JOURNAL OF GENERAL PRACTICE NURSING
GPN
Promoting practice to improve patient health and quality of life
Volume 11
Number 1
March 2025
www.journalofpracticenursing.co.uk

Living with breathlessness: understanding its impact on patients and carers

Issues in asthma treatment and diagnosis: new guidelines

Long-term condition management: value of GPNs

Asthma and supported self-care

Anaemia of chronic disease and iron deficiency anaemia in adults

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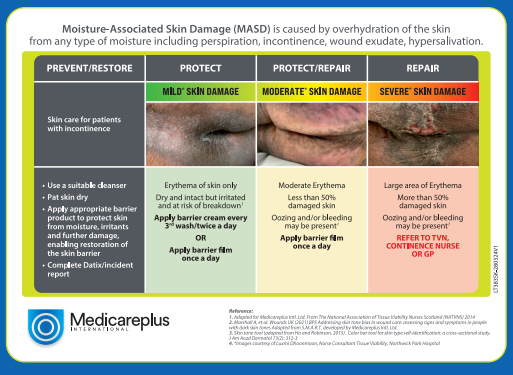

AD531TB-GPN190225V1

References:* 1.** *NHS Improvement (2018) Pressure ulcers: revised definition and measurement summary and recommendation. The* ***S.M.A.R.T. Resource *is the property of Medicareplus International and supports the implementation of recommendations in the NICE guidelines on: Pressure Ulcers: Prevention and Management (CG179), Urinary Incontinence and Pelvic Floor Organ Prolapse in Women: Management (NG123), Faecal Incontinence in Adults: Management (CG39) December 2019.*

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Susan Camphor

Managing director
Alec O'Dare
alec@woundcarepeople.com

Editor-in-chief
Jaqui Walker, general practice nurse/ advanced nurse practitioner, Stirling, Scotland

Editor/publisher
Binkie Mais
binkie@jcn.co.uk

Events and business manager
Georgina Holder
georgina@jcn.co.uk
07946 421654

Unit G, Wixford Park, George's Elm Lane, Bidford on Avon, Alcester B50 4JS

ISSN 2057-6021

t: +44(0) 1789 582000
e: binkie@jcn.co.uk
w: www.gpnursing.com

Published bi-monthly and distributed free of charge to general practice nurses based at primary care locations throughout the United Kingdom. Also available on subscription.

Institutional/overseas subscription rates:
United Kingdom: £160.00
Overseas: £295.00

UK subscription rates:
Four issues per year: £20

Printed in England by Blackmore Limited

Photograph on front:
Jordi Calvera/Shutterstock

To comment on any of the articles in GPN, or if you have ideas of your own for an article, please contact: binkie@jcn.co.uk

Vital role of GPNs in both the present and future NHS

The independent investigation of the National Health Service in England led by Lord Darzi sets out the issues which will need addressing in the NHS 10-year plan. In his report, Lord Darzi identifies the deteriorating performance of the NHS and highlights important difficulties, including health inequalities, worsening public health, long waiting times and stagnant real term finance.

Pertinent to GPNs, two areas stand out in the report. One is the need for improved access to general practice and the second is to prevent cardiovascular disease (CVD), which is seen as 'going in the wrong direction'. While CVD deaths for those under 75 years reduced significantly between 2001 and 2010, this progress stalled and then began rising again during the Covid-19 pandemic. Health inequalities have a big impact on CVD deaths, with those in the most deprived areas having double the chance of dying from heart disease compared with those from the least deprived areas. Education, support and lipid lowering therapies (our bread-and-butter work) are all effective in preventing CVD and improving outcomes. I am confident that there is still plenty of work for me in my GPN role embedded within my general practice team and feel that the report does highlight areas which we, as GPNs, can grasp hold of and prove our effectiveness and contribution.

In Scotland, the refresh of 'Transforming Roles Paper 6: role of the general practice nurse' further confirms the vital contribution we make to our populations. I am delighted to see an advanced GPN role within this document, bringing equity between acute and long-term condition work in general practice and demonstrating the Scottish Government's support of our important role within primary care multidisciplinary teams.

I am pleased to see two asthma articles and an article devoted to supporting those with breathlessness in this issue. I am hungry for asthma discussion currently while I work through integrating the new BTS/ NICE/SIGN asthma 2024 guideline into clinical practice. I particularly enjoyed the article by Dr Andy Whittamore (GP and clinical lead, Asthma + Lung UK), with its practical and informative guided walk through the new guideline. The sensible approach to diagnosis really gave me the extra information I needed. The new treatment approach with its focus on tackling inflammation before it can escalate is a welcome change.

Let's work together to be part of the solution to Lord Darzi's concerning report on the NHS. Our NHS is such a wonderful concept, and I hope that as a profession we can continue to nurture it and help to be part of the 10-year solution. Please write in with your ideas as to how this can be achieved.

Jaqui Walker, editor-in-chief

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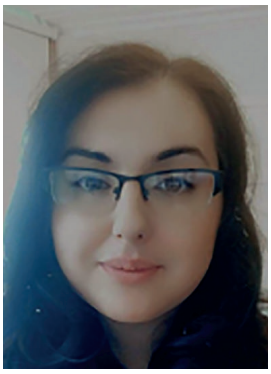
I'm really excited to be part of the editorial board and be an integral part of helping GPNs to develop and share innovative practice and drive the profession forward. With unprecedented pressures on our service, it is fantastic to be involved with an easily accessible journal that addresses the many services that we deliver, and shares best practice so that we can reach our goal of providing safe and effective care.
Jude Harford

I am thrilled to join the editorial board. I am passionate about improving quality of care across primary care. I enjoy acting as a change agent in general practice to improve patients' experiences and always strive to ensure that high quality, person-centred care is achieved. I am excited to be able to share ideas and discuss topics imperative to our role with like-minded healthcare professionals.
Cheryl Crawford

I am honoured to join the editorial board, bringing with me extensive experience in general practice nursing, where I developed a strong commitment to long-term condition management and preventative healthcare. I believe general practice nursing teams play a crucial role in delivering high-quality, safety-critical care that not only improves patient outcomes, but also reduces hospital admissions. Throughout my career, I have had the privilege of leading multisite healthcare organisations, with a particular focus on training and developing nursing teams. Supporting the next generation of nursing professionals has always been a key priority in my work. In my recent role with the Royal College of Nursing, I have been closely involved in promoting innovative practices and knowledge sharing across the sector. I am excited to contribute to the editorial board's mission of providing vital, up-to-date educational resources that support the ongoing professional development of nursing staff.
Leanne Hume



I am delighted to have been invited to represent the *Journal of General Practice Nursing* editorial board. It is a privilege to review and contribute to the work of our incredible colleagues and authors. As a primary care pharmacist, I work closely and collaboratively with experienced general practice nurses (GPNs) and understand and appreciate the dedication, compassion and diverse skill mix GPNs bring to the multidisciplinary team. In these uncertain times, when the challenges and pressures faced in primary care and the health service as a whole are unprecedented, it has never been more imperative for us to keep up to date with current best practice and to be proactive in developing interprofessional relationships to support the delivery of high-quality patient care. I feel the journal is an excellent resource to promote evidence-based, person-centred care across the multidisciplinary team, and I look forward to supporting the up and coming content.
Caroline McIntyre

I am delighted to join the editorial board of the *Journal of General Practice Nursing* so that I can better contribute to advancing the standards of care within healthcare services. With over 22 years of experience in clinical governance, quality assurance, and leadership, I am dedicated to improving patient outcomes and promoting collaboration across multidisciplinary teams. As a Queen's Nurse and a strong supporter of evidence-based practice, I am committed to facilitating discussions on best practices and sharing insights gained from my work at local and national levels. I see this opportunity to be part of the board as a chance to contribute to developing strategies that will empower healthcare professionals and enhance patient care.

Michelle Phillips

It is a privilege to be invited to join the editorial board. I have been nursing for 30 years and in general practice for over 16 years. The change in general practice is nothing short of amazing. I am currently working in a dual ANP/GPN role which I am passionate about and proud of the way we can make a difference to our patients' lives. My love of chronic disease management pushed me into finding a dual role where I can utilise all my skills, sometimes in every consultation. I am also a keen supporter of new GPNs embarking on their careers, and this journal is a fantastic tool to learning. I love reading the articles and look forward to recapping, updating and broadening my knowledge in other areas.

Susan Brown

It is a real honour to be invited to the editorial board of such a prestigious nursing publication, especially when I have been using the *Journal of General Practice Nursing* to guide my own clinical practice over the last decade. With a passion for education within primary care, I am very aware of the rapidly changing landscape of practice nursing, the role of the GPN as a 'gatekeeper' to the NHS and the increased workload that is expected of us on a daily basis. Education is fundamental to achieving a stronger, more informed nursing workforce who are better prepared to meet the diverse needs of the ever-changing population. Patient outcomes are improved when nurses are confident and able, readily employing their skills of critical thinking and using evidence-based principles of care. Education, of course, is key in achieving all of this. I am excited for the opportunity to contribute to such a valuable publication and I hope I will be able to bring some positive insights and faciltate the growth and development of the journal going forward.

Michelle Treasure

Having the opportunity to review and share knowledge around long-term conditions and primary care nursing is a great honour as part of the editorial board. The GPN workforce is crucial to providing high standards of care across multimorbidity, and promoting best practice through the journal will only serve to enhance standards further. Primary care continues to shine as a diverse care sector that requires GPNs to be versatile, competent and confident in their daily practice, and this journal aims to inspire all GPNs to provide the best, evidence-based care possible.

Callum Metcalfe-O'Shea

It is an honour and such an exciting opportunity to have been invited to represent the *Journal of General Practice Nursing* editorial board. As an academic, nurse and NMC registered nurse teacher, this opportunity will give me the chance to review contemporary research and share evidenced-based practice to deliver high quality patient-centred care, as well as raising the profile of practice and community nursing. I am so proud to be a nurse and Queen's Nurse and the impact that all of us in this profession have on patients' lives. I am a big advocate for working in primary care and promoting the career opportunities that are available to nurses and other healthcare professionals within the sector. This journal is a great platform for collaborating with like-minded healthcare professionals working in primary care and I look forward to representing the journal as a board member.

Matthew Cain

My passion for education has given me such an amazing general practice nursing career. To be invited to become a member of the editorial board for the *Journal of General Practice Nursing* provides the opportunity to contribute to a journal with high standards and vision. Education is what drives good clinical practice; the characteristic adaptability and resilience demonstrated by staff is founded on sound principles. It is a privilege to be part of the editorial board, contributing to the strategic commitment of enabling access to educational material, which is contemporary, relevant and valued.

Julie Lennon

In each issue we investigate a topic affecting you and your practice. Here, we ask...

What's in the Darzi report and why does it matter?

It's that time again. A new government full of optimism and a freshly minted prime minister bursting with new ideas, the honeymoon period yet to slip into acrimony and divorce.

And we all know what comes next — a new report on the state of the NHS, usually followed by a top-to-bottom reorganisation that will miraculously shorten A&E waiting times, solve the staffing crisis and promise millions of pounds for community services or ailing critical care, whichever happens to be the flavour of the day.

Sound cynical? Maybe, but we've all been here before. As sure as night follows day, each new health secretary will have a well-intentioned stab at solving the NHS' perennial problems by implementing yet another rescue plan, usually involving a complete reversal of the previous government's policies, leaving us back at square one.

Depending on your age (and whether you were paying attention), you will have seen any number of these documents come and go — the *NHS Plan*, the *Five Year Forward View*, *Healthy Lives, Healthy People*. Take your pick.

But, as the dust settles on a new Labour government, the latest attempt to solve the NHS' structural and budgetary issues hits our desks with a resounding thud. The Darzi review has been billed as 'a rapid investigation of the state of the NHS, assessing patient access, quality of care and the overall performance of the health system' ('Independent Investigation of the National Health Service in England' — assets.publishing.service.gov.uk).

All of which sounds very noble. But, what can community nurses actually expect from the new report, and will it make any difference?

On reviewing the Darzi report, first it is clear that the role and value of primary and community nurses must be highlighted as key to supporting this 'left' shift from hospital to community. Nursing staff are vital to all episodes of care, and the experience and skills of primary and community nurses must be harnessed to ensure patient safety and support in the care home, community and general practice settings. All of this cannot be achieved however with appropriate investment in training and funding to ensure high standards of care are delivered. While the report is alarming in identifying the truths around pressures, it also has the opportunity to allow further insights into why now is the time to focus on supporting care closer to home. With more patients developing multiple long-term conditions requiring nursing input, now is the time for nursing staff also to use their voice, skills and experience to influence positive change, and never forget their importance in supporting the recommendations and improving future care.

Callum Metcalfe-O'Shea
UK professional lead for long-term conditions, Royal College of Nursing

DO YOU WANT THE GOOD OR THE BAD NEWS?

Perhaps the first thing to say about Lord Darzi's report is that it doesn't hold back in delivering a withering assessment of the current state of the NHS.

In his letter to the secretary of state for health and social care outlining the main points of the report, Lord Darzi, an experienced surgeon, goes as far as to say: 'Although I have worked in the NHS for more than 30 years, I have been shocked by what I have found during this investigation — not just in the health service but in the state of the nation's health' ('Summary letter from Lord Darzi to the Secretary of State for Health and Social Care' — www.gov.uk).

The report goes on to detail the NHS' failings across the past 15 years, including a decline in overall determinants of health, such as poor housing, low incomes and insecure employment. This has been coupled with an inexorable rise in long-term conditions that many of you will be all-too familiar with, for example, diabetes, coronary heart disease and respiratory conditions, alongside a mental health epidemic affecting older people and the young.

As if that wasn't enough, the NHS is still struggling to recover from the Covid-19 pandemic and the report highlights pressing issues in community and population health, with

The publication of the Darzi report in 2024 included clear recommendations to inform the new Labour government's proposal for their forthcoming 10-year health strategy. It is not without surprise that the report reveals our NHS is in serious trouble. The British people are already aware of the catastrophic waiting times in A&E, the lack of access to their local primary care providers, and of course the poor state of some of our hospital and healthcare buildings.

However, what is not as loudly broadcast in everyday life is that one of the driving factors relating to the poor state of our NHS is the rise in ill-health of our ageing population. Almost half of the UK population report having a long-standing health problem (UK health indicators — Office for National Statistics), and the deterioration of the nation's health is having a detrimental effect on the NHS's performance. The sheer strain on services to manage the increasing demands of those patients with poor health is obvious; and much of this demand is taking place in primary care and the community, where services are already over-stretched and under-funded. Investment in these 'point of access' services needs to be a priority — providing GPs and community teams with the staff and resources they require to provide patient-centred, preventative care.

Addressing problems such as smoking, obesity and poor housing should be at the forefront of tackling ill-health. We have known for many years that there are inextricable links between chronic disease, social deprivation and poor health outcomes, and greater efforts must be made to educate patients to support themselves. The NHS should embrace a 'help us help you' philosophy, giving patients the resources and education they need to maintain their own wellbeing and make good lifestyle choices. Implementation of measures which are preventative rather than reactive will result in stronger reform of the NHS. Without this 'bottom-up' approach from the government, I fear that the transformation of our service, that is so desperately needed, is improbable; and this becomes yet 'another report'.

Michelle Treasure
Independent nurse educator (Dragon Respiratory); respiratory nurse specialist, Asthma + Lung UK

fewer children receiving immunisations and adults not taking up screening opportunities for common cancers, i.e. breast cancer.

WHAT ARE THE EFFECTS IN THE COMMUNITY?

As if we didn't already know, Lord Darzi points to a whole raft of issues affecting community services. One area in which the NHS is failing badly is in the availability of GP appointments, with the report highlighting that practice staff are seeing more patients than ever, but with the number of qualified GPs falling. Also, depending on where you live, there are huge variations in the number of patients trying to see each GP, with staff shortages particularly problematic in deprived areas.

Another factor you will be all-too familiar with is the pressure on waiting times for community services, particularly mental health appointments. While recent governments have made a great deal of noise about reprioritising community care over acute services, Lord Darzi points out that in reality the reverse has happened. Not only are there fewer GPs, but the number of community nurses fell by 5% between 2019 and 2023, with a potentially catastrophic drop in the numbers of health visitors, down by almost 20% in the same period.

No wonder many of you are feeling the strain, and for patients, the report points out that long waits for community services have simply become normalised.

One of the thornier issues that community nurses have to deal with is patient complaints. The report states that patient satisfaction with services has declined while the number of complaints has increased, leaving nurses to bear the brunt of the public's annoyance with slow or non-existent services. In turn, this has led to a feeling of disengagement for many staff, with sickness rates cripplingly high, partly as a result of exhaustion and burn-out following the Covid-19 pandemic.

ALL IS NOT LOST

Luckily, the report isn't a complete doom-fest and does offer some solutions, with Lord Darzi singling out primary care for particular attention, stating that 'Community services need to be more visible and have a higher priority given to them'.

The report is also surprisingly positive about the underlying structure of the NHS, pointing out that while it may be in serious trouble, the basic model of care being free at the point of need still works in principle. Also, the report makes the point that despite its problems, one of the strengths of the NHS is the dedication of staff, such as community nurses, who are 'bound by a deep and abiding belief in NHS values' and who have a 'shared passion and determination to make the NHS better for our patients'.

As for solutions, the wide-ranging nature of the report means that concrete suggestions are thin on the ground. But Lord Darzi does offer some hope, with a plan for breathing fresh life into the NHS, some of which will affect community nurses directly:

- Care closer to home — this policy,

The Darzi report highlights the critical challenges facing the future of the NHS. It brings attention to the pressing health issues within the population served by the NHS, emphasising that a range of socio-economic factors and other complex determinants significantly influence public health. These challenges underscore the urgent need for more robust public health initiatives and the empowerment of patients to take greater ownership of their health and wellbeing.

Through media reports and candid insights from healthcare professionals, it is evident that there is an escalating demand for acute, primary, and community care services, all of which are required to deliver more with fewer resources to meet the diverse healthcare needs of patients, spanning the entire life cycle — from birth to end-of-life care.

As a nurse working across both primary care and higher education, I believe it is essential to acknowledge the invaluable work we do for our patients and their families, despite the difficult realities painted by the report. We must recognise the trust and respect patients place in us when they invite us into their lives at their most vulnerable moments.

Our acts of kindness and compassion, no matter how small they may seem, leave a lasting impact on patients and their families. This reminder of the meaningful difference we make should always serve as the cornerstone of why we chose to become healthcare professionals in the first place — to help, heal, and bring comfort when it's needed most.

The report also highlights the importance of transitioning care into the community and elevating the profile of primary care. By focusing on keeping people well at home for longer, we can reduce the strain on secondary care services. I remain a strong advocate for careers in primary care and hope that the insights from this report will drive the necessary change and investment to ensure primary care receives the recognition and support it deserves.

Matthew Cain
Senior lecturer in adult nursing and MSc nursing course leader, University of Huddersfield; primary care educator, NHS England; Queen's Nurse

and the money required to fund it, need to be hardwired into the NHS at every level. This means that general practice, mental health and community services must be expanded to adapt to the needs of the growing number of patients with long-term conditions as the population ages

- Creating a 'neighbourhood' NHS — while this sounds suspiciously like a gimmick, the principle is a good one, involving staff at all levels engaging with 'new multidisciplinary models of care that bring together primary, community and mental health services'
- A fresh impetus for technology — the report states that there has to be significant investment in digital technology to unlock community nurses' productivity. This involves innovations such as digital patient records, apps and smartphone technology, for example to monitor patients remotely, and increased use of 'virtual wards' where equipment, medicines and skills usually provided in hospitals are delivered to patients at home and in care homes.

WHAT THE EXPERTS SAY

The jury is out on whether the report will make any substantive difference to the NHS, and there have been mixed reviews from health service experts and the media.

The Guardian published a range of opinions from NHS staff who flagged-up flaws in the report, highlighting that while it contains some good ideas, what is really needed is less reform and more money ('Lord Darzi's report into the NHS is just the start' — www.theguardian.com).

The King's Fund broadly welcomed Lord Darzi's conclusions while making the point that we didn't need an independent review to tell us that the NHS was in crisis and that radical treatment rather than tinkering with budgets and reorganisation will be required ('The Darzi review of NHS performance signals why radical change is needed' — www.kingsfund.org.uk).

Similarly, the Patients Association argued that the report's stark findings simply mirror what patients across the country have been experiencing, with the chief executive, Rachel Power, stating that the report 'provides a stark and necessary assessment of the challenges facing our NHS… We now must stop normalising the abnormal' ('Patients Association response to the Darzi Review' — www.patients-association.org.uk).

Finally, the Royal College of Nursing (RCN) focused on the need for more investment in nurses if the mooted improvement in community services is going to have any impact: 'A fundamental shift to a community care model cannot simply be wished into existence, especially with thousands fewer specialist community nurses. Only dedicated investment to boost recruitment into nursing can ensure we have enough highly trained staff, where patients need them' ('Royal College of Nursing responds to publication of Lord Darzi's independent investigation of the NHS in England' — www.rcn.org.uk).

Overall, Lord Darzi's report provides a surprisingly honest

analysis of the state of the NHS. We can only hope that the current health secretary, unlike many of his predecessors, doesn't simply file it away in the drawer marked 'job done' and assume that sprinkling a few million here and there will be enough to solve the health service's deep-rooted issues. The report represents a challenge to the new government, and only time will tell if ministers are prepared to give community nurses the money, extra staff and digital innovations they need to bring an ailing NHS back to life.

The Darzi review provides a stark yet necessary assessment of the challenges facing the NHS, particularly in primary and community care. Workforce shortages, rising patient demand, and widening health inequalities are issues all too familiar to those on the frontline, yet the report offers limited tangible solutions. As we navigate these ongoing pressures, it is clear that workforce investment and structural reform must go hand in hand. While the report highlights the decline in community nursing numbers and the urgent need for care closer to home, these ambitions risk becoming another well-intentioned but under-resourced promise without a clear commitment to funding and workforce development. Innovation and digital transformation are welcome, but they cannot replace the need for skilled professionals delivering hands-on patient care. Community healthcare staff continue to bear the weight of systemic challenges, often working beyond capacity to bridge gaps in service provision. If policymakers are serious about revitalising community health, they must invest in sustainable staffing solutions and ensure that nurses are valued not just in rhetoric but in action. Without decisive steps to support and expand the workforce, improve patient access, and rebalance resources between acute and community care, the NHS will remain in crisis rather than on the path to recovery. This report must serve as a catalyst for real change, not just another diagnosis of long-standing problems.

Michelle Phillips
Senior nurse manager — North and Nottingham, Operose Health

The state of the nation's health came as a shock to Lord Darzi, but for those nurses working in public health, this will not be a surprise. The lack of investment in public health services, including school nurses, health visitors, and preventative healthcare arguably contributes to the nation having poorer health. 8.2% of government funding went on preventative healthcare in 2022 (www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthcaresystem/bulletins/ukhealthaccounts/2022and2023), alongside a reduction in the training places for specialist community nurses means that the health service is still in medical treatment mode which is more expensive and less environmentally friendly.

There are 350,000 registered community nurses who are key to leading and managing care closer to home. These nurses are essential to promote wellbeing and prevent ill health, but there has been a constant lack of investment in community services and the education of community nurses (https://qni.org.uk/wp-content/uploads/2024/08/District-Nursing-Today-2024.pdf).

40% of health visiting services have been cut since 2015 (https://ihv.org.uk/wp-content/uploads/2023/01/State-of-Health-Visiting-Report-2022-FINAL-VERSION-13.01.23.pdf), which has had a major impact on the 0–5 services which are needed to support the prioritisation of the first 1001 days of life. This lack of investment also affects the health of children between 5–19 years of age who can be supported by a robust school nursing service, but again a depletion of school nurses since 2010 also contributes to poorer health outcomes carried forward as age progresses (https://saphna.co/wp-content/uploads/2021/10/SAPHNA-VISION-FOR-SCHOOL-NURSING.pdf). Darzi's emphasis on the importance of prevention and preventing poorer health outcomes for children is vital for the future health of the nation.

Investment in education and training for the future community workforce who are skilled in health prevention and promotion is vital to support the recommendations made by Lord Darzi and to reduce the inequalities that occur for children and young people, and continue to occur throughout the lifespan.

Amanda Young
Director of nursing programmes, Queen's Nursing Institute (QNI)

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How to put key changes in the new NICE/SIGN/BTS asthma guideline into practice

Issues in asthma treatment and diagnosis: new guidelines

After a long wait, and years after updated international guidelines, the National Institute for Health and Care Excellence (NICE) has worked with the British Thoracic Society (BTS) and the Scottish Intercollegiate Guidelines Network (SIGN) to produce a unified guideline on asthma for the UK (NICE et al, 2024).

It comes at a time when seven out of ten people with asthma are not receiving the basic care they need to stay well, often resulting in their condition being uncontrolled and leaving them at risk of life-threatening asthma attacks. In fact, the number of asthma deaths has actually risen over the past decade (https://ow.ly/zA1750V5ZRy; https://ow.ly/OycP50V5ZS0; https://ow.ly/TIe250V5ZSQ).

To change this, it is vital that we improve awareness of the seriousness of asthma, and focus on supporting people to manage their condition themselves. Healthcare professionals also need to have the training, time and resources to understand each individual to ensure that they get the basic care they need.

Good asthma care can really help people get a handle on their condition, so that it has a minimum impact on their day-to-day lives.

The new guidance addresses some of these issues, bringing important changes that are relevant for every single clinician in contact with people with asthma. It has the potential to make a real difference to the 7.2 million people in the UK living with asthma, offering clarity on how to diagnose and manage asthma, and a chance to refocus on what should be done at each step of the patient pathway.

Several recommendations will need time to filter through to the NHS. For example, funding mechanisms will need to catch up with these guidelines so that fractional exhaled nitric oxide (FeNO) testing and spirometry can be made uniformly available to patients. In addition, the current Quality and Outcomes Framework (QOF) rules on diagnosis are based on an older version of the guidelines.

