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Managing the effects of mental health and long-term conditions TVNs and lymphoedema march again at Pride Cymru's Big Weekend Reflections on family caregivers' experiences during the pandemic Making bowel cancer diagnosis FIT for the future Lindsay Leg Club launches in USA Time for a new nursing branch Demystifying convex stoma care products Burden of trauma: why we all need handling with care Taking to parliament to relay the importance of high quality stoma care Supporting men with bladder incontinence Chronic oedema — skin care and exercise End-of-life skin care: what every clinician should know Managing dehisced wounds Wound discharge outcomes of a specialist wound telehealth service in 38 nursing homes over a three-year period

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Editorial

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Finding time to care in the community



The link between physical and mental wellbeing is widely recognised, especially for those with a long-term condition. Such conditions can have a marked impact on mental health, while poor mental health can exacerbate chronic illness, thus creating a vicious circle due to the connection between the body and mind. Community nurses are well placed to care for those with long-term conditions, not just in terms of health promotion, putting preventative measures in place, encouraging self-care etc, but also

to address more complex mental health issues, and maybe even needing to advocate for patients. Our 'Community matters' piece (*pp. 8–11*) explores this issue, highlighting the importance of working to remove any stigma around mental health, having the skills and competencies to address more complex concerns, and taking a 'whole system' approach, rather than viewing physical and mental health in isolation.

Providing wound care is also an essential part of community nursing, as reflected by articles in this issue. At end of life, skin damage can occur and while it can be challenging to gauge which wounds can be prevented and which are unavoidable, as Stefanie Mahan and Nyssa Cole discuss (*pp.* 44–49), regular skin assessment and best end-of-life care are vital to help maintain skin integrity, keep patients comfortable, and ensure a dignified death. Some elements of end-of-life wound care are also discussed on *pages* 57–62, where we take a look at a specialist, collaborative wound telehealth service, and how it was used to treat patients with wounds in multiple nursing homes. Understanding and managing dehisced wounds is another complex area encountered in the community, which Annemarie Brown explores helping you to identify predisposing factors, both patient and environmental, and how to recognise whether a dehisced wounds has clinical or sub-clinical infection (*pp.* 50–56).

I hope you enjoy reading this issue and if you would like to receive a print copy of the journal, don't forget to take advantage of our 50% discount on annual subscriptions to mark the journal's golden anniversary (www.jcn. co.uk/journal/subscribe). And, as always, I urge you to check out when the JCN roadshows are coming to your area and to come along and enjoy a day of free education and networking with colleagues and friends (www.jcn. co.uk/events/series/roadshow-study-day).

Annette Bades, editor-in-chief, JCN



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I am a district nurse, nurse teacher in practice, associate lecturer and Queen's Nurse who believes that excellent community nursing is vital and that community nurses should be more visible. Care should be available to everyone who wishes to remain at home. I have an interest in dementia, end-of-life care and teaching in practice to support newly qualified nurses. I am very pleased to be a part of the JCN editorial board, an accessible journal for all community nurses to inform their practice and strive for excellent care. Gail Goddard



I am a freelance tissue viability nurse (TVN) and health visitor. My true passions are in pressure area care and moisture-associated skin damage. I sit as a registrant panel member on the NMC Fitness to Practice Hearings, and work with the Institute of Health Visiting (IHV), where I have recently supported the development of a training package on domestic violence and abuse (DVA). I am delighted to be part of the JCN editorial board, where current best practice can be discussed. *Melanie Lumbers*



I am a district nurse, nurse teacher and Queen's Nurse with a passion for excellent community nursing education and practice. I am also an advocate for care being close to people's homes and for supporting people to self-care and regain independence where possible. I also have an interest in nurse prescribing, dementia, frailty, loneliness and social isolation. I am delighted to be a part of the JCN editorial board, a journal for all community nurses to access for the very latest and best evidence to inform their practice. Sue Boran



I've been working in district and community nursing for 20 years. My particular passion is for continuity of care in community nursing, which encourages healthy behaviour, builds trusting relationships, can reduce healing times, and makes people feel more positive about their healthcare experience. We have a responsibility to prepare for the future by continuing to develop leadership and clinical skills. The JCN is a great resource for support, education and to share best practice. *Hattie Taylor*



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Managing the effects of mental health and long-term conditions

espite the medical advances of the past century, modern healthcare services often seem to treat our bodies as a series of unconnected parts, our ailments divided according to arbitrary physical labels. We may see a urologist for our weak bladder, a cardiologist for a malfunctioning heart, and a psychiatrist for any mental health issues. While it makes sense to apportion separate parts of the body to qualified specialists, these divisions can result in an inability among healthcare staff to see the 'bigger picture'— or to use modern healthcare terminology, to treat the patient'holistically'.

Nowhere is this more applicable than in the traditional divide between mental health services and physical health, which have historically been viewed as loosely related entities with their own distinct training programmes and staff qualifications, and even separate hospitals. However, it is increasingly being recognised particularly in community nursing that the physical and mental aspects of health are inextricably linked, particularly when it comes to patients with long-term conditions.

CHICKEN OR EGG

Back in 2012, the King's Fund, alongside the Centre for Mental Health, carried out some research into the prevalence of people who had both a long-term condition and a mental health issue, as well as the cost, both in human and financial terms. The report found that people with chronic conditions such as diabetes or cardiovascular disease were more likely to experience



Mental and physical health are inextricably linked and both should always be considered when undertaking any form of holistic assessment. In the community, district nurses assess in a person-centred way, taking into consideration the person and their wishes, their family and support networks as well as the environment; but district nurses are not necessarily the experts in mental health and well-

being; although both are specialist areas of practice.

The QNI and many nurses in our networks have worked closely with the Nursing and Midwifery Council (NMC) over the last two and a half years to develop the new NMC SPQ post-registration standards and we are building on these standards by developing nationally recognised QNI field-specific standards in partnership with all key stakeholders, including the NMC. These field-specific standards will include the five existing NMC annotations — community children's nursing, community learning disability nursing, community mental health nursing, district nursing and general practice nursing. The QNI will also develop field-specific standards for those nurses undertaking the SPQ in the fields of adult social care, inclusion health nursing, criminal justice nursing and hospice nursing.

There has been a steep decline in educational programmes at this specialist, advanced level for mental health practitioners who are leading and managing teams and services. We hope that the development of the field-specific standards will encourage higher education establishments to develop new advanced level programmes, mapped against these standards to ensure that there is a future pipeline of mental health specialist practitioners to support good mental health and well-being, who can lead and manage a workforce that is seriously depleted.

Sue Boran

Director of nursing programmes, Queen's Nursing Institute

mental health issues, e.g. depression and anxiety, while £1 in every £8 spent by the NHS on patients with long-term conditions could be linked to poor mental health ('Mental health and long-term conditions: the cost of co-morbidity' – www.kingsfund.org. co.uk).

The National Institute for Mental Health (NIMH) has also stressed the link between chronic conditions



As a district nurse who has worked within the community for over 32 years, there has been a definite increase in the amount of people in the community who we care for with mental health issues, which often leave community nurses feeling out of their depth. I have been in many situations where I felt ill prepared, without sufficient knowledge and experience to give the correct care to people in their own homes, often at times of crisis. Adult general nurses historically have had little education in mental health and my own experience in training was of residential units and hospitals way back in my second year of pre-registration training. Being able to assess and interact effectively with a person with mental health issues in their own home, often unexpectedly as the referral has been for a physical need, is a huge learning curve and is usually based on experiential learning yan theoretical knowledge

and instinct rather than theoretical knowledge.

While some district nurse specialist practice courses now include a mental health module, which is a positive step forward, many do not. Basic mental health training should be available to all community practitioners and should be given equal importance as training for physical conditions.

The time management and understanding that is needed to patiently wait while a person with anxiety and compulsive obsessive disorder carries out all of their essential rituals before opening the door to allow a nurse to give physical care, along with the negotiation required to complete the care in a way that the patient accepts and is comfortable with, is an additional skill which has to be learnt and developed. Sadly, many community nurses do not have these skills and also feel frustrated and stressed as they are trying to balance one person's needs against the rest of the patients on their diary for that day.

I have learnt a great deal from the community mental health teams when sharing care for a patient with mental and physical needs by observing their communication skills, and would like to see far more joint working between community nursing teams and mental health teams so that we can all give the best possible holistic care based on knowledge.

Gail Goddard

Mobile district nurse team manager, Hounslow and Richmond Community Healthcare; associate lecturer, Bucks New University

such as cancer, heart disease and dementia, and the likelihood of developing a mental health issue. While it may be common for patients to temporarily experience periods of low mood or to feel discouraged after having a heart attack or receiving a life-changing diagnosis, if these feelings persist the person may be in danger of developing depression ('Chronic illness and mental health: recognizing and treating depression' — www.nimh.nih.gov).

As well as depression, anxiety is a common feature of many long-term conditions. For patients presented with a diagnosis of cancer or cardiovascular disease for example, anxiety may be a normal and even a positive response. It can prompt them to engage in healthy behaviours such as exercising more regularly, or following a medicines regimen. However, where anxiety about a long-term condition and its treatment or prognosis takes over, it can become detrimental. A recent article in the journal *Current Psychiatry Reports* detailed the link between anxiety and cardiovascular disease: 'Anxiety disorders are associated with the onset and progression of cardiac disease, and in many instances have been linked to adverse cardiovascular outcomes, including mortality' ('Anxiety disorders and cardiovascular disease' — https://link.springer.com).

Conversely, people with a mental health issue can find themselves at increased risk of developing longterm physical health conditions. People with depression are prone to a range of conditions including heart disease, stroke, diabetes, chronic pain, and Alzheimer's disease. While the reasons for this have not been adequately researched, one theory is that people with depression may not access healthcare services or find it harder to exercise, eat healthily or take medicines.

According to the NIMH, researchers are also looking into

whether the physical changes associated with depression, such as raised inflammation, changes in the control of heart rate and blood circulation and deregulated stress hormones may have an effect on people's risk of developing longterm conditions ('Chronic illness and mental health: recognising and treating depression'— www.nimh. nih.gov/health/publications/chronicillness-mental-health).

FINDING TIME TO CARE

Mental health issues in people with long-term conditions is a particular issue for community nurses whose patients are often living with a chronic illness or experiencing long-term symptoms such as pain. This can mean that patients have limits on their professional and social lives, while they may also be anxious about treatment outcomes and their likely prognosis.

However, for busy community nurses with a long list of patients

Community matters

often with multiple comorbidities, finding time to assess, let alone treat mental health issues, can be a challenge.

One recent study in the Journal of Clinical Nursing focused on district nurses' views on detecting mental health issues among older people in the community with multicomorbidities. Researchers found that most district nurses regarded assessing mental health issues was important, but that they typically focused on more practical healthcare tasks to do with the patient's physical conditions ('District nurses' perspectives on detecting mental health problems and promoting mental health among communitydwelling seniors with multimorbidity' - onlinelibrary.wiley.com).

Evidence also suggests that diagnosing anxiety in patients with cardiovascular disease can be a challenge because of the overlap between anxiety symptoms and many of the symptoms of cardiovascular disease, such as restlessness, poor concentration and disturbed sleep patterns ('Anxiety disorders and cardiovascular disease' — www. ncbi.nlm.nih.gov/pmc/articles/ PMC5149447/).

In addition, community nurses may also have to take into account the patient's current and past medicines profile when considering the effect of a long-term condition on their mental health and vice versa. For example, research has shown that antidepressants can aggravate a patient's medical condition through drug interactions and the effects of renal, hepatic, or gastrointestinal dysfunction on drug metabolism ('Emotional dimensions of chronic disease'— www.ncbi.nlm.nih.gov).

As well as the challenge of identifying and managing patients with long-term conditions and mental health issues, it is important to remember the burden this work places on community nurses themselves. Studies have shown that nurses responsible for providing mental health interventions for patients with long-term conditions experienced a negative effect



There are a substantial number of long-term physical and mental health conditions. Each disease impacts on the individual differently and when combined can produce a diverse set of needs, which often results in a challenging package of care being required. Although this can stretch practitioners, and managing the care of individuals with both long-term conditions and mental health issues can be complex, it

is also rewarding for practitioners and can positively promote the health of the individual if performed in an integrated, person-centred way. Viewing the person as a person who has a diverse set of needs is vital, rather than seeking to address their issues separately. For this to happen, community practitioners need to have an understanding of the complex interaction between the conditions, medications and strategies needed to promote the physical and mental health of individuals who often have a myriad of needs. They and their families need supporting skilfully and with knowledge in the community setting. Practitioners and organisations need to work together with an in-depth understanding of the requirements of the individual.

Currently, practitioners often have a focus in one training or skill set, such as mental or physical health, but they need to acquire a fundamental level of knowledge in both branches and areas to enhance the care that they deliver, often working across boundaries in a truly interprofessional way. However, this is continuing to develop due to legislation and the will of practitioners to work together to improve care.

Education, both pre- and post-registration for nurses and all practitioners involved in care, needs to be comprehensive and successfully combine both knowledge and skill in the condition itself, in the value of both physical and mental health being equally well supported, in the value of health promotion, as well as having knowledge of the family, carers and community setting. This is undoubtedly a strength of community practitioners.

However, there also needs to be a robust support system in place within the community, which may well have resource implications. Community practitioners need to be skilful in promoting and signposting opportunities to their patients and families and to utilise all resources available to support the individuals they care for.

Teresa Burdett

Principal academic, Bournemouth University

on their emotional well-being, with a lack of regular supervision worsening the situation ('Feasibility of training practice nurses to deliver a psychosocial intervention within a collaborative care framework for people with depression and long-term conditions' — bmcnurs. biomedcentral.com). Worryingly, there is also evidence that many people who have a longterm condition and a mental health issue receive a lower standard of care than those with a single condition ('Mental health and long-term conditions: the cost of co-morbidity' — www.kingsfund.org.co.uk). Allied to this is the fact that many people with long-term conditions and mental health issues may live in deprived areas with little access to healthcare resources.

INTEGRATED CARE

Back in 2012, The King's Fund and Centre for Mental Health report suggested that the care of people with long-term conditions and mental health issues could be improved by:

- Integrating mental health care with primary care and chronic disease management programmes
- Improving liaison psychiatry services in acute hospitals
- Providing all healthcare professionals with basic mental health training and skills.

While this all sounds positive, there is little here in the way of specifics on exactly how a community nurse might approach integrated care for a person with mental health issues and a long-term condition.

More targeted advice can be found in a paper published in the journal, BMC Nursing, which studied whether general practice nurses (GPNs) could be trained to deliver a psychosocial intervention for people with depression and long-term conditions. The study used a simple psychological therapy known as behavioural activation, which aims to increase the patient's participation in rewarding activities, such as walking, gardening or simply talking with friends, which they may have stopped due to their condition. This teaches people that their behaviour can positively affect their mood.

The study found that GPNs were ideally placed to deliver behavioural activation due to their extensive contact with patients with long-term conditions. The researchers also detailed the positive effects for the GPNs themselves, with regards to their confidence in delivering mental health interventions ('Feasibility of training practice nurses to deliver a psychosocial intervention within a collaborative care framework for people with depression and long-term conditions' — bmcnurs. biomedcentral.com).



As we rebuild from the effects of the pandemic and lockdowns, communities are trying hard to bounce back, but more challenges are appearing, such as the mounting cost of living expenses for people and organisations. Sadly, loneliness and a more sedentary lifestyle have become more normal for some people with long-term conditions, as the restrictions on their physical ability and budget restrict their habits and lifestyle choices.

Integrated care partnerships, including voluntary care services, are creating solutions for some communities and impressive progress has been made in some areas in the form of community response — local resilience forums, heated areas in libraries, signposting organisations, social prescribing, community cafes, and many more. All these things will add value and make a difference to people's lives, especially when it means better access to company, warmth and nutrition.

In people's homes, the work of the nurse has evolved to meet community requirements; visits can be far longer addressing multiple health needs and spending time listening to people and their families/ carers. In community nursing, we can use anxiety and depression assessment scores to identify where people's mental health is suffering and needs prioritising or referral, raise alerts about risk of suicide, offer advice about exercise and healthy choices. This means having a workforce with advanced history-taking and assessment skills, and who are well educated about long-term conditions, including frailty.

One crucial way we can ensure right and quality care across mental and physical health services is through maximising digital resources, namely; online virtual care/wards (multidisciplinary team clinical meetings), monitoring, consultations, instant electronic referrals and, importantly, electronic systems working together so that information can be shared across services without delay, i.e. no block in seeing other health professional consultations — the ideal being across health and social care. It was good to hear recent focus on this subject from Simon Bolton, CEO of NHS Digital and many trusts are currently looking to replace their electronic patient records. Indeed, community and acute trusts need to work together to achieve this critical goal.

Hattie Taylor

District nurse lead (Purbeck), Dorset Healthcare University NHS Foundation Trust; Queen's Nurse

Of course, it can be stressful for community nurses to provide emotional and mental health support for patients as well as considering their physical needs. For this reason, it is vital that nursing education programmes include information on the emotional aspects of long-term conditions and their effect on the patient ('Emotional dimensions of chronic disease' — www.ncbi.nlm. nih.gov). However, while education is vital, perhaps the most important lesson is that whether a patient has a mental health issue, a single long-term condition, or is living with multiple comorbidities, the optimal approach community nurses can take is to view them as a whole person rather than a series of unconnected diagnoses. Or, as a famous Greek person once said — the whole is greater than the sum of its parts. **JCN**





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Q What did we do?

We had the opportunity to attend the two-day weekend in our mission of promoting awareness in lower leg issues. Once again we donned our most extravagant and colourful wardrobe, and yes an unbelievable amount of glitter make up was involved. We proudly paraded with approximately 15,000 others, in support of the LGBT+ community objectives. Sharing our enthusiasm to join us back at the marketplace stand that we had set up.

Thanks to our commercial sponsors, we had the opportunity to have a marketplace stand for two days to deliver public awareness with regard to lower legs issues. Throughout the event, attendance



TVNs and lymphoedema march again at Pride Cymru's Big Weekend

The sun was shining, the scene was a glorious array of colourful rainbows and the atmosphere was embracingly joyous when a community of LGBTQ+ and allies came together in celebration and support over two days for Pride Cymru. After waiting two years since last attending this event due the pandemic, the All Wales Tissue Viability Nurses Forum, along with the All Wales Lymphoedema Network, and TVN2gether returned on the 27th and 28th August 2022 to celebrate diversity in the Welsh capital by supporting LGBTQ+ rights. The capital was adorned with banners, signs, flags, music, laughter, dancing, amazing outfits, and a community of beautiful people coming together. Pride Cymru is a volunteer-led charity that works to promote the elimination of discrimination on the grounds of sexual orientation, gender, race, religion or ability. 50,000 were expected over the weekend, with 15,000 parading and celebrating the 50th anniversary since the first ever Pride march. After the success of the Legs Matter campaign to raise awareness at Pride two years ago, the TVNs were not going to miss the opportunity of coming together again to promote leg wellness to this community. But, this year was even more special, as having members of the All Wales Lymphoedema Network joining strengthened the message of #CelebrateYourLegs, sharing their expertise of lymphoedema/oedema, skin changes/ early signs, and services available to communities in Wales. Here, we ask Julie Evans, lead tissue viability nurse at Powys Teaching Health Board, how the Pride Cymru weekend unfolded and what was special about being involved.

and interest at the stand by the general public was non-stop — it was unbelievable how engaged people were in finding out about 'Why do legs matter?'

On the stand we carried out simple leg assessments; highlighted signs and risks to watch out for; gave out information leaflets; promoted wellness videos; and signposted every attendee to how they could access services.

By the end of the first day it did seem likely that nearly everyone walking around the event was donning one of our stickers, or carrying a goodie bag of information from visiting the stand. Attendees were keen to know what the message on our T-shirts — #CelebrateYourLegs — was about, and were engaged and receptive to the information shared. It was amazing to see that our attendance had really made a difference.

Q Who wanted information?

The attendees at the stand were non-stop over the two days. We had the chance to meet the Welsh First Minster; football stars from the Welsh national team; and we even managed to get a live slot with the ITV Wales news team reporting from the event. Most importantly, we engaged with the LGBT+ community and their allies of all walks of life.

Three key messages that came out of the day for us to learn from were:

 The general public's knowledge and awareness of leg problems is worryingly poor, but the enthusiasm to engage in this knowledge and awareness is real and enthusiastic. This suggests that there is still a great deal of work to be done by healthcare communities to engage further with the wider general public



to establish early discussions, recognition and access to health care in terms of leg care.

- 2. The engagement and enthusiasm of the younger generation to find out about keeping their legs well was refreshing. This finding was encouraging, as this is part of the population who, in the main, we are less able to engage with in public awareness campaigns. This early awareness will hopefully encourage a future generation to have better outcomes than are currently seen.
- 3. Unfortunately, there is still anecdotal evidence that the LGBT+ community experience disproportionate experiences of health care which results in health inequalities. This finding corresponds with those from the UK Government's National LGBT survey undertaken back in July 2017, where 16% of the LGBT+ individuals who responded had negative experiences of accessing health

care because of their sexual orientation; and because of their gender identity, 38% of individuals experienced inappropriate questioning or curiosity when disclosing their sexual ordination or gender identity, resulting in their avoiding accessing healthcare contact due to past negative experiences. Considering the LGBT+ community is also noted as being at a disproportionate risk of substance abuse, mental health issues, self-harm and homelessness, the finding that individuals are still experiencing this discrimination is concerning.

Although it is comforting to see the recognition of inequalities noted in a Welsh Government Report (March 2021), which outlined recommendations for furthering LGBTQ+ equalities in Wales, and that improvements have been made in Wales following the introduction of the Welsh Government LGBTQ+ Action Plan for Wales (July 2021), it is obviously clear that more progress is still needed through further implementation of the LGBTQ+ Action Plan.

Q What did those involved have to say?

Having never done anything like this before, it was enlightening to see how many peoples' lives we touched in such a short time. Lots of positive engagement and plenty of younger people given vital information for their own future leg health.

> Kelly Brothers, Cwm Taf Morgannwg University Health Board

The engagement of young people was amazing. Everyone we spoke to was genuinely interested in what we had to say and wanted to listen.

> Rhona Farley-Harper, Powys Teaching Health Board

The stories and experiences shared were humbling. The diversity of their concerns and the privilege of helping and the gratefulness of the support was so worthwhile.

> Susan Flavin, Swansea Bay University Health Board

Great to be involved in such collaboration between all groups involved and realise how our different expertise made the day so special. Kirsty Mahoney, Welsh Wound Innovation Centre

It was just the engagement and popularity of the stall that was empowering, with so many questions being asked by the general public and the awareness of the lack of health knowledge out there in the public with regards to leg care.

Jenni MacDonald, nurse consultant tissue viability, acute, primary and community care, NHS Lothian

Was excited and keen to work with the AWTVN on the healthy legs campaign. It was an amazing event. People of all ages wanting to know how to look after their legs. A real proactive approach to healthy legs. A positive collaboration between lymphoedema and tissue viability. Coming together and raising awareness, signposting people to the right services and empowering people to take control and self management. Amazing!

Karen Morgan, All Wales Lymphoedema Network

Q Who made this happen?

I cannot thank enough my tissue viability colleagues from across Wales and Scotland, the Welsh Lymphoedema Network, the team at JCN and Wound Care Today, and all our sponsors (Frontier Medical Group, Haddenham, Huntleigh, L&R, medi UK, and Thuasne) for giving up their bank holiday; going that extra mile on the weekend and in the months of planning preceding the event; and giving 100% support to making our attendance at Pride Cymru matter.

