

Case Study: Preventing device-related pressure ulcers

Staff at Warrington and Halton Hospitals NHS Foundation Trust (WHH) have completely eliminated occurrences of device related pressure ulcers at their hospitals since March 2015. In response to identifying six grade three, device-related pressure ulcers in 2014-2015, a range of actions have been delivered through a multidisciplinary working group. The group consisted of staff working across the organisation in tissue viability, governance, the plaster room and therapies.

Key actions included:

- an innovative red band placed around plaster casts for easy, high impact visual identification of high risk patients on the wards
- a single point lesson for all staff
- a red alert sticker for the patient's notes
- core competencies for orthopaedic nursing staff to support high quality care



The actions described are now fully embedded into the everyday practice required to care for patients with a device in situ. All staff have been successfully trained in how to recognise a high-risk patient and tailor their care accordingly. The project is now ready to be cascaded into a community setting to help with a continuation of care for patients leaving WHH as well as for those in an outpatient setting.

Key Outcomes

- Elimination of device-related pressure ulcers since March 2015 (Appendix 1).
- Increased training and development of staff with single point lessons being delivered during the safety brief at handover.

The single point lesson was chosen as a lean method of disseminating a single action to enable improvement in a highly visual manner in less than fifteen minutes. The lesson aims to cover all stages of learning from raising awareness, understanding, competence and the ability to train others (Bicheno and Holweg, 2016) and can be viewed in Appendix 2. New competency frameworks for delivering care to patients with devices were also developed and all plaster room staff were required to complete them.

This has improved staff confidence and communication between the teams involved in the care pathway. The quotes opposite exemplify staff morale and positive engagement.

“By clearly highlighting the patients at high risk we have seen a significant reduction in cast related pressure ulcers. The focus on orthopaedic device related pressure ulcers has also promoted a more effective multidisciplinary approach to caring for these patients. This has helped my team and I to feel fully integrated with wider teams and has improved channels of communication immeasurably”

Nurse Specialist

“This is an example of getting the right people in the room together to make a difference for our patients, we recognised a problem and collectively improved the management of our high risk and vulnerable patients. It was a pleasure and privilege to work with a team who were so motivated to make that difference, I think it is so important now to cascade and share our learning so that other patients will benefit too”

Associate Director of Nursing

- Increased awareness that patients requiring devices such as Thomas splints, which is a traction device used to reduce and immobilise fractured femurs, may be at risk of developing pressure ulcers. The long splint has a hoop at the end which can be attached to something static (e.g. a bed), this stabilises the limb and reduces pain. The limb needs to be supported effectively to reduce the risk of pressure ulcers that can be developed if, for instance, the heel was resting on the sling portion of the device. There is now an understanding that such devices may prevent healthcare professionals from recognising the presence of a pressure ulcer or could affect the timing of appropriate care for those who have developed a wound.
- Continuation of care now in place for the patients with a device to ensure that risk is not missed. This has been formalised in a new patient pathway (currently under development). Communication is integral to this and a visual aid such as the red band assists with consistency.

Background

Warrington and Halton Hospitals NHS Foundation Trust manages two major hospital sites - Warrington Hospital and Halton General Hospital. The majority of the emergency care and complex surgical care is based at Warrington Hospital whilst Halton General Hospital in Runcorn is a centre of excellence for routine surgery. The Cheshire and Merseyside Treatment Centre is home to the orthopaedic surgery services. The hospital sites are around 10 miles apart. It became a Foundation Trust in 2008, is responsible for a budget of around £215 million each year, manages over 4,200 staff and provides access to care for over 500,000 patients. The trust serves a local population of 313,463 people (118,752 in Halton and 194,711 in Warrington) providing almost 500,000 individual appointments, procedures and stays in hospital each year.