KEY UPDATES AND HOW TO PUT THEM INTO PRACTICE

Diagnosis

The changes seen within this guideline are centred around taking, and documenting, a clinical history. This should outline any respiratory symptoms, their triggers and any risk factors for developing asthma. Alternative causes of the symptoms should also be explored. Anyone for whom asthma is being considered must be read-coded as having suspected asthma, to support future decision-making.

If asthma is suspected, the patient should have testing to confirm it. A single positive objective test is enough for diagnosis. Any negative test does not rule out asthma.

Dr Andy Whittamore, GP and clinical lead, Asthma + Lung UK

Because of the variable nature of asthma, these tests are more likely to be positive in someone with asthma when they are symptomatic. The guidelines therefore suggest performing these tests at acute presentations where asthma is suspected or as soon as possible after.

The first test should ideally be a test for eosinophilic inflammation. FeNO is now recommended as the first-line test for adults and children over five years, with blood eosinophil count an alternative option in adults. In the acute presentation, spirometry or peak flow with bronchodilator reversibility are options highlighted within the guideline.

If asthma is not confirmed by eosinophil count or FeNO level, measure bronchodilator reversibility (BDR) with spirometry.

Where spirometry is not available or it is delayed, measure peak expiratory flow (PEF) twice daily for two weeks looking for evidence of mean diurnal variability of 20%.

If asthma is not confirmed by eosinophil count, FeNO, BDR or PEF variability but still suspected on clinical grounds, children should have skin prick testing for house dust mite sensitisation or arrange a blood test for total immunoglobulin E (IgE) level and blood eosinophil count. In all ages, where tests are negative and asthma is suspected, refer for consideration of a bronchial challenge test. The exception to this is in children, where you can exclude asthma if there is no evidence of sensitisation to house dust mite on skin prick testing or if the total serum IgE is not raised.

Treatment

The main headline here is that patients diagnosed with asthma

should no longer be prescribed short-acting beta-agonists (SABAs) alone.

There are clear data that unopposed or excessive use of SABAs increase risk of asthma attacks and death (Levy et al, 2024). The new guidance makes it clear that no one should be prescribed a SABA without also being prescribed a regular inhaled corticosteroid (ICS).

Specifically, those over 12 with an initial diagnosis should be offered a low-dose ICS/formoterol combination inhaler as needed for symptom relief (anti-inflammatory reliever [AIR] therapy), or low-dose maintenance and reliever therapy (MART) if highly symptomatic.

Formoterol is a long-acting bronchodilator which works as rapidly as salbutamol and is as effective in treating acute symptoms. In a combination inhaler with an ICS, when used as a reliever inhaler, the ICS-formoterol relieves the acute symptoms while also addressing the underlying inflammation which causes the symptoms in the first place. This approach allows titration of the preventer medication in line with the variable nature of asthma. This reduces future symptoms and reduces risk, especially compared to previous approaches which titrate SABA use and enable untreated inflammation to escalate.

When an inhaler containing ICS-formoterol is prescribed to relieve symptoms, this is known as AIR therapy. When this inhaler is used for both maintenance and relief, this is known as MART. This guideline allows patients to self-titrate between AIR and MART. Most patients will require MART to treat underlying inflammation and keep on top of their symptoms. Patients with infrequent or seasonal symptoms may rotate between AIR therapy and MART. This is a major culture change in treatment approach from previous guidelines and it is essential that everyone in health and care understands it (including community pharmacies and acute care providers such as 111 and 999 services).

There are many different types of inhaler with different drugs, doses and devices. This guideline supports the off-license use of an appropriately dosed inhaler as long as the patient can use it correctly. This provides greater flexibility for moving patients to a SABA-free regimen but does mean that prescribers, especially those signing prescriptions for non-prescribers, are comfortable with inhaler choices and off-license prescribing.

Review and monitoring

People with asthma should have an asthma review at least annually if well-controlled, more often if poorly controlled, and after every asthma exacerbation.

Pregnant women should have an asthma review early in pregnancy and in the postpartum period.

Asthma control should be checked at every asthma-related appointment. This means that all clinicians in contact with people with asthma need to be able to effectively perform all of these actions, not just those working in practice asthma clinics.

A check should include:

- Asthma control test (ACT), children's asthma control test or asthma control questionnaire
- Time off school or work
- Number of courses of oral steroids
- Number of emergency presentations with chest symptoms
- Reliever inhaler use, include checking the prescribing record
- Peak flow if this is part of someone's asthma action plan. However, having a measure of someone's peak flow when well can be a useful benchmark for acute episodes.

Assessing inflammation: a key part of the monitoring process

FeNO should now be considered within the annual review as well as before and after any change in therapy. A high FeNO level demonstrates untreated eosinophilic inflammation. This might be because of poor adherence to preventer medication, inadequate inhaler technique, or a need for a higher dose of inhaled steroids.

If FeNO is not raised in someone who has asthma-like symptoms, consider alternative causes for those symptoms rather than simply increasing the inhaler dose.

FeNO and eosinophil levels should be measured in anyone over 12 who is poorly controlled despite good adherence with a moderate dose MART inhaler. Raised levels of either should trigger a referral to a specialist asthma service to consider specialist treatments such as biologics.

Self-management advice

As well as a personalised written asthma action plan, adults, children and their carers should be offered:

- Education about their asthma and how to self-manage their symptoms
- Information about common triggers and how to address them, including indoor and outdoor pollution
- Smoking cessation advice and support.

Adolescents should also have specific advice about how their asthma may be affected by different occupational triggers. Also, healthcare professionals should enquire about specific factors in their life that may impact on their self-management and use of inhaler.

Asthma + Lung UK has a new website to support people working in healthcare who are supporting people with respiratory conditions. For more information, visit: www.asthmaandlung.org.uk/healthcare-professionals. **GPN**

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For individuals with long-term conditions, GPNs are crucial for improving patient outcomes and quality of life

Long-term condition management: the value of GPNs

Here, Callum Metcalfe-O'Shea, UK professional lead for long-term conditions at the Royal College of Nursing (RCN), provides an overview of the important role that GPNs play in supporting patients living with long-term conditions. The value of GPNs will be explored, as well as the interventions they provide, relationships built between patients and nurses, and how we need to continue championing the GPN role to support the future of patient care.

In the ever-evolving landscape of healthcare, general practice nurses (GPNs) play a pivotal yet often overlooked role in patient care. As the NHS faces increasing pressures from rising patient demand, workforce shortages, and the growing burden of long-term conditions, GPNs stand at the frontline, delivering essential care, education, and support. Despite their critical contributions, their role is frequently undervalued and misunderstood, impacting on morale for this essential part of the workforce (Clifford et al, 2021).

GPNs are the backbone of primary care, providing continuity, expert clinical management, and preventive care that improves patient outcomes and eases the strain on overstretched healthcare systems (Clifford et al, 2021). From managing diabetes and hypertension to delivering immunisations and health promotion, they are vital in supporting patients to live well and stay out of hospital (Carrier, 2023). As healthcare moves towards more integrated and community-based models, now more than ever it is essential that healthcare systems invest in, and elevate the role of GPNs, particularly in the role of long-term condition management (Kanani, 2021).

With current healthcare pressures, healthcare professions, particularly nurses, are finding the strain of increased workload, reduced capacity, and increased staff shortages/sickness all leading to burn out (Kanani, 2021). GPNs are key to long-term condition management, and without their vital input poor patient outcomes can occur resulting in increased pressure on secondary care services (Clifford, et al, 2021).

> **GPNs are the backbone of primary care, providing continuity, expert clinical management, and preventive care that improves patient outcomes and eases the strain on overstretched healthcare systems.**

ROLE OF GPNs IN LONG-TERM CONDITION MANAGEMENT

GPNs are at the forefront of managing long-term conditions, offering expertise that extends far beyond routine care. One of their most significant contributions is their ability to build therapeutic relationships with patients. Unlike hospital settings, where interactions are usually episodic due to the nature of patient presentation, GPNs provide continuity of care, allowing them to develop trust and truly understand each patient's journey (Clifford et al, 2021). This enables them to take a holistic approach, considering not just the medical aspects of a condition, but also the emotional, social, and psychological challenges patients face. Through patient education, lifestyle support, and shared decision-making, GPNs empower individuals to self-manage their conditions effectively, leading to improved adherence to treatment and better health outcomes (Kanani, 2021).

Managing long-term conditions requires a coordinated effort, and GPNs play a crucial role in connecting patients with the right services (Carrier, 2023). They are skilled in recognising when additional support is needed and can refer patients to wider multidisciplinary teams (MDTs), including dietitians, physiotherapists, mental health professionals, and social care services. Their expertise allows them to assess multiple conditions simultaneously, understanding the complex connections between diseases such as diabetes, cardiovascular disease, and respiratory illnesses (Carrier, 2023). This multi-condition approach is essential in preventing complications, reducing hospital admissions, and ensuring that patients receive the right care, at the right time, by the right individual (Carrier, 2023).

Additionally, GPNs utilise their

Practice points

Take some time to think about your role, write down the key areas you practice in and how you support patient care in these areas.

specialist knowledge to recommend and initiate treatments, working within their scope as independent prescribers, or, when not prescribers, working with GPs/non-medical prescribers to recommend treatment accordingly (Carrier, 2023). Their ability to monitor medication effectiveness, adjust treatment plans, and provide evidence-based interventions ensures that patients receive optimal care tailored to their specific needs (Carrier, 2023). By working closely with the MDT, GPNs contribute to a wraparound model of care that addresses health and social challenges faced by individuals with chronic conditions (Carrier, 2023). Their role is crucial in bridging the gap between primary and secondary care, so that patients remain well-supported in the community while reducing unnecessary hospital admissions, with patients preferring care closer to home (Lukewich et al, 2022).

WHAT IS THE VALUE OF GPNs FOR LONG-TERM CONDITION MANAGEMENT?

Clifford et al (2021) through the Sonnet report clearly identified the values of GPNs in providing care for patients in the practice setting. This report should not be overlooked in its importance of championing the role of GPNs in the context of long-term condition management.

Through the Sonnet report (Clifford et al, 2021), the broad impact of GPNs goes far beyond just direct patient care, illustrating how their work creates a ripple effect across multiple levels of the healthcare system. Through workshops with GPNs, Clifford et al (2021) found that a clear pattern emerged, with GPNs' contributions extending into four key arenas:

- Within the practice itself: GPNs play a crucial role in maintaining quality care, shaping services to meet future demands, and ensuring operational and financial sustainability
- Among patients: GPNs provide timely, effective care and empower individuals to make informed health decisions
- In the wider community: GPNs drive preventative health initiatives and connect people to essential services
- Across the broader NHS and social care landscape: GPNs contribute to the efficiency and accessibility of the NHS and social care, supporting system-wide improvements while fostering patient self-care and independence.

These layers of impact demonstrate that GPNs are not only vital to individual patient outcomes, but also to the sustainability and effectiveness of healthcare as a whole, not just an isolated system.

Often healthcare can be siloed into areas of speciality, and it should not be forgotten that while GPNs may be considered generalists, their ability to become expert across a multitude of specialities such as diabetes, asthma, chronic obstructive pulmonary disease (COPD), heart failure, etc indicates the value this role brings to patient populations (Lukewich et al, 2022).

"GPNs play a vital role in preventing, managing, and caring for patients with increasingly complex health needs. Rather than addressing single long-term conditions in isolation, they adopt a biopsychosocial approach to support individuals with multiple chronic illnesses.

WHY NOW? WHAT DOES THE FUTURE LOOK LIKE?

GPNs play a vital role in preventing, managing, and caring for patients with increasingly complex health needs. Rather than addressing single long-term conditions in isolation, they adopt a biopsychosocial approach to support individuals with multiple chronic illnesses (Carrier, 2023).

It is important to remember the definition of a long-term condition as (NHS Data Model and Dictionary, 2024):

> *Health issues that require ongoing management over several years or even a lifetime. While they cannot currently be cured, they can often be controlled through medication and or other therapies.*

Practice points

Using the Sonnet report, identify ways in which you feel GPNs provide value not just to your local practice, but to healthcare as a whole. Jot these ideas down to recognise the value you bring!

Practice points

Think about your local area, what are the main long-term conditions you see? Produce a table to help you recognise keys areas you may need to develop for future practice.

Essentially, long-term conditions are non-curable, impacting on all parts of a patient's wellbeing, requiring coordinated care approaches often provided by GPNs (Carrier, 2023). Conditions such as diabetes, cardiovascular disease (CVD), chronic respiratory conditions, and arthritis fall under this category, affecting millions and placing a significant demand on healthcare services. The prevalence of long-term conditions increases with age, with most people aged 55–64 and older living with at least one condition, rising to 80% in those over 85 (Department of Health and Social Care [DHSC], 2023).

Multimorbidity is also a growing concern, as one in four adults have two or more conditions, with 92% of those with CVD and 70% of people with mental ill health experiencing at least one additional illness (DHSC, 2023). By 2035, projections suggest that two-thirds of adults over 65 will have two or more long-term conditions, and 17% will be managing four or more (DHSC, 2023). As the burden of chronic disease rises, effective long-term condition management is more critical than ever — not only to improve patient quality of life, but also to reduce hospital admissions and ease pressure on an already stretched healthcare system (Future Health, 2023).

The impact of long-term conditions is wide-ranging, with four major contributors to ill health:

- Cancer
- Cardiovascular events
- Musculoskeletal (MSK) conditions such as arthritis
- Mental health disorders, including suicide

(DHSC, 2023).

Among the most prevalent long-term conditions are arthritis, hypertension, mental health conditions, and respiratory diseases, such as asthma and COPD, affecting over 10% of the population (Future Health, 2023). These conditions both impact on individuals and also place a significant strain on healthcare resources, reinforcing the need for proactive management and early intervention (Carrier, 2023). Again, it is evident that a high-quality intervention would be to address long-term conditions effectively utilising a coordinated, patient-centred approach (Carrier, 2023). GPNs therefore are crucial in playing a key role in supporting patients to manage their conditions and improve overall wellbeing — supporting not just those diagnosed with future long-term conditions, but also preventing them (Carrier, 2023).

> **"... many nurses report that their roles are often seen as less significant compared to other healthcare professionals, with patients, the public, and even some GPs viewing them as 'just a nurse'.**

CHALLENGES AND SOLUTIONS

While it is evident that the role of GPNs in long-term condition management is vital, the challenges faced by current GPNs needs to be considered (Clifford et al, 2021). Barriers to providing care should be addressed so that future workforce developments can help improve patient outcomes (Endalamaw et al, 2024).

Clifford et al (2021) via the Sonnet report identified that one of the main barriers to GPNs being fully valued in healthcare lies in the struggle to shift existing perceptions. Looking at this in the context of long-term condition management, many nurses report that their roles are often seen as less significant compared to other healthcare professionals, with patients, the public, and even some GPs viewing them as 'just a nurse'. This perception reduces the value of the work GPNs do, implying that their contributions are less important, when it is evident in long-term condition management that their input is vital to improving patient outcomes (Lukewich et al, 2022). GPNs should therefore work together, utilising population health management approaches, to demonstrate how much they contribute to local care provided, with a focus on reducing inequalities and improving patient access (Endalamaw et al, 2024).

Changing these perceptions requires action both from the individual GPN, within healthcare organisations, and externally. Clifford et al (2021) has noted that many GPNs feel TV advertisements related to long-term conditions for example, frequently encourage patients to 'talk to their GP', bypassing the crucial role of the nursing team. This misrepresentation in the public domain perpetuates a lack of understanding about the full scope of nursing practice and its value within primary care. This can also cause barriers, as often patients feel that they have been 'mis-sold' an appointment if they are seeing a nurse rather than a GP, thus damaging the patient and nurse relationship before the appointment has even begun (Lukewich et al, 2022). GPNs should have open conversations with patients about their role, how they contribute and why they may be best placed as part of an MDT approach to see them for this episode of care (Endalamaw et al, 2024).

Moreover, some nurses themselves may not fully identify the depth of their contributions when supporting patients with long-term conditions (Clifford et al, 2021). Many downplay their achievements, attributing success to the wider team rather than acknowledging their individual input. This tendency

to understate their value can be attributed to the pressures placed on GPNs in primary care, meaning that they are not fully perceptive to the vital contribution to patient lives that they make (Lukewich et al, 2022). GPNs should continuously seek feedback via patients and peers, to help them understand their value in the role of long-term condition management (Endalamaw et al, 2024).

Additionally, informal training and lack of clinical supervision can be a barrier for nurses wanting to improve their long-term condition management skills, with many GPNs often undertaking a short course and then expected to become lead for a particular condition with limited experience or supervision (Busca et al, 2021). This impacts not only on direct patient care, but also the confidence and competence of GPNs, who must always work as per their Nursing and Midwifery Council (NMC) 'Code of Conduct' (NMC, 2018). In these instances, GPNs need to have open discussions with their employer/line manager, and work with the MDT to identify a period of appropriate supervision to improve confidence and competence around condition management (Busca et al, 2021).

Overall, the barriers faced by GPNs should be addressed by healthcare organisations. Without the role of the GPN in long-term condition management, patient care will ultimately be impacted and key concepts of prevention, holistic management and biopsychosocial support may not take place fully due to barriers in place in primary care settings.

CONCLUSION

It is evident that GPNs play an essential and multifaceted role in the management of long-term conditions, offering continuous, holistic care that significantly improves patient outcomes while reducing the strain on the broader healthcare system.

Their ability to build trustful, therapeutic relationships with patients enables them to address both the clinical needs and emotional, social, and psychological aspects of care. The importance of GPNs in managing multiple long-term conditions becomes increasingly apparent as the prevalence of multimorbidity rises, with growing numbers of patients requiring comprehensive care for multiple, complex conditions. The value they provide extends far beyond individual patient interactions, influencing the sustainability and efficiency of the healthcare system as a whole. However, despite their vital contributions, GPNs continue to face challenges rooted in outdated perceptions, lack of recognition, and insufficient professional support. Overcoming these barriers requires a collective effort to shift perspectives within the healthcare system, improve training and supervision for GPNs, and ensure that their expertise is fully acknowledged and leveraged.

Investing in their professional development and ensuring that they have the necessary support will lead to better outcomes for patients and the health system. As the demand for long-term condition management continues to grow, the future of healthcare relies on a model that embraces the unique skill set of GPNs, empowering them to lead care for individuals with chronic conditions and promoting better, more coordinated care across communities. In doing so, GPNs can help shape a more sustainable, patient-centred approach that meets the needs of an ageing population and enhances health outcomes for all. **GPN**

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Practice points

Thinking of the future, what are the key areas you want to develop? Write down your future career plans to help support your development.

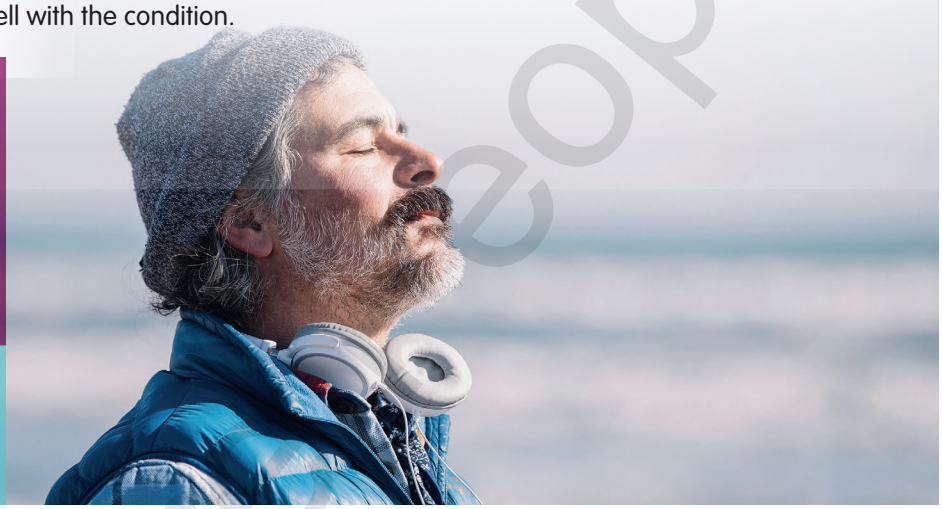
Living with breathlessness: its impact on patients and carers

Chronic breathlessness is very difficult to live with. It has widespread effects on both patients and those who care for them. And yet there are many ways that people can learn to cope with it, including using breathing techniques, adopting comfortable positions and using handheld fans and mobility aids. General practice nurses (GPNs) and other healthcare professionals have a vital role in helping people to manage their breathlessness. First, GPNs should acknowledge that breathlessness is difficult to live with and tell their patients that it is right that they have raised it as an issue to be addressed. Then, they can help patients to learn to manage their breathlessness and guide them to other sources of information and support. Some healthcare professionals find it hard to talk about breathlessness, but if they can help patients to see that it is an expected symptom, which is manageable, this could have a huge effect on their lives and help them to learn to live well with the condition.

KEY WORDS:

- Breathlessness
- Support
- Worsening symptoms
- Talking about breathlessness
- Carers/family members

Ann Hutchinson
Research fellow, University of Hull



Millions of people around the world live with chronic breathlessness due to underlying cardiorespiratory conditions (World Health Organization [WHO], 2008). To try to understand the impact of chronic breathlessness, Hutchinson et al (2018) conducted a systematic literature review and qualitative synthesis of 101 published qualitative papers on the experience of breathlessness from the points of view of patients, carers and also clinicians, entitled 'Living with breathlessness'. From this work, it became apparent that living with breathlessness can be difficult both for patients and for those who care for them, as it raises physical, psychological, social and existential challenges for all concerned. Breathlessness can cause:

- Difficulties doing everyday tasks
- Dependency on others
- Feelings of depression, anxiety and panic
- Changes in roles and relationships
- Problems in planning activities with others
- Isolation
- Fears about the future

(Hutchinson et al, 2018).

> **General practice nurses (GPNs) and other healthcare professionals have a vital role in helping people manage breathlessness and supporting them to cope better...**

To raise awareness of these widespread effects of breathlessness, the author was one of a group of researchers at the University of Hull who worked with people living with breathlessness and local artists to co-create the 'Bringing Breathlessness into View' exhibition (*Figure 1*). This exhibition aimed to demonstrate creatively the difficulties that arise due to breathlessness and, importantly, the ways that people can cope better and live well with it.

General practice nurses (GPNs) and other healthcare professionals have a vital role in helping people manage breathlessness and supporting them to cope better by learning and using non-pharmacological breathlessness management techniques, in addition to taking the correct medical

Practice points

Find out more about living with breathlessness by reading the 'Breathlessness blog' (https://breathlessness.hyms.ac.uk/) and listening to patients describing their difficulties (https://soundcloud.com/hullyorkmed/interview-living-with-breathlessness), as well as how they cope (https://soundcloud.com/hullyorkmed/coping-with-breathlessness-no-background-music).

Figure 1.
Examples of images from the 'Bringing Breathlessness into View' exhibition (artwork credit: Bluebeany). (www.hyms.ac.uk/bringing-breathlessness-into-view)

treatment for their condition. These techniques include using the handheld fan, learning breathing techniques, and adopting positions to ease breathlessness.

In the 'Living with breathlessness' review (Hutchinson et al, 2018), the authors developed the concept of breathing space, which conceptualises how to live well with chronic breathlessness (*Figure 2*). This entails:

- Being able to rest from the constraints imposed by breathlessness
- Having space and time to recoup strength and plan further action
- Having the circumstances under which one can find and then fulfil priorities.

The degree of breathing space that a person can achieve is related to several interacting factors, namely:

- How the person seeks help (in crisis or when more stable)
- How they are responded to by clinicians when they seek this help
- How they cope with their symptoms (i.e. in an engaged or disengaged fashion)

(Hutchinson et al, 2018).

Engaged coping strategies include pacing daily activities, accepting limitations, using breathing techniques while doing activities, and seeking social support. Whereas disengaged coping strategies include avoidance of activities that induce breathlessness, self-criticism and social withdrawal (Tobin et al, 1989).

The breathing space concept helps to understand how to work with patients and their carers to enable them to live well with breathlessness. *Figure 2* shows how the ways in which a patient copes with and seeks help for their breathlessness, combined with how their clinician responds to the symptom of breathlessness (as distinct from the underlying medical condition), is important in how much breathing space can be achieved for the patient and those caring for them.

Limited breathing space is characterised by avoidance, resignation and stagnation — summarised by the phrase 'life stops' (Hutchinson et al, 2018):

> *It just stops your life, stops you from living.* (Patient)

> *You fall into a huge hole, then the world gets so tiny, it all gets so narrow that it is almost unbearable. I feel like Sleeping Beauty. The hawthorn hedge has closed around me, and I cannot do anything about it.* (Carer)

Achieving breathing space is characterised by acceptance, adaptation and participation, and can be summarised by the phrase 'life changes':

> *I've sort of changed my life. You can't do the things you used to do, so you've got to say 'well, okay, what can I do?' and do it.* (Patient)

To support people living with breathlessness to achieve a greater degree of breathing space, GPNs can use the breathing space concept as a framework for assessing how breathlessness is affecting their lives, as well as how they are coping with and seeking help for it. This should be followed up by tailoring breathlessness management strategies to match patient needs using the breathing, thinking, functioning model (Spathis et al, 2017), and the holistic approach

Practice points

For more information on managing breathlessness, why not see the range of information leaflets provided by the Cambridge Breathlessness Intervention Service (CBIS): www.cuh.nhs.uk/our-services/breathlessness-intervention-service/patient-information-leaflets/.