You often hear the term'stronger together'bandied around. But, this was a true example, where the communities of clinicians, industry partners and medical educators came together to deliver a powerful outcome in the best interests of our wider communities' healthcare needs.



There is no doubt, that is a definite 'yes'. As we had wished, it was 'bigger and better' than ever before. So, we are already planning for next year's Pride Cymru event and discussions are happening with regards to attending other Pride events throughout the UK.

All agreed that this was once again our best and most effective public awareness campaign opportunity to raise early awareness and education about lower leg issues — who wouldn't want to miss out on that?







Huntleigh Healthcare are pleased to continue to support the All Wales Tissue Viability Forum in their efforts to promote awareness of Leg health through Pride Cymru.

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LEADING THE SELF-CARE REVOLUTION



ADV336 V1 1



Dr Carolyn Wilson-Nash, lecturer in marketing and retail, University of Stirling Management School

efore the pandemic, the UK was spending only 9.8% of gross domestic product (GDP) on health care, which is one of the lowest in the developed world, and only had a bed capacity of 2.5 per 1,000 people (Maizland and Felter, 2020). Thus, when the pandemic hit, NHS frontline services were rapidly overwhelmed. They responded by postponing nonemergency procedures, closing nonemergency services, and redeploying specialists, which released necessary hospital beds. Unfortunately, these actions had negative consequences for older people and their carers.

The author carried out an analysis of 2,607 posts on forums for UK-based family caregivers between 15 March and 15 September 2020, and found that family carers felt powerless, voiceless and choiceless when navigating the health care of older people during this period.

They felt powerless when healthcare organisations created rules and restrictions that they and the older person they were caring for had no control over. For example, when the UK government announced prioritising care for less vulnerable people, 'do not resuscitate' (DNR) was placed on older people's medical records without consent from the individual or the family.

When issues arose in the healthcare service, carers felt unable to voice their concerns as frontline employees, who were overworked and stressed, did

Reflections on family caregivers' experiences during the pandemic

not listen. Furthermore, in stretched and pressured healthcare services, the ordinary channels for customer communication were the first to be unprioritised and consequently shut or slowed down.

The reason that carers and older people endure being powerless and voiceless is due to the limited choice of alternative healthcare services. In the UK, primary or secondary healthcare services depend on the location of the consumer, and other private care, such as in-home care services, are in high demand, creating scarcity. This was exacerbated during the pandemic when people were being kept out of hospital, leading to further pressure on community care and residential homes.

In addition, healthcare services suddenly stopped providing care to vulnerable older people, leaving the carer in a difficult situation. Older people were being prematurely discharged from hospital in poor conditions and without support at home.

RECOMMENDATIONS

In the author's opinion, the response at policy level could have been faster. There needed to be clearer hygiene and safety guidelines for all healthcare organisations to follow. The supply of personal protective equipment (PPE) should have been speedier and spread not only across hospitals, but also to inhome care companies and care homes. Efficient and effective emotional support for frontline healthcare professionals was also needed.

Finally, autocratic decisions, such as placing DNRs on medical records, changing the patient discharge protocol, and closing down complaints procedures should never have happened. This removes people's voices and rights and has devastating repercussions for those who are already vulnerable.

Moving forward, family carers of vulnerable older people need to be further recognised in their role. They are often responsible for navigating the different healthcare services and ensuring that older people are safe and well. Family caregivers should not only receive substantive financial support, but also emotional support and opportunities for training. They should receive clear communication from healthcare services and be involved in care planning, especially if they have power of attorney.

The scarcity of services in the community should also be addressed, such as the high demand for in-home care services and care homes. If there was more care available, people would receive the level of care they need, preventing hospital admissions, and allowing older people to be safely discharged from hospital.

Finally, there needs to be more cohesion between those who care for vulnerable older people across primary, secondary and care services. Currently, the system is too fragmented with GPs, hospitals, care homes and care services using completely separate IT systems, for example. If communication was improved, it would prevent patients being prematurely discharged without suitable care and support. Furthermore, services providing care should legally not be able to withdraw their care during times of crisis. In regular circumstances, the withdrawal of care should only be allowed once the older person has found suitable alternative care. ICN

REFERENCE

Maizland L, Felter C (2020) *Comparing Six Health-Care Systems in a Pandemic*. Available online: www.cfr.org/backgrounder/comparing-six-health-care-systems-pandemic

Viewpoints



Gerard McMahon, head of external affairs for the devolved nations, Bowel Cancer UK

arly diagnosis of bowel cancer is key to saving lives. It is the UK's second biggest cancer killer with more than 16,500 deaths from the disease every year — one every 30 minutes (Cancer Research UK, 2022a). Yet, it is treatable and curable if detected early. Almost everyone diagnosed at stage I will survive bowel cancer, but sadly early diagnosis has remained stubbornly low with less than 40% of diagnoses at stages I and II (Cancer Research UK, 2022b).

The UK Government has a target of 75% of all cancers being diagnosed at stage I or II in England by 2028 (Gov.UK, 2022) — other nations, such as Scotland, are contemplating a similar goal — but without changes to the way bowel cancer is diagnosed, or significant investment in the staff and equipment needed, this ambition will not be achieved.

qFIT — THE KEY TO EARLIER DIAGNOSIS OF BOWEL CANCER?

This summer has seen some important news about the use of qFIT (quantitative faecal immunochemical test). This is the same as FIT (faecal immunochemical test) for bowel screening, but for use in symptomatic patients, which Bowel Cancer UK believes has the potential to transform bowel cancer diagnosis.

Making bowel cancer diagnosis FIT for the future



The Association of Coloproctology of Great Britain and Ireland (ACPGBI) and the British Society of Gastroenterology (BSG) have published new guidance on the use of qFIT in primary care (Monahan et al, 2022). This new guidance, offers advice on the use of qFIT in patients displaying symptoms related to bowel cancer and aims to provide a clear strategy for its use in the diagnostic pathway.

Some of the key recommendations for use with patients are:

- qFIT should be used by primary care clinicians to prioritise patients with suspected bowel cancer for referral for urgent investigation
- qFIT should be used at a sensitivity level of 10ug/g (micrograms of blood per gram of faeces) in primary care to select patients with lower gastrointestinal symptoms for an urgent referral pathway for further investigation
- Patients should not be excluded from referral from primary care for symptoms on the basis of qFIT testing alone.

It is essential that this guidance is formally adopted by the National Institute for Health and Care Excellence (NICE) and the Scottish Intercollegiate Guidelines Network (SIGN) to ensure that it is fully embedded in diagnostic pathways. It is also vital that these guidelines are communicated effectively to primary care professionals and that patients know about the availability of qFIT when they have concerning symptoms. qFIT can help GPs when deciding to refer people with suspected bowel cancer symptoms and it could also help to tackle delays in diagnosing younger patients with the disease. Over 2,600 people under the age of 50 are diagnosed with bowel cancer every year in the UK, and many have to visit their GP on multiple occasions prior to referral (Bowel Cancer UK, 2022). Testing younger patients with qFIT when they first present with non-specific symptoms of bowel cancer may prevent delayed diagnosis.

LOWERING THE BOWEL CANCER SCREENING AGE

In England and Wales, a drop in the age people are first invited to participate in bowel screening, from 60 years of age to 56 and 58 years of age respectively, has taken place over the last two years (Public Health Wales, 2021; NHS, 2022). Further widening of the eligibility criteria — moving to an age range of 50–74 years of age will occur in the coming two to three years, bringing England and Wales in line with the criteria adopted by Scotland (NHS Inform, 2022).

Alongside this widening of access, there are also plans for the sensitivity of FIT to be improved with a reduced threshold of 80µg of blood per gram of faeces, again bringing Wales in

To join...

... Bowel Cancer UK's professional network, please visit: bowelcanceruk.org.uk/ professionalsnetwork/ line with practice in Scotland. In Northern Ireland, a long-awaited cancer strategy published in March 2022 committed to optimisation of their bowel screening programme and planning is underway to make that a reality.

CAN FIT FIND EVEN MORE CANCERS?

The UK National Screening Committee recommends a FIT threshold of $20\mu g/g$, so there remains work to be done across the UK to fully optimise bowel screening, but the signs are positive that bowel screening will be strengthened, and this may prevent some people from developing bowel cancer in the first place.

With only eight to 10% of bowel cancer diagnoses resulting from bowel screening in England and Wales (Cancer Research UK, 2022b), it is important not only to see optimisation of these programmes, but also increased rates of informed participation across all demographics for those eligible to take part.

HOW CAN WE WORK TOGETHER TO REACH MORE PEOPLE AND SAVE MORE LIVES?

Since the onset of the pandemic and the introduction of FIT, there has been an uplift in bowel screening participation. The rate of uptake has increased to record highs in Scotland, Wales and England, ranging from 65 to 67% respectively among those invited in the last year (data for uptake in Northern Ireland for the last year is not yet available) (Office for Health Improvement and Disparities, 2022; Public Health Scotland, 2022). Participation must increase further as too many people are still missing out on the potential for early detection of bowel cancer, or the identification of pre-cancerous polyps that can be removed. This is of particular importance when considering inequalities in accessing health care.

Figures published by the Scottish Government in February 2022 show that while participation in 2021 reached 65%, there was a 20% point gap between uptake in the most and least affluent communities (73 to 53%) (Public Health Scotland, 2022). A strategy to address inequality in accessing screening programmes in Scotland is forecast to be published by the end of this year, and Bowel Cancer UK is part of a coalition of charities undertaking research to understand the data landscape of inequalities across the cancer pathway.

The challenges faced by the NHS, because of increasing demand for bowel cancer diagnostic services require several solutions. Ongoing optimisation of bowel screening programmes and universal access to qFIT for symptomatic patients in primary care are just two ways we can deliver a much-needed shift to early diagnosis of bowel cancer and save more lives. JCN

REFERENCES

- Bowel Cancer UK (2022) Never too young. Available online: www.bowelcanceruk. org.uk/campaigning/never-too-young/
- Cancer Research UK (2022a) *Bowel cancer statistics*. Available online: www. cancerresearchuk.org/health-professional/ cancer-statistics/statistics-by-cancer-type/ bowel-cancer
- Cancer Research UK (2022b) *Early diagnosis data hub*. Available online: https:// crukcancerintelligence.shinyapps.io/ EarlyDiagnosis/
- Gov.UK (2022) Government announces plans for earlier diagnosis for cancer patients. Available online: www.gov. uk/government/news/governmentannounces-plans-for-earlier-diagnosisfor-cancer-patients
- Monahan KJ, Davies MM, Abulafi M, et al (2022) Faecal immunochemical testing (FIT) in patients with signs or symptoms of suspected colorectal cancer (CRC): a joint guideline from the Association of Coloproctology of Great Britain and Ireland (ACPGBI) and the British Society of Gastroenterology (BSG). *Gut* 71: 1939–62
- NHS (2022) *Bowel cancer screening*. Available online: www.nhs.uk/conditions/bowelcancer-screening/#:~:text=The%20 programme%20is%20expanding%20 so,test%20before%20you're%2060

- NHS Inform (2022) *Bowel screening*. Available online: www.nhsinform.scot/ healthy-living/screening/bowel/bowelscreening
- Office for Health Improvement and Disparities (2022) *Cancer services*. Available online: https://fingertips.phe. org.uk/profile/cancerservices/data
- Public Health Scotland (2022) Scottish bowel screening programme statistics. For the period of invitations from May 2019 to April 2021. Available online: https:// publichealthscotland.scot/publications/ scottish-bowel-screening-programmestatistics/scottish-bowel-screeningprogramme-statistics-for-the-period-ofinvitations-from-may-2019-to-april-2021/
- Public Health Wales (2021) *Bowel Screening Wales invites people aged 58 and 59 for screening for the first time.* Available online: https://phw.nhs.wales/news/ bowel-screening-wales-invites-peopleaged-58-and-59-for-screening-for-thefirst-time/#:~:text=From%20October%20 2021%2C%20the%20Bowel,old%20 who%20are%20currently%20invited

Useful resources

- Bowel Cancer UK's briefing sheet provides guidance for healthcare professionals supporting people affected by bowel cancer: bowelcancerorguk. s3.amazonaws. com / Publications / BowelCancerUK_ Information_Resources.pdf
- Best practice guidance for monitoring and referring people under 50: bowelcancerorguk. s3.amazonaws.com/ Publications/A%20 guide%20for%20GPs_ ReviewedNovember2020.pdf
- Symptoms diary, which aims to help patients with possible signs of bowel cancer to keep track of their symptoms before they visit their GP: bowelcancerorguk. s3.amazonaws.com/ Publications/Bowel%20 Cancer%20UK%20 symptoms%20diary%20 information%20for%20GPs_ November2020.pdf

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MEDICAL

Viewpoints



Ellie Lindsay OBE FQNI (top), life president, Lindsay Leg Club Foundation; Abdul Seckam (bottom), stroke research and innovation manager, Cardiff School of Sports and Health Sciences, Cardiff Metropolitan University

The growing prevalence of venous leg ulcers in an ageing population presents challenges for wound care and management (McIntyre et al, 2021). Many people with leg ulcers are elderly, poor and alone, and experience reduced quality of life.

According to the work of coauthor, Ellie Lindsay OBE, leg ulcer management presents several global challenges. First, it is costly in terms of nursing resource and wound care dressings. Second, healing times are protracted and recurrence rates are high. And third, there is often little help available in the form of support

Lindsay Leg Club launches in USA

and advice on prevention of leg ulcers. The psychosocial Lindsay Leg Club[®] model for lower limb care was developed in 1995 to:

- Address limitations of existing mechanisms, such as home visits and leg ulcer clinics
- Meet patient needs
- Optimise wound healing
- Improve patient wellbeing and quality of life.

The model promotes a partnership that delivers true patient empowerment, enabling members (patients) to become expert partners in the process of their care, de-stigmatising their condition, encouraging informed behaviours and facilitating the sharing of sensitive and/or emotional concerns in a supportive, empathic environment (Lindsay, 2008; 2018; 2021).

Establishing an international network of Leg Clubs has united healthcare providers, nurses, general practitioners, patients, and the community in the common objective of improving patient health and wellbeing and to date has delivered dramatic improvements in quality of life for individuals (Upton et al, 2015). By engaging the community and empowering patients to become involved in their care, the Leg Club model reflects the current direction of global healthcare delivery. Also, in recent years and through published informatics (Clark, 2012), the psychosocial Lindsay Leg Club model for lower limb care has been recognised (Griffin, 2014) as an alternative approach to the management of leg health which can improve patient outcomes.

INAUGURAL LAUNCH OF FIRST LEG CLUB IN THE US

Following numerous virtual conference calls with Ellie Lindsay and sharing of materials and video links via the Leg Club website (www.legclub.org), Dr Jenifer Ty (chair, Excell Leg Club) expressed her interest and elected to pursue and introduce the Leg Club model into the United States of America (USA). However, due to the Covid-19 pandemic, the opening was inevitably delayed.

However, the inaugural launch of the first Leg Club (Excell Leg Club) in the USA took place on 4 September 2022 at the Ranch Restaurant, Long Beach, California. The event was attended by clinicians, allied healthcare professionals, gym instructors (from the Mayweather gym, Long Beach), academics, and members of the public. It was organised by future Leg Club officers (volunteers), comprising some of the diverse professionals attending.

Following a welcome address by Jennifer Ty, Ellie Lindsay provided an overview of the Leg Club ethos and explained her motivation for establishing this social care model from its inception to what has become an international Leg Club community. Volunteers and delegates attending found the rationale and Leg Club journey from 1995 to date extremely emotional.

Several lead volunteers were then introduced, with Dr Tran (CEO, Excell Integrated Medical Group; volunteer medical director, Excell Leg Club) and Joe Avelino (CEO, College Medical Center of Long Beach) articulating the importance of the Leg Club and how they plan to offer their knowledge and expertise by volunteering to make this initiative a success for the community. In addition, Michael Kerr (CEO, Kindred Hospital of South Bay), gave a moving account from personal experience. This was complemented by Abdul Seckam, who set out the rationale of the importance of the Leg Club from a researcher's perspective.

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(Naik et al, 2019).



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From a variety of disciplines, the newly formed officers of the Leg Club were introduced, and their enthusiasm and engagement enlightened and moved the delegates. A video reel show case of a'dry run' day at the Excell Leg Club set up in the Mayweather gym was played. Additionally, the team were proud to produce a proclamation from a meeting with the mayor of California, Robert Garcia, endorsing the first Leg Club in the USA. The event was closed by Cindy Broadus, executive director at the National Alliance of Wound Care and Ostomy.

CONCLUSION

In summary, the launch was a great success, and as invited guests from the UK, the authors were delighted to see Leg Club Industry Partners (LCIP) as well as international colleagues supporting the venture. Along with all involved in the Leg Club community, they congratulate Dr Jennifer Ty and her team on the launch of the first Leg Club in the USA and wish them every success.

And, an exciting development is that the Excell team are in the embryonic stage of holding the first international Christmas concert, to be confirmed for early December in aid and support of the Excell Leg Club, Long Beach. As Jennifer Tye said, 'we plan to invite the community to join us and together we can make a difference to those who need and can't afford wound care'. JCN

REFERENCES

- Clark M (2012) Patient satisfaction with a social model of lower leg care provision. *Wounds UK* 8(1): 20–6
- Griffin J (2014) Improving care in the community for patients with leg ulcers. GIG Cymru NHS Wales awards
- Lindsay E (2008) The Leg Club[®] Model: promoting the health of patients' lower limbs through collaborative working. *Wounds UK* 4(2): 49–60
- Lindsay E (2018) The importance of social interaction: a therapeutic journey. *Wounds UK* 14(4): 111
- Lindsay E (2021) Addressing social isolation and its impact on wound healing. *Haava* 24(1): 8–12
- McIntyre N, Galazka AM, Lindsay E, Bawden R, Renyi R (2021) A relational database within the Leg Club Network: an audit. *Int Wound J* **18(2)**: 223–41

Upton D, Upton P, Alexander R (2015) Contribution of the Leg Club model of care to the well-being of people living with chronic wounds. *J Wound Care* 24(9): 397–405



Viewpoints



Karen Harrison Dening, head of research and publications, Dementia UK (Admiral Nursing) and professor of dementia nursing (honorary), De Montfort University, Leicester

odern day health and social care dementia practice, as with other conditions, is driven by its current evidence base. This is understood not only through a range of means, such as research, best practice, expert consensus about the most effective way to care for a person with dementia, but also through the lived experiences of people with the diagnosis and their families and supporters. Practice and care should also be guided by clinical ethics; often traditionally referred to as medical ethics. However, health and social care involves a range of disciplines, not just medicine, it is more inclusive to refer to it as clinical ethics. Clinical ethics are based on four main principles: respect for a person's autonomy, doing'good' (referred to as beneficence), avoiding harm (referred to as non-maleficence) and being fair (justice). Many clinical ethicists often argue that respect for a person's autonomy should trump the three other principles.

One of the main goals in dementia care is in promoting well-being through care that is both personcentred and needs-led while fully embracing the four principles of clinical ethics. However, while these underpin how we care for a person, we should consider how those living with dementia perceive themselves and manage their condition; how do they adapt to their increasing

Time for a new nursing branch

functional decline and understand the ever changing symptoms and their increasing disability?

Estimates in the UK predict that older people are expected to live almost 50% of their remaining lives with a limiting long-term physical or mental health condition, increasing their need for care and support (Age UK, 2019). Dementia is largely a condition of old age, and as the condition advances it can often accompany complex health and social care needs, some of which may lead to acute hospital care admission. People with dementia are no different from their peers without a diagnosis of dementia, in that they too desire to cope with their illness and maintain independence and autonomy for as long as possible. However, despite these ambitions, their dementia presents many barriers to achieving autonomy. Maintaining autonomy is difficult enough in a world where dementia is little understood, however, when an older person is admitted to an acute hospital environment these challenges exponentially increase.

Recent research has revealed that care falls far short of what we should expect when an older person with dementia is admitted into an acute care setting, regardless of the reason for admission. Featherstone et al (2022) found that people with dementia not only appear disadvantaged but, more concerning, experience indirect harm as a result of the hospital admission. The primary outcome may well be that the reason for their admission is both treated and hopefully resolved, but an iatrogenic outcome seems to be the loss of continence. This brings many questions and concerns to mind, not least that for each of these individuals we have breached clinical ethics on several counts. The hospital admission caused harm to many of the participants in Featherstone's study by adding to the person's functional loss,

denying their right to autonomy by not allowing them access to the toilet, (a basic right and need) and perhaps, lastly, treating this group of people unfairly (unjustly) simply because of their age and their dementia.

It could be argued that such care is underpinned by unconscious, institutional incompetence, but Featherstone's research adds to a long string of serious incident reports and research findings that reveal other similar events, such as the Francis Report into the failures of the Mid Staffordshire NHS Foundation Trust. The author feels that central to all these findings is the need for a specific approach for older people, such as a nurse registration dedicated to older people's care which embraces the often complex care needs of this growing population (United Nations, 2020). Older people can no longer be the square peg fitting into the round hole of generalist services without adequately trained individuals to manage their care. We have a specialist group of doctors — geriatricians — so why not a nurse registration that has dementia, frailty, delirium, multiple morbidity, polypharmacy. After all, how much more complex do their needs need to be to warrant this level of investment? JCN

REFERENCES

- Age UK (2019) Later Life in the United Kingdom 2019. Available online: https:// bit.ly/3RPgYja
- Featherstone K, Northcott A, Boddington P, et al (2022) Understanding approaches to continence care for people living with dementia in acute hospital settings: an ethnographic study. *Health & Social Care Delivery Research* 10(14). Available online: https://bit.ly/3qxaVUE
- United Nations: Department of Economic and Social Affairs (2020) *World Population Ageing 2020*. Available online: https://bit. ly/3B11Ube

Viewpoints



Andrew Bird, clinical lead at Connect Prescription Services for Fittleworth Medical Limited

The world of stoma care can be a complex one. Thousands of products are available on Drug Tariff in the UK, which provides the arsenal for stoma care nurses to successfully deliver care and solutions. Some of these products may be to enhance the effectiveness of the appliance used, and each appliance has a variety of characteristics that may dictate the suitability of use for each individual's personal condition. When choosing a suitable appliance, it is important to consider several variables, including:

- Type of stoma colostomy, ileostomy, urostomy; loop or end
- Size and shape of stoma is it stenosed?
- Location of stoma, e.g. is it in a crease, by a scar, out of sight
- Location of os/lumen above/at or below skin level, and direction pointed
- Level of stomal protrusion prolapsed, spouted, flush to skin, retracted
- Output type and volume, urine/ liquid faeces/formed stools
- Skin type dry, oily, friable
 General skin conditions —
- eczema, psoriasis, etc
- Peristomal skin condition

 eroded, macerated, over granulated, ulcerated, bruised, hairy, infected
- Allergies and sensitivities
- Abdominal topography —

Demystifying convex stoma care products

outward profile, flat, dipped, scars, creases, bony prominences, distension, herniation

- Feel of the abdomen
- Abdominal tone soft/ firm/flaccid
- Size of the patient
- Relevant medical history and medications
- Physical difficulties manual dexterity issues/sight problems, etc
- Mental difficulties, e.g. dementia
- Problems encountered leaking, damaged skin, pain, hernia
- Frequency of pouch change.