A 2009 safety alert notified healthcare staff of the impact of delayed recognition of pressure ulcers under plaster casts and the resulting harm (NPSA, 2009). The learning from the alert is the early identification of patients at risk. Good casting techniques and monitoring should prevent complications such as pressure ulcers in most cases. From August 2014 to March 2015, there were six device-related pressure ulcers resulting from various pieces of equipment (splints, plaster and so on) at the trust.

As a result of root-cause analysis, which is a “systematic investigation technique” that aims to identify underlying causes and environmental factors rather than just the individuals involved (NPSA, 2010), the group was formed to lead on and implement various initiatives to prevent future incidents and ensure a high-level of care and experience for the patient. The main motivation of the group was to enable effective communication throughout the patient’s pathway of care and work focused on creating knowledge sharing and alerts so that high-risk patients were easily identifiable. Since August 2015, there has not been a device-related pressure ulcer arising from those in the care of WHH.

Key Aims

- To eliminate all device-related pressure ulcers
- To improve the continuation of care for patients with devices in the care of WHH
- To train and educate the workforce to recognise the signs of a high-risk patient and tailor the care accordingly
- To empower staff to implement the learning from the initiative in their day-to-day practice. The multidisciplinary working group has given the workforce the opportunity to practice the implementation of an improvement initiative
- To share the learning of the project widely to ensure that others can implement the initiative to improve the care for the patients

Key Stages of Set-Up

The group adopted a Plan, Do, Study, Act (PDSA) approach to introducing the improvement (Institute for Innovation and Improvement, 2008).

The “plan” element of the initiative was simple and easy to measure: the total elimination of device-related pressure ulcers. Initially, the group aimed to review the current incidents to identify what could be improved. They reviewed newly published professional guidance from the Royal College of Nursing around traction application and principles (RCN, 2015) and ensured that competencies were devised for practitioners based on its recommendations. This included the development of skin integrity checks in the patient’s care plan.

The outcome of the meeting was a range of initiatives that would be easily implemented and cost-effective that would eliminate the incidence of device-related pressure ulcers detailed below.

The communications element of the initiative was implemented straight away as raising awareness was integral to combatting the incidents. A Trust-wide safety alert was issued immediately (Appendix 3). This informed all staff of the importance of recognising high-risk patients requiring devices as well as key learning for preventing the occurrence of ulcers. It also incorporated the NPSA guidance so that staff were well informed and educated (NPSA, 2009).

The Tissue Viability Nurse, whose core role is to promote excellence in wound care and offer advice around the prevention and treatment of wounds of different aetiologies (Pagnamenta, 2014), also devised a single-point lesson to be delivered during the ward safety briefing at handover (Appendix 2).

This lesson is a lean way of spreading best practice via a single page. It gives the rationale for the process, images to aid visualisation of the process and a step-by-step guide for how to implement the practice (Manos and Vincent, 2012).

Key methods of prevention include; cushioning the skin with dressings or silicone pads, practicing vigilance when dealing with hard-to-see areas such as the hairline or underneath a dressing and regular repositioning of the device. Repositioning of both the patient and the device is now to be recorded on the patient’s care and comfort documentation.

The group has also devised a care pathway for patients that have had a Thomas splint device in situ. This is currently being approved through governance but will be shared when it is available.

The work of the project has been successful to date and it is important that the initiatives are maintained and cascaded to anyone who may benefit from the simple to implement tactic. Engaging the following members of staff allowed for a multidisciplinary approach, which was considered a success by those involved:

Associate Director of Nursing for Scheduled Care – Chaired the group meetings and was responsible for reporting its progress to the board.

Tissue Viability Nurse – Advised the group around best practice for wound management and was also responsible for training staff and assessing competencies.

Patient Safety and Quality Champion – Enabled access to governance data and also shared key learning across the wider organisation.

Trauma Co-Ordinator – Works across the sites to lead upon the provision of a trauma service. Attended the meetings to give a clinical perspective on device requirements and types of trauma patients presenting at the Trust.