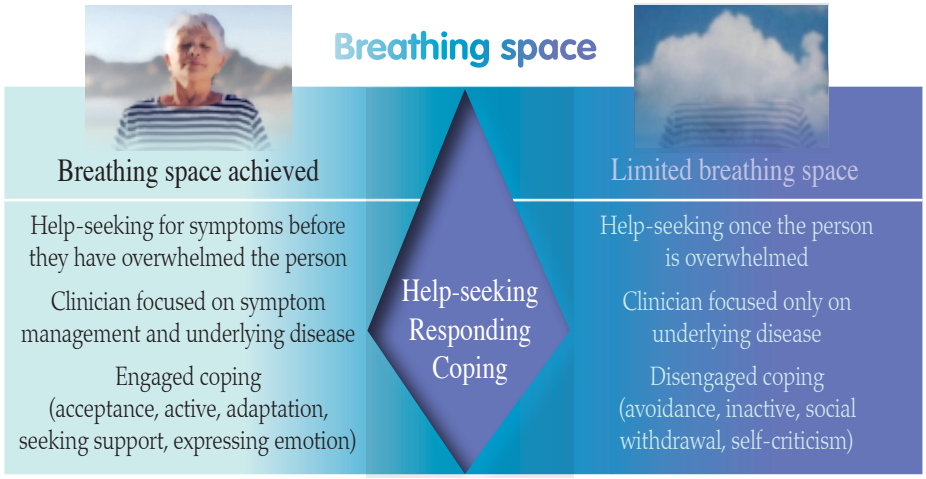


Figure 2.
The breathing space concept (artwork credit: Bluebeany).

to breathlessness developed by the London Respiratory Network (Hopkinson and Baxter, 2017).

Focusing on the symptom as a therapeutic target in its own right, can support patients to adopt more engaged coping approaches and better self-management techniques and thereby help them move from the view that 'life stops' to 'life changes':

> *She (my nurse) has got me organised and now I understand how the disease works. As a result, I have had a good summer. It makes me feel more resilient.* (Patient)

To help patients achieve a reasonable degree of breathing space, they can be helped to develop engaged coping strategies, such as planning and pacing, prioritising activities, accepting their situation, being active and keeping in touch with others (Hutchinson et al, 2018). There are also a range of non-pharmacological methods to help people manage breathlessness (*Table 1*).

Patients can also achieve breathing space if they can continue the activities that are important to them, even if it means doing them differently. This can involve pacing themselves, prioritising which activities are most important each day and accepting, rather than being frustrated by, their situation. Patients are often afraid of becoming breathless, assuming that there is nothing that they can do to manage it and so avoid doing things that might bring on symptoms. When this happens, their breathing space is restricted and their lives stop (Hutchinson et al, 2018).

> **"... it is important to remember that carers themselves are affected by the widespread effects of breathlessness and may need support. It can be hard for people living with and caring for someone with breathlessness.**

Ideally, patients should actually keep as active as possible, accepting a certain level of breathlessness so that they can stay reasonably fit. For example, this could involve using mobility aids to help get around, using breathing techniques such as blow as you go when being active, and using the handheld fan to recover from exercise. However, some patients may have concerns about doing breathlessness management in public, as many feel embarrassed to draw attention to their condition. Discussing their concerns with them can help to overcome them so that they are able to live as full a life as possible.

SUPPORTING THOSE WHO CARE FOR BREATHLESS PATIENTS

Alongside understanding what will help patients to live well with breathlessness, it is important to consider their carers. Morag Farquhar, a professor at UEA and a nurse by background, developed the supporting breathlessness website to guide people in how best to support family members (https://supporting-breathlessness.org.uk/). In addition to this guidance, it is important to remember that carers themselves are affected by the widespread effects of breathlessness and may need support. It can be hard for people living with and caring for someone with breathlessness. Relationships with others can change — often carers need to take on new roles and can become very isolated (Hutchinson et al, 2018):

> *Gradually we have had less and less to talk about… gives the*

Table 1: Non-pharmacological breathlessness management techniques

Intervention	Explanation/description
Fan therapy	Flow of air stimulates receptors helping reduce the sensation of breathlessness
Flop and drop	Focus is on relaxation of accessory muscles
Positioning	Forward lean sitting can improve length tension relationship of the diaphragm and help reduce shoulder girdle elevation
Breathing exercises	Controlled breathing, pursed lip breathing
Blow as you go	Take a breath in before the effortful task then blow out as making the effort — avoid breath holding
Stretching	Reduces tension in muscles of the neck and shoulder girdle to reduce pain and discomfort

(adapted from the CBIS breathlessness leaflets: www.cuh.nhs.uk/our-services/breathlessness-intervention-service/patient-information-leaflets/)

impression that he has no interest any more, neither in myself nor in his surroundings… we stopped being good friends like we used to be… The disease has isolated him from the family and myself, and now we have restricted issues to talk about… it makes me sad when I think about it.

It's a hard time I tell you and it gets you down. When you think what the nurses do in hospital, giving him his tablets and everything. I'm doing a thousand jobs as well. I'm just going crazy because you don't get to the end of it... We're nurses, we're doctors, we're housewives, we're cooks, we're gardeners. (Carer)

Over the last 8–9 years, I feel inside that my role's completely changed. Somewhere in all of this, I've lost who I am. I'm more like his nurse or 'I need you' kind of thing. That's it — I need you, and I don't know how to explain it. I just feel like somewhere me, myself, I'm lost. I don't know who I am any more. I don't know if anybody can understand that. (Carer)

Uncertainty about the future can make people feel distressed and, unfortunately, this may not be understood well by others with people not always getting the help that they need. It is important that people caring for breathless patients take time to look after themselves well and seek support from both friends and family as well as from professionals when needed. The following resources may be of interest to carers:

- *A Practical Guide to Healthy Caring* — www.england.nhs.uk/publication/a-practical-guide-to-healthy-caring/
- Carers UK — www.carersuk.org/ .

WHEN BREATHLESSNESS GETS MUCH WORSE

Sometimes people experience far worse breathlessness, which can lead to a crisis situation if they are neither aware that this might happen nor knowledgeable in breathlessness management techniques (Hutchinson et al, 2024). This can be frightening for both the breathless person and anyone with them and often leads to an ambulance call-out. From the author's survey in the emergency department (ED) (Hutchinson et al, 2017), 20% of all presentations by ambulance to ED are due to worsened breathlessness in those with an underlying condition.

"Nurses can support patients by helping them to learn breathlessness management strategies and also by preparing them to know that their breathlessness might get much worse.

However, people who suffer from worsened breathlessness may be able to manage the problem at home if only they knew how and had the confidence that they can settle their breathlessness. The author found that many patients would prefer to stay at home unless it was absolutely necessary to go to hospital (Hutchinson et al, 2020). Knowing how to settle breathlessness may avoid a potentially difficult experience for patients and also decrease the burden on the already overstretched emergency departments. Nurses can support patients by helping them to learn breathlessness management strategies and also by preparing them to know that their breathlessness might get much worse.

TALKING ABOUT BREATHLESSNESS

Clinicians sometimes find that it is difficult to speak to patients about breathlessness due to time pressures and not knowing what they can offer (Lunn et al, 2019). While this is understandable, spending some time acknowledging that breathlessness is difficult to live with and telling them that it is right that they have raised it as an issue is an important first step. Helping them see that breathlessness is an expected symptom and that it is manageable, may change their lives.

Resources

For healthcare professionals:

- NHS England adult breathless pathway: www.england.nhs.uk/long-read/adult-breathlessness-pathway-pre-diagnosis-diagnostic-pathway-support-tool/
- Breathlessness desktop helper: www.ipcrg.org/resources/search-resources/desktop-helper-17-breathlessness-in-adults-a-practical-guide-for-primary
- Managing chronic breathlessness: https://www.westmidspallcare.co.uk/wp-content/uploads/Breathlessness-guideline-SPAGG-Feb-23-1.pdf

For patients and carers:

- COPD magazine: www.ipcrg.org/copdmagazine
- British Heart Foundation: www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/shortness-of-breath
- Asthma and Lung UK: www.asthmaandlung.org.uk/symptoms-tests-treatments/symptoms/breathlessness
- Action for Pulmonary Fibrosis: www.actionpf.org/
- Supporting breathlessness: https://supporting-breathlessness.org.uk/

To support clinicians in how to talk to their patients about breathlessness, Lunn et al (2019) developed a five-step guide involving:

- Identifying the patient's hopes and goals
- Trying to understand the patient's personal narrative about breathlessness
- Accepting that there is not always an answer
- Knowing local services
- Aiming to change behaviour through ownership and shared decision-making.

Patients experiencing breathlessness should know that there are practical steps that they can take to manage their symptoms and that support is available. Learning

and using engaged coping strategies — accepting, problem-solving, seeking support and expressing emotions — can make a difference. It is also helpful to consider who else can provide support, i.e:

- Carers and family members: to offer help and encouragement
- Support groups: to connect/meet with others with similar experiences
- Local exercise groups: to improve fitness
- Online support networks: to access advice and shared experiences
- Breathing classes: to learn techniques to control breathlessness
- Pulmonary rehabilitation courses: to improve lung function.

Additionally, to learn to manage breathlessness better there is a free 'Managing chronic breathlessness' elearning module on the Learning Hub (https://learninghub.nhs.uk/catalogue/chronic-breathlessness) (also see *Resources* box).

Revalidation Alert

Having read this article, reflect on:

- The impact that breathlessness can have on both patients and their family/carers
- The resources available to which you can signpost patients and carers
- What can be done to help patients cope with breathlessness
- The support that you offer to families/carers
- Why it is important to take the time to speak to patients about their breathlessness.

Then, upload the article to the free GPN revalidation e-portfolio as evidence of your continued learning: www.gpnursing.com/revalidation

CONCLUSION

The key message to take away from this article is that there are many things that people can do in order to live well with their breathlessness and GPNs have an important role to play in supporting them to be able to do that. GPN

Acknowledgement

All images and sound recordings courtesy of the University of Hull, artist credits Anna Bean and Rob Mackay: www.hyms.ac.uk/bringing-breathlessness-into-view

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Key points

- Chronic breathlessness is very difficult to live with. It has widespread effects on both patients and those who care for them.
- General practice nurses (GPNs) and other healthcare professionals have a vital role in helping people to manage their breathlessness.
- To raise awareness of these widespread effects of breathlessness, the author was one of a group of researchers at the University of Hull who worked with people living with breathlessness and local artists to co-create the 'Bringing Breathlessness into View' exhibition.
- In the 'Living with breathlessness' review, the authors developed the concept of breathing space, which conceptualises how to live well with chronic breathlessness and reducing risk to health.
- To help patients achieve a reasonable degree of breathing space, they can be helped to develop engaged coping strategies.
- It is important to remember that carers themselves are affected by the widespread effects of breathlessness and may need support.
- There are many things that people can do in order to live well with their breathlessness and GPNs have an important role to play in supporting them to be able to do that.

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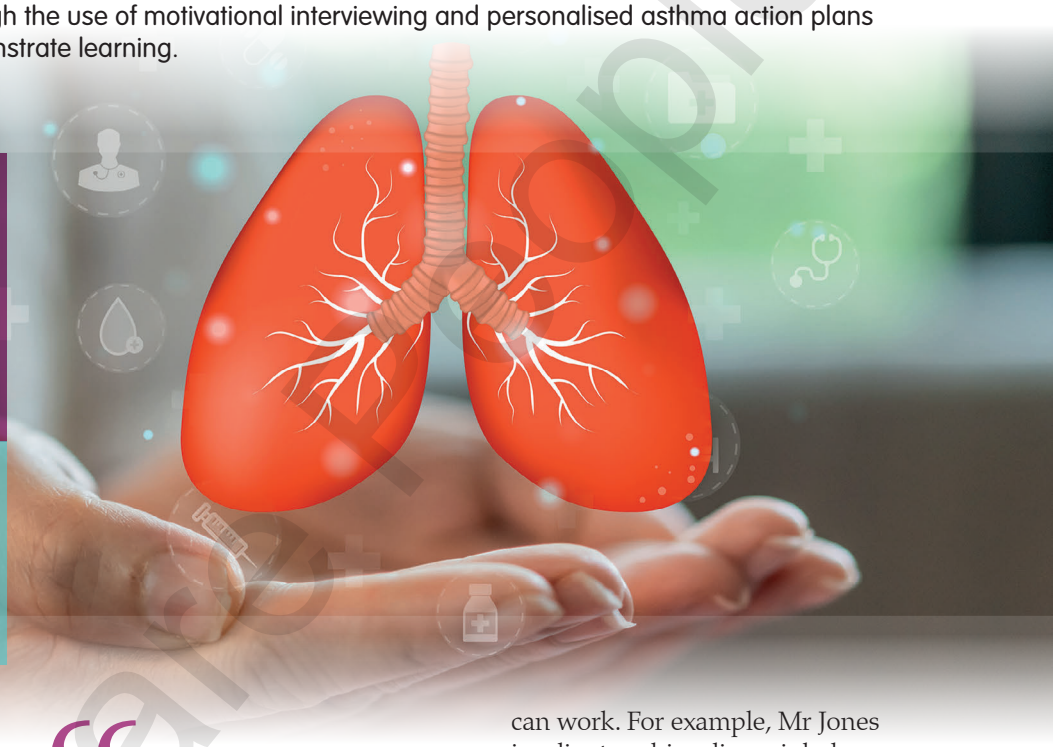
Asthma and supported self-management

Asthma is one of the most common long-term conditions (LTC) in the world. The UK has one of the highest prevalence rates of asthma worldwide, with asthma-related deaths continuing to rise each year. Supported self-management is imperative to enable people with asthma to live well. Low levels of self-management are linked to increased cost, faster disease progression, early mortality, and increased multimorbidity (NHS England, 2024). This article highlights how primary care nurses, such as general practice nurses (GPNs), are well placed to support people living with asthma to self-manage their condition through the use of motivational interviewing and personalised asthma action plans (PAAPs), using a case study to demonstrate learning.



KEY WORDS:

- Asthma
- Self-management
- Pathophysiology
- PAAPs
- Treatment regimens

Charlotte Forshaw
Year three adult nursing student, University of Surrey

Kathy Poole
Lecturer in nursing, University of Surrey

Asthma is the most prevalent respiratory condition in the UK. It is estimated that eight million people have been diagnosed with asthma, with 4.3 million people currently undergoing treatment (National Institute for Health and Care Excellence [NICE], 2024). It is characterised by chronic inflammation of the airways, leading to narrowing or obstruction and bronchial hyperreactivity. The UK asthma outcomes are among the worst in Europe, with higher rates of preventable attacks, hospital admissions, deaths, as well as a substantial cost to the NHS (Levy et al, 2024).

Common symptoms include wheezing, shortness of breath, coughing, and a sensation of tightness in the chest (NICE, 2025). From Mr Jones' story (*opposite*), it can be seen that he is experiencing these factors. These symptoms can be triggered by various external factors, such as allergens, cold air, or exercise, and may suddenly intensify resulting in what is known as an asthma attack (Olin and Wechsler, 2014).

"Gradually, persistent inflammation can lead to structural changes, including epithelial damage, compromising the protective lining of the airways, and mucous gland hypertrophy, resulting in excessive mucus production.

PATHOPHYSIOLOGY

Understanding the physiological processes behind asthma can help general practice nurses (GPNs) in explaining how inhaler treatment can work. For example, Mr Jones is reliant on his reliever inhaler. Salbutamol, a beta-2-adrenergic receptor agonist, binds to beta-2 receptors found in the smooth muscle lining in the airways (Adams et al, 2023). This stimulates a pathway that relaxes the smooth muscle, leading to bronchodilation, or a widening of smooth muscle relieving symptoms, such as wheeze or chest tightness. However, prolonged reliance on this can mask uncontrolled inflammation, increasing the risk of severe exacerbations and reduced effectiveness over time (Marques and Vale, 2022).

Gradually, persistent inflammation can lead to structural changes, including epithelial damage, compromising the protective lining of the airways, and mucous gland hypertrophy, resulting in excessive mucus production (Mims, 2015; see *Figure 1*). Over time, breathing becomes laboured and the lungs

become less responsive (Bush, 2019). In the long term, people experience more frequent and severe asthma exacerbations, reduced exercise tolerance, decreased lung function and an overall significant decline in quality of life. It is crucial to manage the condition effectively to slow down or prevent these long-term changes (Sinyor and Perez, 2023).

There are a variety of contributory factors that influence the development of asthma. One factor is genetic predisposition associated with the overproduction of immunoglobulin E (IgE) and heightened sensitivity of the immune system, leading to chronic inflammation and hyperreactivity of the airways (Stikker et al, 2023).

Common allergens such as pollen, dust mites, and animals can trigger immune responses that result in airway inflammation and constriction, which might be a contributing factor in Mr Jones' case.

Additionally, irritants like cigarette smoke and air pollution contribute to the chronic inflammatory state of the airways, exacerbating symptoms and promoting airway remodelling (Gautier and Charpin, 2017). Other triggers may include exercise, obesity, weather conditions, stress and strong emotions, smoking, and medications, such as aspirin and beta blockers (NICE, 2017). It is therefore necessary for the nurse to support Mr Jones with any stress reduction, smoking cessation, and promoting a healthy lifestyle.

Mr Jones' story

Mr Jones is a 45-year-old office manager who visits the general practice nurse for an asthma review. He has been smoking 15 cigarettes for 28 years and has a stressful office job. As a child, he had asthma and was in and out of A+E with viral-induced wheeze as a baby. Up until recently, his asthma has not really been a problem. But, over the past three to five months, he has noticed increasing difficulty managing his asthma. Despite being prescribed a preventer inhaler (clenil modulate), he has relied heavily on his reliever inhaler (salbutamol), using it multiple times daily. His main symptoms are wheeze, shortness of breath and chest tightness. He is aware that he has put on weight recently, reporting that he is too busy to focus on himself.

Mr Jones' past medical history includes:

- Allergic rhinitis
- Hayfever
- Previous appendectomy 2011
- Viral-induced wheeze in childhood
- Asthma
- Allergies: walnuts, grass pollen.

Guidelines produced jointly by the British Thoracic Society (BTS), National Institute for Health and Care Excellence (NICE) and Scottish Intercollegiate Guidelines Network (SIGN) were updated November 2024 to state that the first step in treatment for adults with asthma is a regular low dose inhaled corticosteroid (ICS)/formoterol combination inhaler to be taken as needed — also known as anti-inflammatory reliever therapy (AIR therapy). Mr Jones is not currently managing his asthma to reflect this change in guidance. While it is understandable that individuals turn to their salbutamol due to the instant relief, education is crucial in helping clients understand the rationale for incorporating a low dose ICS with their reliever therapy (Levy et al, 2024).

Patients with a higher level of knowledge, skills and confidence to manage their health condition require 19% fewer GP appointments and have 38% fewer attendances to A&E (Barker et al, 2017). Nurses in primary care play a critical role in supported self-management, as they are well placed to provide tailored education, encourage adherence to treatment, and can build relationships through regular interactions (NHS England, 2024).

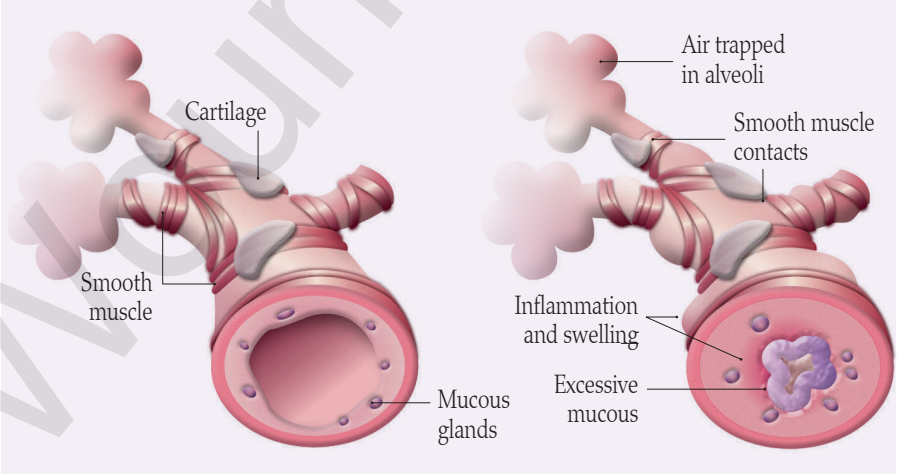


Figure 1.
Normal and narrowing airways found in asthma.

MOTIVATIONAL INTERVIEWING AND SELF-MANAGEMENT

Motivational interviewing (MI) is a method of communication GPNs can use to promote self-management. It emphasises collaboration between the patient and nurse, rather than coercion or judgement, to strengthen the patient's motivation to achieve their health goals and lead to lasting behavioural changes. MI involves reflective listening, empathy, and the use of open-ended questions to help patients explore and resolve their

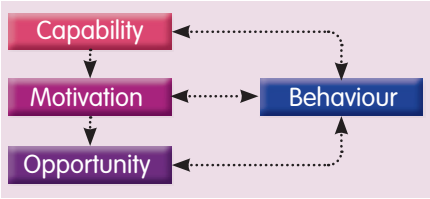


Figure 2.
COM-B model for behaviour change.

ambivalence about change (Emery and Wimmer, 2023). Communication models such as OARS (open questions, affirmations, reflective listening and summaries) can be used as an adjunct to MI (Miller and Rollnick, 2013) and is particularly effective in addressing long-term condition management (Gesinde and Harry, 2018; Bischof et al, 2021).

A barrier however to traditional MI methods is time (Söderlund et al, 2011). An efficient tool that can be utilised by nurses in practice is the COM-B model of behaviour change (Michie et al, 2011; *Figure 2)*. According to this approach, for a behaviour change to occur, one must have the capability and opportunity to engage in the behaviour, as well as the motivation to overcome barriers (Michie et al, 2014). GPNs can help patients identify their capabilities, opportunities and motivations, providing support and positive reinforcement over time to help lead to successful behaviour change.

For example, with Mr Jones, it is crucial to establish what is important for him and what his drivers might be in smoking cessation.

MR JONES' STORY

Mr Jones mentions to the GPN that he would like to stop smoking due to his recent respiratory symptoms. His partner is supportive and also wants to help him stop smoking. However, they are not sure where to start.

From Mr Jones' story, it is clear that the capability is there: he would like to stop smoking, his motivation is his recent symptoms, and his supportive partner provides an opportunity. His current deterioration in symptoms also offers the GPN with an opportunity to provide education on AIR therapy. For example, they could explain that using the preventer inhaler daily is key to reducing airway inflammation. Using an AIR or maintenance and reliever therapy (MART) regimen is a good way to combine his preventer medication with a quick-relief medicine, like formoterol.

Practice point

Pause and reflect: what are the COM-B phrases in Mr Jones' case?

"The low proportion of patients receiving annual reviews suggests missed opportunities for monitoring disease control and optimising treatment plans, putting patients more at risk. Furthermore, the high prevalence of excessive SABA inhaler use underscores the need for improved patient education and supporting self-management strategies...

Despite a change in guidance and research demonstrating that AIR therapy and MART can effectively reduce severe exacerbations, the adoption of these therapies and the advice given for patients with asthma are inconsistent across primary care networks (PCNs) (Levy et al, 2023; 2024; Tan et al, 2024). However, the release of the joint BTS/SIGN/NICE asthma guidance presents an opportunity to assess guideline adoption and its impact on clinical practice.

PERSONALISED ASTHMA ACTION PLANS (PAAPs)

Once a regimen has been established with patients like Mr Jones, a personalised asthma action plan (PAAP) should be put in place. PAAPs outline which steps to take when symptoms worsen, detailing how to adjust medications and when to seek medical help, and include emergency contact information and a list of symptoms indicating a need for immediate medical attention. By offering tailored advice based on each patient's unique triggers and medical history, PAAPs aim to reduce the frequency and severity of asthma attacks, improve overall asthma control, and enhance patient quality of life (Hynes et al, 2019; Pinnock et al, 2023).

The 2014 UK National Review of Asthma Deaths (NRAD, 2014) identified that 77% of those who died due to asthma had no evidence of being provided with a PAAP or a self-management plan, despite being recommended by guidelines at the time. NRAD panels concluded that overall care was poor in over 80% of those that died from asthma, and 45% of patients failed to call for medical assistance during their final fatal attack. It has been suggested that this was due to patients not recognising the danger signs of an attack, or not knowing when to call for help (Levy, 2015).

Yet 10 years on from the NRAD report, asthma mortality has increased by 23.7% (Asthma + Lung UK, 2024). Data from 2024 shows that only 64.6% of patients with asthma have had a review in the last 12 months, despite guidelines recommending a yearly review (NICE, 2021). An observational study of asthma-related health outcomes associated with SABA use conducted by Bloom et al (2020) found that 38% of the 574,913 participants had high SABA inhaler use, which was associated with poorer health outcomes; including a higher risk of exacerbations and higher reliance on healthcare systems.

These statistics highlight significant gaps in asthma management and adherence to clinical guidelines, which may have contributed towards the worsening health outcomes and increased mortality rates. The low proportion of patients receiving annual reviews suggests missed opportunities for monitoring disease control and optimising treatment plans, putting patients more at risk. Furthermore, the high prevalence of excessive SABA inhaler use

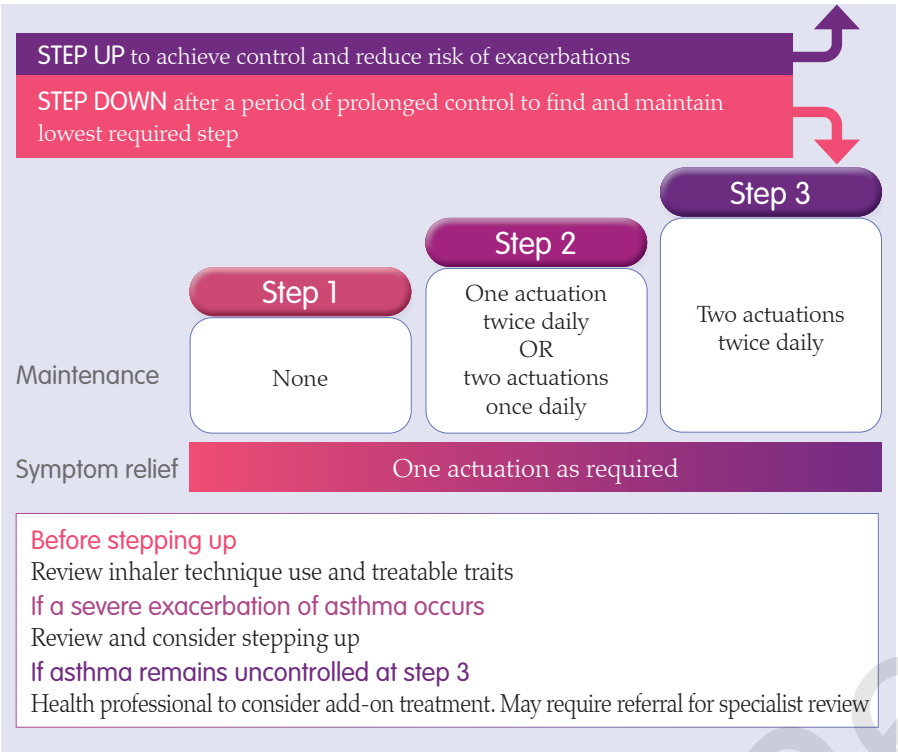


Figure 3.
New Zealand AIR stepwise treatment track based on the combination budesonide–formoterol 200mcg/6mcg (adapted from Levy et al, 2024).

underscores the need for improved patient education and supporting self-management strategies to reduce reliance on rescue medications and decrease healthcare burdens. One opportunity which could be adopted is to implement the New Zealand strategy of a simple three-step asthma guideline, alongside a PAAP (Levy et al, 2024) (*Figure 3*).