Although this list is not comprehensive, the differences above could present themselves in almost 300 million different combinations highlighting the fact that everyone is uniquely different.

One of the characteristics of an appliance that is often relied upon to improve patient outcomes is a skin barrier with convexity (Colwell, 2016). Many problems that can be experienced because of the above variables can be alleviated by using a skin barrier that has a convex shape at the centre of the adhesive flange. Despite decades of use and evolution of convex products, evidence supporting their usage is sparse, leading to reliance on a clinician's experience when choosing a convex product. While work has been done to determine the key characteristics of convex products, there is a lack of detail or quantifiable attributes that are needed to be able to compare the many convex products available from a range of manufacturers.

ACHIEVING CONSENSUS

Hollister Incorporated recently enlisted and sponsored a panel of 12 stoma care experts from multiple locations across Australia, Europe, and North America to help address this knowledge deficit (McNichol et al, 2021). This diverse panel were able to offer insights based on extensive experience (eight to 31 years) in caring for individuals of all ages living with a stoma, in a variety of settings, including acute and post-acute care, community/ambulatory care, and home care.

In preparation for the consensus meetings, the panellists attended an educational session delivered by a Hollister Incorporated product design engineer to understand the process, measurements and terminology used when manufacturing and developing convex appliances.

Following the identification of goals and a literature review, 27 draft statements were generated and presented to the panel who were tasked with constructing and achieving consensus around several statements using a recognised structured approach ensuring any recommendations were reflective of a synthesis of opinion from the diverse panel (Murphy et al, 1998). An anonymous and formalised process was employed to ensure that each panellist contributed without the risk of unintended prejudice or duress. The consensus sessions were held virtually and facilitated by a clinical expert in the fields of wound, ostomy, and continence nursing as well as consensus group facilitation.

Taking each draft statement individually, following an opportunity to seek clarification, the panellists were instructed to vote anonymously in the form of sending a private message indicating agreement to the statement or otherwise. Consensus was achieved if 10 out of 12 panellists (over 80%) agreed with the statement as written. If consensus was not reached, up to two rounds of discussion and amendments took place with a further anonymous vote after each round. If consensus was still not reached following these amendments, the statement was discarded.

This process elicited consensus of five key characteristics of convex appliances, as well as 18 statements regarding clinical application. The five key characteristics, namely depth, compressibility, flexibility, tension location, and slope, built on characteristics identified within the literature search (Hoeflok et al, 2017) and added quantifiable and standardised definitions that were lacking.

KEY CHARACTERISTICS OF CONVEXITY

Consensus was achieved for the definition of all five key characteristics along with several clinical application statements for each.

Depth

Definition: the depth of the convex skin barrier is defined as the measurement from the apex of the dome to the base.

Clinical application statements

- 1. The depth of creases and folds around the stoma should be considered when determining the depth of the convex barrier.
- 2. The use of a belt augments the efficiency of the convex barrier.
- 3. The compressibility of the convex dome influences the depth of convexity.
- 4. The depth of the convex barrier should be limited to the least amount needed to obtain a seal.

Compressibility

Definition: compressibility is the capacity of the convex dome to be displaced or flattened.

Clinical application statements:

- 1. An easily compressible convex barrier should be considered when there is post-operative oedema and convexity is required to achieve a good seal.
- 2. An easily compressible convex barrier should be considered when convexity is required in patients with a firm abdomen.
- 3. An easily compressible convex barrier is indicated when the barrier needs to conform securely to the abdominal contours.
- 4. A less compressible convex barrier is indicated when the barrier

needs to flatten the abdomen and/ or assist with stoma protrusion.

- 5. A less compressible skin barrier should be considered when convexity is required in patients with a soft abdomen.
- 6. Peristomal skin health should be considered when selecting the compressibility of the convex barrier when convexity is indicated.
- 7. When using convexity, the most compressible skin barrier should be considered to avoid potential peristomal skin complications.

Flexibility

Definition: flexibility is how easily the convex skin barrier can bend.

Clinical application statement

1. A more flexible convex skin barrier should be considered when convexity is needed and the barrier needs to conform securely to abdominal contours.

Tension location

Definition: tension location is the position in which the convex dome exerts downward and outward forces on the peristomal topography.

Clinical application statements

- 1. A convex barrier in which the greatest tension is located as close as possible to the stoma should be considered if protrusion of the stoma is needed.
- 2. A convex barrier in which the greatest tension is located away from the stoma should be considered if the peristomal skin needs to be flattened.
- 3. Select the most appropriate tension location, taking into consideration the location of the opening of the stoma and/or pH, volume, and consistency of the output.

Slope

Definition: the slope is the angle from the base of the convex skin barrier to the apex of the dome.

Clinical application statement

1. Consider a convex skin barrier with a less steep slope and wider plateau to flatten the peristomal skin.

CONCLUSION

The work undertaken by the expert group of panellists and the definitions and statements generated have built on the existing knowledge base, addressed the lack of quantifiable and standardised definitions, and offered internationally agreed statements for clinical application. This framework will provide clinicians, within and outside of the stoma care specialty, with the information needed to navigate successfully the challenging area of convex appliances, enhancing the selection process, considering the many variables that may affect the efficacy of the appliance and ultimately improving the outcomes of individuals using convex appliances. The framework also provides manufacturers and researchers with an internationally agreed language that can be used to describe convex products and design much needed clinical trials which will further enhance patient outcomes. JCN

REFERENCES

- Colwell J (2016) Selection of pouching system. In: *Wound, Ostomy and Continence Nurses Society Core Curriculum.* Ostomy Management. Philadelphia, PA: Wolters Kluwer: chap 10
- Hoeflok J, Salvadalena G, Pridham S, Droste W, McNichol L, Gray M (2017) Use of convexity in ostomy care: results of an International Consensus Meeting. *J Wound Ostomy Continence Nurs* 44(1): 55–62
- McNichol L, Cobb T, Depaifve Y, Quigley M, Smitka K, Gray M (2021) Characteristics of convex skin barriers and clinical application: results of an International Consensus Panel. J *Wound Ostomy Continence Nurs* 48(6): 524–32
- Murphy MK, Black NA, Lamping DL, et al (1998) Consensus development methods, and their use in clinical guideline development. *Health Technol Assess* 2(3): i–iv, 1–88

More information...

... on the project, including discussion on the clinical application statements and accompanying diagrams and photos can be found at: https://bit.ly/3By8RBX

Burden of trauma: why we all need handling with care

Any people who both attend and work in our services carry the impact of trauma. Their trauma state can be exacerbated by how they are spoken to and treated. It is a sad and shocking reality that people accessing health and care systems can find the experience worsening their condition when they are seeking help and healing.

This is the case too with families and carers who seek to advocate for loved ones and navigate the labyrinths of the health and care system. The authors have met families and carers who find our systems impersonal, inflexible and cold, and their own trauma response is frequently triggered by these experiences.

Staff who work in and across our healthcare systems may also carry trauma from life and work. These experiences are often not named or processed, although their trauma responses can get triggered in the context of work. Our organisational processes and approaches can depersonalise 'Staff who work in and across our healthcare systems may also carry trauma from life and work. These experiences are often not named or processed, although their trauma responses can get triggered in the context of work.'

people and hence increase the risk of further harm. There is also the issue of secondary traumatisation, where regularly hearing details of service users' traumatic experiences leads to a traumatic response in the worker in the absence of support and supervision.

This picture has been impacted massively by the Covid-19 pandemic. Our access to the things that strengthen us to withstand difficult times — our relationships, connections and conversations — was restricted while we lived and worked through a storm of uncertainty, anxiety, loss and helplessness. The initiation or retriggering of trauma for the population and health and social care staff has been tremendous. Depleted and tired, our workforces are struggling with the ongoing high levels of demand and we need now, more than ever, to think how we might work differently.

The reality cried out for a new way of working within and across organisations — a way that is trauma sensitive and trauma informed. It is essential that we seek a practice and framework that proactively seeks to avoid causing harm to anyone in our health and social care systems.

In Leeds there is an ambitious and visionary 10-year plan for the city to become a trauma-informed city, that prevents the conditions that lead to trauma and responds swiftly and compassionately whenever trauma or risk of trauma is present. This has been led by one of the authors — Jane Mischenko (children's partnership development lead) and Kathryn Ingold, the public health consultant



From left to right: Jane Mischenko, children's partnership development lead, NHS Leeds CCG and Leeds City Council; Penny Netherwood, consultant clinical psychologist, Leeds Community Healthcare NHS Trust; John Walsh, OD lead/Freedom to Speak Up Guardian, Leeds Community Healthcare NHS Trust/Leeds GP Confederation

for children and families in Leeds City Council. There is senior support from the city Health and Wellbeing Board (incorporating all the senior leadership of the NHS, local authority, and third sector) for this plan to emerge and for actions to start to spread. There is particular recognition of how significant adversity in childhood can lead to trauma and poor physical and mental health throughout life. The impact of adversity in childhood, which can lead to a traumatic response, might be experienced within the child's home and close relationships (e.g. domestic abuse), or in their community (e.g. racial prejudice). There is the appreciation that by better supporting children and families, we build an improved and different future for all of our population. The way in which adversity and trauma can ripple across generations is a key focus, so both children and adult services are working together on this shared ambition (www.yhphnetwork. co.uk/media/106359/2021-12aces-v2.pdf).

The reason this is a city approach is that everything should be connected. The city needs to work as a system to ensure trauma is responded to with compassion, awareness, and good practice everywhere.

Towards the end of 2021, a digital event was held to launch the ambition and build the momentum to become a trauma-informed city. There was tremendous interest with 444 people registering. In the morning, experts — both professional and those who are experts by experience — spoke. During the afternoon, people joined various workshops that shared trauma-informed approaches already underway in the city, in both children and family as well as adult services.

The feedback from the event was positive, with many signing up to become part of a newly formed network. A useful report of the event was developed by an embedded researcher, Dr Natasha Hardicre (2021).



'There is particular recognition of how significant adversity in childhood can lead to trauma and poor physical and mental health throughout life. ... by better supporting children and families, we build an improved and different future for all of our population.'

One helpful definition of trauma from the UK Trauma Council is:

Trauma refers to the way that some distressing events are so extreme or intense that they overwhelm a person's ability to cope, resulting in lasting negative impact. The sorts of events that traumatise people are usually beyond the person's control.

Trauma-informed approaches originated from reflections on how unsafe services can be to those who use them (e.g. Harris and Fallot's 2001 work on using trauma theory to design systems). The SAMSHA (Substance Misuse and Mental Health Administration 2014) guidance speaks of the four Rs, namely: Realise the widespread impact of trauma, stress and adversity, and understands potential paths for healing and recovery

- Recognise the signs and symptoms of trauma in staff, clients, and all others involved in the system
- Respond by fully and meaningfully integrating, embedding and infusing knowledge about trauma into policies, procedures, language, culture, practices and settings
- Resist re-traumatisation.

Work to nurture a traumainformed approach is underway within Leeds Community Healthcare NHS Trust, with an initial focus on supporting the workforce. Penny Netherwood (consultant clinical psychologist) and John Walsh (Freedom to Speak Up Guardian) are working with colleagues in human relations, organisational development, their race equality network and clinical teams to start to weave the principles of a trauma-informed way of being into policy and practice.

This collaboration is leading to numerous opportunities to sow seeds for change: from thinking with a manager about how to support a colleague



experiencing a traumatic time, to thinking with district nursing team leaders about ways to rebuild team resilience through greater connection with colleagues, to reviewing HR procedures so that process is balanced with a focus on compassionate interactions.

Work on trigger alerts and distress is proceeding for all involved in training and teaching in the trust. Colleagues have welcomed the guidance that the principles of a trauma-informed approach offer, such as:

- Safety
- Trustworthiness and transparency
- Peer support
- Collaboration
- Empowerment
- Cultural humility and responsiveness.

(SAMSHA, 2014)

This is a long transformational journey for the city and our organisations. Dr Karen Triesman, who has led much of the innovative thinking and practice in this area in the UK, sums it up well:

There needs to be respect, an expectation, and an acknowledgment that the journey to become and sustain being trauma-informed and trauma responsive is complex, slow, dynamic, evolving, messy and multi-layered. Indeed, in this journey, 'every interaction can be an intervention' (Triesman, 2018).

This work is not an extra but an essential. It is not a checklist or template. It is a way of being. A way we are with ourselves and each other. It is a golden thread that should run through all of our organisations and practices. It looks at all aspects that affect trauma from physical environment to organisational and service leadership, to our type and choice of language and communication, to how we recruit, to how we

embrace cultural difference, to how we structure meetings. **JCN**

We hope that those reading this will support this work in their systems and services. The future as a caring health and care system depends on it.

REFERENCES

- Hardicre N (2021) Event Analysis Report: Compassionate Leeds: Becoming a Trauma-Informed City. Available online: www.mindmate.org.uk/wp-content/ uploads/2022/03/Compassionate-Leeds-Event-Report-copy.pdf
- Harris M, Fallot R (2001) Using Trauma Theory to Design Service Systems. New Directions for Mental Health Services, 89. Jossey Bass. San Francisco, CA
- Substance Abuse and Mental Health Services Administration (2014) SAMHSA'S Concept of Trauma and Guidance for a Trauma-Informed Approach. Department of Health and Human Services, Rockville, MD
- Treisman K (2017) A Therapeutic Treasure Box for Working with Children and Adolescents with Developmental Trauma: Creative Techniques and Activities. Jessica Kingsley Publishers, London
- Treisman K (2018) *Trauma-Responsive* and *Trauma-Informed Organisational Change*. Winston Churchill Fellowship

Reading and useful resources

- Van Der Kolk (2014) The Body Keeps the Score: Brain, Mind and Body in the Healing of Trauma. Viking Penguin, New York
- Treisman K (2021) A Treasure Box for Creating Trauma-Informed Organisations: A Ready-to-Use Resource for Trauma, Adversity and Culturally Informed, Infused and Responsive Systems
- UK Trauma Council. Available online: uktraumacouncil.org
- SafeHandsThinkingMinds. Available online: www.safehandsthinkingminds.co.uk
- Scottish National Trauma Training Programme. Available online: www.nes.scot.nhs.uk/our-work/trauma-national-traumatraining-programme/
- West Yorkshire Health and Care Partnership Adversity Trauma and Resilience Programme. Available online: www. wypartnership.co.uk/our-priorities/population-healthmanagement/adversity-trauma-and-resilience

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Wendy Osborne, clinical governance lead, Clinical Services, Coloplast UK

t Coloplast, we know the formation of a stoma is a life-saving procedure for many, but it can also pose considerable challenges for individuals and takes time to adapt (Di Gesaro, 2016). This is why it is essential for everyone with a stoma to have equitable access to high

and Westminster Hosp

Taking to parliament to relay the importance of high quality stoma care

quality care and specialist advice (Osborne et al, 2022).

PERSON-CENTRED RESEARCH

To articulate the current challenges faced by people with a stoma, Coloplast used a research method called a modified Delphi, which collated the output from several patient focus groups to create a set of 'Calls to Action', with a particular focus on the issue of leakage. The three leading UK stoma charities — Colostomy UK, Ileostomy and Internal Pouch Association (IA), and Urostomy Association (UA) - were invited to participate in an effort to bring together all parts of the UK stoma community. Their involvement was important to capture the true breadth and scale of the experiences of all people with a stoma. The issue of leakage was the focus because this has a significant impact on quality of life and can lead to painful skin complications, unpleasant odour and noise, social anxiety, isolation and career and relationship difficulties (Jeppesen et al, 2022).

So, what did this research find? What became clear is that stoma-related complications present many challenges and while stoma care in the UK is generally of a high standard compared to other countries, there is still variation across the country in both the provision of care and how it is funded. In short, significant consensus was found from the participants as to where improvements could be made to help more people with a stoma live their lives to the full, as well as reduce the impact on the NHS by preventing cases of stomas being badly managed (Aibibula et al, 2022).

#Stomasinparliament — A 'First-of-its-kind' approach

This research gave much to reflect on and we felt it was important that it was shared more widely with policymakers to create momentum for change. The partnership working with the three stoma charities was therefore continued, with the research being used as a foundation to create a simple, two-page policy paper and 'Calls to Action' document, which sets out what needs to happen to deliver optimal care and who needs to make these changes. We also wanted to create the opportunity for people with a stoma to have their voices heard and to be the ones directly presenting the data and recommendations to Parliamentarians. This is where we decided to get creative in our approach by holding a'first-of-itskind' relay to Parliament to launch the 'Calls to Action'.

The relay, which started at a London hospital six kilometres from Parliament, served as a symbolic display of the activities that people with a stoma can do when they receive high quality care and support. For some, living life to the full may mean returning to sport, but for others it might mean going on holiday, going to the cinema, taking their kids to the park, doing DIY, or even going to a restaurant.

Tracey Virgin-Elliston, lead nurse specialist in stoma care at the Chelsea and Westminster Hospital NHS Foundation Trust, handed the baton to the first relay participants. The relay itself was then led by people with a stoma (including the amazing sevenyear-old Jessica and her stoma teddy), alongside other members of the stoma community, including nurses, third sector representatives and Parliamentarians, including Peterborough MP, Paul Bristow. Using the 'Calls to Action' document as a 'baton', participants followed a scenic route along the River Thames before passing the baton to the event host, Giles Watling MP, directly outside of Parliament. A reception then took place not only to celebrate their efforts to carry this important message from patients to policymakers, but also to serve as an important opportunity to educate Parliamentarians about the steps they can take to support everyone living with a stoma across the UK. Over 20 MPs and their teams attended the reception, getting an introduction to stomas via the use of prosthetics while also pledging their support for the 'Calls to Action'.

It was a memorable day for all involved. Anne Marks, a relay participant who supported the development of the 'Calls to Action' research, put it best when she said: *As a member of the stoma community L know first-hand*

community, I know first-hand about the challenges that living with a stoma can bring. I was really pleased to share my personal experience of what it is really like to live with a stoma. I want to play my part in making sure that as many people as possible know about our 'Calls to Action'. I don't want anyone with a stoma to be suffering in silence.

Coloplast was delighted to work with Ileostomy and Internal Pouch Association, Urostomy Association and Colostomy UK on this special and important event. We also want to thank all of the people with a stoma who took part in the research, the event, and shared information on their social media channels (check out #StomasInParliament). We continue to be united in our commitment to ensure that the voice of the stoma community is heard at the highest levels, and believe that the relay has played a vital role in this. There is much more to be done to improve outcomes for all people with a stoma and we are already planning what comes next. **JCN**

REFERENCES

- Aibibula M, Burry G, Gagen H, et al (2022) Gaining consensus: the challenges of living with stoma and the impact of stoma leakage. *Br J Nurs* 31(6): S30–S39
- Di Gesaro A (2016) The pschological aspects of having a stoma: a literature review. *Gastrointestinal Nurs* 14: 2
- Jeppesen PB, Vestergaard M, Boison EB, Ajslev TA (2022) Impact of stoma leakage in everyday life: data from the Ostomy Life Study 2019. *Br J Nurs* 31(6): S48–S58
- Osborne WQ, White M, Aibibula M, et al (2022) Prevalence of leakage and its negative impact on quality of life in people living with a stoma in the UK. *Br J Nurs* 31(16): S24–S38



ProductSupporting men withsnapshotbladder incontinence

Many healthcare professionals recommend absorbent pads for men with urinary incontinence. These can be seen as easy to use and convenient (Chartier-Kastler et al, 2011), but potential odour and skin irritation are a significant concern (Williams and Moran, 2006; Gray, 2007). They can also impact dignity and quality of life (Williams and Moran, 2006). To provide a high level of holistic care, patients should be made aware of all suitable management options appropriate for them to be empowered to manage their bladder accordingly.

As part of a urinary collecting system, Conveen[®] Optima sheaths meet the majority of users' need for security, ease of use, comfort and discretion (Data on file). They are designed with features like the anti-kink bellow to ensure maximum security against leakage. This article looks at how healthcare professionals can support patients in finding an incontinence solution that is both effective and compatible with individual patient needs.

INTRODUCTION

Differing definitions of incontinence and reluctance of men to seek help on this topic make it challenging to precisely state the prevalence of male urinary incontinence. However, it is estimated that approximately one in 20 men aged over 18, and one in 10 men aged over 60 have symptoms of urinary incontinence (Anger et al, 2006; Shamliyan et al, 2009; Chartier-Kastler et al, 2011).

Urinary incontinence negatively impacts many men, leaving them feeling unable to socialise, take part in sports, go to work, or even leave home. Emotions such as fear, embarrassment and shame can affect relationships and may prevent men from seeking medical help (Williams and Moran, 2006).

TREATMENT OPTIONS

Effective and discreet solutions for urinary incontinence are key to enabling some level of normality for men who face these challenges. Although absorbent products can be viewed as easy and convenient, they can also impact skin integrity and quality of life, with patients often conscious of odour and leakage. For patient comfort and hygiene, many healthcare professionals now recommend sheaths, while others appear to remain sceptical and perhaps consider sheaths to have no benefits over pads (Chartier-Kastler et al, 2011).

69% OF PATIENTS PREFER SHEATHS OVER PADS

Below is a summary of two clinical papers that describe the benefits of Conveen Optima urinary sheaths and their positive impact on patient quality of life, and ease of use for the clinician.

Patient preference and impact on quality of life (Chartier-Kastler et al, 2011)

The objective of this study was to evaluate the impact of sheaths versus absorbent products on quality of life (QoL) in incontinent men.

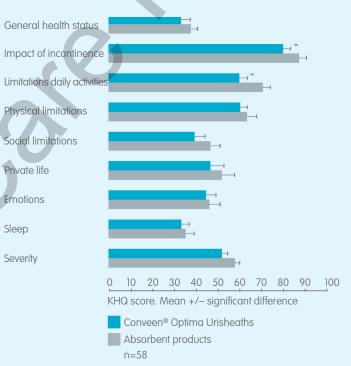


Figure 1.

KHQ scores — the lower the score, the higher the quality of life. *Significant difference (p<0.05).

All dimensions of the King's Health Questionnaire indicated an improvement in QoL, especially for 'limitations of daily activities' (-10.24 \pm 3.99, p=0.01) and 'impact of incontinence' (-7.05 \pm 3.45, p<0.05) (*Figure 1*).

In terms of product performance, sheaths scored significantly higher for all parameters (efficacy, self-image, odour management, discretion, skin integrity), other than ease of use.

The majority (69%) of patients preferred sheaths to their usual absorbent product (p=0.002) (*Figure 2*).

Conveen Optima sheaths showed a positive impact on

What is male bladder incontinence?

Bladder or urinary incontinence is the medical term for being unable to hold back or control the release of urine. Some of the most common types of male urinary incontinence are (Abrams et al, 2012):

- Stress urinary incontinence: this occurs when sudden pressure (such as sneezing or laughing) results in an involuntary leakage of urine
- Urge urinary incontinence: this is caused by involuntary, uncontrolled contractions of the muscle in the bladder resulting in a sudden urge to pass urine and involuntary leakage
- Incontinence associated with chronic retention: this can result in frequent/constant dribble of urine due to incomplete bladder emptying.

QoL in moderate/heavily incontinent men who were longterm users of absorbent products.

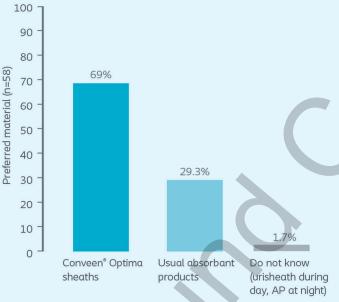


Figure 2.

