MARCH 2024 VOLUME 22 ISSUE 1

# PAIN NEWS

A PUBLICATION OF THE BRITISH PAIN SOCIETY



The Body in Pain Series untitled #4.© Julia Hollander

ISSN 2050-4497





# Advertorial Empowering Patients with Drug-Free Pain Relief through Nevro's HFX™ Spinal Cord Stimulation Therapy

# NO DAY OFF. NO RESPITE. JUST CONSTANT, UNREMITTING PAIN

If this is the reality your patient faces, then it's time to consider an alternative solution that could offer them long-term relief.

Chronic pain is a silent epidemic affecting millions in

also has broader societal and economic implications,

often leading to absenteeism, lower productivity, and increased healthcare costs. If your patient has been

suffering with persistent spinal pain syndrome

(formerly known as failed back surgery syndrome (FBSS)) for six months or more<sup>1</sup> treating them with

Nevro's HFX Spinal Cord Stimulation (SCS) therapy

Is HFX Spinal Cord Stimulation the answer for your patient? Unlike traditional low-frequency SCS, HFX powered by

high-frequency 10 kHz SCS technology, goes beyond merely masking pain. HFX is a drug-free, minimally invasive. and reversible treatment targeting the root cause of chronic

pain by calming hyperactive neurons in the spinal cord.

The effectiveness of HFX SCS is backed by impressive

results, with a treatment response rate of over 70% sustained for up to 10 years post-implantation<sup>2</sup>. This innovative therapy

neuropathic back and leg pain persisting after back surgery<sup>3</sup>.

"I'm not in day-to-day pain and I can get a good night's sleep.

has even been recommended by the National Institute for

Health and Care Excellence (NICE) for treating chronic

could be the answer they have been waiting for.

the UK, with significant economic and personal costs. It

# that patients receiving 10 kHz Therapy<sup>™</sup> experience a significant reduction in disability, with 70% moving to a lower disability category<sup>4</sup>. Moreover, 66% report better sleep<sup>5</sup> and 72% of patients eliminated or reduced opioid usage<sup>6</sup>.

Furthermore, the latest regulatory approvals have expanded the scope of HFX SCS, highlighting the clinical benefits, including quality of life enhancements, improved sleep, better function, and reduced opioid dependence as part of expanded CE marking<sup>7</sup>.

# Here's what you need to know:

- 1 Non-Drug Treatment Option: HFX SCS is a non-drug treatment option, reducing the risks associated with long-term drug use.
- 2. Centrally Funded by NHS England: This treatment option is accessible to a wide range of patients, ensuring equitable care.
- 3. Trial Available: Patients can undergo a minimally invasive trial procedure to determine if HFX SCS is the right solution for them, enhancing their confidence in the treatment.

Identifying the right patients for Spinal Cord Stimulation Surgery is crucial for successful pain management outcomes. With expanded clinical benefits beyond pain relief, referring patients for a minimally invasive trial procedure with Nevro's HFX Spinal Cord Stimulation therapy could be the turning point they've been waiting for. Let's work together to empower patients and offer them a future free from constant pain.

Learn more at: www.scs4chronicpain.co.uk

References: 1. NICE. Review of TA159; Spinal cord stimulation for chronic pain of neuropathic or ischaemic origin. 2014. Available from: https://www.nice.org.uk/guidance/ta159/documents/appendix-b-proposalpaper-presented-to-the-institutes-guidance-executive-2 [Accessed February 2024]. 2. Van Buyten JP, et al. Ten-year real-world data with HF-SCS at 10kHz. Poster presented at the International Neuromodulation Society 15<sup>th</sup> World Congress Van Buyten JP, et al. Ten-year real-world data with HF-SCS at 10kHz. Poster presented at the International Neuromodulation Society 15<sup>th</sup> World Congress 2022.
 NICE. Senza spinal cord stimulation system for delivering HF10 therapy to treat chronic neuropathic pain. 2019. Available from: https://www.nice.org.uk/guidance/mtg41/resources/senza-spinal-cord-stimulation-system-for-delivering-hf10-therapy-to-treat-chronic-neuropathic-pain-pdf-64 372050739141 [Accessed February 2024].
 A Amirdelfan, K., et al. (2018). Long-term quality of life improvement for chronic intractable back and leg pain patients using spinal cord stimulation. 12-month results from the SENZA-RCT. *Quality of life research : an international journal of quality of life spects of treatment, care and rehabilitation*, 27(8), 2035–2044.
 Deters, L., et al. (2022). Durability of Life spects of Light Sciences, 45(1), e3 – e6.
 Al-Kaisy, A., et al. (2020). Opioid-sparing effects of 10 kHz spinal cord stimulation: a review of clinical evidence. *Annals of the New York Academy of Sciences*, 1462(1), 53–64.