GPNs are well placed to effectively identify and address barriers to care, empowering patients to take an active role in managing their asthma. Supporting the creation and regular review of PAAPs facilitates self-management by providing patients with tailored guidance and clear strategies to control their condition (Hynes et al, 2019; NICE, 2021). By emphasising self-management within nursing practice, and allocating resources to support this, the profession can deliver more effective and empowering care for asthma patients, ultimately improving health outcomes and quality of life (Pinnock, 2015; British Lung Foundation [BLF], 2016; Pinnock et al, 2023).

Mr Jones' story highlights the critical role of self-management in asthma care. With the nurse adopting a MI approach, or through applying the COM-B model, he can move from feeling overwhelmed to taking ownership of his health. By addressing his individual barriers and setting realistic goals, he can regain control over his asthma and improve his quality of life. This patient story illustrates that with the right support and time, even patients facing multiple challenges can achieve better health outcomes. GPN

> **"By emphasising self-management within nursing practice, and allocating resources to support this, the profession can deliver more effective and empowering care for asthma patients...**

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Revalidation Alert

Having read this article, reflect on:

- Your understanding of the pathophysiology of asthma
- What can trigger an asthma attack
- The recommendations in the new BTS/NICE/SIGN (2024) guidelines for managing asthma
- How you support patients to self-manage their asthma
- Why PAAPs are important.

Then, upload the article to the free GPN revalidation e-portfolio as evidence of your continued learning: www.gpnursing.com/revalidation

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Key points

- Asthma is one of the most common long-term conditions (LTC) in the world.
- Nurses in primary care play a critical role in supported self-management, as they are well placed to provide tailored education, encourage adherence to treatment, and can build relationships through regular interactions.
- Patients with a higher level of knowledge, skills and confidence to manage their health condition require 19% fewer GP appointments and have 38% fewer attendances to A&E.
- Despite a change in guidance and research demonstrating that AIR therapy and MART can effectively reduce severe exacerbations, the adoption of these therapies and the advice given for patients with asthma are inconsistent across primary care networks (PCNs).
- PAAPs outline which steps to take when symptoms worsen, detailing how to adjust medications and when to seek medical help, and include emergency contact information and a list of symptoms indicating a need for immediate medical attention.
- With the right support and time, even patients facing multiple challenges can achieve better health outcomes.

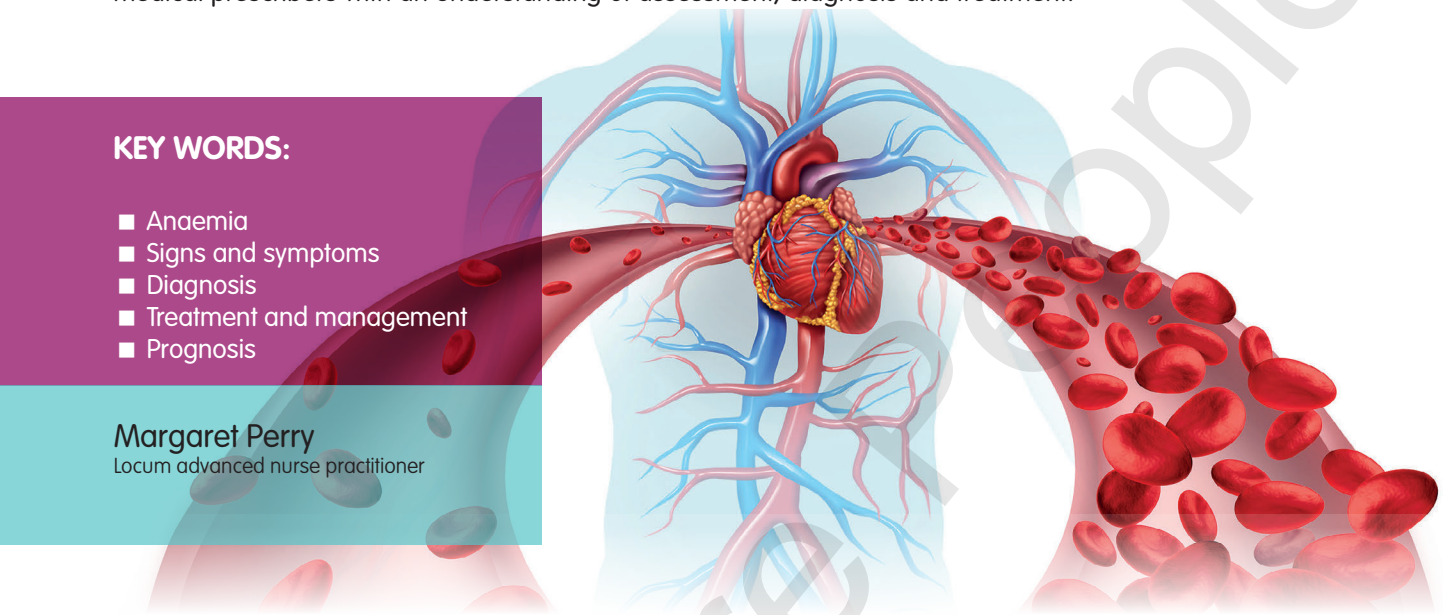
Anaemia of chronic disease and iron deficiency anaemia in adults

Anaemia is a common condition occurring worldwide. There are several different forms of anaemia, with iron deficiency anaemia (IDA) and anaemia of chronic disease (ACD) being two of the most prevalent types. Both have similar symptoms but are associated with different causes. Differentiating between the two types and confirming the diagnosis can be a difficult process. This article gives an insight into these two diseases, providing nurses and non-medical prescribers with an understanding of assessment, diagnosis and treatment.

KEY WORDS:

- Anaemia
- Signs and symptoms
- Diagnosis
- Treatment and management
- Prognosis

Margaret Perry
Locum advanced nurse practitioner



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Anaemia is a common condition, affecting people around the world. There are several different types, of which iron deficiency anaemia (IDA) is the most prevalent, with 30% of the population worldwide affected (Kumar et al, 2022). Anaemia of chronic disease (also known as anaemia of chronic inflammation) (ACD) is the second commonest type and is the most frequently diagnosed among patients admitted to hospital (Poggiali et al, 2014). Both conditions affect quality of life and have some shared signs and symptoms, making diagnosis challenging. This article gives nurses and non-medical prescribers an overview of both conditions with the aim of increasing confidence in recognising and managing these conditions.

PREVALENCE

IDA is particularly prevalent in lower income regions such as South Asia, sub-Saharan Africa and the Caribbean, but is also a problem in developed countries. In the UK alone, 3% of men and 8% of women suffer with the problem (National Institute for Health and Care Excellence [NICE], 2023). At least 10% of gastroenterology referrals and an estimated 57,000 emergency admissions to hospital occur because of IDA (NICE, 2023).

Prevalence of ACD increases with age and approximately 77% of elderly patients are affected. Estimates suggest that up to 40% of anaemias worldwide can be considered ACD or a combined anaemia (IDA and ACD), which in total account for one billion affected individuals (Steinbicker and Muckenthaler, 2013).

ANAEMIA TYPES

As well as the conditions discussed here, there are several other variations. These are shown in *Table 1*.

CAUSES

Iron deficiency anaemia

Causes of IDA are due to (Miller 2013; Association for Clinical Biochemistry, and Laboratory Medicine, 2023):

- Dietary deficiency:
  - Insufficient iron in the diet (low intake of iron-rich foods, e.g. meat and dark green vegetables)
  - Vegetarian or vegan diet
  - Elderly and children whose diet is poor and contains insufficient iron
  - Certain drugs (e.g. ranitidine, cimetidine, antacids, and proton pump inhibitors [PPIs] and lansoprazole) change the pH in the stomach altering the body's ability to absorb iron (Wolfenden, 2023)

Red Flags

- IDA is the prevalent anaemia type affecting 30% of the world's population
- ACD is the second commonest type and is the most frequently diagnosed type in patients admitted to hospital
- IDA and ACD have shared symptoms, making diagnosis challenging.

- Other drugs (tetracyclines and quinolones affect absorption by binding to iron)
- Surgical procedures including gastrectomy, duodenal bypass, and bariatric surgery, increase stomach pH and decrease conversion to ferrous iron (Cappellini et al, 2019)
- *Helicobacter pylori* is associated with decreased iron absorption and an increased gastric pH (Cappellini et al, 2019)
- Conditions such as coeliac disease and Crohn's disease affect absorption of iron from the gastrointestinal (GI) tract and over time can lead to anaemia

- Excessive blood loss: this has many causes, and among adult men and postmenopausal women, bleeding from the GI tract is thought to be the commonest cause, and may occur because of gastric or colonic carcinoma, aspirin or non-steroidal anti-inflammatory medications, or gastric ulceration (NICE, 2023). Excessive bleeding during monthly periods (menorrhagia) is the most common cause among younger pre-menopausal women (NICE, 2023)
- Pregnancy: pregnant women frequently suffer with IDA as the baby needs large quantities of iron for growth. Low iron levels can result in low-birth-weight babies and premature delivery (Camaschella, 2019).

Table 1: Other causes of anaemia (Association for Clinical Biochemistry and Laboratory Medicine, 2024)

Condition	Additional information
Pernicious anaemia/ B12 deficiency	Covered in part one of this series (Perry, 2024)
Aplastic anaemia	Aplastic anaemia is usually caused by a reduction in the number of all types of blood cells produced by the bone marrow, and can cause bone marrow failure. The condition is most frequently idiopathic (of no known cause), or can occur following cancer treatments, with autoimmune diseases (e.g. rheumatoid arthritis, or viral infection (e.g. hepatitis or human immunodeficiency virus [HIV])
Haemolytic anaemia	In health, red cells are destroyed after around four months. In haemolytic anaemia, destruction may occur much earlier, sometimes within only a few days. The bone marrow fails to replace the destroyed red blood cells quickly enough, leading to an insufficient number in the bloodstream so that the body's demand for oxygen cannot be met, which results in onset of typical symptoms of anaemia
Sickle cell anaemia	This is a genetic disease caused by the production of an atypical form of haemoglobin (Hb) called sickle haemoglobin (HbS). For children who have inherited only one mutated gene from one parent, the disease usually causes no problems, but if one mutated gene from each parent has been inherited, there is a risk of severe clinical problems. Misshapen red blood cells can cause haemolysis (premature destruction of red blood cells) and blockage of blood vessels, leading to pain and anaemia
Thalassaemia	This is caused by faulty genes that affect the production of Hb, and the condition mainly affects people of Mediterranean, south Asian, southeast Asian, and Middle Eastern origin. There are different types of thalassaemia which can be divided into alpha and beta types, beta thalassaemia major being the most severe type. Screening is available for both thalassaemia and sickle cell disease. All pregnant women in England are offered a test for thalassaemia, those at high risk of being a carrier of sickle cell are often screened
Hereditary spherocytosis	This may be found on a blood film when small abnormal dark red cells are seen. It is caused by an abnormality in the wall of the red cell. Red blood cells have a shortened life span, leading to anaemia
Hereditary elliptocytosis	This is a rare condition affecting the red cell wall. Abnormal cigar-shaped red blood cells can be found on a blood film

Iron deficiency (ID) without anaemia

ID refers to low iron stores that do not meet the body's iron requirements, and although ID decreases haemoglobin synthesis, it is only classed as anaemia once haemoglobin levels fall below certain cut-off values (Al-Naseem et al, 2021). Iron deficiency without anaemia is common and patients may present with unexplained, non-specific symptoms such as weakness, fatigue, difficulty concentrating, and reduced exercise tolerance (Soppi, 2018). Causes are similar to those for IDA and include inadequate dietary intake, increased requirements (e.g. pregnancy and breastfeeding), impaired absorption (e.g. coeliac disease, bariatric surgery), or blood loss (e.g. menstrual, blood donation, or gastrointestinal) (Balendren and Forsyth, 2021). Oral iron is first-line treatment. Recognition of this diagnosis is crucial to ensuring adequate management, especially for patients with chronic conditions such as heart failure where, if untreated, long-term mortality may be increased (Grote et al, 2018). See *Table 3* for guidance on interpreting blood test results.

Anaemia of chronic disease

ACD is a complex condition that accompanies a specific underlying disease (Wicinski et al, 2020). As well as an increased incidence of this type of anaemia among the ageing population, there is a further increased likelihood of developing chronic diseases among this age group, such as malignant tumours and chronic kidney disease (CKD), with an incidence of ACD ranging from 40% in patients with solid tumours, rising to almost 100% among patients with leukaemia or lymphoma (Tas et al, 2002).

Anaemia can independently impact on morbidity and mortality in patients with underlying comorbid conditions associated with ACD, as well as impacting on quality of life (Cullis, 2013).

To further complicate things, some patients may be affected by both anaemia types. Patients with cancer can unfortunately suffer with both IDA and ACD and while the latter is the prominent anaemia type in cancer patients, an estimated 7–42% also have IDA (Naoum, 2016).

There are many associated underlying diseases as shown in *Table 2*.

SIGNS AND SYMPTOMS

Although signs and symptoms of IDA and ACD are similar, symptoms of IDA may appear abruptly, or follow a more insidious onset when there is an underlying cause such as a bleeding gastric ulcer. ACD, on the other hand, develops slowly and there are few, if any indications early on. When the person starts to experience symptoms, as shown below, they are often caused by the underlying condition rather than the ACD itself.

The following symptoms are seen in both IDA and ACD:

- Tiredness and fatigue
- Shortness of breath on exertion
- Feeling dizzy or lightheaded
- Pallor
- Poor tolerance of exercise or physical activity
- Rapid heart rate

(Hazell, 2023).

PATHOPHYSIOLOGY

Iron deficiency anaemia

The pathophysiology of iron metabolism is highly complex. Iron is an essential element and is controlled primarily by several processes. In health, the body needs the ability to monitor and regulate iron absorption, as well as to regulate the amount of iron stored or transported to cells, and also to monitor the recycling process which occurs following the destruction of red cells (Royal College of Nursing [RCN], 2015).

Dietary iron is found in two forms, haem and non-haem. The former is easily digestible and comes from meat, fish and poultry, the latter comes from plant foods (e.g. fruit and vegetables) and is less easily digestible (Kumar et al, 2022).

IDA develops in stages. In the first stage, iron requirement exceeds intake, causing progressive depletion of bone marrow iron stores. As stores decrease, absorption of dietary iron increases to compensate, then during later stages, deficiency progresses to impair synthesis of red blood cells, ultimately causing anaemia (Gerber, 2023).

Anaemia of chronic disease

The pathophysiology underpinning ACD is highly complex. It is thought that systemic inflammation results in immune cell activation and the formation of numerous cytokines (Weiss et al, 2019). Inflammatory cytokines, particularly interleukin (IL), increase production of hepcidin, which binds to ferroportin (a protein involved in the movement of iron from within cells to outside), blocking any transport of iron from macrophages and hepatocytes (Cullis, 2013). These processes cause a reduction in iron absorption by duodenal enterocytes and, in combination, this leads to a state of iron deficiency and the resulting associated symptoms (Cullis, 2013).

DIAGNOSIS

A thorough history may offer some clues to identify the cause of the patient's symptoms. This should include past medical history, current symptoms, how long they have been troubling the patient for, and current and past medications and family history.

Iron deficiency anaemia

In some cases, the cause may be obvious (e.g. women with severe menorrhagia). A full blood count (FBC) will provide sufficient information to confirm the diagnosis.

Table 2: Diseases associated with anaemia of chronic disease (Cullis, 2013)

Disease types	Additional information
Infections	Can be associated with viral, bacterial, fungal, or parasitic infections
Malignancies	Solid tumours and haematological malignancies
Autoimmune diseases	Including rheumatoid arthritis, sarcoidosis, inflammatory bowel disease, vasculitis, systemic lupus erythematosus (SLE) and related conditions
Renal disease	Chronic renal failure
Cardiac conditions	Chronic heart failure

Red Flags

- IDA has many causes, including dietary insufficiency, insufficient iron absorption and excessive blood loss
- ACD is associated with an underlying cause
- Chronic diseases, such as cancer, CKD, and cancer treatments, such as chemotherapy and radiotherapy, are often associated with ACD
- Both IDA and ACD can be present in some patients.

Anaemia of chronic disease

The diagnosis of ACD is more complex as there is no specific blood test to confirm the cause of symptoms. The exclusion of other anaemia types and investigations to diagnose the underlying cause are key.

INVESTIGATIONS

When trying to confirm anaemia type, a range of blood tests may be requested, which include FBC as well as B12 and folate levels to help exclude other anaemia types. A good understanding of the parameters reported will help clinicians with decision-making, as explained below (Bouri and Martin, 2018).

A FBC measures several parameters and gives information concerning the size, number, and types of various cells found in the blood, including the following:

- Haemoglobin levels (Hb): Hb can be low in both IDA and ACD (Cullis, 2013). Therefore, other tests are needed to confirm the underlying cause of the patient's symptoms
- Mean cell volume (MCV) and mean cell haemoglobin (MCH): in IDA, the lack of haemoglobin in the cells leads to reduced levels of MCH. In addition, cells are smaller because of the reduction in haemoglobin which then causes a low MCV level (RCN, 2015). In ACD, MCV and MCH may be normal or low (Bouri and Martin, 2018)

- Red cell distribution width (RDW): the RDW is a measurement reflecting the variation in the diameter of the red cells. It is typically elevated in patients with IDA, B12 deficiency and folate deficiency, but is normal in ACD associated with haemoglobinopathies (thalassaemia and sickle cell disease) (Bouri and Martin, 2018).

Further tests, as follows, are needed to differentiate between IDA and ACD.

Iron studies

Iron studies are used to assess the amount of circulating iron and stored iron, and include serum iron level, transferrin, total iron binding capacity (TIBC), in addition to ferritin levels.

Serum ferritin level

When serum ferritin is the only low parameter, this is diagnostic of IDA (Bouri and Martin, 2018). Iron is stored as ferritin within cells and the level is raised in the presence of infection, malignancy, or chronic inflammation. This makes diagnosis particularly challenging when ferritin is raised and there is also iron deficiency. Further tests are then indicated.

Serum iron

Serum iron is a measure of the amount of iron bound to transferrin, although this accounts for only a small proportion at any one time (Peng and Uprichard, 2016). There is a rapid turnover of transferrin-bound iron and circulating iron concentration can be affected by dietary intake and, as a result, there is significant variation in iron concentration within each day and between days. For this reason, assessment of serum iron alone provides little helpful clinical information (Peng and Uprichard, 2016).

Total iron binding capacity (TIBC) and transferrin

TIBC determines the amount of iron which can be bound to unsaturated transferrin. However, it is of no use in diagnosing early iron deficiency as values do not change until iron stores are depleted (Peng and Uprichard, 2016).

Table 3: Differentiating between IDA and ACD (Balendren, 2021

Laboratory marker	ID without anaemia	IDA	ACD	IDA/ACD
Hb	Normal	Low	Low	Low
MCV/MCH	Low	Low	Normal or low	Low
Inflammatory markers	Negative	Negative	High	High
Ferritin	Low	Low	Normal or high	Normal or low
TIBC	Normal or high	Raised	Normal or low	Normal or high
Transferrin saturation	Low	Raised	Low	Low

Transferrin saturation

Both serum iron levels and transferrin saturation are decreased in patients with ACD, but transferrin levels are increased in IDA, and are normal or decreased in ACD. However, transferrin saturation has poor sensitivity and specificity when used in isolation (Cullis, 2013), so needs to be analysed alongside other measurements.

Table 3 summarises the interpretation of the above.

TREATMENT

Iron deficiency anaemia

There are many ways to treat and prevent IDA and nurses and non-medical prescribers can offer dietary advice which may be helpful in correcting deficiency. Eating a healthy diet, which includes foods that are rich in iron (e.g. red meats, fish, dark green vegetables, poultry, beans and lentils and fortified cereals), as well as vitamins and nutrients. Foods rich in vitamin C (such as fruits and vegetables) should be encouraged, as they help the body to absorb iron (World Health Organization [WHO], 2023). Certain foods (bran in cereals, wholewheat flour, oats, tea, coffee, and cocoa) slow down iron absorption when consuming iron-rich foods, so are best avoided (WHO, 2023).

If oral medication is needed, this aims to return abnormal haemoglobin levels to within the normal range and restore iron stores to an acceptable level. NICE guidelines recommend ferrous sulfate 200mg, ferrous fumarate or ferrous gluconate once daily for three months and this should be continued for three months after the iron deficiency is corrected to allow stores to be replenished (NICE, 2023). Unpleasant adverse effects can be problematic, but can be improved if the tablet is taken with food. If not, NICE guidance recommends reducing the dose to alternate days (NICE, 2023).

Anaemia of chronic disease

There is no specific treatment for ACD so treating the causal condition forms a key part of management. Underlying conditions associated with ACD are associated with increased morbidity and mortality as well as impacting on quality of life. Treatment of the underlying condition, e.g. use of steroids in polymyalgia rheumatica or improved management of other conditions, such as HIV or rheumatoid arthritis, will often result in improvement and mean that specific correction of anaemia is often unnecessary (Cullis, 2013). Iron therapy is rarely thought to be beneficial, except in patients with advanced cancer or cardiac failure, where the degree of anaemia

Red Flags

- Confirming the diagnosis can be a complex process
- Symptoms of IDA and ACD are similar
- IDA can appear abruptly or more slowly depending on the underlying cause
- ACD develops slowly and is often asymptomatic in the early stages and when symptoms do develop they are due to the underlying condition.

reflects the severity of the underlying cause, so correction may improve both prognosis and quality of life (Cullis, 2013).

PROGNOSIS

For the majority, once treated, IDA has a favourable outcome. Although rare, when the anaemia has been caused by an underlying disease with a poor prognosis (e.g. malignancy) or a serious comorbidity, the prognosis is likely to be less favourable.

In ACD, prognosis will be affected by multiple factors and is difficult to predict. The underlying condition associated with the ACD and its severity, alongside the patient's age and health status and presence of additional comorbid diseases, will all affect morbidity and mortality.

CONCLUSION

Anaemia of any type is an unpleasant condition and has several causes with variable symptoms. This article has given an overview of two of the most common types, IDA and ACD, to give nurses and non-medical prescribers an insight into the symptoms, underlying pathophysiology, treatment, and management. Differentiating between the two types can be a complicated process, so it is hoped that including assessment of blood test results will help nurses to confirm diagnosis and offer appropriate treatment. GPN

Key points

- There are several different forms of anaemia, with iron deficiency anaemia (IDA) and anaemia of chronic disease (ACD) being two of the most prevalent types.
- Both conditions affect quality of life and have some shared signs and symptoms, making diagnosis challenging.
- A thorough history may offer some clues to identify the cause of the patient's symptoms.
- When trying to confirm anaemia type, a range of blood tests may be requested, which include FBC as well as B12 and folate levels to help exclude other anaemia types.
- There are many ways to treat and prevent IDA and nurses and non-medical prescribers can offer dietary advice which may be helpful in correcting deficiency.
- There is no specific treatment for ACD, so treating the causal condition forms a key part of management.

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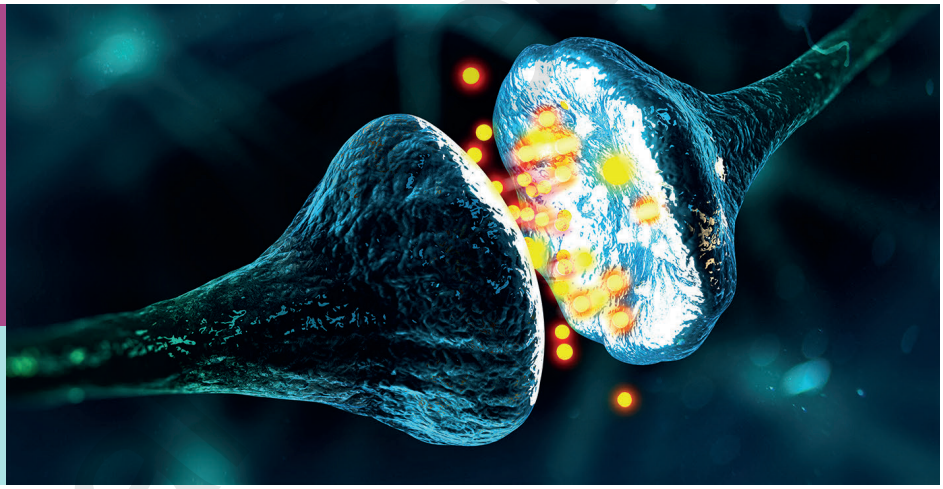
Management of pain in leg ulceration: an overview

The purpose of this article is not to discuss the pathophysiology of pain in detail, but to focus on the clinical importance of assessing and managing leg ulcer pain. Effective pain management is crucial for improving patient comfort, promoting wound healing and improving overall quality of life. The article explores how to assess pain, including the importance of understanding a patient's pain experience, use of pain scales, and distinguishing between different types of pain. It also discusses pharmacological approaches to pain relief and offers suggestions as to how healthcare professionals can minimise pain during dressing changes, a frequent source of distress for patients with leg ulcers.