Patient preference.

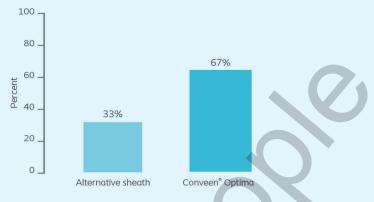
Patient satisfaction and preference (Pemberton et al, 2006)

The objective of this randomised, prospective, crossover clinical study was to compare two sheaths with regard to patient satisfaction and preference. The primary endpoint was urinary sheath product preference, and secondary endpoints were handling, application, comfort, leakage and skin reactions.

The overall product preference for Conveen Optima was 67% (*Figure 3*), indicating that it is more acceptable than the previously well-established alternative.

With Conveen Optima, more participants found that:

- > They felt safe immediately after application of the sheath
- > The sheath was comfortable to wear
- It was easier to connect and subsequently disconnect the sheath from the urine bag (*Table 1*).



67% (95% confidence interval 52% to 82%) preferred Conveen[®] Optima 33% (95% confidence interval 18% to 48%) preferred the alternative sheath

Figure 3.

Product preference.

Parameter	Issues	Alternative sheath	Conveen Optima	Value
Application	Ease of opening individual packaging	3.30	4.32	<0.001
	Ease of removal from individual packaging	3.66	4.39	<0.001
	No wrinkles/bubbles on sheath when applied	3.57	3.86	0.036
	Confidence when wearing the sheath	3.36	3.69	0.043
Overall wear	Comfortable to wear	3.79	4.02	0.018
	Drainage of urine into bag during use	3.89	4.14	0.033
Connection to urine bag	Ease of connecting sheath to urine bag	3.80	4.14	0.018
	Ease of disconnection of urine bag from sheath	3.82	4.32	<0.001

Table 1: Handling, application, comfort, and packaging

Issues were stated as questions and answered on the following scale: 1 = strongly disagree to 5 = strongly agree. The differences between the products were all statistically significant at 5% (Wilcoxon test).

Participants felt more secure when using the Conveen Optima (P=0.029, Wilcoxon test). Where nurses applied the urinary sheaths wearing gloves, more nurses found Conveen Optima easy to apply.

Conveen Optima urinary sheaths provided a higher feeling of security than the alternative sheath, and were found to be easier to handle and apply. They were also more comfortable to wear and preferred by the majority of patients.

CONVEEN OPTIMA — A RELIABLE ALTERNATIVE TO PADS

As demonstrated above, Conveen Optima sheaths have a range of features designed to support men with urinary incontinence:



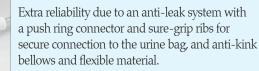
Easy-to-open packaging that is lightweight, smart and discreet and ensures the sheath remains in optimum condition.



Easy-on and smooth roll-out, even when wearing gloves, due to the unique double-grip strip.



Comfortable, secure and skin-friendly fit due to its stretchy, breathable, 100% silicone material.



Patient story

Bernard has been married to his wife Brenda for over thirty years and they like taking walks together in the local parks. However, in October 2010, Bernard was diagnosed with prostate cancer and had his prostate gland removed. Bernard reported, 'After the operation, the next challenge was trying to live with the incontinence.'

He tried pads, but these did not work for him, and he gradually lost his confidence because of the incontinence: 'It stopped me doing a lot of things, which I took for granted, like actually just getting out the front door of my home and trying to lead a normal life.' However, after starting to use Conveen Optima Sheaths he regained his confidence and his quality of life subsequently improved.

As he said:

'My wife got the old Bernard back, thankfully, and I went from never, ever thinking I'd get back to work and seeing my old colleagues to actually getting back to work, doing my old job and back to normal.'





Fitting guide

To ensure comfort and optimal performance of the sheath, it is essential that a sheath of the appropriate length and size is fitted correctly (Brodie, 2006):



Measure the diameter of the penis with the Conveen Optima measuring guide* If in between sizes, select the smaller size.

The use of creams and powders on the skin should be avoided as they may interfere with the adhesive. For sensitive skin, preparatory wipes and adhesive removers are available.*



Fit the sheath leaving a small gap between the tip of the penis and the outlet.

Holding the tip in place, pull the loop to unroll the sheath over the penis.



Gently squeeze the unrolled sheath around the penis to ensure a secure fit.

Connect to an appropriate drainage bag. If possible, allow the skin to breathe for short periods between changes and do not leave a sheath on for more than 24 hours.

*Samples of Conveen Optima, measuring guides and supporting products can be requested via Coloplast Charter's dedicated healthcare professional team on:

hcp@coloplastcharter.co.uk England & Wales: 0800 374 654 Scotland: 0808 168 3850 Northern Ireland: 0800 581 220

REFERENCES

- Abrams P, Cardozo L, Khoury S, Wein A (2012) 5th International Consultation on Incontinence, Paris, February 2012; 364
- Anger JT, Saigal CS, Stothers L, et al (2006) The prevalence of urinary incontinence among community dwelling men: results from the National Health and Nutrition Examination survey. *J Urol* **176**: 2103–8
- Brodie A (2006) A guide to the management of one-piece urinary sheaths. *Nurs Times* **102**(9): 49, 51
- Chartier-Kastler E, Ballanger P, Petit J, et al (2011) Randomized, crossover study evaluating patient preference and the impact on quality of life of urisheaths vs absorbent products in incontinent men. *BJU* 108(2): 241–7
- Gray M (2007) Incontinence-related skin damage: essential knowledge. Ostomy Wound Management 53(12): 28–32
- Pemberton P, Brooks A, Eriksen CM, et al (2006) A comparative study of two types of urinary sheath. *Nurs Times* 102(7): 36–41
- Shamliyan TA, Wyman JF, Ping R, Wilt TJ, Kane RL (2009) Male urinary incontinence: prevalence, risk factors, and preventive interventions. *Rev Urol* 11: 145–65
- Williams D, Moran S (2006) Use of urinary sheaths in male incontinence. *Nurs Times* **102(47)**: 42

This JCN clinical skills series provides a guide to the identification, assessment and management of chronic oedema of the lower limb and associated complications.

Part 4: Chronic oedema: skin care and exercise

This clinical series aims to demystify and simplify approaches to assessment and management of chronic oedema in the community, including the promotion of selfcare, to improve efficiency and the delivery of evidence-based care for patients with chronic oedema. Part 4 looks at chronic oedema management, beginning with skin care and exercise (Wound Care People, 2019).

Parts two and three of this series have outlined the importance of chronic oedema assessment. It is crucial to identify the cause(s) of chronic oedema so that they can be managed. Findings of assessment should guide management decisions, with the patient central to decisions about their care to ensure long-term success (Wound Care People, 2019).

If chronic oedema is left undiagnosed or untreated, lymphatic changes can occur (Atkin, 2014). It is therefore essential that practitioners are knowledgeable about management and treatment strategies for oedema to prevent this long-term damage (Bianchi et al, 2012; Atkin, 2014).

It is important to recognise that management goals will change with time and therefore should be constantly reviewed to identify what is the priority and if referral is required (Bianchi et al, 2012). The management plan for the individual patient should be challenged on a regular basis, e.g. every few weeks, to ensure that practice is informed by assessment findings, and not driven by habit (Wound Care People, 2019).

MANAGEMENT PHASES

Management of chronic oedema can be split into two phases, intensive and maintenance (Lymphoedema Framework, 2006).

Intensive phase

In this phase, short-term aims are to:

- Reduce the volume of swelling until it becomes stable
- Improve limb shape
- where possible
- Improve skin condition Treat wounds/lymphorrhoea if present.

Maintenance phase

In this phase, long-term aims are to:

- Maintain reduction in swelling
- Maintain improvement in limb shape
- Maintain skin integrity.

For both phases, there are three principles of care that should be applied to achieve management goals. These are:

- Skin and wound care
- Exercise
- Compression therapy (Rooney et al, 2018).

These principles are only effective if any factors that may be contributing

to chronic oedema are addressed. For example, medical management of any underlying conditions should be optimised, while psychological issues, if any, should be addressed, if possible, to optimise compliance with treatment (Wound Care People, 2019).

SKIN CARE

Skin care is an essential part of chronic oedema management. A daily, basic skin care routine will help to maintain skin integrity in both the intensive and maintenance phases of treatment and can help to prevent more serious skin changes and complications from occurring (Todd, 2014). Healthy, hydrated skin reduces the risk of breaks, and therefore the risk of infection such as cellulitis (Todd, 2014).

Skin care consists of three key components:

- Cleansing
- Drying
- Moisturising (Wound Care People, 2019).

Cleansing

Regular washing of the limb, at least three times a week ideally, is important to make sure that dead skin cells are removed, along with

Clinical skills

dirt, the build-up of emollients and micro-organisms that may result in infection (Todd, 2014). Skin should be washed regularly, although it is important to maintain the balance between cleanliness and overwashing, which may dry out the skin, particularly in patients with old or fragile skin (Voegeli, 2008; Beeckman et al, 2020).

The skin can be cleansed effectively using tap water, in a bowl lined with plastic, using a clean flannel (Wound Care People, 2019). Normal soap can dry out the skin and disrupt its acid mantle (Voegeli, 2008). This can be prevented by using a pH-neutral cleanser or emollient as a soap substitute (Beeckman et al, 2015). If a wound is present, make sure all of the limb is cleaned, not just the skin around the wound (Weir and Swanson, 2019). Wound cleansing is important to maintain a healthy wound bed to optimise the chance of wound closure (Atkin et al, 2019).

Drying

The skin should be dried by patting with a soft towel; do not rub or apply unnecessary force, especially if the skin is fragile (Bianchi et al, 2012; Beeckman et al, 2020). Take care to dry in between any skin folds and the toes to prevent the skin here becoming damp and breaking down (Atkin, 2014). If it is not possible to use a towel between the toes, use tissue or gauze to ensure dryness (Wound Care People, 2019).

Moisturising

Emollients help to'trap' moisture in the skin and keep it soft, as well as protecting the skin from bacteria (Penzer, 2012). In patients with chronic oedema, leave-on emollients should be used to moisturise the skin and maintain its integrity and reduce the signs and symptoms of dry skin, such as scaling and itching (Penzer, 2012).

Bland emollients should be used immediately after washing to trap moisture in the skin (Penzer, 2012). Involving patients in the choice of emollient will help to encourage self-care (Penzer, 2012).

Before using an emollient, it is important to check that the patient is not allergic to any of its components, and is happy with the product selected, as they are more likely to apply it if they have been involved in its selection (Penzer, 2019). *Table 1* presents guidance on emollient choice.

Application

When using emollients:There is conflicting advice on

Practice point: epidermis and skin care

- The outermost layer of the skin, the epidermis, provides a physical barrier against the environment, including micro-organisms responsible for infection (Beeckman et al, 2015)
- The epidermis can be damaged by prolonged contact with moisture, or become dry as a result of inadequate skin care (Beeckman et al, 2015)
- The skin surface a thin film made up of natural oils, including sebum, sweat, and skin cells — is known as the acid mantle, as it is slightly acidic at pH 5 (Penzer, 2012)
- The acid mantle ensures that the friendly micro-organisms that live on the skin can survive, while preventing virulent bacteria and other micro-organisms that thrive at a higher pH from colonising the skin (Zulkowski, 2017)
- If over hydrated, the pH of the skin increases, becoming more alkaline, promoting proliferation of virulent micro-organisms. As a consequence, there is an association between moist skin and secondary fungal and bacterial infections (Woo et al, 2017)
- If harsh products are used, they can disrupt the acid mantle, affecting pH and stripping the skin of oil. As a result, skin may become irritated and dry, and with time may become cracked and broken (Beeckman et al, 2020)
- If the skin is broken, it provides an entry point for bacteria to enter, increasing the risk of infection (Beeckman et al, 2015).

application. Some guidance recommends an upward motion to encourage lymphatic return, while others recommend application in a downward motion. Whatever the preference, it is recommended that application finishes with a downward stroke in the same direction as hair growth, to reduce the risk of folliculitis (hair follicle infection) (Wound Care People, 2019)

- Ideally, emollients should be applied twice-daily. If this is not possible, a single application after washing the limb is preferred as the skin is more absorbent (Burr and Penzer, 2005)
- If possible, apply emollient in the evening as it will then be absorbed overnight. Failing this, moisturise whenever is convenient (e.g. when a compression garment is removed for dressing change, or by a visiting carer), whatever time of day (Nazarko, 2009)
- Prevent contamination of the emollient by keeping the lid on, avoiding dipping hand/fingers into the cream. Ideally, use a pump dispenser (Lawton, 2010).

WOUND CARE

Detailed direction on wound management is beyond the scope of this article, however, with a clean wound bed, the application of compression therapy will invariably promote wound improvement by addressing the underlying cause in the majority of cases (Atkin, 2014).

It is important that the condition of the patient's skin is evaluated regularly, along with the effectiveness of their skin care regimen. Left unchecked, complications such as lymphorrhoea (leakage of lymph fluid through the skin) and recurrent cellulitis (skin infection) can arise (Beeckman et al, 2020).

MANAGEMENT OF COMMON SKIN COMPLICATIONS

Hyperkeratosis

Hyperkeratosis of the lower limb is a common skin condition that typically affects patients with chronic oedema and chronic venous insufficiency (International Lymphoedema



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(*) Moffatt CJ, Gaskin R, Sykorova M, et al (2019) Prevalence and risk factors for Chronic Oedema in UK community nursing services. *Lymphat Res Biol* 17(2): 147-54.

(*) Stanton J (2020) Development of the hybrid tissue viability nurse/lymphoedema nurse. JCN 34(4):46-51.

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Clinical skills



Practice point

The daily skin routine provides a good opportunity to check the skin for marks, redness and heat or any other signs of damage. Remember to care for and examine the skin in between the toes; this area is often overlooked, but is hard to heal once damaged or infected.

Framework, 2012). It is an abnormal thickening of the outer layer of the skin (the stratum corneum) localised to the lower leg and foot and associated with an over-proliferation of keratin-producing cells (Wounds UK, 2015).

If hyperkeratosis is present, removal of the dry skin flakes may be needed (Wounds UK, 2015). A greasy emollient, containing urea, is recommended to help with removal of skin build-up (Wounds UK, 2015). However, it is important to remember that the main treatment for hyperkeratosis is compression therapy, as this helps to move fluid from the limb, improving skin health from the inside out (Wound Care People, 2019).

Cellulitis

Cellulitis is common in chronic oedema (*Figure 1*) and, if diagnosed, its management must be a priority (Burian et al, 2021), as the skin becomes more prone to breakdown and infection can cause intense pain. Compression therapy should be discontinued if the patient finds the pain unbearable, but resumed as soon as it can be tolerated to prevent worsening of oedema (Wingfield, 2012).

Cellulitis should be treated with oral antibiotics in mild cases, in addition to painkillers. Intravenous (IV) antibiotics with admission may be needed if infection is severe (Anderson, 2017).

The British Lymphology Society (BLS) provides guidance on the management of cellulitis in patients with chronic oedema, since it can differ to the usual cellulitis guidance (BLS, 2019). Once a patient develops cellulitis, they are at an increased risk of further episodes (Cox, 2002), which can result in admission to hospital and associated spiralling costs (Clinical Resource Efficiency Support Team [CREST], 2005; Burian et al, 2021). Preventing deterioration of oedema may have a significant effect on reducing the risk of cellulitis, and thereby reducing healthcare costs (Burian et al, 2021).

For this reason, guidelines state that patients who have had an attack of cellulitis carry a two-week supply of antibiotics with them, particularly when away from home for any length of time, e.g. on holiday (Wound Care People, 2019). Amoxicillin 500mg three times a day is recommended or, for those allergic to penicillin, erythromycin 500mg four times a day or clarithromycin 500mg twice a day. Antibiotics should be started immediately if familiar symptoms of cellulitis develop, but a medical opinion should be sought as soon as possible (BLS, 2019).

It is important to break the vicious cycle of cellulitic episodes by maintaining skin health and being vigilant for bacterial entry points in the skin. Compression therapy helps to remove fluid from the limb, while skin care can help prevent damage from occurring (Wound Care People, 2019).

Lymphorrhoea: wet leaky legs

Lymphorrhoea (*Figure 2*) is commonly mismanaged in a community setting through lack of awareness of cause (Anderson, 2017; Thomas et al, 2017). Management often consists of mopping up the fluid, rather than tackling the underlying cause, which should be managed using compression therapy (Anderson, 2017). If dressings are applied by the community nurse, they will need a high frequency of change, which can be timeconsuming and therefore costly (Thomas et al, 2017).

Unmanaged, the loss of fluid can be so extreme that patients may place their legs in plastic bags and resort to using nappies, sanitary towels or incontinence pads to absorb the fluid produced (Wound Care People, 2019). This, understandably, can cause reduced quality of life for the patient as a result of embarrassment, anxiety and depression, leading to social isolation (Todd et al, 2017).

Table 1: Guide to emollient selection (Wound Care People, 2019)		
Emollient type	Description	Example products
Greasy*	 Does not contain preservatives Very effective at holding water in the skin, therefore useful for very dry and thickened skin and night-time application Not suitable for weeping eczema, can exacerbate acne, can cause folliculitis if over used Select product containing urea for management of hyperkeratosis 	50/50 WSP/LP Epaderm® ointment Emulsifying ointment Emollin aerosol spray
Creamy	 Mixture of oil and water Feels light and cool on the skin and absorbs easily May be preferred for daytime use Can be used on weeping eczema All creams contain preservatives that may cause sensitivities 	E45 Cream Diprobase® Cream Dermol® Cream (if skin infected) Calmurid® Cream (10% urea) Balneum® Cream (urea)
Light	 Contains more water and less fat than creams and is therefore less effective at moisturising the skin Suitable for mild, dry skin conditions, hairy areas, e.g. scalp and weepy skin 	E45 Lotion (contains lanolin) Aveeno® lotion
* There is a fire hazard with paraffin-based emollients, which is increased when applied to large areas of		

* There is a fire hazard with paraffin-based emollients, which is increased when applied to large areas of the body, clothing or dressings. Patients should be advised to stay away from fire/flames and not to smoke if used.



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Clinical skills



Figure 1.

Cellulitis showing a pen mark drawn on the limb to track if the infection is worsening (spreads beyond the pen line) or resolving (recedes from the pen line).

Management should include:

- Dressing selection: non-adherent, absorbent, to prevent maceration of the skin
- Frequent dressing changes initially, dictated by the volume of lymphorrhoea
- Compression must be included in the treatment strategy, otherwise the process will be protracted and probably unsuccessful, especially if there is also ulceration present (Todd et al, 2017).

As oedema lessens, lymphorrhoea will also reduce. A change may be seen within seven days of bandaging, but greater improvement may take longer in some cases (Wound Care People, 2019).

EXERCISE

Exercise and movement have benefits for people with chronic oedema, as they help to:

- Improve lymphatic flow and clearance of fluid from tissues
- Improve venous return
- Reduce limb volume
- Reduce weight
- Increase range of movement
- Improve quality of life
 - (Lymphoedema Framework, 2006).

General health benefits also include:

- Cardiovascular fitness
- Stress relief
- Improved flexibility/range of movement
- Weight management (Public Health England, 2016).

Therefore, exercise is a vital component of chronic oedema management, and any exercise that increases foot and muscle pump action and improves venous return and lymphatic drainage can help reduce swelling (Linnitt, 2005).

However, the typical demographic of patients with chronic oedema those with polymorbidity, inactivity, elderly, obesity — may not be the most active, and the degree of oedema present may restrict movement further (Newton, 2011).

Exercise recommendations should always be realistic and consider disease severity, age and physical condition (Timmons and Bianchi, 2008). For example:

- Can the patient walk?What is the extent of their mobility/dexterity?
- Can the patient perform chair-based exercise?
- Can the patient balance during an up and down activity (*Figure 3*)?

Fluid movement by exercise is maximised if it is done when wearing compression (Doherty et al, 2008). It is important to remember that even simple calf pump exercises and elevation can help to alleviate swelling (Doherty et al, 2008).

A crucial factor in the community setting is encouraging leg elevation to the level of the heart to aid fluid return, since many patients are armchair-based with gravity worsening the effects of their oedema. If elevation is not possible, encouraging a period of rest on the bed during the day and sleeping in bed at night may help to alleviate swelling in some patients (Newton, 2011). JCN

Part 5 in this series will continue to review chronic oedema management, concluding with compression therapy, concordance and self-management.

REFERENCES

- Anderson I (2017) Leaky legs: strategies for the treatment and management of lowerlimb lymphorrhoea. *Nurs Times* 113(1): 50–3
- Atkin L (2014) Lower-limb oedema: assessment, treatment and challenges. Br J Community Nurs 19(Suppl 10): S22-S28
- Atkin L, Bucko Z, Conde E, et al (2019) Implementing TIMERS: the race against hard-to-heal wounds. *J Wound Care* 23(Suppl3a): S1–S50
- Beeckman D, Campbell J, Campbell K, et al (2015) *Proceedings of the Global IAD expert panel. Incontinence-associated dermatitis: moving prevention forward.* Wounds International, London. Available online: www.woundsinternational.com
- Beeckman D, Campbell KE, LeBlanc K, et al (2020) Best practice recommendations for holistic strategies to promote and maintain skin integrity. Wounds International, London. Available online: www. woundsinternational.com



Figure 2. Lymphorrhoea can only be managed effectively using compression therapy to address the underlying cause.



Figure 3.

Simple exercises that activate the calf-foot pump, such as standing on tiptoes, can help the lymphatics to reduce swelling.

- Bianchi J, Vowden K, Whitaker J (2012) Chronic oedema made easy. *Wounds UK* 8(2): S1–S4
- British Lymphology Society (2016) *Consensus document on the management of cellulitis in lymphoedema*. Available online: www. thebls.com/documents-library/consensusdocument-on-the-management-ofcellulitis-in-lymphoedema

Burian EA, Karlsmark T, Franks PJ, et al (2021) Cellulitis in chronic oedema of the

Revalidation Alert

Having read this article, reflect on:

- The consequences of failing to acknowledge the importance of skin care in the management of chronic oedema
- How to differentiate between red legs and cellulitis
- If you need to change the way you manage patients with lymphorrhoea.