Important information: Rx Only. Patient experiences with the Senza® spinal cord stimulation (SCS) system may vary by individual, including the amount of pain relief. The occurrence of adverse effects associated with SCS implant surgery or use also varies by patient. Patients should consult a physician to understand the benefits and risks of treatment with SCS. Please see the Senza Manual available at www.Nevro.com/manuals for complete information including individual values of the senze of the indications for use, contraindications, warnings/precautions, and adverse effects.

© 2024 Nevro Corp. All rights reserved. HFX, the HFX logo, NEVRO, and the NEVRO logo are trademarks or registered trademarks of Nevro Corp. S003418

# 

Scan to

# I'm not doing steroid injections. I got my medical back. I was able to start flying again. I go snowboarding. I do hovercraft racing... all the stuff that I used to be able to do." Robert, HFX SCS Patient

## More than just pain relief

PAIN PATIENT TESTIMONIAL

But HFX SCS isn't just about pain relief. It's about improving your patient's overall quality of life. Studies have shown

learn more:





Third Floor Churchill House 35 Red Lion Square London WC1R 4SG United Kingdom Tel: +44 (0)20 7269 7840

Email info@britishpainsociety.org www.britishpainsociety.org

A company registered in England and Wales and limited by guarantee. Registered No. 5021381. Registered Charity No. 1103260. A charity registered in Scotland No. SC039583.

The opinions expressed in PAIN NEWS do not necessarily reflect those of the British Pain Society Council.

#### Officers

Professor Roger Knaggs President Dr Rajesh Munglani Vice President Dr Cathy Price

Vice President

Dr Ashish Gulve Vice President

Dr Tacson Fernandez Honorary Treasurer

Dr Neil Collighan Honorary Secretary

#### Elected

Dr Tacson Fernandez Mr Martin Hey Dr Sumit Gulati Dr R Krishnamoorthy Ms Celia Manson Dr David Pang Dr Mahindra Chincholkar Dr Manojit Sinha

#### **Pain News Editorial Board**

Dr Rajesh Munglani *Editor* 

Dr Margaret Dunham Associate Editor

Dr Gareth Parsons Assistant Editor

PAIN NEWS is published quarterly. Circulation 1300. For information on advertising please contact Neil Chesher, Sage Publications, 1 Oliver's Yard, 55 City Road, London EC1Y 1SP, UK. Tel: +44 (0)20 7324 8601; Email: advertising@sagepub.co.uk

#### Disclaimer:

The Publisher, Society and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in Pain News; the views and opinions expressed do not necessarily reflect those of the Publisher, Society and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher, Society and Editors of the products advertised.



#### **Co-opted Members**

Ms Victoria Abbott-Fleming MBE Chair Patient Voice Committee Patient Lead, National Awareness Campaian Ms Felicia Cox Editor, British Journal of Pain and Representative, RCN Dr Andreas Goebel Chair. Science & Research Committee Elsie de Villiers Representative, Physiotherapy Pain Association Dr Patrick Hill Representative, British Psychological Society Dr Lorraine de Gray Representative, Faculty of Pain Medicine Dr Martin Johnson Representative, Chronic Pain Policy Coalition Dr Raiesh Munglani Editor, Pain News Dr Edmund Keogh Chair, Scientific Programme Committee

## Secretariat

Matthew Hall Executive Director Ester Zoroa Association Manager

The Editor welcomes contributions including letters, short clinical reports and news of interest to members.