KEY WORDS:

- Leg ulceration
- Pain
- Assessment
- Wound infection
- Pain at dressing changes
- Pharmacological management



Annemarie Brown

Annemarie Brown, independent tissue viability nurse consultant

In recent years, there has been increasing awareness of the pain caused by chronic wounds, such as arterial and venous leg ulcers, which has been described as unremitting, debilitating and having a severe negative impact on patient quality of life (Vishwanath, 2014; Newbern, 2018). According to Sibbald et al (2022), relief of pain is often the foremost concern of patients, whereas for healthcare professionals, healing the wound may be the main priority of treatment.

Assessing and managing pain is not always straightforward, as current assessment methods tend to depend on the patient self-reporting and issues such as gender differences, cultural backgrounds, and individual experiences, may impact on whether a patient will report experiencing pain (Serena et al, 2016; Frescos, 2018).

DEFINITION OF PAIN — ACUTE AND CHRONIC

A simplified definition of pain by the International Association for the Study of Pain (IASP) in 1979 was: 'an unpleasant sensation and results from the brain's response to actual or potential tissue injury'. In 2020, the IASP updated and expanded their definition of pain as:

- Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors
- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons
- Through their life experiences, individuals learn the concept of pain
- A person's report of an experience of pain should be respected
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological wellbeing
- Verbal description is only one of several behaviours to express pain; inability to communicate does not negate the possibility that a human or a non-human animal experiences pain.

Pain serves as an initial protective role to alert the person that tissue damage has occurred and to signal that rest is required to allow the damaged tissues to regenerate (He and Kim, 2024). Holloway et al (2024) have defined this as 'acute pain'. However, in chronic wounds, such as leg ulceration, this initial protective mechanism is not needed as the wound may be present for a long time. The IASP defined chronic pain as 'pain that persists for three months or more and that it can persist despite successful management of

the condition that initially caused it, or because the underlying medical condition cannot be treated successfully' (IASP, 1979, in Holloway et al, 2024: 11).

Holloway et al (2024) have adapted the 2004 World Union of Wound Healing Society (WUWHS) consensus document definition of wound-related pain, which can be categorised as:

- Operative pain
- Background pain
- Procedural pain
- Incident-related pain.

OPERATIVE PAIN

Operative pain refers primarily to pain as a result of surgery. Small and Laycock (2020) estimated that 20% of patients experience severe pain in the first 24 hours after surgery, a figure that has remained unchanged in the past 30 years. Following a surgical procedure, multiple physiological responses are triggered within the peripheral and central pain pathways, resulting in feelings of fear, anxiety, and frustration for the patient (Small and Laycock, 2020). Although pain tends to decrease after the first few days after surgery in the majority of patients, some experience a static or ascending trajectory in pain and analgesic requirements (Small and Laycock, 2020).

BACKGROUND PAIN

Background pain is caused by the underlying pathology of the leg ulceration and wound itself. Leren et al (2020; 2021) however suggest that, from a clinical perspective, it is difficult for persons with chronic leg ulceration to separate the experience of background pain from incidence pain. Patients may use the descriptors throbbing, tender and burning to describe their pain. Early studies have found that patients with leg ulceration describe their background pain as intermittent and worse during standing than at rest (Gonçalves et al, 2004; Park et al, 2008; Taverner et al, 2014).

PROCEDURAL PAIN

Procedural pain occurs when wound interventions take place, such as dressing changes, debridement, biopsies, or wound cleansing (Holloway et al, 2024). Dressing changes and wound cleansing can be particularly painful and stressful, if inappropriate dressings or cleansing methods are used. An increased sensitivity to pain can make the procedure excruciatingly painful and can result in anxiety and depression as a result of psychological stress (Matsuzaki and Upton, 2013). Price et al (2008) found that >30% of patients with wounds experienced dressing-related pain most or all of the time, and 60% of the sample reported that the pain took longer than one hour to resolve. Woo et al (2009) found comparable results and suggested that patients with wound margin maceration and skin damage were likely to experience increased pain even before a dressing change took place. Holloway et al (2024) estimate that 74% of patients with open wounds experience moderate-to-severe pain as a result of wound care procedures.

INCIDENT-RELATED PAIN

Holloway et al (2024) describe incident or breakthrough pain as pain that can occur at any time during day-to-day activities, e.g. mobilisation causing the dressing to slip down, coughing putting pressure on a wound, repositioning or turning.

Leren et al (2020; 2021) found the most frequently reported descriptors of background pain were 'tender', 'stabbing', 'aching', and 'hot burning' and that the pain was intermittent. In their study, Leren et al (2021) found that less than 60% had analgesics prescribed specifically for ulcer-related pain and suggest that despite the publication of clinical guidelines and consensus documents on managing leg ulcer pain, background pain is still not effectively assessed or addressed (Frescos, 2018; Leren et al, 2020; 2021). Frescos (2018) suggests that an explanation for not assessing wound pain may be that many practitioners do not know what to do with the pain score or how to manage it and, therefore, do not assess the pain.

MANAGING LEG ULCER PAIN — A CHALLENGE

The nature of the pain experienced by patients with leg ulcers can be a combination of acute, chronic, nociceptive, or neuropathic, making this pain quite complex to manage (Taverner et al, 2014; Kirkcaldy et al, 2023).

Nociceptive pain

Nociceptive pain is caused by tissue damage and is localised to the actual wound and the surrounding tissues (Sibbald et al, 2022). The pain may be described as 'aching', 'gnawing' or 'throbbing'. Nociceptive pain has been described as an early-warning sign to detect and minimise contact with a damaging or noxious substance (Woolf, 2010). Examples of this would be the sensation felt when touching something too hot, too cold, or sharp (Woolf, 2010). When a person feels this pain, the withdrawal reflex is activated and the unpleasant sensations felt results in the person avoiding whatever is causing the pain, i.e. taking their hand away from the heat. Woolf (2010) suggests that nociceptive pain is a protective mechanism, which will overrule all other neural functions and is therefore considered to be a pain essential for maintaining bodily integrity.

Neuropathic pain — allodynia and hyperalgesia

The presence of a non-healing or longstanding wound may result in neuropathic pain and changes in sensation as a result of nerve damage to the central nervous system (Sibbald et al, 2022).

This can result in increased sensitivity of the peripheral pain receptors, which is called primary hyperalgesia, and increased transmission of pain impulses to and within the brain, called secondary hyperalgesia (Mudge and Orsted, 2010). Primary hyperalgesia is when intense pain is felt in situations that would not normally cause pain, such as peeling off an adhesive dressing from a normal periwound area. This extreme pain may lead healthcare professionals to label and dismiss the patient's reports of pain as over-reacting and exaggerated (Matsuzaki

and Upton, 2013). Other stimuli, such as pressure and contact, which are not normally painful, may cause pain. For example, a slight draught from an open window onto the wound bed, or just a light touch to the wound may cause pain — this is known as allodynia (He and Kim, 2024).

Allodynia is different from hyperalgesia, which is an exaggerated response from a usually pain-free stimulus, although both can and often do co-exist (He and Kim, 2024). Both allodynia and hyperalgesia are types of neuropathic pain. Patients who have neuropathic pain may describe their pain with descriptors such as 'stabbing' 'numb' or 'pins and needles' 'cutting' or 'burning'. Nociceptive and neuropathic pain have different physiological causes and require different pharmacological management (Jensen and Finnerup, 2014; Sibbald et al, 2022).

ASSESSING PAIN

Pain assessment should form part of the initial wound assessment and there are many pain tools available. In venous leg ulceration, leg ulcer pain should be assessed and managed before the start of compression therapy. If the patient's pain is not adequately addressed, it is likely that compression will not be tolerated (Barnsbee et al, 2019; Folguera-Alvarez et al, 2020). Patients with arterial ulceration are likely to be experiencing neuropathic pain and pain relief should be the first priority of treatment, particularly if there is only limited possibility of healing the ulcer (Sibbald et al, 2022).

The most commonly used assessment tools are the pain ruler (Bourbonnais, 1981) (*Figure 1*), the numerical rating scale (Downie et al, 1978); the visual analogue scale (VAS) (Huskinsson, 1974); the verbal descriptor scale (Keele, 1948) and the short-form McGill Pain Questionnaire (Melzack, 1987). Whichever tool is used, it should be used regularly and consistently to assess the effectiveness of any analgesia prescribed and allow pain to be quantified. Sibbald et al (2022) suggest that the numeric rating scale (0–10) is typically used and

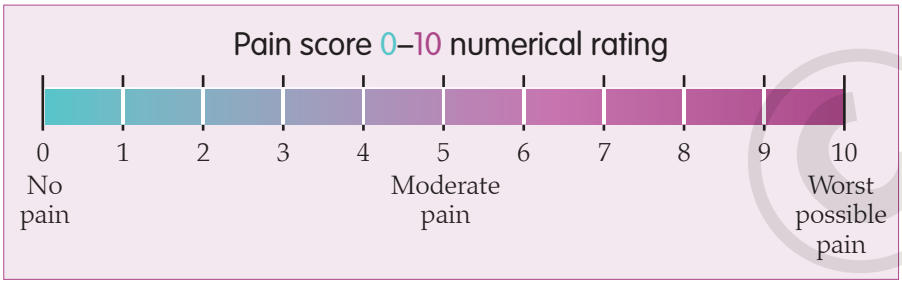


FIGURE 1.
Pain ruler (Bourbonnais, 1981).

reported pain levels of five or greater require intervention. In Hellström et al's (2016) study of patients with leg ulceration, approximately 50% of their sample of 1824 patients experienced pain, with five being the most common rating on the numerical rating scale for pain.

Assessing pain, however, should not just be limited to the use of a formal pain assessment tool. Observing the patient for non-verbal cues, such as grimacing, guarding the area and limited movement together with the use of verbal cues, such as the patient's description of the pain, will help healthcare professionals determine whether the pain is of neuropathic or nociceptive origin. Sibbald et al (2022) suggest that healthcare professionals consider the six Cs in pain management, namely:

- C – every patient should be **checked**
- C — the **cause** of the pain should be investigated
- C — the **consequences** of treatment explained (and adverse effects explained)
- C — adequate pain **control**
- C — the ability to **call** for 'time out' when pain becomes severe during procedures
- C — **comfort**. The right to feel as little pain as possible.

Every pain assessment and action taken should be documented in the patient's notes, as Sibbald et al (2022) suggest that if no pain assessment or management is documented, this will indicate that no pain management has been undertaken.

PAIN AS A RESULT OF WOUND INFECTION

In wound infection, pain occurs following the instigation of the inflammatory process, as the tissues respond to the invading microorganisms, a process during which enzymes and free radicals are released into the wound (Cutting et al, 2013). According to Cutting et al (2013), it is now widely accepted that an increase in pain or a change in the nature of pain, unexplained pain or tenderness in acute and surgical wounds, or the development of pain in a previously pain-free wound is a reliable indicator of wound infection. Healthcare professionals should therefore be mindful of this when assessing a patient's pain.

PAIN DUE TO WOUND DRESSINGS AND DRESSING CHANGES

Cutting et al (2013) found that some of the more traditional dressings, such as basic contact layers, gauze, some adhesive dressings, film dressings, tapes and negative pressure wound therapy (NPWT) drapes and foams have the potential to cause pain on dressing removal. Price et al (2008) conducted a study on pain experienced by 1863 patients at dressing change in chronic wounds. They found that 149 of the 492 patients with venous leg ulceration suffered pain up to one to two hours post dressing change, with 65 up to three to five hours, and 47 experiencing pain up to more than five hours post dressing change.

MINIMISING PAIN AT DRESSING CHANGES

Briggs and Torra i Bou (2002) offer some tips to minimise pain at dressing changes, including:

- Do not allow dressings to dry out and stick to the wound. Ensure they are replaced according

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to exudate volume and the manufacturer's recommendations
- Always ensure an appropriate secondary dressing is used over primary dressings, such as hydrogels, hydrofibres and alginates. These products need to have a moist environment to be most effective
- When removing adhesive dressings, ensure that the surrounding skin is supported by placing a hand on the area
- Soaking to remove stuck on dressings is no longer recommended (Moffatt et al, 2002). If wound products adhere to the wound, consider changing to less absorbent dressings or silicone-coated dressings. Consider the use of adhesive-removal products
- Consider whether the patient can remove their own dressing, and, in their own time if possible
- Ensure the environment is draught free, for example, not near an open window or anywhere with a change of temperature. This will minimise allodynia.

PHARMACOLOGICAL APPROACH TO MANAGING WOUND PAIN

When managing wound pain with analgesia, healthcare professionals need to establish whether the pain is neuropathic, nociceptive or a combination of both, as different forms of analgesia may be required. In addition, the level of pain experienced should be assessed initially, and on an ongoing basis.

The most commonly used regimen for managing wound pain was adapted by Senecal (1999) and is based on the World Health Organization Analgesic Ladder (WHO, 1996) (*Figure 2*).

The British National Formulary (BNF, 2024) recommends the use of amitriptyline hydrochloride, pregabalin or gabapentin for neuropathic pain. However, patients should be counselled that these are given for pain management, not for depression or epilepsy. They also suggest that some opioid analgesics, such as tramadol, morphine or oxycodone may be helpful in managing neuropathic pain, but advise that these should only be prescribed in consultation with medical professionals.

STEP 1
- Use non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin or ibuprofen in combination with a local anaesthetic, such as Emla cream if appropriate.

STEP 2
- Add a mild opioid, such as codeine (use oral medication if possible).

STEP 3
- Replace the mild opioid with a potent opioid, such as buprenorphine or morphine.

FIGURE 2.
Analgesic ladder (adapted from WHO, 1996).

CONCLUSION

All types of leg ulcers are painful wounds. Assessing the patient's pain level should always be the healthcare professional's first priority, before progressing onto differential diagnosis, wound assessment, and treatment strategies. When implementing compression therapy if appropriate, reducing the initial pain to manageable levels will ensure that it will be more acceptable to the patient. Patients also need to be assured that the compression will reduce the pain further once the oedema resolves and the ulcer starts to heal. Pain assessment should not be a one-off process and should be regularly reviewed and adjusted accordingly.

Management of the pain in arterial ulceration is a fundamentally important part of treatment and healthcare professionals should always be mindful of how pain can impact negatively on a patient's quality of life and how pain relief may be more important than healing to these patients. GPN

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Revalidation Alert

Having read this article, reflect on:

- Why a person's report of their experience of pain should be respected
- Your knowledge of the different types of wound-related pain
- Pain assessment tools you use in practice
- Why it is important to document pain assessment and treatment options instigated.

Then, upload the article to the free JCN revalidation e-portfolio as evidence of your continued learning: www.journalofpracticenursing.co.uk/revalidation

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Key points

- Pain caused by chronic wounds, such as arterial and venous leg ulcers, has been described as unremitting, debilitating and having a severe negative impact on patient quality of life.
- Relief of pain is often the foremost concern of patients, whereas for healthcare professionals, healing the wound may be the main priority of treatment.
- The nature of the pain experienced by patients with leg ulcers can be a combination of acute, chronic, nociceptive, or neuropathic, making this pain quite complex to manage.
- Pain assessment should form part of the initial wound assessment and there are many pain tools available.
- Every pain assessment and action taken should be documented in the patient's notes.
- If no pain or management is documented, this will indicate that no pain management has been undertaken.
- A person's report of an experience of pain should be respected.

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Children and young people's mental health: helping CYP to thrive

The mental health and wellbeing of children and young people (CYP) is an area of growing concern, with many experiencing challenges that do not meet the threshold for specialist services but still requiring support. General practice nurses (GPNs) regularly come across young people in their line of work, and those who feel comfortable doing so may be well-positioned to provide some support in this area — be it opportunistically if mental health concerns are identified as part of another presentation, or as the focus of a consultation. Building on the discussion of assessment and referral processes in a previous article (Al-Yassin, 2024), this piece explores practical strategies for supporting CYP with mental health concerns. It describes the widely adopted THRIVE Framework and how the role of the GPN fits into this with a focus on the 'thriving' and 'getting advice' quadrants. This article introduces for the first time the 6S technique, including stigma reduction, simple explanations, self-help, signposting, support and safety netting, and provides comprehensive resources and signposting to guide both new and experienced GPNs in supporting the mental health of CYP.

KEY WORDS:

- Mental health
- THRIVE Framework
- Psychoeducation
- Signposting
- Cognitive behavioural therapy

Dr Amina Al-Yassin
GP with specialist interest in CAMHS, Barnardo's clinical team, The Lonsdale Medical Centre and SPIN fellow at Brent CAMHS

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INTRODUCTION AND THRIVE FRAMEWORK

The first article in this series on children and young people's (CYP's) mental health (Al-Yassin, 2024) outlined the assessment of CYP who present with difficulties related to mental health and wellbeing. The article included information about risk assessment, threshold referrals and how to optimise referrals to secondary mental healthcare services. However, acceptance rates for Child and Adolescent Mental Health Services (CAMHS) referrals can be variable and waiting lists can be long. A poll by the mental health charity stem4 of 1000 GPs revealed that 54% of CAMHS referrals for patients aged 11–18 are rejected, despite referrals being reserved for the most at-risk individuals. For those accepted, 27% wait three to six months, 28% up to 12 months (Bostock, 2020), and 10% over two years (King's Fund, 2024).

"The THRIVE Framework (2019) is a good way of thinking about CYP's mental health and wellbeing and how best to support them.

Among CYP who have been referred to NHS mental health services, 32% were closed without treatment in 2021–2022 (King's Fund, 2024).

It is important to remember that CAMHS, as with all other secondary care specialties, is a specialist service and is most suitable for moderate-to-severe mental health difficulties. For many CYP, other services are more appropriate and may mean that care is offered more quickly. The THRIVE Framework (Wolpert et al, 2019) is a good way of thinking about CYP's mental health and wellbeing and how best to support them. Indeed, many children and adolescent mental health services are now using this to help structure their services (Wolpert et al, 2019). THRIVE describes five levels of need as shown in *Figure 1*, which include

- Thriving
- Getting advice
- Getting help
- Getting more help
- Getting risk support.

The role of general practice nurses (GPNs) in supporting CYP's mental health can also be structured as outlined in *Figure 2*.

This article discusses some important ways that GPNs and other primary care professionals can support CYP to 'thrive' and 'get advice', including psychoeducation, signposting to alternative services, including voluntary and charity

sector organisations, and teaching about self-help techniques, such as grounding, distraction and coping strategies.

KEY CONSIDERATIONS WHEN WORKING WITH ADOLESCENTS

Many CYP seen for issues related to mental health and wellbeing will be adolescents. This is an age group which starts at approximately 12 and spans into early adulthood, and is characterised by a number of social, psychological, hormonal and biological changes. When working with adolescents, it is important to create an environment where they feel comfortable, respected, and supported, and where their increasing independence and capacity are sensitively taken into account. In the author's clinical experience, here are some key points to keep in mind:

- Ensure access: are adolescents able to book appointments directly? How can this be made easier? Long phone queues, appointments during school hours and e-consultation systems that are barred to the under-16s are obstacles that may prevent them from accessing care for sensitive subjects if needed
- Providing private consultations: if a parent or carer accompanies the adolescent, it is a good idea to offer the adolescent the chance to speak to the clinician one-on-one. This can make it easier for them to bring up sensitive topics like mental health or contraception. It also gives them the opportunity to develop essential life skills and health literacy, such as booking appointments, requesting prescriptions, or talking to healthcare professionals. These experiences help prepare them for managing their own health as they transition into early adulthood
- Reinforcing confidentiality: let the adolescent know that what they share is confidential, unless there is a safeguarding concern. Being clear about this can help build trust and encourage them to discuss sensitive subjects which may be important to their health
- Maintaining accurate contact information: ensure that the young person's contact details on record are accurate, as well as those of their parent or carer. This is especially important when following up with information such as safety plans, patient resources, or signposting via text messages from the practice
- Ensuring an appropriate communication style: there are a number of tools which can help when communicating with young people. The first article in this series looked at the OARS and HEEADSSS frameworks (Al-Yassin, 2024). Adolescents appreciate a non-judgemental style which avoids lecturing, listens and validates the distress that they are experiencing, provides empathy and a positive optimistic approach about their self-efficacy and their belief that they are capable of making positive changes (Hall et al, 2012).

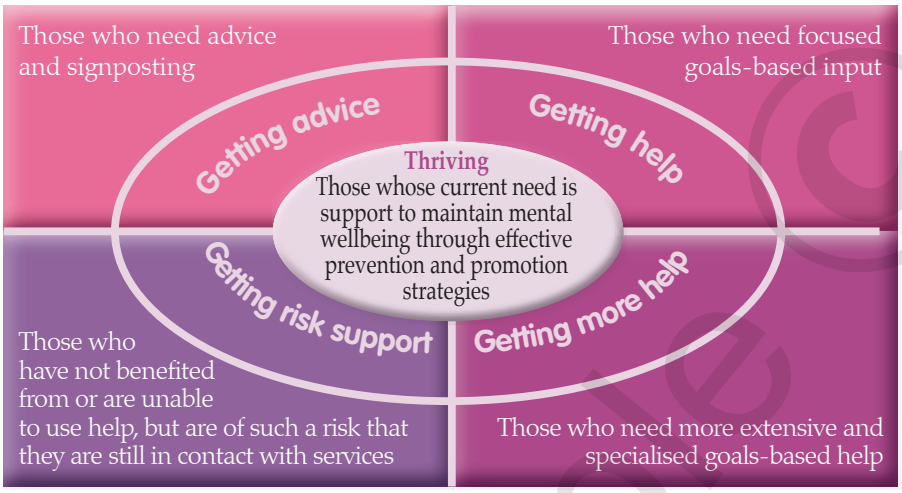

Figure 1.
THRIVE Framework (Wolpert et al, 2019).

EFFECTIVE PREVENTION AND PROMOTION STRATEGIES

According to the Royal College of Paediatrics and Child Health (RCPCH), some 25% of patients seen in primary care are children and primary care is usually the first point of contact for CYP and their families (Gerada, 2010). Ninety-eight percent of the nation's children are registered with an NHS GP and on average are seen three to six times a year into adulthood (Saxena, 2012). Many of these contacts will be with a GPN and these consultations offer an opportunity to provide support and education about staying emotionally and mentally healthy and to identify any emerging concerns to mental health or wellbeing. 'Thriving' is about ensuring that CYP stay happy and healthy and so the advice in this section is relevant to all, whether or not a mental health issue is identified. However, some groups will need a more proactive approach, including those with chronic medical illness or who have family members with mental health issues.

The following section discusses how to encourage positive lifestyle and behavioural measures, including the five ways to wellbeing, sleep hygiene, and problematic smartphone usage.

Five ways to wellbeing

There is a plethora of advice about lifestyle measures that contribute to positive mental health, and these are nicely summarised in the 'Five ways to wellbeing' (*Table 1*), which has been evaluated by the New economics foundation (Aked et al, n.d.) and adopted by many mental health charities. A variety of digital resources and posters are available and can be shared with CYP and their families, such as those developed by the Charlie Waller trust (www.charliewaller.org/resources/five-ways-to-wellbeing-posters).

Sleep hygiene

Sleep is crucial for mental health, memory learning and physical development and yet many CYP report poor sleep habits (Teen sleep hub, https://teensleephub.org.uk/). Therefore, this is an important area

Figure 2.
Alternative structured framework for GPNs when supporting CYP's mental health.

for education. *Table 2* outlines sleep recommendations for age, although every person may be different and some may need more or less (Great Ormond Street Hospital [GOSH], 2023).

The following 12 top tips can be used to encourage good sleep, including some from the teensleephub (https://teensleephub.org.uk/) and Cowan (2024):

- An age-appropriate sleep schedule with consistent bedtimes and wake-times — go to sleep at the same time, even at the weekends (minimal weekday/weekend variation (ideally <2 hours)
- A consistent bedtime routine, ideally with 30–60 minutes 'wind-down' time before bed
- Try and have a 'cave-like' sleep environment — dark, quiet and cool
- Exposure to bright light (preferably sunlight) during the day — open curtains and let natural daylight flood into the room first thing in the morning
- Encourage regular exercise — 20 minutes three times a week will help (not within one to two hours of the desired bedtime)
- Avoid going to sleep too hungry or too full. Have regular daytime meals and appropriate snacking, but avoid large meals within one hour of bedtime. Any evening snacks should be low in sugar and caffeine
- Get into a good bedtime routine — do the same things in the same order before bed
- The bed should be a place for relaxing and sleeping, do not do school work in bed. Ideally, there should be no electronics (TV/computer/tablet/mobile phone) use in the bedroom
- Avoid exposure to bright light, especially electronics, in the one to two hours before bedtime
- Restrict caffeine, including tea, coffee, fizzy and energy drinks; ideally caffeine intake should be in the morning and early afternoon only and not after 4pm
- Alcohol, drugs and nicotine/tobacco all have effects on quality of sleep
- Avoid spending time in bed being deliberately awake. The bed should be for sleep only. Get up if not asleep in 20 minutes and do something boring like reading or a puzzle. Go back to bed when you feel tired.

For more support, CYP and families can be signposted to the national sleep helpline: 03303530541 (check teensleephub.org.uk for opening times and more advice).

Problematic smartphone use

There is emerging evidence about the association between screen exposure and mental health in adolescents, with smartphone use being associated with diminished mental wellbeing and social media use negatively associated with mental wellbeing and, in girls, connected with a higher risk for depression (Santos et al, 2023).

Researchers at King's College studied 657 teenagers aged 16–18 years in England and found that problematic smartphone use was associated with increased anxiety, depression and insomnia. One in eight adolescents wanted help to cut down their use. Some of the most effective strategies included 'do not disturb', 'turning off notifications', setting phone free times and leaving the phone in another bedroom at bedtime. The study highlighted the need for balanced smartphone use and for CYP, their families and schools to work together to achieve good digital hygiene (Carter et al, 2024).