Then, upload the article to the free JCN revalidation e-portfolio as evidence of your continued learning: www.jcn.co.uk/revalidation lower leg: an international cross-sectional study. *Br J Dermatol* 185: 110–18

Burr S, Penzer R (2005) Promoting skin health. *Nurs Standard* 19(360): 57–65

- Cox N (2002) Management of lower leg cellulitis. *Clin Med JRCPL* 2: 23–7
- Clinical Resource Efficiency Support Team (2005) *Guidelines on the Management of Cellulitis in Adults*. Crest, Belfast. Available online at: www.crestni.org.uk
- Doherty D, Hill T, Worboys F (2008) How should we manage patients with oedema? *Wounds UK* 4(2): 85–90
- International Lymphoedema Framework (2012) Compression therapy: a position document on compression bandaging. International Lymphoedema Framework in association with The World Alliance for Wound and Lymphoedema Care. Available online: www.lympho.org/publications/
- Lawton S (2010) Addressing the skincare needs of older people. *Nurs Residential Care* 12(4): 175–81
- Linnitt N (2005) Lymphoedema: recognition, assessment and management. *Br J Community Nurs* 10(3 Suppl): S20–26
- Lymphoedema Framework (2006) Best Practice for the Management of Lymphoedema. International Consensus. MEP, London
- Nazarko L (2009) Selecting and using appropriate compression hosiery. *Nurs Residential Care* 11(5): 229–32
- Newton H (2011) chronic oedema of the lower limb: pathophysiology and

management. *Br J Community Nurs* 16(4): S4–12

- Penzer R (2012) A best practice statement for emollient therapy. *Dermatol Nurs* 11(4): S1–S19
- Public Health England (2016) *Health Matters: Getting every adult active every day*. Available online: www.gov.uk/ government/publications/health-mattersgetting-every-adult-active-every-day/ health-matters-getting-every-adultactive-every-day
- Rooney L, Cooper-Stanton G, Cave-Senior J (2018) Compression therapy and exercise: enhancing outcomes. *Br J Community Nurs* 23(7): 343–6
- Thomas M, Morgan K, Humphreys I, Jehu
 D, Jenkins L (2017) Managing chronic
 oedema and wet legs in the community:
 a service evaluation. *Nurs Standard* 32(11):
 39–50
- Timmons J, Bianchi J (2008) Disease progression in venous and lymphovenous disease: the need for early identification and management. *Wounds UK* 4(3): 59–71
- Todd M (2014) Self-management of chronic oedema in community. *Br J Community Nurs* 19(4): S30–6
- Todd M, Lay-Flurrie K, Drake J (2017) Managing ulceration and lymphorrhoea in chronic oedema. *Br J Community Nurs* 22(Suppl5): S34–41
- Voegeli D (2008) The effect of washing and drying practices on skin barrier function. *J Wound Ostomy Continence Nurs* 35(1): 84–90
- Weir D, Swanson T (2019) Ten top tips: wound cleansing. *Wounds Int* 10(4): 8–11
- Wingfield C (2012) Diagnosing and managing lower limb cellulitis. *Nurs Times* 108(27): 18–21
- Woo KY, Beeckman D, Chakravarthy D (2017) Management of moistureassociated skin damage: a scoping review. *Adv Skin Wound Care* 30: 494–501
- Wounds UK (2015) Management of hyperkeratosis of the lower limb. Consensus recommendations. Available online: www. wounds-uk.com
- Wound Care People (2019) *Best practice in the community. Chronic oedema*. Wound Care People, Wixford. Available online: www.jcn.co.uk
- Zulkowski K (2017) Understanding moisture-associated skin damage, medical adhesive-related skin injuries and skin tears. *Adv Skin Wound Care* 30(8): 372–81

End-of-life skin care: what every clinician should know

Stefanie Mahan, Nyssa Cole

Changes to skin integrity and damage to the skin can occur at the end of life (EOL), despite appropriate interventions that meet or exceed standards of care. It can also be difficult to determine which wounds can be prevented and which ones are unavoidable (Sibbald et al, 2010; Beldon 2011). It is therefore the role of the nurse and carer to consistently deliver the best end-of-life (EOL) care, support palliation of symptoms, and maintain optimal skin integrity. Best practice for EOL skin care is about maintaining skin integrity for as long as is possible, followed by a goal of a dignified death (Kennedy, 2016) in line with patient/family wishes. This article discusses factors associated with maintaining skin integrity, and how skin damage can be prevented and a skincare regimen managed in EOL patients.

KEYWORDS: End-of-life MASD MARSI Skin care

aring for dying patients, wherever the setting, presents varied challenges, with a key one being the maintenance of skin integrity. Despite receiving multifaceted and necessary interventions, palliative patients are often likely to still develop skin damage (Beldon, 2011).

SKIN CHANGES DUE TO AGEING

There are changes that occur with ageing, all of which are significant in maintaining skin integrity during end of life (EOL), namely (Sherrell, 2021):

- Blood vessels become more fragile, reducing blood supply to the skin
- Dermal cells are replaced more slowly, which can delay the healing process
- The elasticity and tensile strength of the skin is reduced due to loss of collagen
- Sensory perception is reduced, the response to stimuli is therefore slower

Stefanie Mahan, palliative care clinical lead; Nyssa Cole, clinical nurse advisor, Medicareplus International

- Activity of the sebaceous glands is reduced, and the skin becomes dry and scaly
- Sensitivity of the skin is altered, increasing the potential for allergic contact dermatitis
- The subcutaneous layer thins, reducing the protection of deeper structures, and making the skin more prone to injury.

END OF LIFE AND WHAT HAPPENS TO THE SKIN

End of life is defined as'a phase of life when a person is living with an illness that will often worsen and eventually cause death' (Qaseem et al, 2008). This is not restricted to the short period just before death, but may begin some weeks or months before that (Qaseem et al, 2008).

During this time, vital organs begin to be compromised to varying degrees, with the skin, the largest organ of the body, also deteriorating (Watson et al, 2021). Blood circulation decreases as we age, and this process is accelerated during the final months. The body begins to lose its ability to regulate temperature, manage fluid composition, blood gas concentrations and blood pressure – functions known as homeostasis (Beldon, 2011). Loss of homeostasis mechanisms causes vital organs to suffer. The body concentrates its perfusion to vital organ systems, such as the cardiac, pulmonary, renal, and central nervous system to prolong life, leaving the skin vulnerable. This hypoperfusion to the skin can cause skin mottling, necrosis and skin breakdown. End-of-life patients with limited mobility, reduced nutritional intake, as well as with incontinence, are at a higher risk of skin breakdown and therefore susceptible to skin damage, such as moisture-associated skin damage (MASD), pressure ulcers, skin tears, bacterial and fungal skin infections and medical adhesiverelated skin injury (MARSI), along with increased pain and discomfort.

In a study where 271 palliative patients were enrolled, 1267 dermatological conditions were recorded, of which 18.3% were dermatitis (Neloska et al, 2017). In another study of 574 terminally ill patients admitted to a palliative home care service, the prevalence and incidence rates of pressure ulcers was 13.1% and 13% respectively (Artico et al, 2018).

SKIN CARE DURING END OF LIFE

Caring for individuals approaching EOL is based on regular assessment and the provision of optimal care. The main function of EOL skin care is to protect and maintain skin integrity and reduce EOL skin complications, such as MASD, pressure damage, etc (Health, 2020), all with the goal of achieving patient comfort.

Implementation of preventative and treatment interventions are

important for pressure damage and MASD and should be done in accordance with the patient's wishes and consideration of their overall health status (National Institute for Health and Care Excellence [NICE], 2014).

The main function of barrier products is to protect and prevent skin damage from shear and/ or friction and irritants. These are available as creams, films and ointments, which are designed to be applied thinly, and contain silicone (an effective water repellent). They provide a transparent waterproof barrier, with some products being indicated for:

- MASD or for those at high risk: overhydration of the skin from urine, faeces, sweat, or saliva disrupts the barrier properties of the stratum corneum and allows irritants to penetrate the epidermis. Once the skin is overhydrated, it is more prone to physical damage, including friction and shear (Beeckman et al, 2015)
- Pressure ulcers: these are caused by ongoing pressure to the skin due to immobility or friction. When someone is at EOL, they are at greater risk. They often have a sudden onset and can appear when death is imminent (within seven days). They can be pear- or butterfly-shaped and are located predominantly on the coccyx or sacrum (Sibbald et al, 2010; Brennan, 2021). The term'Kennedy Terminal Ulcer' should no longer be used to describe this type of skin damage (NHS Improvement, 2018). If someone has a pressure ulcer towards the EOL, focus of treatment will be more about making sure that the patient is comfortable, rather than healing the ulcer (Hotaling and Black, 2018)
- MARSI: this is often not recognised and thus underreported (Kelly-O'Flynn et al, 2020). MARSI is defined as 'skin damage related to the use of medical adhesive products or devices such as tapes, wound dressings, stoma products, electrodes, medication patches and wound-closure strips' (Fumarola et al, 2020). These injuries can occur when the

epidermal layers separate or if the epidermis completely detaches from the dermis.

FACTORS FOR APPROPRIATE INTERVENTION

When making decisions about skin care at the EOL, it is important to consider a variety of factors to ensure the most appropriate interventions. These include:

- Pathological changes to the body as part of the dying process consider key risk factors such as incontinence, mobility, nutritional status, and level of consciousness (Langemo et al, 2015)
- Regular skin assessment noticing any skin changes at an early stage can help prevent deterioration of skin damage. Regularly assess colour, temperature, swelling and surrounding skin
- How close the patient is to EOL
- Patient comfort ensure that any care that is delivered to protect the skin does not cause pain or result in distress for the patient (Burt, 2013; Langemo et al, 2015)
- Respecting the wishes of the family — establishing the patient's and family's priorities for EOL care is also important, as they may wish to opt out due to religious reasons (Langemo and Brown, 2006; White, 2017)
- Educating the patient, carers, or family members on these skin changes can be instrumental in making a difference. It is important that family members/ carers are aware that skin damage and pressure ulcers at EOL cannot always be prevented (Langemo and Brown, 2006; Langemo et al, 2015; Hotaling and Black, 2018).

CLINICAL CASE REPORTS

Case report one

Mr Smith, a 60-year-old male with a diagnosis of carcinoma of the lung, laryngeal squamous cell carcinoma and multiple comorbidities due to the carcinoma, had a tracheostomy site formation. Seladi-Schulman (2022) discusses that patients with lung cancer are at higher risk of developing Covid-19, especially as the lung function is already reduced. During

Practice points

Common skin changes to expect during EOL, include:

- Discoloured and mottled skin: as the body enters the final stages during EOL, it loses its ability to regulate its blood pressure, the skin on patients' arms and legs can appear bluish/purple, resembling a marble effect, and patients' extremities often feel cold. This condition is known as skin mottling
- Skin breakdown, such as pressure ulcers, leg ulcers, fungating wounds, MASD (White-Chu and Langemo, 2012).

Mr Smith's last acute admission, he developed Covid-19 and was given a terminal prognosis. In a research study, Passaro et al (2021) found that mortality rates were higher in patients with lung cancer and Covid-19. As Mr Smith's preferred place of care and death was home, a discharge plan was started and he was discharged home for EOL care and had a syringe driver in place — syringe drivers are used for the management of a single or multiple symptoms that coexist and tend to increase during the last days/ weeks of life (Dickman and Schneider, 2016), with the pharmacological interventions being essential for adequate alleviation (Lichter and Hunt, 1990).

At initial holistic assessment, it was identified that Mr Smith had extensive MASD to his neck from copious respiratory tract secretions. His respiratory system/airways were too weak to enable him to cough and clear them effectively, and the tracheostomy site was draining the secretions onto his neck.

MASD was severe with inflammation of the skin and extensive damage, including erosion of the subcutaneous tissue. A treatment plan was developed not only to protect the skin from further damage, but also to treat the MASD present. Mr Smith was unable to communicate verbally, however the grimacing facial expressions when cleansing the area indicated his severe pain. Initial treatment plan consisted of Medi Derma-*PRO* Foam & Spray Incontinence Cleanser to cleanse the area and remove any debris, followed by application of Medi Derma-*PRO* Skin Protectant Ointment. Mr Smith's two young sons who provided care for their father in between the care agency visits, were shown how to cleanse the area from the secretions.

Over the next three days, the excoriation on the skin as well as the non-verbal grimacing reduced due to improvement in the MASD level from severe to moderate, initiating a review and re-categorisation of the damage to moderate MASD, and the treatment plan was stepped-down to Medi Derma-S Barrier Film. The location of the damage was such that barrier film applicators were a more suitable format to apply.

Sadly, Mr Smith passed away before treatment could be further stepped down to Medi Derma-S Barrier Cream. Importantly, the treatment that was used enabled Mr Smith to have less visible pain/ discomfort to the area and, with this skin protection, the damage did not deteriorate.

Case report two

Mr Jones was a 79-year-old gentleman with a diagnosis of carcinoma of the bowel and multiple comorbidities. He had copious loose bowel movements due to his cancer and had bleeding MASD.

At initial assessment, Mr Jones' increased pain required regular and increasing breakthrough doses of opioids, which also influenced his mood — with his mood being low, he had no wish to engage with family members either. Due to the extent of the damage, the initial treatment plan consisted of Medi Derma-PRO Foam & Spray Incontinence Cleanser to cleanse the area and remove any debris, followed by application of Medi Derma-PRO Skin Protectant Ointment. Four days later, he was a completely different person; he had not required increased analgesia during the previous two days, his mood was brighter and he engaged with his grandchildren too.

On reviewing, the first author noted a significant improvement to the damaged area. It was no longer bleeding and the superficial skin loss was starting to resolve. Mr Jones was amazed at how the treatment regimen (in his words, a 'miracle cream') had helped him. As the damage was still categorised as severe, Medi Derma-PRO range was continued for a further three days and upon further review, his treatment plan was changed to Medi Derma-S Barrier Film. This was used for another week, which resolved the damage further and subsequently he was stepped down to the Medi Derma-S Barrier Cream. After a further two weeks, the MASD had completely resolved and Medi Derma-S Barrier Cream was used as a preventative measure to prevent the MASD developing again.

Due to the bowel carcinoma, the loose bowel movements continued. However, Mr Jones' quality of life was better due to a preventative plan being put in place following the MASD treatment. Mr Jones has since passed away, although when he died his skin remained MASD-free due to the preventative plan.

Case report three

Mrs Peters was a 56-year-old lady with carcinoma of the rectum with liver and pulmonary metastasis. She rapidly deteriorated and was only able to mobilise short distances, having increasing episodes of incontinence and general fatigue. Due to complications, Mrs Peters had a stoma formation and her increased bowel movements were causing the stoma bag to leak due to the copious loose bowel movements. This led to the involvement of the palliative care clinical lead (first author), who noted at the initial assessment that she had moderate damage to the periwound skin of her stoma site, along with maceration.

Mrs Peters' mood was also low, following the bereavement of her husband three months ago, which had led to self-neglect. On engaging with her, the first author found that she had no interest in living anymore and was not bothered about the consequences to her life. After various discussions,

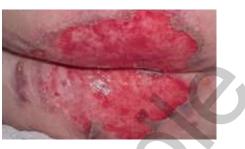


Figure 1. MASD to the buttocks (case report two). Courtesy of Stefanie Mahan.

she expressed that she was in pain from the stoma site and was at the 'end of her tether', as she was struggling to get the stoma bag to stay in place and did not know what to do.

In view of the clinical findings, it was determined that the skin around Mrs Peters' stoma site had moderate MASD with skin stripping (MARSI) from the removal/application of the stoma bag. A treatment plan was developed with application of Medi Derma-S Barrier Film to the affected and peristomal area, both to treat the MASD and prevent further MASD developing, while preventing further skin stripping from removal of the stoma bags. The first author liaised with the stoma specialists to discuss introduction of Brava® elastic tape (Coloplast) to prevent lifting/ movement of the stoma bag and keep the base plate of the bag in place.

At review two weeks later, the MASD had completely resolved and the stoma bag was secured in place with the Brava elastic tape with no further leakage. Notably, the skin stripping had resolved, Mrs Peters was feeling better and her mood was brighter due to management of the stoma bag and skin integrity.

With the stoma bag and adhesive effectively adhering to the skin, this



Figure 2. Peristomal skin (case report three). Courtesy of Stefanie Mahan.

Changes to skin integrity and damage to the skin can occur at the end of life (EOL), despite appropriate interventions*

Best practice for EOL skin care is to maintain skin integrity for as long as is possible*

TOTAL BARRIER PROTECTION[™] STRATEGY

Supports best practice to maintain skin integrity



The Skin Protection Specialist in wound care, continence care and stoma care



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Figure 3. *Compassionate care at end of life. Courtesy of Stefanie Mahan.*

prevented leakage. The first author continued with the Medi Derma-S treatment plan, but stepped down from the Barrier Film to Barrier Cream. The Medi Derma-S Barrier Cream is suitable for use under adhesive products (Medicareplus International, 2022) and Mrs Peters continued with the treatment plan as a preventative measure.

Case report four

Mrs Wise was a 70-year-old lady who had end-stage heart failure, with gross pitting oedema to her bilateral lower limbs and lower torso from fluid retention due to heart failure. She also had uncontrolled nausea and vomiting, and required a continuous subcutaneous infusion (syringe driver) to manage these symptoms. With the level of oedema to her skin, this reduced the areas suitable for the syringe driver catheter, and the sites were failing from disruption to the microcirculation system, thereby impairing the supply of nutrients to the skin (Chao et al, 2012). There was also extensive skin stripping, i.e. MARSI, from removal of the adhesive dressings. As said, there were limited sites for the syringe driver catheter and these were reducing due to the oedema extending as a result of the end-stage heart failure.

Therefore, a management plan consisting of Medi Derma-S Barrier Film was put in place, not only to treat the MARSI that had occurred, but also to protect the skin from further MARSI when removing the adhesive dressing from the syringe driver catheter site. Mrs Wise reported that this was beneficial, as she had less trauma and discomfort on removal of the adhesive dressings.

DISCUSSION

Within the palliative care team where the first author works, there is an in-house palliative care homecare team who deliver all care needs to patients at EOL, and skin integrity is an important element of that care. Palliative patients are at greater risk of MASD due to hyperhidrosis (excessive sweating) or nocturnal diaphoresis (night sweats); this can be all over the body and not confined to specific areas (Palliative Pearls, 2019). This can be problematic throughout the day, but commonly worsens at night and can be difficult to treat effectively. It can also impact on patient quality of life and cause emotional distress and embarrassment (Palliative Pearls, 2019), which is something that should be prevented at any point of life, but particularly at EOL.

Risk of developing MASD is very high for EOL patients. The important message is to prevent skin breakdown, which can be achieved by ensuring that appropriate preventative plans are in place to meet individual patient needs (Fletcher et al, 2020).

While there are publications/aidememoires around the prevention of pressure damage developing, there are limited aide-memoires around MASD. However, with support from Medicareplus International, the first author and her team developed an aide-memoire that focuses on prevention of MASD. This includes areas which are at high risk of developing both MASD and pressure damage, as patients at EOL are susceptible to the latter due to the body not perfusing the skin effectively, as it is protecting vital organs (Young et al, 2020; Figure 4).

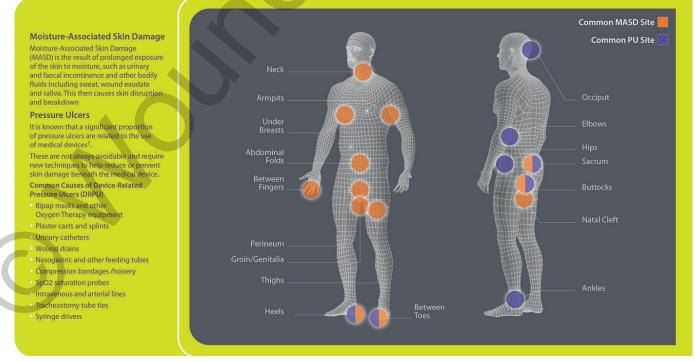


Figure 4.

Common sites of MASD and pressure ulcers (bodymap developed by Medicareplus International).

CONCLUSION

Overall, use of the Medi Derma-S and Medi Derma-PRO range is effective for treating skin damage, irrespective of whether the patient is at EOL or not (Copson and Freitas, 2021). There are benefits not only to the treatment of MASD, MARSI, and periwound skin, but also to the prevention of this damage developing. The first author used the range of products from both a treatment and prevention perspective (these products being on her trust formulary), while also ensuring a holistic patientcentred assessment and treatment plan. Prevention is better than cure (Department of Health [DH], 2018) when patients are in the terminal/end stage of life, it is vital to ensure that no unnecessary skin damage develops.

REFERENCES

Artico M, Dante A, D'Angelo D, Lamarca L, Mastroianni C, Petitti T, Piredda M, De Marinis MG (2018) Prevalence, incidence and associated factors of pressure ulcers in home palliative care patients: A retrospective chart review. *Palliat Med* 32(1): 299–307

Beeckman D, Campbell J, Campbell K, et al (2015) Incontinence-associated dermatitis: moving prevention forward. Proceedings of the Global IAD Expert Panel. Available online: http://tinyurl.com/hr28grk (accessed April 2020)

Beldon P (2011) Managing skin changes at life's end. *Wound Essentials* 6: 76–9

Brennan D (2021) What is Kennedy Terminal Ulcer? Webmd Kennedy Terminal Ulcer: Causes, Symptoms and More (webmd. com)

Burt T (2013) Palliative care of pressure ulcers in long-term care. *Annals of Long-Term Care* 21: 20–8

Chao C, Zheng Y, Cheing G (2012) The association between skin blood flow and edema on epidermal thickness in the diabetic foot. *Diabetes Technol Ther* 14(7): 602–9

Copson D, Freitas A (2021) A multi-centred retrospective analysis of 336 clinical evaluations of the Medi Derma Total Barrier Protection (TBP™) Product Range. *Wounds UK* 17(1): 89–97

Department of Health and Social Care (2018) *Prevention is better than cure: our vision to* help you live well for longer. Available online: www.gov.uk/government/publications/ prevention-is-better-than-cure-our-visionto-help-you-live-well-for-longer

Dickman A, Schneider J (2016) *The Syringe Driver Continuous subcutaneous infusions in palliative care*. 4th edn. Oxford University Press

Fletcher J, Beeckman D, Fumarola S, et al (2020) International Best Practice Recommendations: Prevention and management of moisture-associated skin damage (MASD). Wounds International

Fumarola S, Allaway R, Callaghan R, et al (2020) Overlooked and underestimated: medical adhesive-related skin injuries. J Wound Care 29(Suppl 3c): S1–S24

Health W (2020) Skin failure in patients with a terminal illness. *Nursing Made Incredibly Easy* 18(4): 1

Hotaling P, Black J (2018) Ten top tips: palliative wound care. *Wounds Int* 9(3): 16–20

Kelly-O'Flynn S, Mohamud L, Copson D (2020) Medical adhesive-related skin injury. *Br J Nurs* 29(6): S20–S26

Kennedy G (2016) The importance of patient dignity in care at the end of life. *Ulster Med J* 85(1): 45–8

Langemo DK, Brown G (2006) Skin fails too: acute, chronic and end-stage skin failure. *Adv Skin Wound Care* 19(4): 206–11. Available online: https:// downloads.lww.com/wolterskluwer_ vitalstream_com/journal_library/ nsw_15277941_2006_19_4_206.pdf

Langemo D, Haesler E, Naylor W, et al (2015) Evidence-based guidelines for pressure ulcer management at the end of life. *Int J Palliat Nurs* 21(5): 225–3

Lichter I, Hunt E (1990) The last 48 hours of life. *J Palliat Care* 6(4): 7–15

Medicareplus International (2022) Products -Product - Medicareplus. Available online: www.medicareplus.co.uk/products

NHS Improvement (2018) *Pressure ulcers: revised definition and measurement framework*. Available online: https:// improvement.nhs.uk/resources/ pressure-ulcers-revised-definition-andmeasurementframework/ (accessed Dec 2020)

National Institute for Health and Care Excellence (2014) *Pressure Ulcers: Prevention and Management of Pressure Ulcers*. NICE, London

- National Institute for Health and Care Excellence (2021) *Palliative Care: Secretions*. NICE, London. Available online: https:// cks.nice.org.uk/topics/palliative-caresecretions
- Neloska L, Damevska K, Kuzmanova A, Pavleska L, Kostov M, Zovic BP (2017) Dermatological diseases in palliative care patients: a prospective study of 271 patients. J Dtsch Dermatol Ges 15(6): 621–7
- Palliative Pearls (2019) Palliative Managements of Sweating at End of Life. Available online: https://enclarapharmacia.com/wpcontent/uploads/2020/06/PALLIATIVE_ MANAGEMENT_OF_SWEATING_AT_ END_OF_LIFE_MAY-2019_.pdf
- Passaro A, Bestvina C, Velez M, Garassino M, Garon E, Peters S (2021), Severity of COVID-19 in patients with lung cancer: evidence and challenges. *J Immunother Cancer* 9(3): e002266
- Qaseem A, Snow V, Shekelle P (2008) Evidence-based interventions to improve the palliative care of pain, dyspnoea and depression at life's end; a clinical practice guideline from the American College of physicians. *Ann Intern Med* 148(2): 74–9
- Seladi-Schulman J (2022) *Understanding the interaction between lung cancer and Covid-19*. Healthline. Available online: www. healthline.com/health/lung-cancer/lungcancer-and-covid
- Sherrell Z (2016) *Anatomy and functions of the subcutaneous layer*. Available online: www.medicalnewstoday.com/articles/ subcutaneous-layer
- Sibbald RG, Krasner DL, Lutz JB, et al (2010) SCALE: Skin Changes At Life's End. Final Consensus Statement: October 1, 2009. *Adv Skin Wound Care* 23(5): 225–36. Available online: www.nursingcenter. com/prodev/ce_article.asp?tid=1005418 (accessed December, 2020)
- Watson M, Armstrong P, Back I, Gannon C, Sykes N (2021) *Palliative Adult Network Guidelines,* Fifth Edition
- White K (2017) Clinical audit examining pressure ulcer incidence among end of life patients. *Wounds UK* 13: 42–5
- White-Chu E, Langemo D (2012) Skin failure: identifying and managing an under recognised Condition. *Annals of Long-Term Conditions*. Available online: www. hmpgloballearningnetwork.com/site/ altc/articles/skin-failure-identifying-andmanaging-underrecognized-condition
- Young T, James L, Cornish L, Duffy N, Lindsay E (2020) Should pressure ulcer prevention be part of end of life care?, *Wounds UK* 16(4): 25–9

Managing dehisced wounds

Annemarie Brown

This article looks at the cost and incidence of wound dehiscence, together with an overview of the most common operation sites where dehiscence is likely to occur. Patient factors predisposing to wound dehiscence are discussed, together with the most common cause, surgical site infection (SSI). The identification and management of SSI is explored, together with recommendations for wound management for both infected and non-infected dehisced wounds.