Material should be sent to: Dr Rajesh Munglani PAIN NEWS Editor The British Pain Society Third Floor Churchill House 35 Red Lion Square London WC1R 4SG United Kingdom

Email rajeshmunglani@gmail.com ISSN 2050-4497 (Print) ISSN 2050-4500 (Online) Printed by Page Bros., Norwich, UK

At Sage we take sustainability seriously. We print most of our products in the UK. These are produced using FSC papers and boards. We undertake an annual audit on materials used to ensure that we monitor our sustainability in what we are doing. When we print overseas, we ensure that sustainable papers are used, as measured by the Egmont grading system.

https://www.britishpainsociety.org/ for-members/pain-news/

# THE BRITISH PAIN SOCIETY PAIN NEWS CONTENTS

PAIN NEWS MARCH 2024

# **Editorials**

- 2 Let the wild rumpus begin . . . Rajesh Munglani
- 4 Pain News: spring 2024 Margaret Dunham

# **President's message**

5 President's message: Spring 2024 – Roger Knaggs

# **Articles**

- 6 Life drawing and pain: Henri Matisse and Tracey Emin Julia Hollander
- 8 The social side of pain: the social in the biopsychosocial model Gareth Parsons
- 11 Current practice of managing lower back pain in the UK with facet joint/MBB interventions compared with clinical guidelines and informed consent Adam Samways, Ahsan Kamran and Rajesh Munglani
- 18 Surgical input into the pain MDT Tom J Quick
- 24 Perceptions about legal framework and prescription guidelines for cannabis-based medicinal products (CBMP) among healthcare professionals in the United Kingdom – Anusha Kashif, Joshua Collier, Yasir Abbasi and Marie-Claire
- 27 Pain train Yipei Serena Yen and Jo Krawczyk
- 29 Development of an e-learning module for epidural analgesia Sarvesh Palaniappan
- 33 The patient voice: who is listening? Tim Atkinson
- 35 Preventing pain: a multi-modal approach Drew McMichael
- 39 Talk to an artificial intelligence–powered expert about your pain

# **End piece**

- 41 Polypharmacy Steve Johnson
- 43 The denouement Steve Johnson

# Let the wild rumpus begin . . .



Pain News 2024, Vol 22(1) 2–3 © The British Pain Society 2024

S Sage

Rajesh Munglani Consultant in Pain Medicine

Senior Editor Pain News Vice-President British Pain Society



I am pleased to announce the appointment of Dr Gareth Parsons, PhD, RN, SFHEA, as an assistant editor to the



editorial team at *Pain News*. Gareth is a Senior Lecturer in Nursing at the School of Healthcare Sciences, Cardiff University, and before this he worked as a Senior Lecturer at the University of South Wales. He is the co-author of *Principles and Practice of Managing Pain: A guide for nurses and Allied Health Professionals* and has been involved in developing acute pain services and nurse-led pain clinics.

He is interested in promoting effective pain management. His PhD thesis *Using learning communities to manage pain* utilised participatory action research methods to work with people in persistent pain to build learning communities to explore the problems they face. He is also interested in storytelling, compassionate care and empathy and attitudes towards others with health problems. He also enjoys playing the guitar and the mandolin badly.



I would also like to re-introduce my associate editor, Professor Margaret Dunham. Margaret is an Associate Professor in Nursing and Pain Management at Edinburgh Napier University. She specialises in older people's experiences of health care. Her PhD, completed in 2015, focused on older people's pain experiences. She works with groups nationally and internationally to improve and enhance older people's health and well-being. She is a keen gardener and chorister.

Alongside the introduction of my very well qualified colleagues, I would like to set out our vision for *Pain News*, which is to provide a forum for the presentation, discussion and dissemination of ideas related to the understanding of and impact of pain and suffering on a human being and humanity as a whole. Gareth addresses some of this in his article in this edition.



In this and the last few issues, Julia Hollander, a talented singer, writer and artist residing in Oxford and now a Royal Literary Fund fellow attached to the Oxford University Department of Medieval and Modern Languages, has provided her drawings for the front cover of *Pain News* and also has been sharing her thoughts of the impact of pain and suffering in influencing the creative spirit in artists.

Eastern thought is far less concerned about drawing distinctions between mind and body and soul and indeed the relationship of an individual to a community or society is also less distinct. Indeed, the individualism and mind–body dualism which has overtaken western thought and philosophy has arguably diminished our understanding of pain and suffering.



Xin is a Chinese character which can be translated as representing all aspects of human existence including the dimensions of heart, body, mood, mind, centre, core and spirit. It is similar to the Japanese word Kokoro. This can refer to the physical organ that pumps blood around the body but also can be translated as spirit, what one feels and thinks and also what one creates.