GETTING ADVICE: PSYCHO-EDUCATION, ADVICE AND SIGNPOSTING

The 'getting advice' quadrant of the THRIVE Framework is for CYP and families who need advice and signposting, usually for mild or temporary mental health and wellbeing concerns (Wolpert et al, 2019). However, it is also for those with fluctuating or ongoing severe

Table 1: Five ways to wellbeing (Charlie Waller trust)

Way to wellbeing	What this means	CYP relevant example
Connect	Connecting with people around us	Arrange to meet up with a friend Join a club or team
Keep learning	Learning new things every day	Try out a new recipe Do a sudoku quiz or learn something from an app, e.g. words from a new language
Be active	Staying active and exercising, get your body moving	Try a new dance move Take the stairs not the lift Try to exercise regularly
Give	Doing kind things or giving to others	Try and do one kind thing for someone else every day Give someone a compliment
Take notice	Taking notice of thoughts, emotions and surroundings	Start a gratitude jar — write down three things you are grateful for and pop it in a jar Try a mindful colouring sheet Try a yoga or meditation relaxation exercise

difficulties who are managing their own health. This is the main area of influence for a GPN who, in the author's clinical opinion, may be well-placed to:

- Encourage emotional literacy
- Provide psychoeducation
- Provide advice and signposting to other services or sources of self-help
- Equip CYP and families with appropriate self-help techniques.

This support can be offered to both CYP and the adults that support them with the idea of empowering young people and their families to find the best ways of supporting themselves.

Encouraging emotional literacy

Emotional literacy is the ability to notice and manage emotions and is an important skill in mental health and wellbeing for all CYP. By learning about the natural spectrum of emotions and emotional responses, and how to identify and manage them, CYP are empowered to take control of their emotions and can avoid pathologising normal responses (e.g. anxiety before an exam). The RULER and STOPP techniques are helpful here.

RULER (Yale Centre for Emotional Intelligence)

R Recognise the emotion you are feeling
U Understand your emotion
L Label your emotion
E Express your emotion
R Regulate your emotion.

> **Psychoeducation is the process of educating CYP and families about the nature of their mental health condition, what causes it, its symptoms and how it can be managed.**

STOPP (Williams, 2014)

S Stop
T Take a breath
O Observe what is happening
P Pull back
P Practice what works for you (a variety of techniques are discussed in this article).

Psychoeducation

Psychoeducation is the process of educating CYP and families about the nature of their mental health condition, what causes it, its symptoms and how it can be managed. Despite its apparent simplicity, it is a key mental health intervention as it enables people to develop the knowledge and skills to help themselves and seek appropriate methods of self-help (Lukens and McFarlane, 2004). Psychoeducation also often enables the normalisation of responses which can be crucial. For example, a young person struggling with anxiety might benefit from learning about the physical and emotional symptoms they experience during a panic attack, reducing the anxiety that this may be a life-threatening event, which in itself will reduce both the anxiety and the physical reaction to it during the panic attack itself. In the author's opinion, psychoeducation can reduce the stigma surrounding mental health conditions and can teach simple techniques to manage them. The author has devised the 6S approach to psychoeducation (*Table 3*).

There are many sources of simple, accessible information about mental health and wellbeing for CYP and their families (*Resources* box).

Where onward referral to other services may be inappropriate, or where additional support is required while waiting, signposting can be helpful. This is where CYP or their families are informed about other

Resources

There are many sources of simple, accessible information about mental health and wellbeing for CYP and their families:

- Youngminds: www.youngminds.org.uk/young-person/mental-health-conditions/
- Mental health for children, teenagers and young adults: www.nhs.uk/mental-health/children-and-young-adults/
- Every Mind Matters: www.nhs.uk/every-mind-matters/
- Children and young people's wellbeing: www.annafreud.org/resources/children-and-young-peoples-wellbeing/
- CAMHS resources: www.camhs-resources.co.uk/
- Head Meds: www.headmeds.org.uk/
- Here to help: Our mental health self help guides: https://selfhelp.cntw.nhs.uk/

Table 2: Sleep recommendations for age (adapted from GOSH)

Age	Sleep requirement
1–2 years	11–14 hours including naps
3–5 years	10–13 hours including naps
6–12 years	9–12 hours
13–18 years	8–10 hours

Table 3: 6S approach to psychoeducation (author's own work)

S	Meaning	Example for anxiety
Stigma reduction	Reduce stigma around conditions by explaining that they are common, and not a source of shame or failure	Thanks for talking to me about that... that's really brave... did you know that anxiety is really common and about 300,000 young people in the UK have anxiety? (Royal College of Psychiatrists, 2015). It's nothing to be embarrassed about and it's good you've told me because there is a lot we can do to help
Simple explanation	Providing simple explanations of different mental health conditions using everyday language and signposting CYP to appropriate sources of information online	Anxiety is a normal human reaction to things that are scary or dangerous. So if you were being chased by a lion, your body would kick in the 'fight, flight or freeze' response and that would make your heart beat faster, your palms sweat, your breathing go faster, and it would make you run faster away from the lion and keep you safe. But the problem with anxiety is that sometimes we can feel this way and our brain sets off the 'alarm bell system' even when there is no real source of danger. We all feel anxious from time to time but it becomes a problem when the symptoms are going on for too long, happening too often, or stopping us from doing what we want to do. Anxiety can also become a vicious cycle where our thoughts, behaviour and physical symptoms keep the anxiety going (Cowan, 2024)
Self-help	Equipping CYP with appropriate sources of self-help including practical tools, such as self-help strategies or coping mechanisms, which are crucial for building resilience	Ok, I am going to teach you a trick for when you feel really anxious, it is called 54321. Stop whatever you are doing and look around the room… name five things you can see… touch four things you can feel… listen for three sounds you can hear… notice two things you can smell and then take one deep breath. This is called a 'grounding technique' and it helps to interrupt the anxious thoughts and bring you back to the moment. There are lots of other good tips at: www.anxietyuk.org.uk/resources/
Signposting	Provide advice and signposting to other services or sources of self-help, including voluntary and charity sector organisations	If you find that your anxiety is continuing and you'd like to talk to someone about it, then try this online counselling service: www.kooth.com/ Or you can speak to your school nurse or school counsellor
Support	Educating families and other carers about mental health — this can help to remove any stigma or blame around a child's behaviour or presentation and promote more positive approaches to supporting them	To the adult: It can be really tough to support a child with anxiety — have you heard of the Young Minds parents helpline (08088025544), it's free and confidential and they can give you more advice and ideas about how to support your child. It's important you look after your own mental health too — if you're struggling with this, would you find it helpful to book an appointment for you to talk to the GP?
Safety netting	Informing CYP and their carers about the important red flags which mean they must seek more support	I hope what we have discussed today has helped, but if you feel like your anxiety isn't getting better, if it's impacting your school work/attendance/hobbies/socialising, or if you find that you're having panic attacks or thinking about self-harm, please make another appointment with me or if it's an emergency call 111/999

organisations, services and sources of support — be they national or local, virtual or in person, which can be of help.

These are some service directories which allow you to search for appropriate sources of support in your postcode:

- HappyMaps, a one-stop hub of information on young people's mental health: www.happymaps.co.uk/
- Hub of Hope: https://hubofhope.co.uk/
- Mental health charities for children and young people: www.nhs.uk/mental-health/children-and-young-adults/mental-health-support/mental-health-charities/

There are many national organisations for specific different conditions. They often offer extensive online information for both CYP and carers, training for professionals, and access to patient support groups. *Table 4* provides a small selection.

There are also many organisations that provide counselling or mental health support for CYP (some of which are 24/7) and can be text or online-based, namely:

- Childline: www.childline.org.uk/
- Kooth: www.kooth.com/
- The Mix, essential support for under 25s: www.themix.org.uk/

In addition, there are many wellbeing apps which can provide access to journalling, psychoeducation and self-help techniques. A directory is available at: https://bestforyou.org.uk/apps/

CONCLUSION

The prevalence of mental health issues among CYP continues to rise. This article has outlined the role of GPNs in supporting CYP's mental health using the THRIVE Framework. Key considerations when working with adolescents have been described, including access and confidentiality and providing highly practical advice on promoting mentally healthy lifestyles, including sleep hygiene and smartphone use.

Building on the discussion of assessment and referral processes in the previous article (Al-Yassin, 2024), this piece explores practical strategies for supporting CYP with mental health concerns. It describes the widely adopted THRIVE Framework and how the role of the GPN fits into this with a focus on the 'thriving' and 'getting advice' quadrants. This article has introduced for the first time the 6S technique, which covers stigma reduction, simple explanations, self-help, signposting, support and safety netting and provided worked examples on how this can be used with CYP in primary care.

Table 4: Selection of national organisation for specific conditions

Condition/situation	Organisation and website
Eating disorders	Beat: www.beateatingdisorders.org.uk/
Drugs and alcohol	Frank honest information about drugs: www.talktofrank.com/
Bereavement	Child bereavement UK: www.childbereavementuk.org/
Autism	National Autistic Society: www.autism.org.uk/
Attention deficit hyperactivity disorder (ADHD)	ADHD Foundation: www.adhdfoundation.org.uk/
Obsessive compulsive disorder (OCD)	OCD UK: www.ocduk.org/
Suicide prevention	PAPYRUS prevention of young suicide: www.papyrus-uk.org/
Tourettes	Tourettes action: www.tourettes-action.org.uk/
Anxiety	www.anxietyuk.org.uk/resources/
Depression	https://stem4.org.uk/depression/
Sleep	Teen Sleep Hub: https://teensleephub.org.uk/

The next article in this series will introduce several practical and brief mental health interventions that can be used in the GPN's clinic room.

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Key points

- The mental health and wellbeing of children and young people (CYP) is an area of growing concern, with many experiencing challenges that do not meet the threshold for specialist services but still requiring support.
- Acceptance rates for Child and Adolescent Mental Health services (CAMHS) referrals can be variable and waiting lists can be long.
- GPNs and other primary care professionals can support CYP to 'thrive' and 'get advice', including psychoeducation, signposting to alternative services, including voluntary and charity sector organisations, and teaching about self-help techniques, such as grounding, distraction and coping strategies.
- Where onward referral to other services may be inappropriate, or where additional support is required while waiting, signposting can be helpful.
- This article explores practical strategies for supporting CYP with mental health concerns.

Muscle pump activation for hard-to-heal leg ulcers

Despite advances in wound care, treatment of lower limb ulceration remains suboptimal, with poor outcomes often attributed to inadequate diagnosis, failure to follow evidence-based practice, and variations in care delivery. These shortcomings result in delayed healing, reduced quality of life (QoL), and a significant economic burden on healthcare systems. Compression therapy is the recommended treatment for venous ulcers and ulcers with mixed aetiology, however there are some individuals who may not respond to compression alone or who are unsuitable due to arterial status. Recent advances in adjunctive therapies, such as the geko® device, offer promising results for these patients. This muscle pump activation (MPA) device activates the calf and foot muscle pumps, increasing venous, arterial and microvascular blood flow. This article examines the impact of leg ulceration on healthcare services and patient outcomes, while exploring the potential of the geko® device to improve healing rates and reduce associated costs.

KEY WORDS:

- Leg ulcers
- Economic burden
- Quality of life
- Assessment
- Compression therapy
- Muscle pump activation
- Neuromuscular electrostimulation

Agnes Collarte
Agnes Collarte, tissue viability specialist nurse lead, St Charles Centre for Health and Wellbeing, London

Nichola Dee
Practice nurse, The Bay Medical Practice, Isle of Wight

Leg ulcers are wounds located on the lower leg, typically between the knee and the malleolus, which have not healed after two weeks (National Institute for Health and Care Excellence [NICE], 2013). Leg ulceration can result from various causes, including venous disease, peripheral arterial disease (PAD), mixed venous and arterial disease, lymphoedema, and atypical aetiologies (Isoherranen et al, 2023). This list is not exhaustive, and many leg ulcers are, in fact, multi-aetiological, where multiple comorbidities may contribute to the development of the ulceration (Isoherranen et al, 2023). This article focuses on the most common types of leg ulcers: venous, mixed, and arterial ulcers.

It has been well documented that treatment of lower limb ulceration is often suboptimal (Gray et al, 2018; Guest et al, 2018; Phillips et al, 2020). Poor outcomes for patients with leg ulcers have been attributed to many factors, including:

- Inadequate diagnosis
- Inability to identify wound type correctly
- Underuse of evidence-based practice
- Variations in care

(Gray et al, 2018; Guest et al, 2018; Phillips et al, 2020).

Failure to diagnose wound aetiology correctly and implement best practice guidelines can result in delayed wound healing, negatively affect an individual's quality of life (QoL), and significantly increase the economic burden that chronic wounds impose on healthcare systems (Guest et al, 2018; Phillips et al, 2020).

ECONOMIC BURDEN OF LEG ULCERATION

Guest et al (2020) reported that approximately 2% of the adult population in the UK experiences lower limb ulceration, with venous leg ulcers (VLUs) being the most prevalent type (Gray et al, 2018; Wounds UK, 2019). Compression therapy is recommended as first-line treatment for VLUs (Wounds UK, 2019; Isoherranen et al, 2023; National Wound Care Strategy Programme [NWCSP], 2024). Despite this, several studies have highlighted significant shortcomings in the care of individuals with VLUs, such as failure to exclude PAD through ankle brachial pressure index (ABPI) measurements and the lack of appropriate initiation of compression therapy (Gray et al, 2018; Guest et al, 2018; Phillips et al, 2020). These care deficiencies contribute to the economic strain on an already overburdened healthcare system (Wounds UK, 2022).

Guest et al (2018) estimated that the annual cost of treating a leg ulcer is approximately £7,500, but this figure increases by four to five times when the ulcer remains unhealed. More recently, Phillips et al (2020) estimated that the cost of treating VLUs in Wales accounts for approximately 1.2% of the NHS budget, with costs exceeding £2 billion across the UK.

The majority of leg ulcer care is delivered by community nurses (Guest et al, 2018; Phillips et al, 2020), making the time spent on community nursing visits a significant cost driver. This places additional strain on healthcare resources, particularly considering the 43% reduction in the number of community nurses over the

past decade (Queen's Nursing Institute [QNI], 2019).

The potential to positively influence cost drivers, such as prolonged healing times and excessive use of non-evidence-based care, as well as reducing nursing time spent on patient care, lies in practices that include minimising variations in care, ensuring patients undergo full comprehensive assessment (*Table 1*), accurately identifying wound aetiology, and implementing a standardised approach to care delivery (NWCSP, 2024).

IMPACT OF LEG ULCERATION ON QUALITY OF LIFE

A non-healing leg ulcer can have a significant impact on an individual's QoL and may be multifaceted (Issoherranen et al, 2023). Patients' experiences can vary and poor QoL has been associated with:

- Embarrassment due to leakage from exudate and odour
- Pain
- Reduced mobility
- Anxiety
- Depression
- Social isolation
- Sleep disturbance (Harding et al, 2015).

In addition, time lost from work and the potential financial consequences can increase the stress and anxiety an individual experiences (Joaquim et al, 2018). Failure to consider the patient's experience when planning care may lead to a lack of alignment in the care process and diminished trust in both the clinician and recommended treatment (Issoherranen et al, 2023). Furthermore, proactive symptom management has been demonstrated to improve patient QoL and encourage patient engagement (Weir and Davies, 2023).

Pain is one of the most reported symptoms of a leg ulcer, with estimates suggesting that up to 80% of patients experience mild-to-moderate pain (Leren et al, 2020). Wound-related pain is complex and multidimensional, influenced by various factors such as infection, tissue damage, nerve involvement, ischaemia, psychological factors, and medical procedures, such as dressing changes and debridement (Holloway et al, 2024). Holistic pain management starts with accurately identifying the type of pain (*Table 1*), recognising any triggers, and utilising a validated pain assessment tool. After this, appropriate interventions for effective pain management can be identified and implemented (Holloway, 2024).

Table 1: Components of comprehensive leg ulcer assessment (adapted from Harding et al, 2015; NWCSP, 2024)

History	■ Wound history — duration of wound, how it occurred, previous ulceration and treatment ■ Patient history — comorbidities and medications
Examination	■ Size of wound ■ Tissue within the wound bed ■ Presence of infection ■ Exudate volume ■ Edge of wound ■ Condition of surrounding skin
Pain	■ Measure type of pain (e.g. procedural, nociceptive or neuropathic) ■ Record duration of pain ■ Measure level of pain using a validated measurement tool ■ Establish current analgesia regimen and its effectiveness ■ Identify any coping mechanisms the patient uses to manage or reduce pain (Holloway, 2024)
Nutrition	■ Use a validated nutritional assessment tool
Psychological needs	■ Establish what is important to the patient and how this can be achieved through common goals
Vascular status	■ Undertake ABPI/ toe brachial pressure index (TBPI) to exclude or confirm the presence of peripheral vascular disease
Establish a diagnosis	■ Use the information from the assessment to formulate an accurate diagnosis
Formulate treatment plan based on assessment findings and diagnosis	■ Use national guidance to formulate plan of care according to aetiology and wound environment ■ Where possible, empower the patient to be involved in the planning of care

AETIOLOGY AND TREATMENT OF LEG ULCERATION

Treatment of a leg ulcer depends on its aetiology (Sibbald et al, 2024). This is achieved through undertaking a comprehensive assessment within 14 days of first presentation (*Table 1*).

Venous leg ulcers result from venous hypertension, which is attributed to valve incompetence and poor calf muscle function (Wounds UK, 2024). This leads to lower limb oedema, skin changes, and ulceration (Sibbald et al, 2024). First-line treatment for a venous leg ulcer is the use of high-level compression therapy (40mmHg) to assist in reversing venous hypertension and reducing oedema (NWCSP, 2024).

Arterial ulcers are caused by PAD, which is a narrowing in the peripheral arteries with fatty deposits restricting the oxygen supply to surrounding tissue (Issoherranen et al, 2023). Patients with arterial ulcers require rapid referral to the vascular team to assess for the potential for revascularisation (Sibbald et al, 2024).

Mixed aetiology ulcers have elements of both venous and arterial disease. Referral to vascular services is recommended to establish level of PAD. Treatment with reduced compression (20mmHg) can be started if oedema is present and there are no red flags or evidence of acute or limb threatening ischaemia (NWCSP, 2024).

There are some patients that fail to heal despite optimum use of

Red Flags

Refer immediately to the appropriate specialty if patient displays any of the following:

- Acute infection
- Symptoms of infection
- Acute or suspected limb threatening ischaemia
- Suspected deep vein thrombosis (DVT)
- Bleeding varicose veins

(NWCSP, 2024).

compression therapy, and there is also a small proportion of patients who are unable to tolerate the recommended level of compression due to pain or vascular status (Stacey et al, 2024). For these patients, adjunctive therapies such as a muscle pump activation (MPA) device, i.e. geko®, may be considered (Sibbald et al, 2024).

WHAT IS MPA — GEKO®

The geko® device is a compact, disposable, battery-powered muscle pump activator designed for external application to the leg. This self-adhesive device is placed on the outer side of the knee, before the peroneal nerve bifurcates. The built-in electrodes stimulate the common peroneal nerve, which controls muscle contractions in the calf and foot. By stimulating this nerve, the device can activate the calf muscles to contract isometrically without interfering with normal limb movement or patient mobility. This muscle contraction increases blood flow from the lower limbs to the heart, improving venous return, enhancing local circulation, and reducing the risk of venous thrombosis (Das et al, 2021).

The geko® device is CE marked and the intended use is for:

- Increasing blood circulation
- Promoting wound healing
- Treatment of venous insufficiency and ischaemia
- Prevention and treatment of oedema.

The geko® device may be considered for lower limb wounds if there is no improvement following 28 days of standard care treatment. A pathway to support appropriate use of geko® is provided in *Figure 1*.

Evidence for the geko® device in clinical practice

A study by Bosanquet et al (2020) sought to measure the effect of neuromuscular electrostimulation (NMES) of the common peroneal nerve using the geko® device on blood flow in eight patients with arterial ulcers. Mean blood flow (flux) and pulse amplitude (pulsatility) were measured at baseline and at intervention. All eight patients showed a significant increase in perfusion to both the wound bed and the surrounding peri-wound area while using the geko® device. Bosanquet et al acknowledged that this was a small study and recommended larger cohort studies.

However, the findings suggest that the geko® device may positively impact healing by increasing blood flow to the wound bed in patients who are unable to undergo revascularisation.

Bull et al (2023) conducted a self-controlled study involving 60 patients with venous leg ulcers which had been present for more than six weeks. The primary outcome was the rate of healing, measured by the advancement of the wound margin. This novel approach enabled the study to be conducted over a shorter period (four weeks), in contrast to most randomised controlled trials (RCTs) that use complete healing as

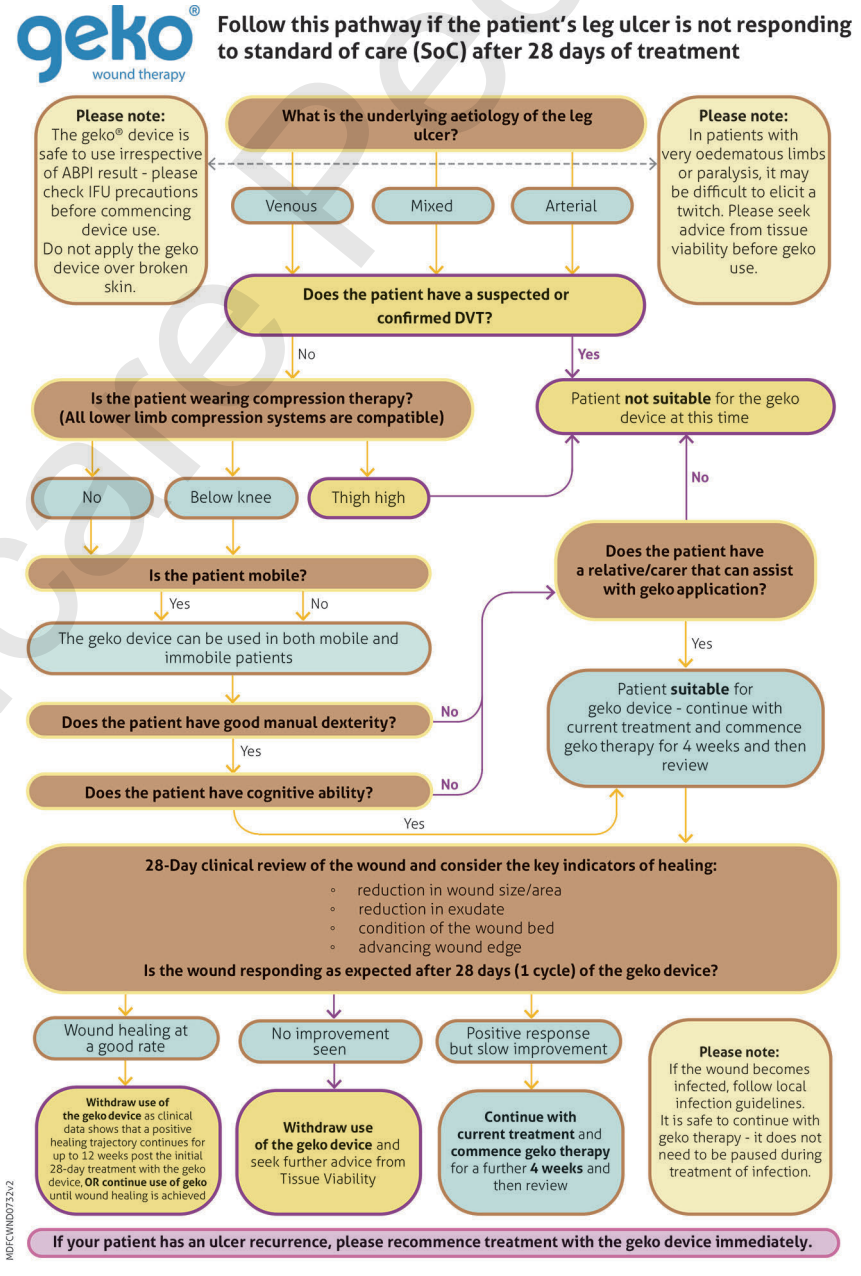

FIGURE 1.
Wound care pathway using geko® device.

geko®
wound therapy

Helping patients feel like themselves again

The geko® device reduces pain[1] and doubles the rate of healing in venous leg ulcers versus compression alone[2]

VLUs affect one in 500 adults in the UK[3], costing the national healthcare system around **£2 billion annually**[3]

The study **compared standard of care with and without the geko device** in patients with hard-to-heal VLUs[2]

The geko device, a muscle pump activator (MPA), **increases venous, arterial and microcirculatory blood flow**[1], transporting oxygenated blood to the wound bed **accelerating wound healing**[4]

Reduces pain[1]
Accelerates healing[2]
Improves concordance[5]
Available on prescription and NHSSC

VLUs, venous leg ulcers.

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The geko® device W-3 is marketed in the US for Edema reduction and Increasing microcirculatory blood flow in lower limb soft tissue of patients with venous insufficiency and/or ischemia while the device is active.

the endpoint, which typically extends the study duration. Additionally, this method removes the variability in chronic ulcers, which may follow different healing trajectories.

Twenty-two patients were randomly assigned to receive the standard of care (SoC), which included compression therapy (either multilayer compression bandages or compression hosiery). An additional 29 patients were randomised to receive SoC plus MPA for 12 hours per day. The study demonstrated that in the group that received compression plus MPA, healing rates over the four-week period increased two times faster than the compression alone group. At three-month follow-up, 42% in the compression plus MPA group had healed compared to 27% in the control group. Furthermore, patients reported that the MPA device was easy to use and did not report any issues with application and use of the device.

In an evaluation by Jones et al (2018), the secondary outcome of interest was the reduction of reported pain in 52% of patients with painful venous and mixed aetiology ulcers following use of the geko® device.

Tuson et al (2024) evaluated the cost-effectiveness of the geko® device in a RCT conducted across multiple centres in the UK. The trial involved 51 patients with chronic venous ulceration over a 12-month period, with 29 patients in the intervention group (geko® plus SoC — compression therapy) and 22 in the control group (SoC alone). The primary aim was to assess potential cost savings for the NHS, measured by the incremental cost per quality-adjusted life year (QALY). The study indicated that combining geko® with SoC increased healing rates significantly compared to SoC alone (25.3 weeks versus 37.6 weeks respectively). Tuson et al further concluded that the healing rate could potentially be increased by 68% resulting in an estimated cost saving of £774.14 per patient following the implementation of the geko® device alongside SoC. The potential cost savings could help alleviate the financial burden associated with chronic leg ulcers by improving healing rates and enabling more efficient resource allocation, including reduced district nurse time and decreased use of wound care products.