Orthopaedic Physiotherapist – Specialises in manual therapies for musculoskeletal patients with a focus on trauma. The physiotherapist was part of the group to discuss the nature of rehabilitation and the key stages of improvement for patients requiring a device.

Matron – Represented the nursing staff responsible for inpatients with devices on the wards. The Matron was required to lead on disseminating the learning to nursing staff as well as giving a care and comfort perspective to the wider group.

Plaster Room Technician – Responsible for applying plaster casts to immobilise joints and limbs, the technician was able to discuss in detail the potential role for the Plaster Room in implementing the red band visual aid. The Technician was also tasked with communicating key stages of the initiative and recommending best practice based on utilising existing resources.

How it Works

The Trauma Nurse now completes a daily review of any patient with a cast or a device on an outlying ward to ensure that high-risk patients have been identified and are being treated accordingly. A patient deemed high-risk includes anyone who is unable to do the following:

- mobilise themselves
- know to relieve pressure on their heels
- change their position
- communicate their pain
- communicate irregular skin sensation

This would include patients with the following:

- Above the knee Plaster of Paris
- Paraplegia or neurological conditions
- Lack of skin sensation
- Diabetes
- Lack of mobility
- Dementia
- Mental health conditions
- Very elderly/frail
- Vascular problems
- Intensive/critical care patients

The evaluation of a patient as high-risk will activate a tailored care plan, which includes the red band, a sticker in the patient's notes, daily visit of the patient on their ward, a note of essential review (weekly) and documented on the referral information.

Perhaps the most noteworthy aspect of the initiative has been the development of a visual aid to enable staff to quickly and proactively recognise high-risk patients. The red band is placed around the top and bottom of the plaster cast and is high impact and brightly coloured to ensure that it is easily recognisable by all the healthcare staff involved in the care of the patient. This in turn ensures that the learning from the safety alert and the single point lesson are quickly incorporated into the patient's pathway.

Red alert stickers (see below) have also been produced and are placed on the patient's notes to raise awareness in the Plaster Room and ensure that staff are aware of the need to review high-risk patients regularly.

PATIENT IS HIGH RISK FOR
PRESSURE ULCER UNDER
HEEL OF POP
PLEASE RELIEVE PRESSURE
ON HEEL AND ENSURE
CHANGE OF POSITION
THANK YOU,
PLASTER ROOM EXT 2442

Full implementation will be carried out on publication of the pathway but the evaluation of the success of the project has enforced the decision to roll this out further.



Resources

This initiative has not only made a difference to the quality of care that our patients receive but was an efficient and easy improvement to make.

This project group utilised existing resources and meetings to ensure work progressed efficiently. There was a team approach, which ensured limited investment. For example, the single point lesson took place during the usual ward safety briefing at handover. Also, the red band does not cost any more than the usual white plaster bandage used to stabilise the limb, and does not incur any additional financial encumbrance. The Plaster Room already has a stock of coloured plaster for paediatric patients to make the cast appealing and so the group chose red plaster of Paris to signify an alert.

There was initial cost of staff time to develop resources but no recurring costs. The total cost has been calculated at £1,478.16. This is made up of staff time for attendance at the task and finish groups, production and circulation of communication documents, training and the revision of the pathway and care and comfort resources. This initiative demonstrates that implementations like this can encourage change and make a positive impact on patient care and workforce confidence with minimal, or no, financial investment.

Key Challenges

- Two device-related pressure ulcers occurred in a community setting in July 2015. Interestingly, this may possibly be due to the fact that patients who are not developing pressure ulcers under the care of WHH are being discharged sooner. Earlier integration into the community with a device may result in pressure ulcers developing out of the hospital setting. To mitigate this, the Associate Director of Nursing aims to cascade the initiative to the community nursing staff to prevent future incidents and ensure continuity of care for the patient.
- Perhaps the most challenging aspect of this project moving forward has been maintaining consistency when cascading the information to community colleagues with a plan to implement in this setting. One of the main challenges for implementation is that the training will need to be adapted for the unique and varied needs of a patients in this different context, for example, how regularly are the patients visited and when will they be checked? Collaboration with community colleagues will be a necessity to ensure the training is consistent and relevant. At this developmental stage, the Associate Director of Nursing for Scheduled Care has met with the Nursing Team at the Clinical Commissioning Group (CCG) to plan how the organisation can cascade and share learning in community settings. The working group anticipates rolling out another Plan-Do-Study-Act cycle to implement the initiative.