In recognising that holistic approach has to be taken to the understanding and treatment of pain, we at *Pain News* will consider a broad spectrum of articles encompassing the above ideas from the purely biomedical to the psychosocial and cultural aspects of pain and suffering. We look forward to your submission for consideration.

'Let the wild rumpus start!'

- Maurice Sendak (Where the Wild Things Are)

Rajesh Munglani's email for contact: rajeshmunglani@gmail.com

# Pain News: spring 2024



Pain News 2024, Vol 22(1) 4 © The British Pain Society 2024 Sage

Margaret Dunham Associate Editor Pain News, Associate Professor in Nursing and Pain Management, Edinburgh Napier University m.dunham@napier.ac.uk

Happy New Year, as I write on a cold and sparkly January morning, we have turned the days to lengthening ones with all the hope and anticipation of spring and brighter times ahead.

We went to see a 3-D movie at the cinema recently, definitely a marmite experience for some: so many films to see and so much technology out there to make our experiences more lived, more vibrant and exciting. Distraction and diversion, so long the mainstay of paediatrics, is making a slow and welcome intrusion into adult healthcare and chronic pain, pushed along as part of the desire to reduce dependence on opioids to manage pain. Research into the use of virtual reality to interfere with the pain experience gathers momentum, with its potential benefits and commercial application widely acknowledged. In the United States, the recent approval by the Food and Drug Administration (FDA) of a virtual reality (VR) device (RelieVRx) for home use for chronic back pain has accelerated some encouraging research in this field. Virtual reality for chronic low-back pain has been assessed by a team at the Mayo Clinic USA (funded by AppliedVR) and has shown promising results.<sup>1</sup> In a randomised study of 1.067 participants clinically, meaningful improvements were noted. Marvellous though technology is, I hope a suitable alternative is available for those who experience the nausea at the 3-D movie!

Out of the terrible time had with COVID, for the naysayers who diminish and trivialise the pandemic in our 'wild west' social media, take note of the sad recent death of Derek Draper whose horrific experience with the effects of COVID is now finally at an end. However, we have had a few positives following COVID, one of which is the recognition of 'long COVID'. The mass publicity of the awful fatigue and other associated symptoms has pushed the research agenda with potential to benefit those living with chronic fatigue, myalgic encephalomyelitis (ME). Researchers<sup>2</sup> in the Netherlands have identified effects on the mitochondria of people who identify with the syndrome of long COVID. The team from the Amsterdam Institute for Infection and Immunity considered a

group of people who remained symptomatic at 3 months after infection, focusing on the pathophysiology of post-exertional malaise. Blood tests and muscle biopsies were obtained before and after exercise and compared with those of healthy controls. They concluded that exercise-induced muscle damage related to mitochondrial dysfunction may explain some of the malaise associated with long COVID.

Is the popular love affair with cannabis ever going to leave us? Its use is now ubiquitous,<sup>3</sup> and its potential analgesic properties are well documented. However, the regulation and monitoring of the various legally available cannabis products, including cannabidiol (CBD), make advice regarding therapeutic or adverse effects exceedingly challenging. Given that the use of cannabis is so widespread, particularly in its smoked forms, researchers in Ohio<sup>4</sup> have considered its effects on postoperative pain. In a retrospective analysis of 10 years of data, some 1,683 cannabis users were identified among people having undergone elective surgical procedures. The researchers concluded that people who use cannabis had higher pain scores and hence required more opioids for analgesia than non-users.

As 2024 progresses, please make the most of the extra day in this leap year and hopefully see you at the ASM in Nottingham in June!

#### References

- Maddox T, Oldstone L, Sparks CY, et al. In-home virtual reality program for chronic lower back pain: A randomized sham-controlled effectiveness trial in a clinically severe and diverse sample. *Mayo Clinic Proceedings: Digital Health* 2023; 1(4): 563–73.
- Appelman B, Charlton BT, Goulding RP, et al. Muscle abnormalities worsen after post-exertional malaise in long COVID. Nature Communications 2024; 15(1): 17.
- Sideris A and Doan LV. An overview of cannabidiol. Anesthesia & Analgesia 2024; 138(1):54–68.
- Ekrami E, Sari S, Kopac O, et al. Association between cannabis use and opioid consumption, pain, and respiratory complications after surgery: A retrospective cohort analysis. *Anesthesia & Analgesia*. Epub January 8 2024. DOI: 10.1213/ ANE.00000000006785.

