Nurse 7	3	4	2	1	4	2	16	medium
Nurse 8	2	2	2	2	4	1	13	medium
Results	2,5	3,12	1,75	1,75	3,5	1,25	13,87	medium
Tissue V. Nurse	1	3	2	1	3	2	12	medium

UNIT 2

Patient: Female, 77 years of age with chronic obstructive pulmonary disease and diabetes mellitus type 2 for many years. Body mass index (BMI) 18. She could move around by rolator at home.

The risk assessment was as follows:

Observer	*Perception*	*Moisture*	*Mobility*	*Activity*	*Nutrition*	*Shear*	*Score*	*Risk*
Nurse 1	*3*	*3*	*3*	*3*	*2*	*2*	*16*	*Medium*
Nurse 2	*4*	*3*	*3*	*3*	*2*	*3*	*18*	*Medium*
Nurse 3	*1*	*3*	*3*	*3*	*2*	*3*	*15*	*Medium*
Nurse 4	*4*	*4*	*3*	*4*	*1*	*3*	*19*	*Low*
Nurse 5	*4*	*3*	*3*	*3*	*3*	*3*	*16*	*Medium*
Nurse 6	*4*	*3*	*3*	*3*	*2*	*3*	*18*	*Medium*
Nurse 7	*4*	*4*	*3*	*4*	*3*	*3*	*18*	*Medium*
Nurse 8	*3*	*3*	*3*	*3*	*2*	*2*	*16*	*Medium*
Nurse 9	*4*	*4*	*3*	*3*	*3*	*3*	*20*	*Low*
Nurse 10	*4*	*3*	*3*	*3*	*2*	*3*	*18*	*medium*
Results	*3,5*	*3,3*	*3,0*	*3,2*	*2,2*	*2,8*	*17,4*	*medium*
Tissue V. Nurse	*4*	*3*	*3*	*3*	*1*	*3*	*17*	*medium*

Conclusion: A high degree of inconsistency was demonstrated between the observers in both cases. In unit 1 no attention was paid to sensory neuropathy. The average Braden score was 14, range 13-16 categorizing the patients at medium risk. However, sensory neuropathy should per se be indicative of risk of developing pressure ulcer at e.g. the heel. In unit 2 no attention was paid to the low BMI. The average Braden score was 17,4, range 15-20 categorizing the patient at medium risk. However, the patient was not found to be at high risk, in spite of low BMI.

[5.7] PRAGMATIC REAL WORD DATA DEMONSTRATES IMPROVEMENT IN PATIENT SAFETY AND PRESSURE ULCER (PU) PREVENTION THROUGH THE INTRODUCTION OF TECHNOLOGY INTO THE CARE PATHWAY

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Introduction: This abstract reports the results of the introduction of Sub-Epidermal Moisture (SEM) scanning technology into clinical practice, which is designed to alert Health Care Practitioners (HCPs) to patients at increased risk of PU, as an adjunct to current care pathways and standards of care (SoC) using a formal, repeatable, pragmatic design.

Method: In total, 2,439 mixed-population subjects at risk for developing PUs from 34 international facilities (31 Acute, 2 Post-acute, 1 Palliative) were scanned daily at the sacrum and heels. Existing SoC remained unchanged. HCPs were trained in the use of the technology and clinical interpretation of the technology prompts. Implementation of preventative interventions were based upon the objective alert and prompt of specific anatomical areas of a patient's body at increased risk of PU. The facility's prior PU incidence data were used as a comparator control to compute PU incidence reduction post deployment of the SEM technology.

Results: Post implementation of SEM scanning technology, the 31 acute facilities (2232 patients) achieved a weighted PU reduction rate of 90.5%. In 74% acute facilities (n=23/31) a zero % PU incidence was reported. Additional interventions were provided to 72% patients (n=1607/2232) whilst clinical decision making was impacted in 69% patients (n=1540/2232). A 47% reduction in PU incidence was reported in one palliative facility whilst 2 post-acute facilities demonstrated a reduction of 27% and 100% respectively.

Conclusion: Current risk assessment tools and skin and tissue assessments are subjective and cannot alert HCPs to early, incipient, non-visible pressure induced damage that occurs before being visible on the skin surface. Incorporating an objective, anatomically specific tool, such as the SEM scanning technology, into routine PU care pathways enables HCPs to provide earlier preventive interventions. When used as an adjunct to existing SoC, the technology informs HCPs with subclinical data on early, microscopic skin damage and is an effective tool to support the prevention of PUs.

[5.8] TRIAGE OF PRESSURE ULCERS INCREASE PATIENT SAFETY

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Introduction: Kolding Municipality is a Municipality in the Region of Southern Denmark. The municipality's population is 93175 (2020).

In the months of December 2020 and January 2021, specialized wound nurses triaged all citizens associated with home nursing, with newly found wounds.

Trial action is still going on.

We want to investigate whether triage of wounds can reduce the healing time specifically for pressure ulcers.

The wound healing plans includes a plan for pressure redistribution according to recommendations for support surfaces (1). The wound heling plans are supervised or prepared by a nurse specialized in wound care.

Aims: The aim of this test action is to investigate whether wound triage as a tool and early pressure redistribution action can contribute to faster healing of pressure ulcers

Methodology: The study is conducted by journal review.

Pressure ulcer definition is from Prevention and Treatment of Pressure Ulcers/Injuries guide (1).