KEYWORDS:

Dehisced wounds Surgical site infection Identification

Management

The World Union of Wound Healing Societies (WUWHS, 2018) defines surgical wound dehiscence (SWD) as: The separation of the margins of a closed incision that has been made in the skin, with or without exposure or protrusion of underlying tissue, organs or implant. Separation may occur at single of multiple locations along the incision line and may or may not involve infection.

Over 10 million operations are performed in the UK annually, with more than 57.1% of subsequent dehisced surgical wounds being treated in the community; with 26–28% requiring ongoing nursing interventions post discharge (Guest et al, 2020). Guest et al (2020) estimate that surgical wound care, allowing for patient comorbidities, costs in the region of £982.9 million per year. As this tends to occur in primary care, it is possible that the exact size of the problem is not captured in hospital data as SWD can occur up to 14 days postoperatively, often when the patient has been discharged from hospital and there

Annemarie Brown, lecturer, BSc Adult Nursing, School of Health and Human Sciences, University of Essex may not have been any signs and symptoms visible before this (Leaper et al, 2013; Guest et al, 2020).

The most common sites for SWD are abdominal surgery, cardiac, post-Caesarean section, orthopaedic and vascular surgery (Stannard et al, 2012; Marcarelli et al, 2017), and these wounds pose a challenge for both patients and healthcare professionals alike. SWD impacts on patient mortality and morbidity and significantly contributes to prolonged hospital stays and associated psychosocial stressors (such as unemployment and financial concerns) on individuals and their families, affecting their wellbeing and quality of life (Sandy-Hodgetts, 2015). The financial impact of SWD to the National Health Service (NHS) is considerable in terms of additional hospital stays, wound care, advanced wound therapies and nursing time, which cannot be underestimated (Guest et al, 2020). The WUWHS (2018) has estimated that, on average, patients with dehisced wounds stay in hospital 9.4 days longer than an average surgical patient with a wound that does not go on to dehisce.

The primary cause of SWD was generally thought to be wound infection in isolation (van Ramshorst et al, 2010). However, more recently,

Sandy-Hodgetts et al (2015) have identified additional patient factors, such as old age, diabetes, obesity, smoking, cardiovascular and peripheral arterial disease (PAD), with previous surgery in the same anatomical location posing a four times more likely risk for SWD. Nevertheless, SWD is still strongly associated with wound infection, which is a known cause of delayed healing, and many patients require readmission for further surgery, for example, debridement and the use of expensive wound closure techniques, such as negative pressure wound therapy (NPWT). The cost of treating a wound infection in primary care in the UK was estimated at £10,523 per patient, which includes primary care costs, organisational overheads, travel costs for district nurse visits, wound care products, ultrasound tests, as well as hospital readmission costs (Tanner et al, 2009). The additional cost of managing SWDs has not yet been quantified.

ABDOMINAL SURGERY

van Ramshorst et al (2010) developed and internally validated a model to predict abdominal wound dehiscence and identified several significant risk factors, namely:

- Age
- Male gender
- Emergency surgery
- Type of surgery
- Postoperative coughing
- Wound infection.

In addition, a previous study by Webster et al (2003) found an increased risk of abdominal SWD if the surgery took longer than six hours, if it was performed by a junior surgeon as opposed to a more experienced surgeon, the location of surgery, i.e. clean or contaminated, such as bowel surgery, the presence of postoperative infection and the time the patient was ventilated. The



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prevalence of abdominal dehiscence, post-surgery has been reported as between 0.4% and 3.5% and is associated with severe complications, such as reduced patient wellbeing and quality of life (Sanger et al, 2014), extended length of stay in the acute care setting or readmission (De Lissovoy, 2008), and the need for additional resources to manage the wound (Tanner et al, 2009), resulting in mortality rates as high as 45% (Fleischer et al, 2000; van Ramshorst et al, 2010; Mulligan, 2011). Figures 1 and 3 show non-infected dehisced abdominal wounds; while Figure 2 shows an infected partially dehisced abdominal wound.

CARDIO-THORACIC WOUND DEHISCENCE

The most commonly performed cardio-thoracic surgery is coronary artery bypass grafting (CABG), which, by 2030, is set to become even more commonplace due to an ageing population (Jahangiri, 2011; Diodato and Chedwray, 2014). The associated risk factors are diabetes. female gender and prolonged intubation (Salehi-Omran et al, 2007; Ridderstolpe et al, 2001). In addition to these risk factors, these patients already have some co-existing cardiovascular disease (Mendis and Norrving, 2011). Wound dehiscence following CABG can result in lengthy hospital stays with increased morbidity and mortality.

PREVALENCE OF WOUND DEHISCENCE

Public Health England (PHE) SSI surveillance data (April 2020–March 2021) demonstrate that the highest risk factor for postoperative wound infection is an elevated body mass index (BMI) of >30kg/m², particularly among CABG patients (31.4%), hip (37.9%) and knee replacement surgery (55.1%), but also for large bowel surgery (25.7%), and abdominal hysterectomy (37.3%) (PHE, 2022; *Table* 1).

Reporting of SSIs in hip and knee replacement is mandatory, however reporting for large bowel surgery, spinal and breast surgery is voluntary. It is probable, therefore, that the number of SSIs is much higher in these anatomical areas than figures show.

WHY DO WOUNDS DEHISCE?

van Ramshorst et al (2010) found that the most common cause of SWD is the presence of bacteria within the wound. A high level of bacteria in a wound will result in elevated levels of neutrophils and matrix metalloproteinases (MMPs), which appear in the normal inflammatory phase of healing. These are neutralised by tissue inhibitors of MMPs (TIMPs); however, if this does not occur, the wound tissue will start to break down (van Ramshorst et al, 2010). In addition, bacteria release toxins into the tissues, which affect the tensile strength of the newly formed suture line, which will eventually break down.

According to PHE (2020), Enterobacterales remain the most prevalent causative organisms for all SSIs and contributed to 29.8% of superficial SSIs and 26.2% of deep incisional SSIs in 2019/2020. The most common Enterobacterales species was *Escherichia coli* (32%), with the second most common being *Staphylococcus aureus* (24.2%). This represents a 5% increase and is due to the emergence of the meticillin-sensitive form (MSSA).

Table 1. CCL rick b	vourgical category	y MLIC beenitale England	April 0000 to March 0001
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Table 1: 351 HSK by sergical callegoly, NH5 hospitals england, Aphi 2020 10 March 2021				
Anatomical site	No. of operations	No. of SSIs	Incidence	Median time to infection
CABG	28,234	824	2.9%	15 days
Large bowel	12,811	1075	8.4%	8 days
Hip replacement	181,410	909	0.5%	20 days
Knee replacement	192,222	8412	0.4%	23 days
Source: Surveillance of survival site infections in NHS hespitals in England Public Health April 2020			lth April 2020	

Source: Surveillance of surgical site infections in NHS hospitals in England, Public Health April 2020– March 2021



Figure 1. Non-infected dehisced abdominal wound.



Figure 2. *Infected abdominal wound with partial dehiscence.*

Other bacteria isolated are coagulasenegative staphylococci (CoNS) and *Pseudomonas aeruginosa*.

SIGNS AND SYMPTOMS OF SSI

According to Horan et al (1992), the following are signs of SSI:

- Occurs up to and including 30 days post-operative and includes one or all of the following:
 - Can be superficial; deep or in an organ space
 - Purulent drainage
 - Purulent drainage with or without laboratory confirmation from the incision site
 - Organism isolated from an aseptically obtained culture of fluid or tissue from the incision
- At least one of the signs and symptoms associated with infection: pain or tenderness, localised swelling, redness.

MANAGING DEHISCED WOUNDS

The first priority for managing a dehisced wound is to ensure clearer visualisation of the wound bed in order to grade the dehiscence. This may involve the removal of sutures or clips (Wolcott et al, 2008). The WUWHS has developed a SWD grading system (adapted from Sandy SWD Grading System; WUWHS, 2018; *Table* 2).

PICO^{\$} 7 PICO^{\$} 14 Single Use Negative Pressure

Wound Therapy System

Making more possible in wound healing **smith-nephew.com/pico**

Powerful results in surgical dehisced wounds

After implementation of **PICO^o sNPWT** in the pathway, 18 of 34 dehisced wounds healed within 12 weeks.¹

- Mean time to heal in wounds that fully healed was 6.1 weeks¹
- Mean weekly size reduction for all wounds was 12.8% – More wounds ≤6 months in duration healed within 12 weeks (56.5%) than wounds
 6 months in duration (45.5%)¹
- Mean dressing change frequency reduced with use of **PICO sNPWT** from 4.7 to 3.2 times per week and remained at 3.3 times per week after returning to standard care¹
- Estimated total cost of wound care treatment over 12 weeks was £60,251 with PICO sNPWT versus £76,828 for standard care (21.6% saving)¹

Smith-Nephew

Reference: 1. Hughes J, Costello M, Belshaw M, Horton H, Styche T. The burden of dehisced wounds in the community: Using early results from a multi-centre service evaluation to propose a standard of care to improve patient outcomes and safeguard woundcare budgets. Br J Health Care Manag. 2020;27:1–10. Trademark of Smith+Nephew. All Trademarks acknowledged. ©October 2022 Smith+Nephew. AWM-AWD-20519 [GMC0897



Figure 3. Non-infected dehisced abdominal wound.

The WUWHS (2018) recommends the use of the grading system for assessing the margins of a previously closed surgical incision, occurring up to 30 days post-surgery. If the dehiscence is superficial and the wound is only slightly gaping after the staples or sutures have been removed, for example, in a knee replacement, the wound margins may be brought together with paper sutures. However, if the dehiscence occurs in a large incision site, for example, the abdomen, the patient should be referred back to the relevant surgeon for further assessment and management. Often, these wounds may be left to heal by secondary intention (Brown, 2015).

MANAGING ACUTE WOUND INFECTION

If dehiscence is due to infection, healthcare professionals will need to establish whether the infection is acute or local (International Wound Infection Institute [IWII], 2022). Acute SSIs are generally easy to diagnose as the patient will exhibit the classic signs of infection, that is, may be systemically unwell with an elevated morning temperature and an elevated heart rate (Sanger et al, 2016; IWII, 2022). The wound itself may show signs of lack of wound-edge approximation (gaping), increased exudate volume, increasing pain, and the wound edges may also shows signs of redness or induration. The latter, however, is not a reliable sign, as it may vary according to the patient's skin tone (IWII, 2022). Following a course of appropriate antibiotic therapy determined by swabbing for culture and sensitivity, these wound infections resolve quite rapidly (IWII, 2022).

SUB-CLINICAL OR LOCAL WOUND INFECTION

In this type of infection, the classic signs of wound infection are not always apparent and may even be masked in patients who are immunocompromised (e.g. those taking immunosuppressants or corticosteroids, or with diabetes mellitus or PAD). Healthcare professionals will need to use their clinical skills and experience to diagnose these infections. However, there will be covert wound signs, e.g:

- The wound does not respond to systematic antibiotics, or there is an improvement which is short-lived
- Wound healing is stalled for no apparent reason
- The wound develops recurring slough, despite debridement
- There may be a shiny, slimy appearance to the wound bed (this may not always be visible)
- There is a persistent low-level redness around the wound margins
- The wound develops granulation tissue, which is of poor quality,

dark and bleeds easily

There may be an odour, which was not present previously.

(IWII, 2022)

WOUND MANAGEMENT STRATEGIES FOR INFECTED DEHISCED WOUNDS

Routine wound swabbing is not recommended for local wound infections unless the wound shows signs of spreading or systemic infection; the infected wound has failed to respond to systemic antibiotics or continues to deteriorate despite antimicrobial treatment. Although there is limited evidence to support the efficacy of one antiseptic over another, IWII (2022) recommends the use of therapeutic wound cleansing using topical antiseptic solutions, such as Octenillin Wound Irrigation Solution® (Octenidine dihydrochloride; Schülke) or Prontosan® (PHMB [polyhexamethylene biguanide]; Braun B), which are low or noncvtotoxic. The manufacturers' instructions for wound cleansing surfactants and antiseptic agents should be adhered to in regard to efficacy, recommended duration of each application, and duration of consecutive treatments (IWII, 2022).

The IWII (2022) recommends the use of antimicrobial dressings, such as honey, silver, cadexomer iodine, PHMB in combination with antiseptic cleansing solutions for wounds exhibiting signs and symptoms of local wound infection or wounds suspected of having biofilm. These are available in various versions,

Table 2: WUWHS SWD grading system (WUWHS, 2018; Sandy-Hodgetts et al, 2020)		
Grade 1	Epidermis only, no visible subcutaneous tissue No clinical signs or symptoms of infection	
Grade 1a	As above, plus clinical signs and symptoms of infection	
Grade 2	Subcutaneous layer exposed; fascia not visible No clinical signs or symptoms of infection	
Grade 2a	As above, but with clinical signs and symptoms of infection	
Grade 3	Subcutaneous layers and fascia exposed No clinical signs and symptoms of infection	
Grade 3a	As grade 3, plus clinical signs and symptoms of infection	
Grade 4	Any area of fascial dehiscence with organ space, viscera, implant or bone exposed No clinical signs or symptoms of infection. May also be known as 'burst abdomen'	
Grade 4a	As grade 4, plus clinical signs and symptoms of infection (e.g. organ/space SSI) May also be known as 'burst abdomen'	

including rope, which are suitable for packing deep wounds and cavities.

Duration of topical antiseptic use should be based on regular wound assessment. However, it is recommended that the products should be used initially for two weeks and then reviewed, as the wound should demonstrate signs of improvement during this time (IWII, 2022). If the infection has totally resolved, use of antimicrobial products should be discontinued, and a non-antimicrobial dressing applied (IWII, 2022). If the wound is improving but the infection has not totally resolved, it is recommended to continue with the antimicrobial version for a further two weeks. If the signs of infection are still apparent, it may be necessary to swap to an alternative antimicrobial dressing and antiseptic solution for a further two weeks (Wounds UK, 2017). If there is still no improvement, specialist advice may need to be sought. The IWII (2022) recommends the above management strategy in combination with systemic antibiotics in confirmed acute wound infections.

MANAGEMENT OF NON-INFECTED DEHISCED WOUNDS

Some experts consider that there is no rationale for routine cleansing of surgical wounds healing by primary intention, and that wounds healing in an orderly and timely manner require only minimal, gentle cleansing to avoid disrupting granulation and reepithelialisation (Ubbink et al, 2015).

In the community, many healthcare professionals encourage patients to take the packing out and shower with plain water before dressing changes (Brown, 2018), but this depends on the location of the wound. There are many wound products suitable for packing deep wounds, such as alginates and hydrofibre-based dressings, which can also come in rope or ribbon form. These are designed for moderateto-wet wounds and transform into a soft gel when in contact with wound fluid, thus facilitating pain-free removal. They require a secondary dressing, which maintains a moist environment, such as foams or

hydrocolloids. The application of an incorrect secondary dressing, such as gauze, will dry out the packing material and cause trauma at dressing changes. Thus, an alternative dressing type should be used.

NEGATIVE PRESSURE WOUND THERAPY (NPWT)

This therapy is being used with increased frequency in wounds healing by secondary intention, or where healing is delayed. A systematic review found that the benefits of NPWT are:

- Increased blood circulation to the wound bed
- Removal of oedema and excessive exudate
- Rapid development of new blood vessels and granulation tissue
- Reduction in bacteria within the wound.

(Ingargiola et al, 2013)

NPWT involves the controlled application of sub-atmospheric pressure to a wound, using a sealed wound dressing connected to a vacuum pump, which can be used to:

- Promote healing rates
- Free up nursing time
- Help to prevent admission/ re-admission
- Improve the patient's overall experience.

(Dowsett et al, 2017; Hughes et al, 2021)

As a result of these benefits, Hughes et al (2021) point out that the National Institute for Health and Care Excellence (NICE, 2019) has published guidance outlining the benefits of using PICO[™] (Smith & Nephew), a single-use negative pressure wound therapy (NPWT) device to help reduce the rate of SSIs and seromas compared with standard wound dressings. Other studies have demonstrated that the use of NPWT used postoperatively reduced the incidence of wound dehiscence (Horch et al 2020; Naylor et al 2020). However, a Cochrane Review conducted in 2020 on the efficacy of NPWT concluded that:

Patients experiencing primary wound closure of their surgical wound and treated prophylactically with NPWT following surgery probably *experience fewer SSI than people treated with standard dressings* (moderate-certainty evidence). There is no clear *difference in number of deaths* or wound dehiscence between people treated with NPWT and standard dressings (lowcertainty evidence). People experiencing primary wound closure of their surgical wound and treated prophylactically with NPWT following surgery probably experience fewer SSI than people treated with standard dressings (moderatecertainty evidence). There is no clear difference in number of deaths or wound dehiscence between people treated with NPWT and standard dressings (low-certainty evidence). (Norman et al, 2020)

The researchers evaluated the efficacy of NPWT on risk of death, SSI and dehiscence, but did not evaluate the reduction in wound healing times and cost-effectiveness across all wounds. They also added that there are a large number of ongoing studies, the results of which may change the findings of this review. As a result, they concluded that decisions about use of NPWT should consider surgical indication and setting, as well as the evidence for all outcomes. Despite this ambiguity on the efficacy of NPWT, it remains a popular therapy for managing large, heavily exuding wounds (Ingargiola et al, 2013).

CONCLUSION

Wound dehiscence following surgery is a relatively common occurrence, particularly in abdominal and cardio-thoracic surgery. There are several patient and environmental factors that can predispose to wound dehiscence; however, the most common cause is wound infection. This article has discussed how to recognise whether a dehisced wound has a clinical or sub-clinical infection and offers suggestions on effective management strategies. It also covers wound management options for both infected and non-infected dehisced wounds. ICN

REFERENCES

- Brown A (2015) Phases of the wound healing process. *Nurs Times* 111(46): 12–13
- Brown A (2018) When is wound cleansing necessary and what solution should be used? *Nurs Times* 114(9): 40–3
- De Lissovoy G, Fraemen K, Hutchins V, Murphy D, Song D, Vaughn B (2008) Surgical site infection: Incidence and impact on hospital utilization and treatment costs. *Am J Infect Control* 37: 387–97
- Diodato MC, Chedwray E (2014) Coronary artery bypass graft surgery: The past, present, and future of myocardial revascularisation. *Surg Res Pract* 2014: 726158
- Dowsett C, Hampton J, Myers D, et al (2017) Use of PICO[™] to improve clinical and economic outcomes in hard to heal wounds. *Wounds Int* 8(2): 52–8
- Fleischer G, Rennert A, Ruhmer M (2000) Infected abdominal wall and burst abdomen. *Chirurg* 71(7): 754–62
- Guest JF, Fuller GW, Vowden P (2020) Cohort study evaluating the burden of wounds to the UK's National Health Service in 2017/2018: update from 2012/2013. *BMJ Open* **10(12):** e045253
- Horan TC, Gaynes RP, WJ Martone WJ, et al (1992) CDC definitions of nosocomial surgical site infections, 1992. *Infect Control Hosp Epidemiol* 13(10): 606–8
- Horch RE, Ludolph I, Müller-Seubert W, Zetzmann K, Hauck T, Arkudas A, Geierlehner A (2020) Topical negativepressure wound therapy: emerging devices and techniques. *Expert Rev Med Devices* 17(2): 139–48
- Hughes J, Costello M, Belshaw M, et al (2021) The burden of dehisced wounds in the community: using early results from a multi-centre service evaluation to propose a standard of care to improve patient outcomes and safeguard woundcare budgets. *Br J Healthcare Management* https://doi.org/10.12968
- Ingargiola MJ, Daniali L, Lee FS (2013) Does the application of incisional negative pressure therapy to high-risk wounds prevent surgical site complications? A systematic review. *Eplasty* 13: e49
- International Wound Infection Institute (2022) *Wound Infection in Clinical Practice*. Wounds International. Available online: https://gneaupp.info/wp-content/

uploads/2022/05/iwii-cd-2022-web.pdf

- Jahangiri M (2011) Impact of the ageing population on cardiac surgery in the UK. *Br J Cardiol* 18: 5–6
- Leaper D, Tanner J, Kiernan M (2013) Surveillance of surgical site infection. *J Hosp Infect* 83(2): 83–6
- Marcarelli M, Trovato L, Novarase E, Graziano RM (2017) Rigenera protocol in the treatment of surgical wound dehiscence. *Int Wound J* 14: 277–81
- Mendis S, Norrving B (2011) *Global atlas on cardiovascular disease prevention and control: Policies, strategies and interventions.* Geneva: Retrieved from ISBN: 978 92 4 156437 3
- Mulligan S, Prentice J Scott L (2011) *Wounds West prevalence survey 2011 state-wide overview report. Ambulatory Care Services.* Department of Health, Western Australia
- National Institute for Health and Care Excellence (2019) *PICO negative pressure wound dressings for closed surgical incisions*. Available online: www.nice.org.uk/ guidance/mtg43 (accessed 20 July, 2022)
- Naylor RM, Gilder HE, Gupta N, Hydrick TC, Labott R, Mauler DJ, et al (2020) Effects of negative pressure wound therapy on wound dehiscence and surgical site infection following instrumented spinal fusion surgery — a single surgeon's experience. World *Neurosurgery* 137: e257– e262
- Norman G, Goh EL, Dumville JC, Shi C, Liu Z, Chiverton L, Stankiewicz M, Reid A (2020) Negative pressure wound therapy for surgical wounds healing by primary closure. Cochrane Library May 2020 (5) CD009261. PMCID: PMC7192856
- Public Health England (2020) Surveillance of surgical site infections in NHS hospitals in England – April 2019 to March 2020
- Public Health England (2022) Surgical site infections (SSI) surveillance: NHS hospitals in England. Available online: www.gov.uk/ government/publications/surgical-siteinfections-ssi-surveillance-nhs-hospitalsin-england
- Ridderstolpe L, Gill H, Granfeldt H, Ahlfeldt H, Rutberg H (2001) Superficial and deep sternal wound complications: Incidence, risk factors and mortality. *Eur J Cardiothorac Surg* 20(6): 1168–75
- Sandy-Hodgetts K, Carville K, Leslie G (2015) Determining risk factors for surgical wound dehiscence: A literature review. *Int Wound J* 12(3): 265–75