Key Learning

Using a visual aid can reduce the occurrence of pressure ulcers. These visual aids could be transferred to other devices that potentially increase the risk of developing pressure ulcers for example nasogastric tubes (a tube from the nose to the stomach to help with nutritional support), tracheostomy tubes (inserted into the windpipe to allow patients to breathe), cannulas (a tube inserted into the body to give or remove fluid) or cervical collar (to immobilise the neck).

The project lead also learnt the importance of engaging all staff concerned from the outset of implementing an improvement initiative. This allows staff to feel empowered to adopt the change, it gives them a sense of ownership and accountability and drives teamwork. A key point of learning has been that team communication and cross team working has increased staff confidence and enhanced the delivery of the initiative for the benefit of the patients.

“Our device-related pressure ulcer care project has been truly a team approach. I am very pleased that I have introduced the RCN guidance on Traction and competence framework for Orthopaedic and Trauma Practitioners which has been successfully adapted to local Trust use. I am very proud of having been part of this fantastic project that has benefitted the patients, staff and the whole organisation”

Tissue Viability Nurse

Sustainability

The learning has been shared extensively so that others can benefit from this idea. The project has won the Pick of the Week from Roy Lilley’s Academy of NHS Fabulous Stuff: <http://www.fabnhsstuff.net/2016/02/24/preventing-device-related-pressure-ulcers/>

To ensure that this initiative is embedded into every day practice, all staff have been trained in how to recognise a high-risk patient and are required to adhere to competencies.

The visual alerts already described result in the effective and ongoing management of patients with devices deemed to be at risk of developing a pressure ulcer.

The governance data concerning devices specifically is raised and discussed at governance meetings to enable the monitoring of performance and allows staff to be proactive in response to issues.

Next Steps

- Share the learning widely to ensure that other organisations can adopt elements of the project to suit the needs of their patients. The project is currently being published in local and national press (see relevant websites below), it has been submitted to the Health Service Journal (HSJ) Patient Safety Awards and the Nursing Times Awards and is due for publication in the Nursing Times in June 2016. The Trauma Nurse has also shared the project at the North Region Pressure Ulcer Summit in February and as a result of this presentation is now working with colleagues to help with the implementation at their own organisations.
- Roll out another PDSA cycle in the community to ensure a continuation of care for patients with devices.
- Cascade learning to other divisions to reach any outlying patients.
- Submit the project for patient safety awards to recognise and share the effective teamwork.

Relevant Websites

Runcorn and Widnes World
http://www.runcornandwidnesworld.co.uk/news/14324180.Red_bands_alert_hospital_staff_to_prevent_plaster_casts_causing_pressure_ulcers/

Warrington Guardian
http://www.warringtonguardian.co.uk/news/14322704.Hospital_scheme_wipes_out_pressure_ulcers/?ref=mr&lp=11