Case series

The first author conducted a case series evaluation on the use of a MPA device (geko®) as adjunctive therapy to SoC (compression therapy) for a four-week period in five patients with chronic, non-healing venous leg ulcers whose wounds had shown no signs of healing after receiving gold-standard management of compression therapy for four weeks (*Figure 2*) (Collarte, 2024).

Patients were given full instructions on how to apply and remove the device and all five patients wore it for 12 hours per day, seven days per week. Patients continued with SoC during the evaluation period and were evaluated by a specialist nurse. The rate of wound healing was calculated on day 28 and day 56 as part of the normal clinical review process. This was a standard clinical assessment (aligned to the patient pathway). Patients were asked to verbally report levels of wound-related pain using a numerical rating scale of 0–10, both before and during treatment with MPA. Patient acceptance of and ability to self-manage were also recorded.

As said, the geko® device was used alongside compression therapy for four weeks. After this period, two patients had fully healed, while the remaining three continued treatment for an additional four weeks, ultimately resulting in complete healing for all patients (*Figure 2*). Two patients reported pain at the start of the intervention, both of whom experienced pain reduction after using the device. All patients found the device easy to use.

This case series demonstrates how the MPA device was used to manage a group of patients with non-healing, chronic venous leg ulcers in a real-world clinical setting. The results of this evaluation emphasise the advantage of integrating the MPA device into a leg ulcer treatment regimen and demonstrated improved healing and health economic outcomes for patients with VLUs who were not previously responding to SoC protocols.

Case reports one and *two* (*pages 54–55*), conducted by the first and second author respectively, further demonstrate how the geko® device can be used in clinical practice to achieve positive outcomes for patients with non-healing wounds.

CONCLUSION

Chronic leg ulcers are among the most common types of wounds, significantly increasing healthcare costs and negatively affecting patient QoL. Successful treatment hinges on conducting a thorough assessment and establishing an accurate diagnosis to provide the most appropriate care for wound healing. However, a small subset of patients may not tolerate treatments like compression therapy, or fail to respond to it, while others may be unsuitable candidates for revascularisation. For these patients, adjunctive therapies such as MPA (geko®) may be of benefit.

Studies have demonstrated the effectiveness of geko® in enhancing wound healing, particularly in patients with non-healing ulcers or those unable to tolerate high-level compression therapy. Clinical trials have shown significant improvements in healing rates, reported pain reduction, and overall patient satisfaction with the geko® device. Additionally, the device offers potential cost savings by reducing treatment duration and resource utilisation, including nursing time and wound care product usage. By improving healing rates and reducing care variability, adjunctive interventions like the geko® device may help alleviate the financial burden of chronic leg ulcers on healthcare systems while improving patient QoL. GPN

This paper is supported by Firstkind Ltd.

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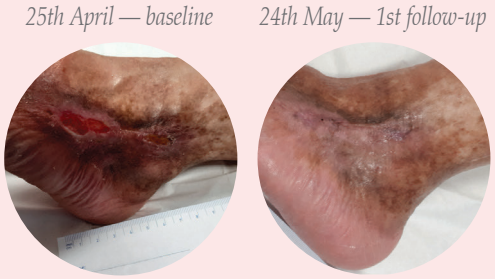
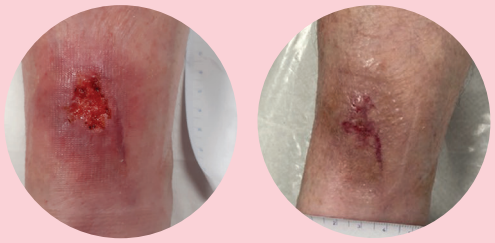


Patient one

- 72-year-old female
- PMH – varicose veins, fatty liver, hypertension
- Ulcer duration – six weeks
- Pain score at baseline – 0
- Wound care regimen – DACC primary dressing, short-stretch compression bandaging
- MPA device discontinued at four-week review as wound fully healed

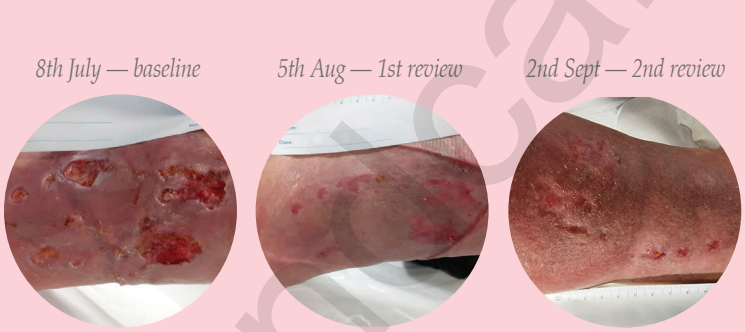


Patient two

- 62-year-old female
- PMH – hypertension, asthma
- Ulcer duration – 11 weeks
- Pain score reported by patient – 0
- Wound care regimen – silicone foam primary dressing, short-stretch compression bandaging
- MPA device discontinued at four-week review as wound fully healed

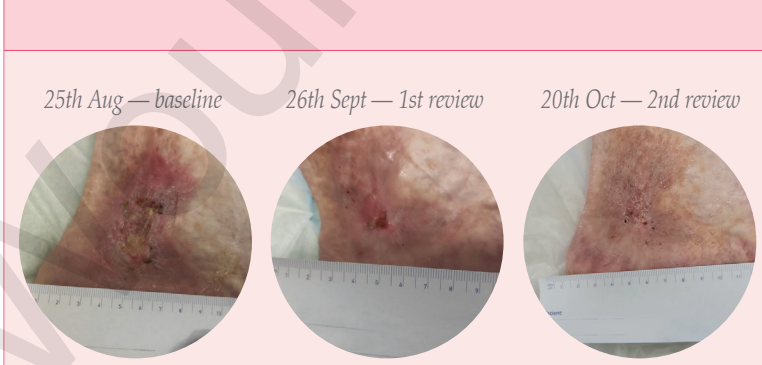
Patient three

- 67-year-old female
- PMH – osteoarthritis, epilepsy, left ventricular hypertrophy, alpha thalassaemia, historic DVT
- Ulcer duration – 14 weeks
- Pain score reported by patient – 10 (pain score 4 after one week; pain score 1 after four weeks of MPA)
- Wound care regimen – cadexomer iodine primary dressing, compression bandaging
- MPA device discontinued at eight-week review as wound fully healed



Patient four

- 59-year-old male
- PMH – type 2 diabetes, gout
- Ulcer duration – six weeks
- Pain score reported by patient at baseline – 4 (no further pain scores reported)
- Wound care regimen – silver foam primary dressing, compression bandaging
- MPA device discontinued at eight-week review as wound fully healed (wound had healed at week five but patient continued with MPA device until review)



Patient five

- 60-year-old male
- PMH – COPD, alcohol dependence, depressive disorder
- Ulcer duration – nine weeks
- Pain score reported by patient at baseline – 0
- Wound care regimen – silver foam primary dressing, compression bandaging
- MPA device discontinued at eight-week review as wound fully healed

FIGURE 2.
Case series of five patients who used the geko® device.

CASE REPORT ONE

Mrs Watts (pseudonym) was a 78-year-old female who was referred to the tissue viability team with a large wound to her right lower leg that had been present for two months. She lived with her husband and relied on a wheelchair to go out due to extreme wound pain. Due to leaking bandages, Mrs Watts slept in a chair as she did not want to ruin the mattress on her bed. Her past medical history included:

- Hypothyroidism
- Closed fracture of the lateral malleolus
- Seropositive rheumatoid arthritis
- Thyrotoxicosis
- Total knee replacement.

On initial assessment, the leg ulcer was almost circumferential measuring 19.0x22.8cm. The wound bed was covered with 90% slough and 10% granulation tissue (*Figures 3* and *4*). The presence of oedema and cellulitis was noted to the limb and the periwound skin was macerated due to a high volume of exudate. At the time of the assessment, the ankle measured 26.8cm and calf 43.2cm. Ankle brachial pressure index (ABPI) measurements were right limb=0.96, left limb=1.02. The wound was diagnosed as a venous ulcer.

Mrs Watts reported continuous pain at a severe level of 10 using a verbal numerical rating scale of 0–10 (where 0=no pain and 10=worst pain). For pain management, she relied on co-codamol 30mg/500mg, taking two tablets four times a day. She was unable to increase her analgesia due to various previous drug reactions, which meant that her pain was not adequately controlled.

Despite various previous treatments with antimicrobial dressings and reduced compression therapy, Mrs Watts' wound was showing no signs of healing. Due to her numerous allergies, she was anxious about trying new dressings as she thought that they may increase her pain and cause her wound to deteriorate.

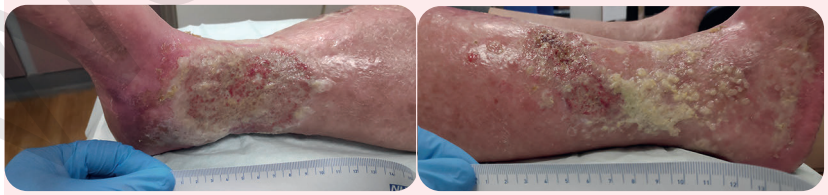
Due to the static nature of the wound and severe pain experienced, treatment with a muscle pump activation (MPA) device (geko®) was discussed as a wound management option, with the aim of preventing further infection, reducing pain and exudate volume, decreasing oedema, and promoting healing. The treatment regimen included the use of dressings, reduced compression bandaging, and the geko® device.

Mrs Watts was reluctant at first but eventually agreed to the geko® device. She was given education on how to apply and remove it and an appropriate skin care regimen to prevent further skin breakdown. She wore the geko® device for 12 hours per day, seven days per week.

Mrs Watts tolerated treatment with the geko® device well. After just 24 hours she reported that her pain had greatly reduced and that she was more than happy to continue with the therapy. Over the next 10 weeks her wound showed progress. It reduced in size and exudate volume decreased to the point where she was able to sleep in the bed with her husband again. Due to the reduction in pain, Mrs Watts could mobilise with the use of two sticks instead of using a wheelchair. She was also able to tolerate 40mmHg compression instead of a reduced bandage system. By the end of the treatment period with the geko® device, her ankle circumference measured 21.5cm and her calf 33.3cm.

The tissue viability team were amazed at the improvements in Mrs Watts' wound after adding the geko® device to her treatment regimen. After 10.5 weeks her wound measured 2x2cm and treatment with the device was discontinued (*Figure 5*). Her wound went on to completely heal three weeks later.

This case emphasises the challenges patients living with chronic wounds often face, as well as for clinicians. In this case, there was minimal choice in treatment options due to the patient's previous adverse reactions. Through integrating geko® device therapy into the wound management plan, Mrs Watts' wound and associated symptoms improved significantly, highlighting the importance of adaptive treatment strategies to achieve better outcomes for patients with non-healing wounds.



FIGURES 3 and 4.
Initial presentation (15th January, 2024).

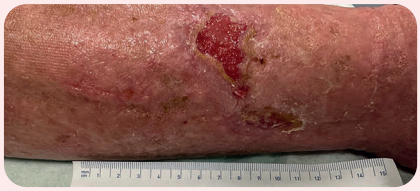


FIGURE 5.
At 10.5 week assessment (2nd April, 2024).

CASE REPORT TWO

This case describes the wound management of Jack (pseudonym), a 67-year-old gentleman with a mixed aetiology wound to his leg and a neuroischaemic ulcer to the dorsum of his foot, which had both been present for over five years. Jack had an extensive medical history of double heart bypass surgery, cerebrovascular accident (CVA) and type 2 diabetes, which was controlled with both insulin and tablets. Jack lived alone and had limited mobility, using a mobility scooter to get around.

Jack was referred to the practice nurse by his GP for assessment and management of a non-healing wound to the pre-tibial area of his left leg. He was already under the care of the specialist podiatrist for management of his diabetic foot ulcer. On presentation, his leg wound measured 2.5cm length and 3.5cm width, with 80% granulation tissue and 20% slough and minimal exudate. Jack reported a pain score of 5/10 and was taking gabapentin regularly. The aims of wound management were to reduce oedema and heal both the wound to his leg and to the dorsum of his foot.

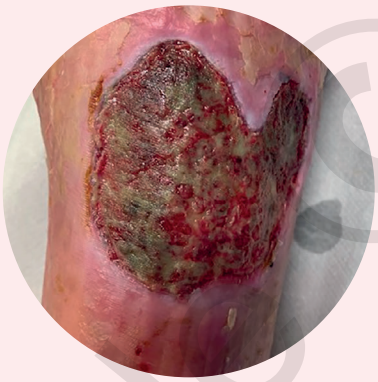
Compression therapy was contraindicated due to the risks to his neuroischaemic diabetic foot wound. As Jack's wounds were showing no signs of healing, it was decided that a muscle pump activation (MPA) device (geko®) should be added as an adjunctive therapy to the existing wound management regimen to aid healing by augmenting blood flow to his limb and wound beds.

Jack was taught how to apply and remove the MPA device, which was positioned to the skin over the common peroneal nerve at the head of fibula on his affected leg. A regular twitch of the foot indicated that the calf and foot pumps were activated. This optimum positioning of the device was marked so that he could change the device at home on a daily basis. The usage was 12 hours on and 12 hours off each day for seven days a week.

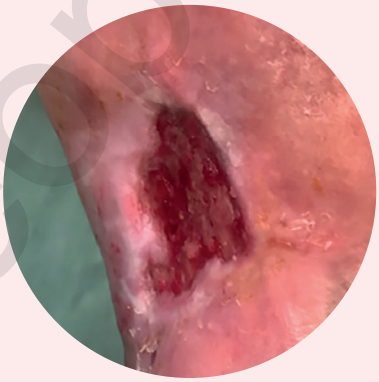
Jack was keen to have the MPA device added to his wound management regimen. It gave him hope that his wounds might eventually be healing after being present for so long. He found the application and removal of the MPA device extremely easy and both his leg and foot wounds started to reduce in size. Jack reported a reduction in his pain and was able to lessen his use of analgesics. Over 12 weeks, both his wounds had reduced in size by approximately 50%. Jack reported that his mood had lifted due to the improvements in his wounds and the reduction in pain. He also stated that he enjoyed being able to take part in his own care as it made him feel involved and slightly more independent.

Having both a mixed aetiology leg ulcer as well as a neuroischaemic diabetic foot ulcer presented a challenge in deciding on the best wound management regimen for this patient. By adding the MPA device to standard care, Jack's wounds made significant progress after five years of non-healing. His quality of life improved and he felt involved in his wound care for the first time.

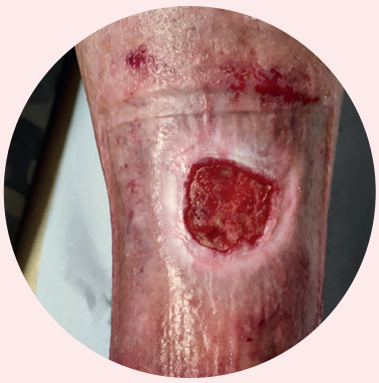
As demonstrated in this case, the MPA device provided an effective adjunctive treatment option for hard-to-heal lower limb wounds.



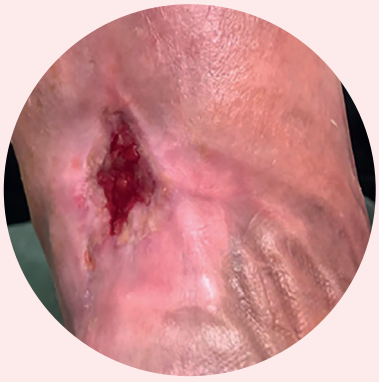
Leg wound at start of MPA treatment (day 0)



Foot wound after one week of MPA treatment



Leg wound after 12 weeks of MPA treatment



Foot wound at 12 weeks of MPA treatment

FIGURE 6.
Wound care progress of Jack's wounds using MPA treatment.

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Expert comment

As a clinician, making a meaningful difference to the lives of our patients is paramount. The widespread challenge of non-healing wounds highlights the critical need to address gaps in care by ensuring that treatments are both evidence-based and cost-effective. For venous leg ulcers (VLUs), compression therapy remains the gold standard. However, healing may be stalled in some cases due to complex comorbidities or an inability to tolerate compression therapy. For these patients, adjunctive therapies such as muscle pump activation (MPA) have demonstrated many significant benefits. In my experience, the geko® device has proven to be a valuable addition to standards of care, delivering positive outcomes by accelerating healing, reducing wound-related burdens, and enhancing patient quality of life. Notably, its use has also been associated with a marked reduction in pain, further supporting patient comfort and recovery.

Patient stories serve as a compelling way to highlight the transformative impact of innovative treatments. Our patient accounts have consistently demonstrated the meaningful difference the geko® device has made in their lives, offering renewed hope for healing their wounds. Moreover, these experiences highlight the significant positive effects on aspects of daily living that are most important to them, enhancing their overall quality of life.

Providing a solution that fosters hope and optimism in patients can improve adherence to treatment plans, empower individuals to take greater control over their care, and ultimately contribute to better outcomes. By integrating therapies like geko® into the broader spectrum of wound care, we can continue to make a profound difference for our patients in clinical practice.

Joy Tickle
Tissue viability consultant, Hampshire and Isle of Wight Health Care

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Can diet help endometriosis?

Endometriosis has a profound effect on quality of life of around one in ten women in the UK, mostly due to the pain and inflammation it causes. A diagnosis may not be immediate as the condition can mimic other problems, including irritable bowel syndrome (IBS). By the time women have had a diagnosis, they are often desperate to try any treatment offered, frequently by non-qualified healthcare professionals. This article looks at evidence for and against certain diets and supplements offered for treating endometriosis and concludes that those that may work are ones that possibly help to reduce inflammation. More research is needed on how to help women with this condition, but the author warns that it probably will not be with certain supplements or diets that exclude certain foods, but rather with a holistic whole diet and lifestyle approach.

KEY WORDS:

- Diet
- Endometriosis
- Causes
- Women's health

Gaynor Bussell

Nutritionist and writer, with over 30 years' experience as a dietitian. Specialises in diabetes, women's health and weight issues

Endometriosis is the name given to a condition where cells, similar to the ones in the lining of the womb (uterus), grow elsewhere in the body, such as the pelvic peritoneum, rectovaginal septum and ovaries (Dunselman et al, 2014). Unfortunately, each month, these cells react in the same way to those in the womb, building up and then breaking down and bleeding. However, unlike the cells in the womb that leave the body as a period, this blood cannot be shed and ends up causing pain and inflammation. The condition has a profound effect on quality of life (Endometriosis UK, 2024).

The condition affects one in 10 women in the UK (Rogers et al, 2009) — meaning that around 1.5 million women are currently living with the condition (Endometriosis UK, 2024). It can affect women from puberty to menopause, although the impact may be felt for life (Endometriosis UK, 2024). With the right treatment, many of these issues can be addressed, and the symptoms of endometriosis made more manageable (NHS, 2024).

Often a diagnosis is not immediately forthcoming and there are treatment delays. So, coupled with poor quality of life, women often turn to alternative treatments such as diet, lifestyle and nutritional supplements (Adamietz et al, 2021).

This article explores whether there are any dietary treatments which can help the condition, as well as which ones may be dangerous, expensive, or simply do not work.

DETAILS OF THE CONDITION

During the menstrual cycle, levels of various hormones rise causing the lining of the womb to increase in preparation for a fertilised egg. If pregnancy does not occur, this lining will break down and bleed — this is then released from the body as a period. In endometriosis, the cells that have built up in other places rather than the womb can cause inflammation, pain and the formation of scar tissue (Mayo clinic, 2024). This can lead to the following conditions in affected women:

- Chronic pain, including lower back
- Dysmenorrhoea
- Dyspareunia
- Dyschezia and dysuria
- Gastrointestinal symptoms (affecting 90% of women with suspected or confirmed endometriosis)
- Fatigue/lack of energy
- Depression/isolation
- Problems with sex life and relationships
- An inability to conceive
- Difficulty in fulfilling work and social commitments

(Mayo clinic, 2024).

CAUSES

More research is needed on the causes of endometriosis, but below are some that have been proposed:

- Multiple hormonal imbalances
- Neurological, due to the chronic pain bought about by inflammation (Wei et al, 2020)
- Gastrological, due to the effect on the bowel, often giving symptoms such as irritable bowel syndrome (IBS) (Junkka and Ohlsson, 2023)
- Immunological: a faulty immune system may not have been able to identify and destroy endometrium tissue outside the uterus
- Inflammation: chronic inflammation can create an environment that promotes the growth of endometrial tissue in unusual locations

(Mayo clinic, 2024).

Additionally, there have been some risk factors identified that may contribute, namely:

- Retrograde menstruation: during menstruation, some tissue flows into the fallopian tubes and pelvis instead of exiting the body
- Genetics: it may be inherited, as it tends to run in families
- Hormones: oestrogen may promote endometriosis
- Surgery: endometrial tissue may be accidentally moved or picked up during abdominal surgeries, such as a C-section or hysterectomy

(Mayo clinic, 2024).

Some other factors (based only on association and not absolute proof) have been associated with increased risk, including:

- Never having given birth
- Starting menstruation before the age of 11
- Short menstrual cycles
- Heavy menstrual periods
- Late menopause
- Low body mass index (BMI)
- High levels of oestrogen or greater lifetime exposure to oestrogen
- Eating more fruits and vegetables may reduce the risk of endometriosis, while eating a lot of red meat may increase it

(Mayo clinic, 2024).

DIETARY TREATMENTS

Current medical practices for treating endometriosis are associated with several side-effects making the impact of diet on endometriosis an important aspect to consider (World Health Organization [WHO], 2023). Many clinicians who treat endometriosis believe that its management requires a holistic approach focused on:

- Reducing overall inflammation
- Increasing detoxification
- Attenuating troublesome symptoms

(Habib et al, 2022).

“Women diagnosed with endometriosis can report gastrointestinal symptoms, including bloating, constipation, diarrhoea and abdominal cramping. All these symptoms can be associated with IBS, which can result in the misdiagnosis of endometriosis as IBS.

Indeed, studies have indicated that a significant proportion of women with endometriosis (76%) employ self-management strategies, with nearly half of them (44%) opting for dietary changes (Mazza et al, 2023). This same study revealed that 55.5% of participants reported that food influenced their endometriosis symptoms, and modifying their diet provided symptom relief (Mazza et al, 2023).

However, in reality, it is by no means clear whether these dietary strategies work and the quality of studies in this area is quite low and sparse. Shortfalls of these studies are:

- They do not include randomised controlled trials (RCTs)
- They do not have an intention-to-treat analysis
- They have low replicability
- They have low number of participants, so the power is low
- They do not report adherence
- Those using supplements tended not to report adverse effects, which is important even in pharmacological interventions

(Osmanlioglu and Sanlier, 2023).

Of the studies done, these are some preliminary finding of diets and supplements that may be helpful. However, it should be noted that these need replicating to show absolute proof:

- There appears to be an inverse relationship between endometriosis and the consumption of fruits, vegetables, dairy products, and omega-3 fatty acids (Osmanlioglu and Sanlier, 2023)
- There is an increased risk of endometriosis with higher consumption of trans-unsaturated fatty acids and red meat (Barnard et al, 2023; Osmanlioglu and Sanlier, 2023)
- There is a reduction in endometriosis-related pain with consumption of fish oil. This may be due to the anti-inflammatory action of fish oil. The same effect was seen with the introduction of antioxidant vitamins C, D, and E (Habib et al, 2022; Barnard et al, 2023)
- Reducing circulating oestrogen levels by dietary means (such as eating less dietary fat and eating more fibre) may help because endometriosis is an oestrogen-dependent disease (Barnard et al, 2023)
- Women diagnosed with endometriosis can report gastrointestinal symptoms, including bloating, constipation, diarrhoea and abdominal cramping. All these symptoms can be associated with IBS, which can result in the misdiagnosis of endometriosis as IBS (Gale, 2019; van Haaps et al, 2024). Indeed a low fermentable oligo-, di-, and mono-saccharides and polyols diet has been shown to reduce the symptoms of patients who suffer from both endometriosis and IBS (Habib et al, 2022)
- Some believe that the anti-inflammatory properties of plant-

based diets may benefit women with endometriosis (Barnard et al, 2023). Generally, adding anti-inflammatory food to the diet, such as fruits, vegetables, oily fish, garlic and curcumin, has been shown to help in some trials (Barnard et al, 2023)
- Supplementation with vitamins C and E significantly reduced endometriosis symptoms, compared with placebo (Barnard et al, 2023)
- Following the Mediterranean diet can help reduce symptoms (Cirillo et al, 2023) (see below)
- Some experts believe that there is a complex bidirectional interaction between endometriosis and the microbiome (see below). Thus, trying to adjust the colonisation of the gut to certain microbes and not others could help (Leonardi et al, 2020)
- Use of supplements containing fatty acids, amino acids and bioactive compounds such as bromelain, quercetin, turmeric may help (Habib et al, 2022)
- Taking combined vitamin E, C, polyunsaturated fatty acids and garlic, especially for pain (Habib et al, 2022)
- Taking combined trace elements may help with endometriosis pain (Habib et al, 2022)
- Some believe in taking herbal supplements (Habib et al, 2022)
- Taking a seaweed supplement may help, as it is believed to hold oestrogen-modulating properties (Barnard et al, 2023)
- Restricting certain foods such as gluten, dairy, animal products is believed by some to help (Habib et al, 2022)
- Following a nickel-restricted diet has been documented to help (Habib et al, 2022).

Practice point

Diet can play a supportive role in managing symptoms of endometriosis. While it cannot cure the condition, certain food choices may help reduce inflammation, balance hormones and lessen pain.