- Sandy-Hodgetts K, Ousey K, Conway B, Djohan R, et al (2020) *International best practice recommendations for the early identification and prevention of surgical wound complications*. Wounds International, London
- Salehi-Omran A, Karimi A, Ahmadi S, Davoodi S, Marzban M, Movahedi N, Moshtaghi N (2007) Superficial and deep sternal wound infection after more than 9000 coronary artery 165 bypass graft (CABG): Incidence, risk factors and mortality. *BMC Infect Dis* 7: 112
- Sanger P, Hartzler A, Han S, Armstrong C, Stewart MR, Lordon RJ, et al (2014) Patient perspectives on post-discharge surgical site infections: towards a patient-centered mobile health solution. *PLoS One* 9(12): e114016
- Sanger PC, van Ramshorst GH, Mercan E, et al (2016) A prognostic model of surgical site infection using daily clinical wound assessment. J Am Coll Surg 223(2): 259–70
- Stannard J, Gabriel A, Lehner B (2012) Use of negative pressure wound therapy over clean, closed surgical incisions. *Int Wound* J 9: 32–9
- Tanner J, Aplin C, Ball J, Thomas M, Bankart J (2009) Post-discharge surveillance to identify colorectal surgical site infection rates and related costs. *J Hosp Infect* **72(3)**: 243–50
- Ubbink DT,Brolman FE, Go MNYH, Vermeulen H (2015) Evidence-based care of acute wounds: a perspective. *Adv Wound Care* 4(5): 286–94.
- van Ramshorst G, Nieuwenhuizen J, Hop W, Arends P, Boom J, Jeekel J, Lange J (2010) Abdominal wound dehiscence in adults: Development and validation of a risk model. *World J Surg* 34(1): 20–7
- Webster C, Neumayer L, Smout R, Horn S, Daley J, Henderson W, Khuri S (2003) Prognostic models of abdominal wound dehiscence after laparotomy. J Surg Res 109(2): 130–7
- Wolcott RD, Cutting KF, Dowd SE, Percival SL (2008) Surgical site infections: biofilms, dehiscence and delayed wound healing. *Wounds UK* 4(4): 108–13
- World Union of Wound Healing Societies (2018) Surgical wound dehiscence: Improving prevention and outcomes. Available online: www.woundsinternational.com/
- Wounds UK (2017) Best Practice Statement: Making day-to-day management of biofilm simple. Wounds UK, London

Wound discharge outcomes of a specialist wound telehealth service in 38 nursing homes over a three-year period

Pam Cooper, Veronica Doody, John McRobert, David Rouncivell, David Gray

A specialist wound telehealth service was established to deliver equitable service with parity of access to wound care for all residents of 38 nursing homes in Sussex with wounds of any type (n=579). All patients were managed using a systematic telehealth approach that combined digital and in-patient consultations according to established protocols and care pathways. Data for a three-year period was analysed by hand to determine patient demographics, wound type and discharge outcomes for all patients with wounds. The results showed that the mean age of patients was 86 years, with the majority being female (80% healed and 66% deceased). Referral outcomes were referred onwards (n=92), healed (n=234) or deceased (n=253). The most prevalent wound type was pressure ulceration in both healed and deceased patient groups (60% and 59%, respectively), followed by lower limb wounds (20% and 26%, respectively). Mean time to healing or death were 103 days versus 86 days, respectively. The authors concluded that the collaborative use of a specialist wound telehealth service ensured that all residents received prompt, evidence-based wound care. Healing was achieved in this vulnerable patient population, despite the existence of numerous barriers to healing. Patients nearing end of life with a wound received palliative wound management. The time to healing in this group cannot be commented upon due to lack of comparative studies in this patient population.

KEYWORDS:

■ Wounds ■ Nursing homes ■ Telehealth ■ Discharge outcomes Specialist wound telehealth service

t is well known that the existing healthcare system and its services, including wound care, are under unprecedented pressures (Guest et al, 2020). The burden incurred by wounds on the NHS is continually increasing year on

year, as a consequence of an aging population living for longer with an increased number of co-morbidities, many of which are known risk factors for the development of chronic wounds (Guest et al, 2015; 2020; Kostovich et al, 2022). Residents of nursing homes are, therefore, at particular risk of developing a wound (Lavallee et al, 2018). In this patient group, delayed healing can be costly and result in complications such as infection, which can lead to rapid deterioration, subsequent hospital admission and mortality (Vowden and Vowden, 2013; Bondini et al, 2020).

It is also recognised that the majority of chronic wounds are managed by nurses in a community setting, yet the skilled community nursing workforce is in decline (Guest et al, 2020). Guest et al (2020) reported a 4% decline in practice nurses and 30% decline in district nurses between 2012–17. Conversely, there was a 399% increase in the number of community and district nurse visits over this period, and a >10,000% increase in healthcare assistants delivering wound care was reported, along with a 2% decrease in specialist nurse visits. Despite this trend towards less skilled practitioners delivering wound care, the literature shows that specialist involvement in care improves healing rates and outcomes (Moffatt et al, 1992; Gray et al, 2020).

As a consequence of the changing workforce, unwarranted variation in care has occurred, with studies reporting a failure to record complete data sets within patient notes, carry out correct wound diagnosis and assessment and subsequently, evidence-based treatment (Guest et al, 2015; 2020; Gray et al, 2018). The loss of skilled clinicians able to deal with patients with increasingly complex wounds, including those residing in nursing homes, can put them at risk of less than optimal care resulting in delayed healing and complications, and increased morbidity and death (Guest et al, 2020).

Improvement in wound healing was recommended as a way to enhance wound care services (Guest et al, 2015; 2020; Gray et al, 2018), although the authors' acknowledged that this was unlikely to happen without a differing approach by

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Step	Action	Rationale
1.	A patient is referred by a care home to the specialist telehealth service who then send a trained healthcare support worker (HCSW) and/or associate lymphoedema practitioner (ALP) to the home to undertake an initial patient and wound assessment. Standardised documentation for the wound type is completed in full and high quality images are taken. The data is uploaded to a system that can be accessed remotely by the specialist from any location in line with the Data Protection and Security Tool Kit requirements. The patient is triaged by the remote specialist to ensure that urgent reviews are prioritised, within a week of referral, with very urgent referrals responded to upon receipt	In the authors' previous experience of telehealth services, it was noted that the quality of wound images and data recorded and uploaded was inconsistent, leading to patient safety concerns. This was reflective of national issues with wound assessment, diagnosis and data collection observed nationally and reported by Vowden and Vowden (2013), Guest (2015; 2020), and Gray et al (2018). Thus, each patient referred to the telehealth service undergoes assessment and image recording by an in-person visit via trained staff from the telehealth service. These visits are usually undertaken in pairs, as previous experience has shown it is not always possible to obtain immediate assistance from a member of nursing home staff, for example with repositioning a patient, and this can lead to delays. Sending two trained members of the telehealth team to the nursing home means that high quality data and images are recorded and no delays in referral are experienced
2.	The remote specialist will undertake the assessment and, if required, call to discuss the patient with the relevant staff member delivering their care, e.g. care home staff or GP. If further information is not required, a comprehensive care plan is developed, which is delivered to the home, in addition to a week's supply of dressings. If needed, an additional specialist visit will be scheduled, for example, to undertake a specialist intervention, such as sharp debridement	The authors have observed in previous services that there may be delays in accessing the treatment plan by frontline staff due to limited access to email or information governance issues. There may also be a delay in initiating treatment due to delays in prescription writing and dispensing. Via the telehealth service, a treatment plan and products are delivered within 72 hours of initial assessment so that treatment can begin
3	A review date for the patient is set at the time of initial assessment, when the telehealth team return to the home to carry out a repeat assessment, collecting data and uploading images, so that the remote specialist can compare findings to the baseline information gathered at initial assessment. Documentation used also contains a field to enable communication between the frontline staff and specialist, e.g. the telehealth team may observe that the treatment prescribed has not been delivered, or the nursing home staff may include information that can inform the specialist	In previous services, the authors have found that it is not always possible to obtain accurate feedback on the patient's status by relying solely on images and data supplied by the home staff, as subtle communication can be lost. Thus, an option for frontline staff to communicate with the telehealth service is available. Patient review is repeated until the patient is discharged from the service, dependent on clinical needs

the NHS (Gray et al, 2018; Guest et al, 2020).

Telehealth can provide a different approach to care delivery that increases efficiency for both patients and healthcare systems. Used appropriately, telehealth can allow timely care delivery and judicious use of specialist intervention, helping to reduce the burden of wounds upon clinicians, patients and healthcare systems (Kostovich et al, 2022).

There is little evidence of the use of telehealth in a nursing home environment for specialist wound intervention. A study by Vowden and Vowden (2013) reported on the use of telehealth and remote telehealth experts versus usual care in 16 nursing homes in Bradford. They found that telehealth improved outcomes and offered potential cost savings by improving product selection and use and avoided inappropriate referral and delayed healing (Vowden and Vowden, 2013).

Equity of care delivery is important with every person entitled to receive evidence-based care regardless of social position or circumstance. However, Vowden and Vowden (2013) demonstrated that patients with wounds in nursing homes were waiting for periods ranging from four days to three weeks for a tissue viability nurse specialist visit following referral. Telehealth was successfully used to speed up referral time, and, in turn, allow early recognition of deterioration and prompt intervention to prevent worsening of the patient's condition. Longterm inappropriate treatment and poor documentation were also identified in normal practice and improved via telehealth (Vowden and Vowden, 2013).

This article reports on the discharge outcomes of a specialist wound telehealth service (WTS) used across nursing homes in East Sussex, England to improve outcomes and prevent complications for all patients with wounds of any type.

BACKGROUND

Pioneer Wound Healing and Lymphoedema Centres (formerly known as Healogics) is a specialist wound telehealth service that was commissioned to deliver wound management services to a total of 38 nursing homes in East Sussex, England. Pioneer Wound Healing and Lymphoedema Centres is a third party provider of NHS services.

A risk assessment process identified that as residents of the care homes could not always attend clinic there could be a time delay in their receiving specialist review via a domiciliary route. As part of the review process, it was recognised that a specific specialist service arm for this group of patients was required to:

- Ensure equity of service and parity of access to specialist wound treatment to all nursing and care home residents in the area
- Improve outcomes and reduce complications.

CARE DELIVERY

All new patients referred to the specialist wound care service were treated according to the protocol outlined in Table 1. These steps and their rationale (Table 1) were developed utilising the combined clinical experience of the specialist team in delivering telehealth services over a 15-year period. Clinical care pathways derived from best practice evidence and specialist clinical experience exist within the service. Each pathway outlines clear management options and are followed in daily clinical practice. The inclusion here of all of the clinical pathways utilised for this patient group, however, is beyond the scope of this article. Of key importance to the telehealth service is the routine recording of wound data to pre-determined criteria, with completion of all required data fields for each patient, and recording of high-quality images. This documentation is supported by interventions when needed from healthcare support workers (HCSW) and qualified associate lymphoedema practitioners (ALP) with additional training in wounds, and/or limited in-person specialist interventions, such as vascular assessment and debridement. This approach has been developed to deliver high quality care and prompt access to it, regardless of location to ensure equity of service to all nursing home residents referred to the service.

METHODS

Data for all nursing home residents referred to the service and who were subsequently discharged within the 36-month period of May 2017 to April 30 2020 were collected. This period was chosen as it was the time in which the lead nurse who set up and ran the service was in post, providing consistent patient care over this time. All patient notes were reviewed by hand and analysed by the same individual to determine patient demographics, wound type, reason for discharge (healing, death, or other), and time to discharge. The data presented are derived from the key performance indicators data gathered as part of the contract and reported to the commissioners monthly.

RESULTS

Five-hundred and seventy nine patients were referred to the service from 38 nursing homes in the East Sussex area over a 36-month period. Patient demographics are presented in *Table 2*.

Of the patients (n=579), 92 were referred onwards to other care locations which are outlined in *Table 3*.

For the remaining patients (n=487), reasons for discharge were either healed (n=234) or deceased (n=253). For these patients (n=487), wound aetiology is described in *Table 4*, and time to discharge in *Table 5*.

DISCUSSION

This study reports on the discharge outcomes of residents of nursing homes with wounds (n=579) who were managed by a specialist wound telehealth wound service over a three-year period. Of these, 92 patients were discharged to another location or specialist service, e.g. dermatology or podiatry (*Table 2*).

Of the remaining patients (n=487), discharge outcomes were categorised as either healing or death. The majority of patients achieving healing were female (80% versus 20% male), as were the

Table 2: Patient demographics			
	Female (n; %)	Male (n; %)	Mean age (years) [range]
Healed	164 (80%)	70 (20%)	85 [31–106]
Deceased	168 (66%)	85 (34%)	87 [33–104]
Total	332 (73%)	155 (27%)	86 [31–106]

Table 3: Discharge location for patients referred onwards from specialist wound care service

Discharge location	Number of patients
Patient's home	31
Referral to appropriate specialist, e.g. podiatry, dermatology	50
Transferred to specialist clinic	3
Other (hospital admissions, nursing home transfer)	8
Total	92

number of patients who died (66% of females versus 34% of males). This could be considered reflective of the general population where females experience greater longevity than males (Office for National Statistics, 2021), and therefore are more likely to make up more of the resident population within nursing homes. Mean age was similar between both healed (85 years) and deceased (87 years) groups.

Pressure ulcers were the most common wound type in this cohort, in both healed and deceased patient groups (60% and 59%, respectively). Although there is scant evidence in the literature, this is in line with the findings of other studies into wound types encountered within nursing homes. In England, an audit of a tissue viability service by Kingsley et al (2010) found that the largest single type of wound treated in the nursing home setting was pressure ulcers, making up 44.6% of wounds. Similarly, Vowden and Vowden (2009) observed 68% of wounds in an English nursing home population were pressure ulcers. Studies in Germany and Canada (Peckford, 2018; Raeder et al, 2020) also reported pressure ulcers to be the largest wound type, making up 50.5% and 58% of the wounds, respectively.

These findings are unsurprising as it is well recognised that this vulnerable patient group who are mostly non-ambulatory are at an increased risk of developing this wound type as a consequence of advanced age, immobility and comorbidities (Lavallee et al, 2018).

Table 4: Wound types as per discharge group (n=487)		
Wound type	Healed	Deceased
Pressure ulcer	140 (60%)	149 (59%)
Lower limb*	47 (20%)	67 (26%)
Other**	47 (20%)	37 (15%)
Total	234 (100%)	253 (100%)

* Includes all types of ulceration, wounds secondary to lymphoedema, skin tears and trauma

** All other wounds, including upper limb skin tears, fungating lesions, head trauma, and non-healing surgical wounds

Table 5: Mean time to healing or death (in days)		
Healed	103 (range = 7–893 days)	
Deceased	86 (range = 1–867 days)	

Pressure ulcer development is a recognised complication of the final stages of life and a recent systematic review from Ferris et al (2019) identified that skin failure, as with other organ failures, may be an inevitable part of the dying process for some patients. More surprisingly, the results reported here show that as many patients with pressure ulceration went on to achieve healing over the duration of the study, despite the presence of multiple known barriers to healing.

Likewise, the percentage of patients with lower limb wounds or wounds of 'other' cause that were healed or died were similar (lower limb wounds = 20% healed versus 26% deceased: other wounds = 20% healed versus 15% deceased). Lower limb wounds mainly occur as a consequence of circulatory and lymphatic failure, the likelihood of which increases with advancing age, immobility and co-morbidities (NHS Inform Scotland, 2022). As stated, this patient group is also susceptible to skin failure and breakdown at the end of life (Lavallee et al, 2018).

As expected in this population, a high mortality rate was noted. Mean time to death was 86 days from initial referral, with 75% of patients dying within 100 days. It should be noted that the patients who died during the study period did so with a wound, but not as a consequence of the wound. Specialist practitioners prescribing in nursing and care home environments should be mindful of this, as it points to a palliative wound service, rather than treatment, and this should be considered when developing a care plan.

'...the results reported here show that as many patients with pressure ulceration went on to achieve healing over the duration of the study, despite the presence of multiple known barriers to healing.'

Perhaps more surprisingly, a similar number of patients were healed in an average of 103 days. Unfortunately, there is a paucity of outcomes data in the field of wound healing in general and in nursing/ care homes specifically, which makes it difficult to comment where the authors' findings sit nationally and if they represent a good outcome for this patient population.

Moffatt et al (1992) demonstrated that in ambulatory patients with VLU, high rates of healing could be achieved in a specialist clinic setting. Ennis et al (2017) also demonstrated healing in 73-75% of patients with wounds in specialist clinics. More recently in the UK, Gray et al (2020) demonstrated a mean healing rate of 86% at 117 days for patients with VLU treated by a specialist service over a six-year period. These results all relate to either a mix of ambulatory and domiciliary caseloads or ambulatory caseloads (Ennis et al, 2017; Gray et al, 2020). There is a paucity of outcomes data in the field of wound healing in general and in nursing/care homes specifically.

The rate of healing reported here can be described in a number of ways:

- As a percentage of the total population who were treated (n=579; 40%)
- As a percentage of those patients not discharged to another location or specialist service (n=92; 48%)
- As a percentage of those who did not die (70%).

The differing numbers obtained demonstrate the importance of reaching a consensus on how to express healing rates. More research is required in this area if the tissue viability specialty are to understand where quality improvement is required and what represents a high standard of care.

The results presented in this paper demonstrate the importance of equity of care in this patient population, since residents achieving healing will experience improved quality of life, will no longer be at reduced risk of costly wound complications such as infection, and will require less wound management and nursing time as a consequence. Without the insight provided by these findings, it may be easy for frontline staff to accept the wound's status and dismiss the wound as being a consequence of the patient's stage of life, when in fact the results presented here demonstrate

Practice point

Skin compromise at the end of life (SCALE) is unavoidable as it arises due to multiorgan failure. This depletes the skin of essential oxygen and nutrients that are needed to maintain skin integrity (Mitchell and Elbourne, 2018).

Pressure ulcers are caused by exposure of the skin to pressure and shear forces. They also commonly arise at the end of life.

Each individual patient should be assessed for pressure ulceration or SCALE and managed according to their individual condition (Mitchell and Elbourne, 2018)



Remember...

Resource use associated with unhealed wounds is greater than that used on healed wounds.

The annual mean cost of an unhealed wound is £3700, 2.5 times more than that of a healed wound (£1500) (Guest et al, 2020).

Therefore, healing wounds, where this is a possibility, saves valuable resource, including nursing time.

that prompt intervention can achieve healing. The findings also demonstrate, however, that there is a fine line between palliation and treatment.

The prevention of pressure ulcers has historically received more attention and focus than lower limb conditions. Recent publications by Guest et al (2015; 2020) and Gray (2018) highlighted the increasing number of older patients with chronic wounds, such as pressure ulcers and lower limb conditions, and the burden that these place on healthcare services. Of particular relevance was poor note-taking, wound assessment and diagnosis of lower limb conditions (Guest et al, 2015; 2020; Gray et al, 2018). As a consequence, sub-optimal care of patients with lower limb wounds in England is now under the microscope and measures have been introduced by NHS England to improve unwarranted variation in care. The National Wound Care Strategy Programme (NWCSP) has been introduced to improve wound care outcomes nationally, while leg ulceration and pressure ulcer risk assessment have been targeted for 2022/23 CCG CQUIN schemes (Adderley, 2019).

While unwarranted variation in wound care currently exists nationally, the authors are confident that every patient referred to the wound telehealth service received timely, evidencebased care. A specialist lead clinician and an experienced team with up-to-date training and skills worked in partnership with frontline staff to deliver the best care possible. The protocol of care followed by the service (*Table 1*) seeks to ensure that:

- Patients are seen in a timely and equitable manner
- A consistent, high quality dataset is captured at regular intervals
- Evidence-based treatment plans and wound care products are delivered promptly to avoid potential delays in the start of treatment.

'While unwarranted variation in wound care currently exists nationally, the authors are confident that every patient referred to the wound telehealth service received timely, evidencebased care. A specialist lead clinician and an experienced team with up-to-date training and skills worked in partnership with frontline staff to deliver the best care possible.'

Importantly, the telehealth service was supported by inperson specialist visits when the frontline staff were not competent in specialist skills, such as sharp debridement or vascular assessment, so that treatment could be initiated without delay.

While telehealth is not a new concept in wound healing and has been applied effectively for a quarter of a century (Burdick et al, 1996; Ablaza and Fisher, 1998; Vowden and Vowden, 2013), variations in approach exist and influence its successful implementation (Kostovich et al, 2022). Telehealth in wounds requires more than a single static image sent electronically from one party to another with a treatment plan generated in response to this limited information. For telehealth to be successful, the authors believe it requires the prescriber to understand the environment into which they are prescribing, the skill and knowledge of colleagues required to deliver the treatment plan, addressing of local cultural and environmental issues, and an understanding of the evidencebased treatment options available (Ellis, 2005; Barrett et al, 2009).

As mentioned, the fine line between palliation and treatment in this cohort also demonstrates the importance of the prescribing telehealth specialist collaborating with the frontline staff caring for the resident to understand their overall health situation. This means looking beyond making an assessment based on just images of the wound and limited referral information. Within this study cohort, patients in their 80s and 90s achieved full healing where the pressure ulcer was part of a significant deterioration in the patient's global health, that will result in death. The authors believe that establishing a collaborative relationship with nursing/care home staff is essential, for example, a simple phone call to discuss the patient can inform the specialist before prescribing.

Furthermore, the authors continually strive to improve the service by seeking to continually adapt and improve it to meet the needs of patients with wounds.

CONCLUSION

The findings of this study demonstrate that a specialist wound telehealth service can achieve wound healing in a vulnerable patient group residing in nursing homes, despite the existence of numerous barriers to healing, or can offer palliation at the end of life. Of key importance is equity of service and parity of access for all patients, regardless of their circumstance. In the current healthcare environment, it is difficult to meet this aim due to diminishing budgets and staff shortages, but a collaborative telehealth approach is one way in which it can be achieved.