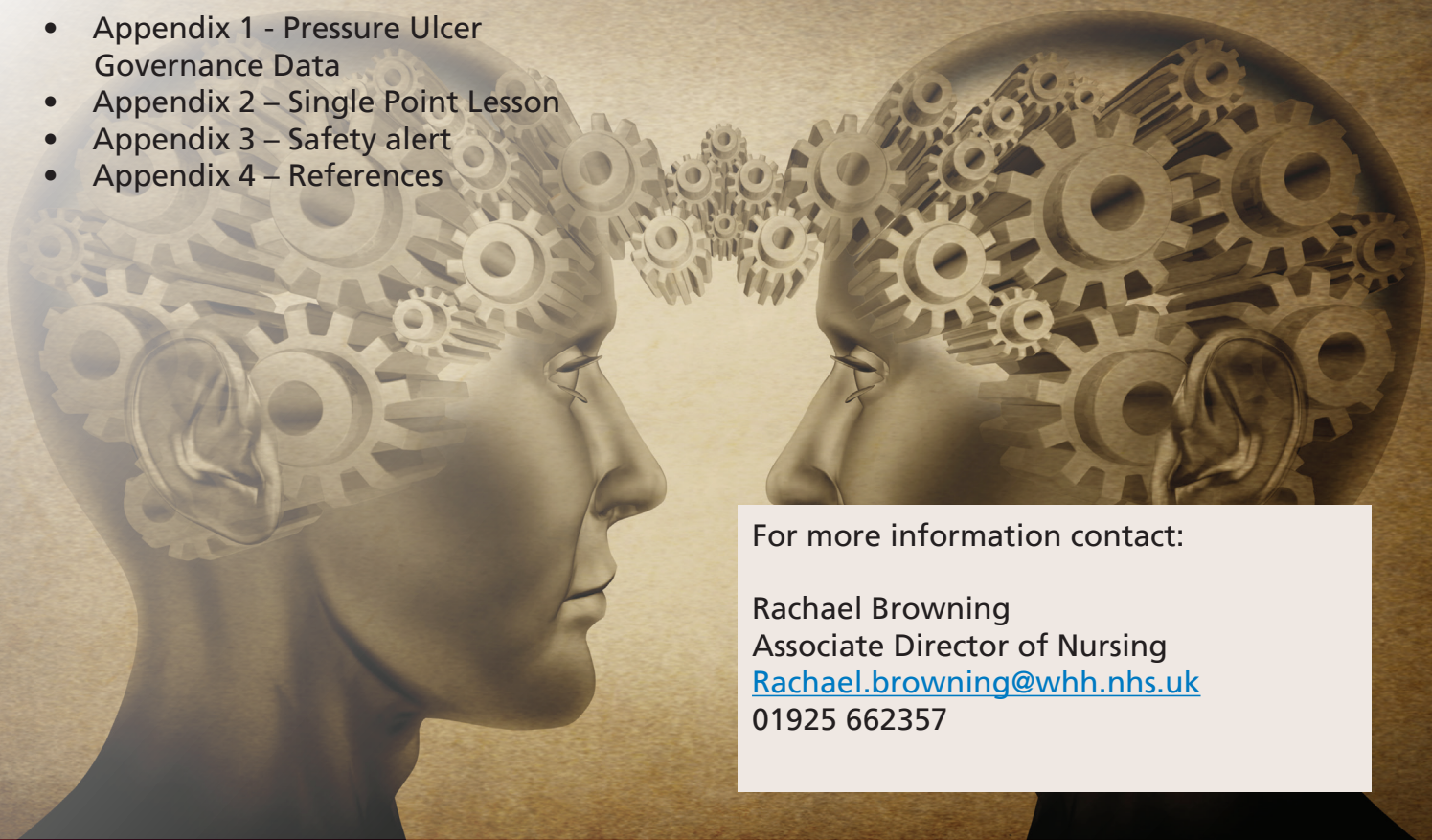
Warrington Worldwide
<http://www.warrington-worldwide.co.uk/2016/03/05/hospital-staff-win-praise-for-simple-red-stripe-cure/>

Nursing Times
<http://www.nursingtimes.net/news/hospital/red-band-preventing-pressure-ulcers-caused-by-casts/7002977.fullarticle>

ATtoday
<http://attoday.co.uk/index.php/red-band-idea-preventing-pressure-ulcers/>

Supporting Material

- Appendix 1 - Pressure Ulcer Governance Data
- Appendix 2 – Single Point Lesson
- Appendix 3 – Safety alert
- Appendix 4 – References



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