Inclusion criteria: Citizens in Kolding Municipality with pressure ulcers.

Citizens who receive home nursing care.

Exclusion criteria: Citizens in nursing homes.

Citizens who have passed away within 30 days of the onset of the pressure ulcer.

Results: Preliminary result 280 citizens

Wound categories	*Number of citizens*	*Average healing time in days*	*Not healed jet*	*Pressure redistribution within 2 days from wound discovered*
Category 1	*5*	*5,6 d*	*0*	*4*
Category 2	*7*	*16,8 d*	*0*	*6*
Category 3	*5*	*20,3 d*	*1*	*4*
Category 4	*0*		*0*	

Conclusion: The preliminary results indicate that wound triage through rapid and targeted efforts in form of pressure redistribution and plan for wound and skin treatment increases patient safety and result in faster healing.

References:

1: Prevention and treatment of pressure ulcers/injuries. Quick reference guide 2019 http://www.internationalguideline.com/static/pdfs/Quick_Reference_Guide-10Mar2019.pdf

[5.9] PREVENTION OF PRESSURE ULCERS IN AN ORTHOPEDIC SURGERY WARD IS NEEDED

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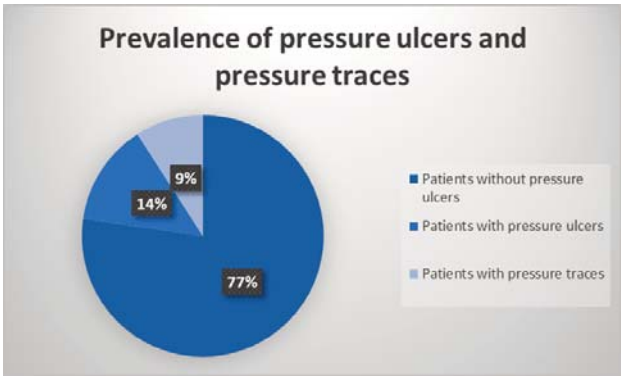
Introduction: In 2012 Danish politicians placed focus on pressure ulcers with reference to the improvement project Patient-Safe Hospital. The increased focus should lead to no hospital-acquired pressure ulcers in 2014. Prevention and detection of pressure ulcers is a key part of the nurse's work, as 95% of all pressure ulcers can be prevented according to the Rio de Janeiro declaration. In a theme report, The Danish national agency for Patients' Rights and Complaints described the average expenditure in 2009 for a pressure ulcer in Denmark. It was estimated that a pressure ulcer has a cost of DKK 200,000, and 90% of this amount was estimated to the care of the pressure ulcer.

Aims: Investigate the prevalence of pressure ulcers on hospitalized orthopedic surgical patients.

Methodology: Quantitative prevalence study conducted November 14th-18th, 2019

Results: 22 patients were included. It was observed that 3 patients had pressure ulcer and 2 patients had a total of 3 pressure traces. One of the pressure ulcers was category 1 and 2 pressure ulcers category 2. All pressure ulcers were observed on ischium. The pressure traces were observed at the lateral malleol on both feet and on coccyx. The patient who had pressure trace on coccyx was admitted due to a hip injury and had only been hospitalized for approximately 12 hours. Patients with hip injuries are normally treated with osteosynthesis within 24 hours. The patients are immobilized in the bed on their back before surgery and many of the patients are high risk patients according to the local guideline therefore, it is necessary to focus on the development of pressure injury. Prior to surgery, patients receive a pain-relieving femoral block and it is therefore possible to consider transferring high-risk patients to an alternating pressure mattress to prevent pressure injuries.

Conclusion: This study has shown that the prevalence of pressure ulcers in the hospitalized orthopedic surgical patients is 14% and if pressure traces are included, the prevalence increases to 23%. This result shows that the aim from political side with no hospital-acquired pressure ulcers has failed and therefore prevention is needed.



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- *Patientsikkert sygehus. (1. November 2015). Hentet fra Patientsikkert sygehus: https://patientsikkerhed.dk/content/uploads/2015/11/pss_pakke_tryks_r_2015.pdf (Vist 24/10-2019)*
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[5.10] IS KNOWLEDGE ON PREVENTION OF PRESSURE ULCER - UP-TO-DATE?

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Introduction: Is knowledge on prevention of pressure ulcers "up to date"?

Aims: To elucidate the knowledge among nursing staff in pressure ulcer prevention.

Methodology: As a part of the campaign on the International Pressure Ulcer Day on 21 November 2019 a questionnaire was handed out to staff at our hospital. In the electronic records at the hospital there is a through screening tool as well as decision guide for staff.

The questionnaire consisted of 13 questions, having only one possible answer for item.

Results: 54 staff members completed the questionnaire of which 13 had answered correctly (24%). Stemming from the answers, the ones with the highest frequency of wrong answers, were:

"A low Braden - score is indicative of???" 24/54 (44%) answered: low risk

"The characteristics of a category 1 pressure ulcers is???" 19/54 (35%) gave a wrong answer.

"What does SKIN represent???" 17/54 (32%) gave the wrong answer

Conclusion: In spite of the fact that all staff have to risk assess all patients on admission to the hospital as well as in the course of admission, the professional knowledge is insufficient and demands further education.

References: Tina Jakobsen RN, Tissue Viability Nurse, Rolf Jelnes MD, Sygehus Sønderjylland, Denmark

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