Results from a recent systematic review and meta-analysis

A review was conducted to summarise the findings on the association between dietary intake of selected food groups and nutrients (dairy, fats, fruits, vegetables, legumes, and animal-derived protein sources), and the risk of endometriosis among adult women (Arab et al, 2022). The results showed that a higher intake of total dairy (all low-fat and high-fat dairy foods) was associated with decreased risk of endometriosis, but these associations were not observed with intakes of low- or high-fat dairy, cheese or milk. Furthermore, increased risk of endometriosis was associated with higher consumption of red meat, trans fatty acids (73.0%), and saturated fatty acids (Arab et al, 2022).

It is clear that further research is needed to better identify the role of diet on endometriosis (Osmanlioglu and Sanlier, 2023).

GLUTEN AND ENDOMETRIOSIS

One of the diets frequently suggested on social media and patient forums as a tool to manage endometriosis-related symptoms is a gluten-free diet (van Haaps et al, 2024). This diet has been tried because of an overlap in symptoms, metabolic and immune responses associated with endometriosis and those associated with coeliac disease, ulcerative colitis, Crohn's disease, IBS and non-coeliac wheat sensitivity (NCWS). However, it remains unclear whether these diseases and/or disorders are causal to an increased risk of endometriosis, as the data is conflicting and provides no evidence for causality (Brouns et al, 2023). Indeed, the studies are of low quality and positive effects were no longer seen when adjusting for confounders such as being overweight, when a translation was made from *in vitro* to *in vivo*, or when the nutrients were not supplemented as isolated sources but as part of a mixed daily diet.

The most frequently cited and sole published intervention study on the efficacy of a gluten-free diet for endometriosis has several important limiting factors (van Happs et al, 2024), including the absence of a control group. In addition, gluten consumption is highly susceptible to a placebo and nocebo effect, where women might experience symptom relief after eliminating gluten and return of symptoms after they consume gluten again, solely because they believe that gluten is bad for them (van Haaps et al, 2024).

It should also be noted that a gluten-free diet is expensive, has limited availability, and has a significant effect on quality of life (Rajagopal, 2025). Further, some studies have shown that long-term adherence to a gluten-free diet is often associated with impaired diet quality and nutrient intake, leading to negative health outcomes and reduced quality of life (Patel, 2023).

Without proper dietary guidance, a gluten-free diet may adversely affect the gastrointestinal microbiome. Due to there currently being no scientifically substantiated advice regarding the use of a gluten-free diet for endometriosis-related symptoms, it should be discouraged unless there is an additional diagnosis of NCWS or coeliac disease (Brouns et al, 2023; Patel, 2023; van Haaps et al, 2024).

ENDOMETRIOSIS DIET

There is information on the internet about the endometriosis diet (sometimes known as the endo diet). These are commonly US sites which say that they are aimed at reducing inflammation. They mostly involve not eating:
- Red meat
- Gluten
- Cow's milk
- Added and refined sugars
- Sweeteners
- Caffeine.

In addition, they recommend mostly plant-based,vegan foods and some specific supplements such as magnesium.

While there may be elements of this diet that work, as explored above, there is no scientific proof that the diets work as a whole

and, in fact, they may lead to malnourishment as so many foods are not allowed. Also, many of the sites are a front for organisations which sell supplements, treatment plans and books.

As with the gluten-free diet, the same warnings apply here to adopting an overly restricted diet which has little evidence of benefit (Brouns et al, 2023; Patel, 2023; van Haaps et al, 2024).

MEDITERRANEAN DIET

There is some evidence that dietary changes may be therapeutic for chronic inflammatory processes, such as endometriosis (Wingrove, 2024). One study in particular aimed to evaluate the role of dietary changes according to the Mediterranean diet (MD; *Figure 1*) on pain perception in endometriosis and its relationship with oxidative stress (Cirillo et al, 2023). Thirty-five women with endometriosis were investigated for pain intensity, vitamin profile, and oxidative stress for a total of six months on a MD.

The findings showed a clear tendency toward a relationship between pain relief in endometriosis and a MD. Markers for inflammation were reduced. The authors concluded that this approach appears promising to treat endometriosis-related symptoms and could be considered a new effective strategy for chronic pain management in the long term.

GUT MICROBIOME AND ENDOMETRIOSIS

A systematic review was conducted on the available literature on the endometriosis-microbiome interaction. Studies highlighted that there are differences in the microbiome composition of hosts with and without endometriosis. Endometriosis appears to be associated with an increased presence of bacteria harmful to the gut, such as *Proteobacteria, Enterobacteriaceae, Streptococcus spp. and Escherichia coli* (Leonardi et al, 2020). Other studies have not been so clear cut (Miyashir et al, 2022) and it is not clear what the significance of the findings are.

“... increasingly, literature is showing that in many conditions, including women’s health and those involving inflammation, it is not specific dietary factors that can help but the overall diet (and lifestyle) that an individual follows.

CONCLUSION

Most diet and supplement studies have poor protocols. Many set out to prove that certain nutrients and/or avoiding or eating more specific foods can help endometriosis. Most of the authors of trials on diet and endometriosis conclude that more RCTs are needed to elucidate the role of diet in endometriosis. However increasingly, literature is showing that in many conditions, including women’s health and those involving inflammation, it is not specific dietary factors that can help but the overall diet (and lifestyle) that an individual follows (Martini et al, 2023). The author believes that this is where research should be focused.

Furthermore, evidence suggests that banning certain foods or food groups is not helpful. Unless there are diagnosed allergies, all food can fit into a healthy diet and labelling foods as ‘good’ or ‘bad’ can create an unhealthy relationship with eating (British Heart Foundation [BHF], 2022). From the evidence so far, it is the author’s view that the use of plant-rich diets that are high in anti-inflammatory, phytochemical ingredients is worth further exploration. GPN

Photograph: Yulia Furman/Shutterstock

Figure 1.
Mediterranean diet pattern.

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Revalidation Alert

Having read this article, reflect on:

- The causes and risk factors for endometriosis
- Why women may adopt self-management strategies, such as dietary changes
- The relationship betweeen the gut microbiome and endometriosis
- How the Mediterranean diet can be helpful for this condition.

Then, upload the article to the free GPN revalidation e-portfolio as evidence of your continued learning: www.gpnursing.com/revalidation

Key points

- Endometriosis is the name given to a condition where cells, similar to the ones in the lining of the womb (uterus), grow elsewhere in the body, such as the pelvic peritoneum, rectovaginal septum and ovaries.
- The condition affects one in 10 women in the UK.
- Often a diagnosis is not immediately forthcoming and there are treatment delays.
- Studies have indicated that a significant proportion of women with endometriosis (76%) employ self-management strategies, with nearly half of them (44%) opting for dietary changes.
- Increasingly, literature is showing that in many conditions, including women's health and those involving inflammation, it is not specific dietary factors that can help but the overall diet (and lifestyle) that an individual follows.
- The use of plant-rich diets that are high in anti-inflammatory, phytochemical ingredients is worth further exploration.

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General practice nurse education: what does the future look like?

General practice nursing is unique in both its skill set and employment. The knowledge and skills required to be a GPN are not taught in pre-registration nursing courses, nor are they evident in other areas of nursing. GPNs perform varied and important roles with increasing responsibility. However, training for this role can be inconsistent, as individual GPNs negotiate it at practice level. This inconsistency has been highlighted in several reports. To address this, the Cheshire and Merseyside Training Hub has developed a one-year preceptorship course for new GPNs. The training is structured, uniform, and accredited by a university. The Hub also provides support from experienced GPNs. While the course has been successful, it has not been without challenges. Future efforts should focus on navigating these challenges and reconsidering the employment framework for GPNs to ensure consistent education.

KEY WORDS:

- GPN education
- Preceptorship
- Mentorship
- Continuous professional development
- GP practices

Susan Camphor
Lecturer, School of Nursing and Advanced Practice, John Moore's University

Photograph: Monkey Business Images/Shutterstock

In October 2023 alone, 3.7 million appointments were estimated to have been delivered in primary care, and 23.1% were carried out by nurses (NHS England, 2023). General practice nurses (GPNs) are integral to general practice providing a unique and important range of services. They carry out the bulk of cervical screening across England and were celebrated by the World Health Organization for doing so (WHO, 2020). They also provide the entire baby immunisation schedule, as well as other vaccination campaigns, including flu, Covid, pneumonia and shingles. They are responsible for chronic disease annual reviews and often play a lead role in managing chronic diseases, such as diabetes, chronic obstructive pulmonary disease (COPD) and asthma. They can also take on roles traditionally performed by GPs, such as hypertension and lipid management. GPNs often work in relative isolation with few peers to guide or mentor them and many supervise healthcare assistants (HCAs).

In England, there are approximately 6500 GP surgeries employing around 17000 full-time equivalent nurses (NHS England, 2024). This workforce is unique. First, because GP partners are self-employed and therefore in essence run a business, which employs GPNs. Second, most of the GPN skill set required is neither taught in pre-registration nursing programmes, nor found in nurses working in other settings. Despite their obvious contribution and importance in the primary care arena, GPN training is often fragmented, ad hock, costly, and done in a nurse's own time (Queen's Nursing Institute [QNI], 2016).

TRADITIONAL TRAINING

Typically, a GPN needs to be competent in cytology, vaccinations and immunisation (including baby immunisation), travel health, asthma, diabetes, COPD, phlebotomy, contraception, hypertension, learning disabilities, as well as possibly electrocardiography (ECGs), wound care and ear care. It is a multifaceted role needing considerable training, and can take time to complete and consolidate that learning. Most training is completed in the form of standalone modules, which are available through private organisations or, in the case of chronic disease, through universities as standalone continuous professional development (CPD) modules. There is considerable cost attached to these courses, for example, a two-day travel course can be as much as £600 and a six-month course covering diabetes can cost over £1100.

Practices may pay for these courses, but because of the cost,

nurses are often asked to do the training in their own time or are made to sign agreements that if they leave the practice within a certain timeframe, they may be asked to pay back the cost of the course. Each GPN will negotiate and receive a different level of training and will have varied access to education depending entirely on the views of the individual practice. Some training, such as cytology, may be managed regionally and be of an equal standard, but other training, such as travel health and chronic disease, is left in the hands of the practice to organise. All this means that GPN training, although crucial to patient safety, may be disjointed, lack uniformity in length or quality, and there exists the tension between employer and employee regarding training fees.

A practice may spend two years training a nurse who then leaves for another practice — a fear of most GP surgeries when investing in training. Several concerns have been raised around GPN training in research articles and commissioned reports. The QNI's report (2016) highlighted issues around GPN training after polling over 3400 GPNs. It felt that there was a need for 'appropriate preparation and support for those who are new to general practice nursing, and this need is urgent'. The way GPN training is organised was scrutinised in 'The future of primary care: creating teams for tomorrow' (Roland et al, 2015), which discovered a number of barriers to recruitment, including 'GP employers being unwilling to make time available for continuing professional development, the general lack of opportunity for nurses to develop their skills, and the poorly defined career paths in primary care nursing can make GP nursing an unattractive career option'.

In 2017, 'General Practice — Developing confidence, capability and capacity' (NHS England, 2017) acknowledged the valuable contribution that GPNs make and highlighted the need for a more joined up approach to training. One of its action points was to develop a pilot competency-based preceptorship programme for all nurses new to general practice.

In 2021, Health Education England (HEE) developed the 'Primary Care and General Practice Nursing Career and Core Capabilities Framework', which covered key skills in three tiers of learning and competency to help formalise the skills needed by primary healthcare professionals. The framework aims to be relevant throughout a progressing career and describes 14 core areas and lends itself to being part of a preceptorship type programme, marrying both the vision of NHS England (2017) and details of the core capability framework (HEE, 2021). Specifically, the framework's emphasis on core skills such as chronic disease management, patient safety, and interprofessional collaboration supports the foundational training provided in a preceptorship, ensuring that new GPNs develop the necessary competencies to deliver high-quality care in a primary care setting. In the author's opinion, this can provide robust foundations for new GPNs and a platform to acknowledge CPD.

PRECEPTORSHIP AND THE NEW GPN

The idea of preceptorship is not new and following the publication of the 'National preceptorship framework for nursing' (NHS England, 2022) many trusts nationwide run preceptorship courses aimed at newly qualified nurses.

Preceptorship is a structured programme of protected learning for new practitioners aimed at helping the transition from student to qualified nurse. Research shows that quality preceptorship programmes positively impact on recruitment and retention of nurses (O'Driscoll et al, 2022) and, given that HEE (2017) and NHS England (2016) highlighted the need for recruitment drives for GPNs, preceptorship programmes may seem an important tool in achieving workforce stability. Preceptorship programmes can include:

- Classroom teaching
- Attainment of role-specific competencies
- Online support
- Clinical supervision and coaching.

Preceptorship in action

Cheshire and Merseyside Training Hub have taken the preceptorship model and developed a bespoke primary care GPN preceptorship programme to support nurses new to primary care in the first 12 months of their role. They have also, in conjunction with Buckingham University, developed a clinical competency framework and reflective practice document to complement and enhance the programme. The aim is to provide training that is uniform, of quality, and accessible to all practices recruiting new nurses.

The blended learning programme has been written by experienced practice nurse educators and been academically accredited by the University of Buckingham. The programme aims to sufficiently equip new-to-practice GPNs with the specialist knowledge and skills to fulfil their role. It builds a foundation for providing safe, evidence-based and effective care for patients and the ability to work as part of the primary healthcare team. The course covers the NHS cervical screening programme, national immunisation programmes, and health behaviour change, as well as an introduction to several long-term conditions — assessment, monitoring and management — including asthma, COPD, diabetes, dementia, cardiovascular disease and hypertension, complemented by mentorship in the general practice nurse setting.

The programme is delivered through taught masterclass days, eLearning and practical practice-based tutorials. Learning outcomes and competencies are recorded in a practice portfolio. The portfolio includes case studies, reflections, records of mentor meetings and evidence to demonstrate clinical competencies achieved. Skills training was commissioned from local accredited providers and brought together under the umbrella of the course, and Buckingham University oversee the level 6 clinical portfolio which nurses need to complete.

Practice point

With the continued shift of complex patient care from secondary to primary care and the increasing diversity of patient need across the lifespan, GPN training requires a more joined up, thoughtful and dynamic approach so that all GPNs have the necessary skills to provide quality care.

GP practices are relieved of the cost burden of GPN training and the need to validate sources of training. The programme does, however, rely on the GP practice providing a mentor to supervise the new GPN in practice and this has been an issue in those with small nursing teams or no existing GPN in post.

The course started running in September 2021 with 20 new GPNs enrolling. The initial challenges included a lack of understanding by employers (practice managers and GPs) of the need for structured ongoing support for new GPNs on the course. In the first group, many nurses accessed the skills training but failed to complete the portfolio, therefore missing out on the opportunity for self-reflection, continued learning, mentorship, and assessment of competency frameworks. Practice mentorship was also a challenge with practice mentors leaving part way through the 12 months, or having sickness or absence, leaving new GPNs with limited support. There were also small practices that had no overlapping nurse time or no other GPN and therefore new GPNs were effectively working alone with minimal mentorship.

From 2021 the course ran twice a year, April and September, and had increasing numbers of nurses applying for and completing the course. The founders of the course are realistic about funding and aimed to ensure sustainability and wanted to have a 'grow your own' culture. The preceptees of today will hopefully be the preceptors of tomorrow and having done the course will understand its values and rewards.

In 2023, to improve support and preceptorship for GPNs on the course, the Training Hub employed a GPN development team comprising experienced GPNs from across all geographical areas in the region. The aim was to provide more support to preceptees with their portfolio work, fill gaps in mentorship, and provide face-to-face mentorship clinically and theoretically for the portfolio. It was also found that the GPN development team were needed at times to support new GPNs navigate their new role and the practice environment. As a result of this increased support, there was an improvement in attrition rates and the number of portfolios submitted.

The course not only provided valuable quality education, but also allowed networking and peer support for new GPNs who may often work in relative isolation. WhatsApp groups formed at the start of each intake have proved valuable for peer support.

This programme is funded by NHS England, through the Cheshire and Merseyside Training Hub.

The GPN preceptorship programme portfolio used as part of the programme describes four stages of preceptorship, each with time scales. The first three stages are completed in the 12-month preceptorship programme. Stage 4 is entitled 'what next?' and refers to the 12-month period after finishing the preceptorship course. It aims to look forward at career development and leadership. This stage is now being delivered by incorporating the preceptorship into the GPN fellowship programme funded via NHS England.

The September 2023 cohort of new GPNs have entered a two-year fellowship programme which includes the 12-month preceptorship in the first year and then access to a further one year of the fellowship. The two separately funded training and support elements running consecutively to provide a two-year programme The second year provides learning around teamwork, leadership, and service improvement skills, with a focus on NHS strategies and developments in primary care, integrated multidisciplinary and multi-agency working. This will focus on embedding the GPN role within the wider healthcare team and include access to peer support networks and will also look at career development and resilience. The vision is to promote lifelong learning and excellence in general practice nursing. The NHS England fellowship programme closed on 31st March 2024, leaving a funding gap. However, organisers say that they are absolutely determined to continue their mission to provide a joined-up quality approach to the education of GPNs by using existing Training Hub staff to continue delivering the fellowship material where possible.

The two-year fellowship aims to create highly-skilled GPNs who can provide an essential high standard of care to their local populations, enabling the local health economy to deliver the priorities of integrated care systems, the 'NHS Long Term Plan' (NHS England, 2019) and 'NHS People Plan' (NHS England, 2020).

To date, 91 nurses new to primary care have completed the preceptorship course and received their level 6 preceptorship programme certificate, and there are currently a further 59 nurses on the programme. They were asked to give feedback on how they have found the course, some of which is detailed below.

I have become much calmer and confident. It took me nearly 12 months to feel like this as the skills needed in the job role are so broad and it was very different to my previous role.

When I started this role, I had no idea how challenging that being a GPN could be. I am now the only practice nurse at my surgery, and this is a challenge within itself. However, the GPN course gave me confidence with this.

The impact that this programme has had on my learning and development into this role has

been amazing. This has improved patient care significantly as I have learnt up-to-date evidence-based practice along with new skills and I also now feel confident to suggest further treatment plans for long-term conditions to the GPs. I have shared my newfound knowledge with the other staff members of the practice to try and all work together on getting the best outcomes for the patients.

Despite its obvious success, there have been and continue to be challenges. Funding is often short term, presenting difficulties in planning ahead. The funding currently being accessed is also not guaranteed year on year. Difficulties still exist with accessing sufficient experienced practice-based mentors, especially in smaller surgeries. Access to all new GPNs can also be a challenge as, despite promoting the Training Hub, some GPs remain unaware of the Training Hub and its role. In order to access new GPNs, the Hub relies on practices informing them of when there is a GPN who is new to role.

NEXT STEPS

Cheshire and Merseyside Training Hub wants to maximise its GPN development team to improve sustainability. It plans to roll out action learning sets, peer support networks, and use the in-house skills of the GPN development team to support the ongoing delivery of the two-year programme.

The primary care workforce has seen an increase in diversity in recent years, with many GP assistants, nurse associates (NAs) and physician associates (and others) practising in primary care. GPNs are now not alone performing practice nurse activities, as NAs are also being employed to take on some of the tasks traditionally completed by the GPN. While NAs will contribute to aspects of care, including delivery and monitoring, it is important to remember that registered nurses will take the lead on assessment, planning and evaluation. Nurses will also lead on managing and coordinating care with full contribution from the NA within the integrated care team (Nursing and Midwifery Council [NMC], 2019).

To ensure that the broader workforce has access to preceptorship, the Training Hub started a 12-month pilot for a NA preceptorship programme in June 2024. Both the GPN and NA preceptorship programmes embrace the idea of continued education, as well as giving this workforce a robust foundation on which to start their careers. The Training Hub's vision is to have a multiprofessional preceptorship offer to all roles in primary care.

DISCUSSION

So, is this training model the future for new GPNs? In the author's clinical opinion, it is a model which fulfils the vision set out by the ten-point action plan for general practice (NHS England, 2017). It embraces the idea of lifelong learning and attempts to help set out leadership and career progression for new GPNs. Could training hubs such as this one also support those already in practice to ensure that all training for GPNs, new or experienced, is accessible and of quality?

There are many other models of training for new GPNs across the country and that, in itself, shows the changing tide and the recognition that we need to review and restructure GPN education to ensure that patients have the best possible evidence-based care and provide the 16000 GPNs with a culture of lifelong learning and support.

Even with Cheshire and Merseyside's Training Hub's preceptorship course, there remain many challenges. There is still a need for GPs and practice managers to understand the nature and need for continuous quality training for their GPNs and their role in supporting this. Without this understanding and support, engagement becomes piecemeal. There is a need for quality practice preceptorship, and this is not always possible. This is a particular issue in smaller practices or those with high turnover of nursing staff. There is the need for funding that goes beyond the next couple of years so that training organisations can plan ahead and develop excellence. Developing and promoting a quality programme takes considerable time. Furthermore, there is a need for consistency throughout the regional and national picture, so that all GPNs have access to similar training opportunities.

At the moment, there is no specific mandatory training that GPs are required to provide for GPNs. The Care Quality Commission (CQC, 2023) says that individual practices are responsible for deciding what training is required and how it is delivered. Although within that they do expect practices to 'take reasonable steps to support staff training'. This, although arguably flexible, allowing development according to local need, does leave what is necessary open to interpretation and therefore fosters inconsistencies. GPN employers are free to decide how they achieve the training which they feel is needed. There is also no requirement for them to engage with training hubs or other training organisations when employing a new GPN.

There are programmes of education across areas of the country such as fundamentals or NMC specialist practice qualification (SPQ), but they vary in length and form and are patchy. However, not all GPNs will be able to access courses such as this. To do so would require the course to be local, the support of the employer, and funding. These three factors are not always in existence. This leads to a lack of consistency and uniformity, with some nurses accessing robust quality education and others not.

There is CPD funding available, but it is neither consistent, nor long term.

Perhaps it is time to look at this in the wider context and ask how we might achieve consistent, quality education for every single GPN? In doing so, perhaps we should look at the bigger picture and ask some far-reaching questions.

General practice is a unique environment and the nurses working here encounter a unique set of challenges. Being employed by a GP practice and not the NHS means that important issues such as pay and conditions and access to education are all negotiated within the practice. Although training hubs and primary care networks (PCNs) are trying to establish more uniform training, it is blighted by short-term funding and an ever-changing political landscape, making long-term planning and development of preceptorship courses or alternatives, fragile and often short term.

Practices sometimes lack the knowledge and nursing background to understand what is required to support nurse development. Thus, it has to be asked, are GP practices the right organisation to employ GPNs? Will the problem of uniform training within the GPN population be solved while there is a lack of understanding from some practices and short-term funding. Is something much more drastic the answer?

Should GPNs be employed by larger organisations, such as PCNs or integrated care partnerships (ICPs), which may be better able to provide and sustain training and development and can ensure continuity? Equally, are GP practices the right organisations to recruit and manage nurses? Do they have the skills, the time and know-how? Can they be objective enough when they are running a business? If GPNs are to remain employed by GP practices, is it not time that training for GPNs is included in the GP contract, i.e. embedding the need for good quality training into every practice and making it more prescriptive and understandable for GPs.

GPs historic contractual arrangement dates back to the very foundation of the NHS, when few nurses were employed in general practice. Since 1948, general practice nursing has completely changed from being a handful of nurses assisting GPs in relatively simple tasks to a dynamic workforce of autonomous practitioners responsible for huge sections of general practice care. There has been a massive expansion of the role and the responsibility attached to it, especially with the continued movement of care from secondary to primary care. In short, the landscape of general practice nursing has changed entirely and perhaps now is the time to change and update this model of employment for GPNs. GPN

Acknowledgement

With thanks to Trisha Vickers, Cheshire and Merseyside Training Hub, for all her help with the facts and figures from the Hub.

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Evolan Pharma AB
E: pastebandages@evolan.se
T: +44 07554133321

1. Agren M (1990) Studies on Zinc in Wound Healing. Linkoping University Medical Dissertations No. 320. Department of Pathology II, Faculty of Health Science. Linkoping, Sweden.

ZIPZOC (zinc impregnated medicated stocking) **Abbreviated prescribing information**. Refer to summary of product characteristics before prescribing. **Composition**: A sterile rayon stocking impregnated with an ointment containing 20% Zinc Oxide. Each stocking (80cm x 7cm) contains about 41.5g of ointment. **Therapeutic indications:** Aid to the treatment of chronic leg ulcers and other associated skin conditions. Where chronic venous insufficiency exists, the medicated stocking can be used as a primary contact layer under compression bandaging or hosiery. **Method of Administration:** Because ZIPZOC is preservative free, it must be changed no less frequently than weekly. For topical application, ZIPZOC should be applied to cover the lower leg from the base of the toes to below the knee. All folds should be smoothed out. To protect clothing, a suitable outer bandage should be worn. If chronic venous insufficiency exists, ZIPZOC may be used as a primary contact layer under compression therapy and may be left in situ for one week, before re-application. **Contra-indications:** Arterial leg ulcers. Known hypersensitivity to zinc oxide or the excipients in the ointment. **Special Warnings and Special Precautions:** None known. **Interactions:** None known. **Pregnancy and Lactation:** There is no evidence to suggest ZIPZOC should not be used during pregnancy. **Undesirable Effects:** The skin of leg ulcer patients is easily sensitised to some topical medications. ZIPZOC contains no preservatives thereby reducing the risk of skin reactions. Reported reactions include, rash, erythema, itching and maceration of the wound edge. If the outer bandage is inappropriate or the medicated stocking is not changed with sufficient frequency it can cause the stocking to dry out. **Excipients:** Liquid Paraffin Ph. Eur. White Soft Paraffin BP. **Incompatibilities:** None reported. **Shelf Life:** 3 years. **Storage:** At or below 30°C. Keep all medicines out of the reach of children. **Packaging:** Polyethylene aluminium foil laminated pouches, each pouch containing a single medicated stocking. The outer carton will contain either 4 or 10 pouches. **Legal Category:** P **Market authorization number:** PL44616/0002 **Date of first authorisation/renewal of the authorisation:** 01 October 2006 **Date of revision of text:** 26 October 2018 Trade Mark of Evolan Pharma AB **Date of preparation:** October 2018