REFERENCES

- Ablaza V, Fisher J (1998) Telemedicine and wound care management. *Home Care Provid* 3(4): 206–11
- Adderley U (2019) National Wound Care Strategy Programme. *Br J Community Nurs* 24(Sup6): S5

Barrett M, Larson A, Carville K, Ellis I (2009) Challenges faced in implementation of a telehealth enabled chronic wound care system. *Rural Remote Health* 9(3): 1154

Bondini CM, Sage S, Wilson BP, Hall MR, Wallis EAR (2020) Modified telehealth for care of chronic wounds during the Coronavirus disease 2019 pandemic: A rapid literature review of alternative care modalities. *Int Wound J* 17(6): 1960–67

Burdick AE, Mahmud K, Jenkins DP (1996) Telemedicine: caring for patients across boundaries. *Ostomy Wound Management* **42(9)**: 26–37

Ellis I (2005) The clinical champion role in the development of a successful telehealth wound care project for remote Australia. *J Telemed Telecare* 11(Suppl 2): S26–S28

Ennis WJ, Hoffman RA, Gurtner GC, Kirsner RS, Gordon HM (2017) Wound healing outcomes: Using big data and a modified intent-to-treat method as a metric for reporting healing rates. *Wound Repair Regen* 25(4): 665–72

Ferris A, Price A, Harding K (2019) Pressure ulcers in patients receiving palliative care: A systematic review. *Palliat Med* 33(7): 770–82

Gray D, Stanton J, Collins F, McRobert J, Rouncivell D (2020) Impact of specialist intervention on VLU healing rates in the community. *J Community Nurs* 34(6): 32–7

Gray TA, Rhodes S, Atkinson RA, Rothwell K, Wilson P, Dumville JC, Cullum NA (2018) Opportunities for better value wound care: a multiservice, cross-sectional survey of complex wounds and their care in a UK community population. *BMJ Open* 8(3): e019440

Guest JF, Ayoub N, McIlwraith T, et al (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* 5(12): e009283

- Guest JF, Fuller GW, Vowden P (2020) Cohort study evaluating the burden of wounds to the UK's National health Service in 2017/2018: update from 2012/2013. *BMJ Open* 10: e045253
- Kingsley A, Hucker M, McEndoo K, Manser M (2010) Auditing wound prevalence in nursing care homes. *Wounds UK* 6(3): 61–6
- Kostovich CT, Etingen B, Wirth M, et al (2022) Outcomes of telehealth for wound care: a scoping review. *Adv Skin Wound Care* 335: 394–403

Lavallee J, Gray TA, Dumville J, Cullum N (2018) Barriers and facilitators to preventing pressure ulcers in nursing home residents: A qualitative analysis informed by the Theoretical Domains Framework. *Int J Nurs Studies* 82: 79–89

Mitchell A, Elbourne S (2018) Pressure ulcers at the end of life. *Br J Community Nurs* Supplement — Community Wound Care, March: S14–18

Moffatt CJ, Franks PJ, Oldroyd M, et al (1992) Community clinics for leg ulcers and impact on healing. *BMJ* 305: 1389–92

NHS Inform Scotland (2022) Venous leg ulcers. Available online: www. nhsinform.scot/illnesses-andconditions/skin-hair-and-nails/ venous-leg-ulcer

Office for National Statistics (2021) Overview of the UK Population. National life expectancy tables; Life expectancy in the UK 2018–20. Available online: www.ons.gov.uk/ peoplepopulationandcommunity/ birthsdeathsandmarriages/ lifeexpectancies/bulletins/ nationallifetablesunitedkingdom/201 8to2020

Peckford S (2018) Survey of wound prevalence in a long-term care facility. *EWMA J* 19(2): 39–42. Available online: https://ewma.org/fileadmin/user_ upload/EWMA.org/EWMA_Journal/ articles_previous_issues/Peckford_S. pdf

Raeder K, Jachan DE, Müller-Werdan U, Lahmann NA (2020) Prevalence and risk factors of chronic wounds in nursing homes in Germany: a crosssectional study. *Int Wound J* 17(5): 1128–34

KEY POINTS

A specialist wound telehealth service was established to deliver equitable service with parity of access to wound care for all residents of 38 nursing homes in Sussex with wounds of any type (n=579).

All patients were managed using a systematic telehealth approach that combined digital and in-patient consultations according to established protocols and care pathways.

- Data for a three-year period was analysed by hand to determine patient demographics, wound type and discharge outcomes for all patients with wounds.
- Mean patient age was 86 years, with the majority being female (80% healed and 66% deceased).
- Referral outcomes were referred onwards (n=92), healed (n=234) or deceased (n=253). The most prevalent wound type was pressure ulceration in both healed and deceased patient groups (60% and 59%, respectively), followed by lower limb wounds (20% and 26%, respectively).
- Mean time to healing or death were 103 days versus 86 days respectively.
- A collaborative approach to telehealth ensured prompt and evidence-based care was delivered to all patients with wounds.

Vowden KR, Vowden P (2009) A survey of wound care provision within one English health care district. *J Tissue Viability* 18(1): 2–6

Vowden K, Vowden P (2013) A pilot study on the potential of remote support to enhance wound care for nursing-home patients. *J Wound Care* **22**(9): 481–8

Comment

Team reflection, reset and restoration

Here, Carole Young, professional nurse advocate, independent tissue viability nurse consultant and associate lecturer, Anglia Ruskin University, reflects on the impact of the pandemic on specialist nurses in the last two years and considers what is needed next in terms of support and recovery of self and service. The role of compassionate leadership and professional nurse advocacy (PNA) will be discussed to share an understanding of how restorative clinical supervision (RCS) can be used to support emotional recovery and plan for future development. Models including A-EQUIP and the GROW coaching model used by PNAs to guide RCS will be explained as tools which can support personal reflection and recovery through personal actions for quality improvement.

In the second se

The last two years has had a significant impact on individuals, teams, and organisations within health care (Butterworth, 2022). As the world begins to 'live with Covid', there is a desire to 'return to normal'. For HCPs, this is easier said than done. Many nurses report feeling physically exhausted and emotionally drained, living in fear of the next wave, not knowing if this will ever really end (Ford, 2021). Many specialist nurse teams have undergone huge changes, whether it be redeployment, reduction of their normal services or even halting of their service completely, and this has resulted in significant distress and uncertainty among those impacted (Ballantyne and Achour, 2022).

For HCPs to achieve a goal of 'returning to normal', the author has identified that several steps of recovery and restoration need to be followed:

- Time to reflect is needed, in a psychological safe space that is neutral and non-judgemental
 A need to acknowledge what has happened and how things have changed, acknowledge feelings of selves and those of others, recognise the highs and lows of experiences
- A need to recognise that things

'The first step to reset and restoration will naturally include a period of reflection. To look forward, we must at first look back and acknowledge what has happened.'

were not perfect pre-pandemic, particularly in specialist nurse services — often these are isolated or small teams with poor resources and sometimes with non-nursing management or sitting under corporate teams

- A need to recharge, regain energy, motivation, and inspiration to re-find a drive
- A need to make goals and plan our reset, re-start and develop personal quality improvement action plans.

REFLECTIONS

The first step to reset and restoration will naturally include a period of reflection. To look forward, we must at first look back and acknowledge what has happened. Reflection allows us to unpack and notice the emotional impact of our work, analyse events, learn, and develop action plans for future occurrences (Cook, 2022).

Informal conversations between the author and other tissue viability colleagues and specialist teams in the local trust and further afield over 2020–2022 identified recurring themes, some positive and many negative impacts of the pandemic. Challenges that were highlighted were also seen by Ballentyne and Achour (2022) in their interviews with staff to capture experiences following redeployment during the pandemic. Many resonated personally with the author and when shared at a recent conference (Young, 2022) identified a realisation that no one person was alone in how they felt or what they had experienced.

Many of the lows expressed derived from experiences of redeployment; specialist nurses in acute settings were moved to critical care areas and those in the community found themselves working in district nurse teams. These moves were frequently reported to areas not seen since the practitioners had been student nurses, and there was a real fear of causing harm by following an outdated practice or feeling pressured to work outside their normal scope of practice. Moves were often at short notice, leaving no time to re-organise normal specialist workloads or inform patients of changes to the service.

Some specialist nurses found they were met with resentment on arrival at their redeployment destination, receiving comments such as 'why are you here? If you can't do xxx task, then there's no point in you being here'.

In some areas, there was an expectation to maintain some level of normal specialist service alongside redeployment, resulting in many working over hours and the feeling of working two full-time jobs. Specialist services were still needed, in some cases more than normal, as numbers of critically sick and high-risk patients were admitted to hospital and community services battled to keep patients with longterm conditions out of hospital.

Some services were stopped completely, and specialist nurses feared for their continued employment post pandemic — 'would managers think their service was not needed anymore if it's been closed for a period'. Some noted their service base had been redeployed for other uses, clinic rooms became triage rooms for emergency departments, offices became personal protective equipment (PPE) distribution hubs —'will there even be an office for us after this?' was a common question.

One hundred percent of staff who spoke with the author reported feelings of exhaustion and frustration. There was a feeling that no one really recognised the uniqueness of specialist nurses and teams and what specific support they needed. Many reported to the author that there had been no time or offer of debriefs or reflection sessions, like those in critical care and emergency roles were receiving.

As with many areas, there were specialist nurses who found themselves shielded and had to come to terms with their own vulnerability. These staff reported feelings of being disconnected, a loss of sense of team and their place in it; they missed the companionship of being in a workplace. While some received excellent remote support from managers, there was a sense of a loss of leadership in teams, such as if the team lead was shielding leaving the team without direction and struggling with resilience.

While there were many lows and challenges, the change of working ways also brought some positive experiences, e.g. specialist nurses used the opportunity of redeployment to refresh generalist skills and practice. Being redeployed also meant an opportunity to raise the profile and visibility of a specialist field within areas where there may have previously been little interaction.

Many found innovative ways to teach staff and assess patients remotely, meetings suddenly became virtual often with surprising effective outcomes not seen during long drawn-out face-to-face meetings. For those who were shielded, some expressed that they used the opportunity to take a breath, reset and review their service from a different perspective.

RESTORATION AND RECOVERY

Compassionate leadership

This has never been more high profile than in the last couple of years — the pandemic has heightened the awareness in health care of the need for a focus on staff wellbeing (Bosanquet, 2022). Healthcare staff were already heading towards or in burnout and stress states before Covid hit (Fischer, 2017; Butterworth, 2022). In the midst of the pandemic'survival mode' kicked in. HCPs got on and did what was needed to be done to save lives, as the pressure eased and the adrenalin reduced, the exhaustion and emotions kicked in. There have been reports of staff leaving the NHS and healthcare roles, citing they are just too tired or have had enough, and have no more energy to keep going. The NHS Confederation reported in 2021 that there was a real risk that thousands of staff would leave the NHS unless they are given time to recover following the pandemic, highlighting that if staff core needs are not taken care of, patients would not receive best care.

West et al (2020) suggest that staff have three core needs to be content and fulfilled at work:

- Autonomy in that they need to have control of their work life and be able to act within their values. Staff need to feel they have fairness and justice with authority, empowerment, and influence in their workplace
- Belonging within a team, to feel connected and cared for by colleagues — to feel valued and supported within a positive culture and leadership
- Contribution in their work is effective, managed and recognised. They need to feel they can learn and develop in their role.

Embedding these core needs into everyday working in an organisation or service requires compassionate, inclusive leadership and effective team working. Stacey et al (2018) explain that a compassion-focused approach:

- Increases resilience
- Reduces anxiety
- Enables staff to feel more able to cope in stressful situations.

Additionally, compassionate leadership enables staff to feel valued, respected and cared for so they can reach their full potential and do their best work (Bailey and West, 2022). It promotes trust, understanding and mutual support, resulting in more engaged and motivated staff with high levels of wellbeing (West, 2021).

West (2021) states that compassionate leadership is made up of four main principles:

- Attending being present, as a leader give 100% attention to the person/team at the time they need it. Put aside any distractions and protect the time being given, listen with fascination, i.e. be truly interested in what the other person is expressing
- Understanding showing that you understand the other person's situation through active listening, using open questioning to guide them through an exploration of their situation and different perspectives
- Empathising mirroring the other person's feelings through mirroring, being aware of continually changing conditions in yourself and others, be genuine in your expressions of concern without becoming too overwhelmed to help
- Helping giving practical advice and support to enable a person to take action to change or develop, removing obstacles such as workloads and barriers.

Compassionate leadership is essential for the recovery of healthcare services and the retention of staff going forward (NHS Confederation, 2021). Compassionate leaders are proactive in implementing the strategies required for restoration and recovery, they have the vision to support personal growth through clinical supervision, reflection, education and quality improvement. This is supported by Cook (2022), who identifies that effective clinical supervision needs to be valued at all levels of the organisation and supported with adequate resources to allow nurses to access time for reflection.

PROFESSIONAL NURSE ADVOCATE (PNA)

The author believes that professional nursing leadership and clinical supervision are essential to enable nurses to protect their own wellbeing and continually improve care for their patients. However, as Butterworth (2022) points out, clinical supervisors need to be appropriately trained and prepared to take on the role. The professional nurse advocate (PNA) scheme was launched by Ruth May (chief nursing officer [CNO], NHS England) in 2021 to equip the nursing workforce for clinical supervision and recovery; it builds on an existing scheme for professional midwife advocates (PMAs) which has been in place since 2017 (Dunkley-Bent, 2017). The aim is for one in 20 registered nurses to be trained as PNAs by 2025 (NHS England and NHS Improvement, 2021), giving every registered nurse in England access to clinical supervision. The PNA scheme aims to have a positive impact on staff wellbeing, retention, professional resilience and patient outcomes.

Any registered nurse or midwife can train as a PNA/PMA. PNAs are trained to use the A-EQUIP model to support colleagues through restorative clinical supervision, supporting development through education and quality improvement.

A-EQUIP MODEL

The A-EQUIP (Advocating and Educating for Quality Improvement) model includes restorative, formative and normative approaches to support staff wellbeing and development. It was originally developed to support clinical midwifery supervision (NHS England and NHS Improvement, 2021). The restorative element enables advocacy for staff and patients, providing clinical supervision and allowing supervisees time for reflection and understanding of emotional aspects of their experiences (Chapman, 2017), which reduces burnout, stress, and absence, and improves job satisfaction.

'The A-EQUIP (Advocating and Educating for Quality Improvement) model includes restorative, formative and normative approaches to support staff wellbeing and development.'

The formative part promotes education and development of nurses to enable them to undertake a quality improvement personal action plan. This supports a continuous improvement process to build personal and professional clinical leadership which, in turn, enhances care for patients.

Finally, the normative element monitors and evaluates the outcome of the restorative and formative elements through review, appraisal, and revalidation (Chapman, 2017).

RESTORATIVE CLINICAL SUPERVISION (RCS)

PNAs are expert reflective practitioners who are self-aware, open minded and use the principles of compassionate leadership to support HCPs to reflect, reset and recover through restorative clinical supervision (RCS) sessions.

Clinical supervision has been used in health care for a number of years, more so in mental health than general nursing (Butterworth, 2022). Bosanquet (2022) informs that there is much confusion about what clinical supervision is and is not. It is important to understand that clinical supervision is not manager led or an HR process. It is not about performance management or a checking up or finding fault process.

RCS sessions should provide a

psychologically safe place where the emotional needs of staff can be addressed confidentially without the fear of repercussions. The session should provide thinking space, promote reflection, enable personal and professional development, and encourage innovative thinking. Staff should feel more confident and less isolated because of attending RCS sessions. RCS improves communication and understanding between individuals, teams and organisations, supports staff wellbeing (Cook, 2022), develops clinical competence and knowledge, and improves patient care (Stacey et al, 2018).

The PNA may utilise reflective models such as Gibbs reflective cycle (Bulman and Schutz, 2004), or coaching models such as GROW (Whitmore, 2017) or OARS (Miller and Rollnick, 2013), and sessions may be offered on an individual or team basis. Butterworth (2022) suggests that individual sessions should ideally be offered with an 'expert professional from a nurse specific field or speciality'. This has been experienced in the author's own practice, where there is an understanding and empathy between tissue viability nurses in similar situations. Equally, group supervision sessions can bring together lone workers into a collective of those with similar roles to enable peer support and learning (Chapman, 2017; Fowler and Dooher, 2010 in Butterworth, 2022).

Many nurses are familiar with Gibbs, this reflective cycle links with the nursing process and has formed the backbone of nursing reflective practice for many years. It is based on six distinct stages that work through a particular event: description of what happened, feelings and thoughts, evaluation and analysis of the event, conclusion and action planning (Bulman and Schutz, 2004). Gibbs works well for reflecting on a singular or specific experience or event, but is less helpful when reflecting on a period of time.

GROW is a coaching model that encourages the supervisee to reflect back and look forward by considering their own questions and answers (Whitmore, 2017). It also allows the PNA to keep the session on track and guide in a semi-structured way to achieve a personal action plan. GROW is a useful tool that frames the steps of reset and recovery:

- G Goal, what do we want to achieve (our new normal)?
- R Reality, where are we now, where have we been?
- O Opportunities and obstacles, what is stopping us achieving our goal, what can help us?
- W Way forward, what do we need to do now to move on?

While the GROW model focuses on the supervisee, the OARS model can fit within the GROW elements as it focuses on the role and actions of the PNA or supervisor in prompting: O Open questioning

- A Active listening
- R Reflecting or re-affirming and summarising the conversation or session (Miller and Rollnick, 2013).

Thus, mirroring the principles of compassionate leadership.

CONCLUSION

In summary, this paper has reflected on the impact of the last two years on specialist nurses individually and has considered the effect on team services and organisations. To reset and restore specialist services, individuals need to be enabled to reflect and recover through a structured process of restorative clinical supervision. This must be supported through all levels of organisations with compassionate leadership and the introduction of PNAs. Professional nurse advocates offer the opportunity for individuals to work through the concept of the A-EQUIP model utilising advocacy for education and development of action plans for quality improvement, both personally and professionally. JCN

REFERENCES

Bailey S, West M (2022) *What is compassionate leadership?* King's Fund Publications. Available online: www. kingsfund.org.uk/publications/what-iscompassionate-leadership

- Ballantyne H, Achour N (2022) The challenges of nurse redeployment and opportunities for leadership during Covid-19 pandemic. Disaster Medicine and Public Health Preparedness. Cambridge University Press
- Bosanquet J (2022) Reflective supervision — it's no longer if and why, it's when and how. *Nurs Times* [online], 18 January. Available online: www.nursingtimes. net/opinion/reflective-supervision-itsno-longer-if-and-why-its-when-andhow-18-01-2022/
- Bulman C, Schutz S (2004) *Reflective Practice in Nursing*. Blackwell Publishing, Oxford

Butterworth T (2022) What is clinical supervision and how can it be delivered in practice? *Nurs Times* 118(2): 20–2

Chapman H (2017) Nursing theories 2: clinical supervision. *Nurs Times,* December: 30

Cook G (2022) Make time available for good quality clinical supervision. *Nurs Times* [online], 1 February. Available online: www.nursingtimes.net/opinion/maketime-available-for-good-quality-clinicalsupervision-01-02-2022/

Dunkley-Bent J (2017) A-EQUIP: the new model of midwifery supervision. *Br J Midwifery* 25(5): 278–9

Fischer SA (2017) Developing nurses' transformational leadership skills. *Nurs Standard* 31(51): 54–9

- Ford M (2021) Nurses'chronically exhausted' amid latest surge of Covid-19. *Nurs Times* [online], 7 January. Available online: www.nursingtimes.net/news/coronavirus/ nurses-chronically-exhausted-amidlatest-surge-of-covid-19-07-01-2021/
- Miller WR, Rollnick S (2013) *Motivational Interviewing: Helping People Change*. 3rd edn. The Guilford Press, New York
- NHS Confederation (2021) *Real risk that thousands od NHS staff will leave unless they are allowed to recover*. NHS Confederation, 24 March 2021. Available online: www.nhsconfed.org/news/realrisk-thousands-nhs-staff-will-leaveunless-they-are-allowed-recover
- NHS England and NHS Improvement (2021) Professional Nurse Advocate A-EQUIP model: a model of clinical supervision from nurses. NHS England and NHS Improvement, London: PARR799
- Stacey G, Aubeeluck A, Cook G (2018) Resilience-based clinical supervision.

Reflective points

- What next for your personal actions for quality improvement?
- Take time out for reflection, it is OK to have a range of emotions and you are not alone in the experiences you have had over the last two years
- Acknowledge your own reality and where you are now personally and professionally
- Consider what opportunities there are waiting for you and what obstacles are preventing you from fulfilling your personal action plan for quality improvement
- Find out if you have access to a local PNA in your workplace
- Ask for a restorative clinical supervision session
- If you are not sure who to contact locally, find your regional PNA network contact or your speciality contact to put you in touch with someone who can support you
- If you would like to train as a PNA, go to: www.england.nhs. uk/nursingmidwifery/deliveringthe-nhs-ltp/professional-nurseadvocate/
- If you are an experienced specialist nurse, reach out to those less experienced and offer support
- If you are new to your specialist role, reach out to those with more experience and ask for support.

Foundation of Nursing Studies. Available online: www.Fons.org/learning-zone/ clinical-supervision-resources

- West M, Bailey S, Williams E (2020) The courage of compassion — supporting nurses and midwives to deliver high-quality care. King's Fund. Available online: www. kingsfund.org.uk
- West MA (2021) *Compassionate leadership*. Swirling Leaf Press
- Whitmore J (2017) *Coaching for performance*. 5th edn. Nicholas Brealey Publishing
- Young C (2022) *Tissue viability post-pandemic; advocating for individual and team reflection, reset and restoration.* Presentation, Wound Care Today Conference 2022

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1. Möhlycke Health Care. Data on file. [2018]. 2. Möhlycke Health Care. Data on file. [2020]. 3. Surgical Materials Testing Laboratory. BS EN 13726-1:2002: Test methods for primary wound dressings. Möhlycke Health Care. Data on file. [2014]. 4. Smet, S., Beele, H., Saine, L., Suys, E., Henricky, B. Open, non-comparative, multi-centre post market clinical follow-up investigation to evaluate performance and safety on pressure ulcers when using a gelling fibre dressing as intended. Poster Presentation at European Pressure Ulcer Advisory Panel Conference, 2015, Ghent, Belgium, 5. Gi Let al. 2017. Evaluation of a Gelling Fiber Dressing with Silver to Eliminate MRSA Biofilm Infections and Enhance the Healing. Poster presented at the Symposium on Advanced Wound Care Spring meeting/Wound Healing Society (WHS) Annual Meeting 2017, Apr 05 - 09, 2017, San Diego, CA, USA. 6. Davis, S. C., Li, J., Gil, J., Head, C., Valdes, J., Glinos, G. D., Solis, M., Higa, A. and Pastar, I. (2019). Preclinical evaluation of a novel silver gelling fiber dressing on Pseudomonas acruginosa in a porcine wound infection model. Wound Rep Reg. 27: 360-365. 7. Davies, P., McCarly, S., An in-use product evaluation of a gelling fibre dressing in wound management. E-poster presentation at Wounds UK Conference, 2017, Harrogate, United Kingdom. Find out more at www.molnlycke.co.uk. Mölnlycke, Health Care, Meldock Street, Oldham, OL1 3HS. Phone 0161 621 3900. The Mölnlycke trademarks, Exufiber, names and logos are registered globally to one or more of the Mohlycke Health Care of 2021 Michigke Health Care. Michigan Ear-Michigan Ear

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