# President's message: Spring 2024

# **Roger Knaggs**



Pain News 2024, Vol 22(1) 5 © The British Pain Society 2024

S Sage



In previous issues of *Pain News*, I have written about the importance of your role as members of the British Pain Society (BPS). My vision is to involve members as much as possible in your Society. This year, we have invited you to nominate people for honorary membership, and there will soon be a call for nominations for elected Council members. These are important roles that help to develop the vision, strategy and activities of the BPS, as well as providing an opportunity for personal development and leadership opportunities. It is important that Council is representative of our diverse membership, so do consider standing if you would like to have greater influence in the organisation.

There have been recent changes to Executive positions. Tacson Fernandez was sorry to leave his post of Honorary Treasurer at the end of last year for personal reasons, and I am grateful to Neil Collighan and Martin Hey who have agreed to be Interim Honorary Treasurer and Interim Honorary Secretary, respectively, until the next AGM. Council will then appoint these positions of Honorary Treasurer and Honorary Secretary after the close of nominations.

It was pleasing to see the reinvigoration of education and SIG activities over the last few months, and the large number of members who attended these events. There are more activities planned over the coming year. Further details for all forthcoming BPS events will be available on the website and in the monthly electronic newsletter. Do consider how you can contribute to the success of these events and maximise your benefit from these learning opportunities.

There are so many different facets to the experience of pain and its management. We all come from differing professional backgrounds and experiences and the multidisciplinary membership of the BPS makes it unique compared to other professional organisations. Over the last year, we have had successful collaborations with the Association of Anaesthetists, the Faculty of Pain Medicine, the Pain Nurse Network and the Physiotherapy Pain Association to name but a few. Looking further afield, we have recently signed Memoranda of Understanding with the American Academy of Pain Medicine and the Canadian Pain Society and are discussing opportunities for ongoing and productive collaborations over the coming years. If you become aware of opportunities to work together and communicate with other organisations, then please do let us know and we will aim to maximise the collective potential benefit for professionals and for people living with pain.

I would also like to acknowledge the substantial work of our patient partners in The Patient Voice Committee. They have been working on summarising a survey that they undertook to understand the needs and experiences of the many people who live with pain. We will share the results with members once this work is completed. In addition, they have been working to update and refresh our 'Understanding and Managing Pain' publication. There will be opportunities to hear about both initiatives during a special session at the Annual Scientific Meeting.

I know that the *Pain News* editorial team wish the journal to reflect the many aspects of pain management, its social consequences and cultural impact and for *Pain News* to facilitate discussion and debate within our community. So, if you have ideas for an article or any article and stirs you to put pen to paper, I am sure that they would be pleased to hear from you.

Finally, as I have ended several columns in *Pain News*, I am committed to having an 'open door' policy. So, if there are any pain-related issues, locally, nationally or just have comments and thoughts in general, do get in touch. I look forward to meeting as many members as possible over the coming year.

With best wishes,

loge kragge.

(Email: roger.knaggs@nottingham.ac.uk)

# Life drawing and pain: Henri Matisse and Tracey Emin



Pain News 2024, Vol 22(1) 6–7 © The British Pain Society 2024

S Sage

# Julia Hollander

The opposite of the term 'still life' (or what the French more explicitly term 'nature morte') is 'life drawing'; it rejects permanence. Perhaps that sounds weird. After all, isn't all art about somehow capturing the essence of what is seen - an object in space or a moment in time? Surely a half-decent life model striking a lovely, elegant pose offers the same potential as a flower arrangement or a country view . . . as long as they hold still for long enough. But this is the issue. What about the flexing of that leg muscle? Or the way their spine tilts as they shift their balance from one foot to the other? Look harder still, and you might even observe the throbbing of their veins. Once your perceptions are aroused by such aberrations, you start to realise that no one is ever totally static. And what you are doing in a life drawing class is not so much fixing your subject on the page as acting in relation to it. In order to understand what this human body is doing, you start to utilise your own. You move around the room, exploring the pose from differing vantage points; you mirror the way their weight is distributed, the complicated arrangement of their fingers, their facial expression . . .

And when eventually you put pencil to paper, the challenge is to find ways to preserve the liveliness of what you have discovered. Perhaps you go for tension, focussing on the way the human curves contrast with the rigid angles of walls and floors, chairs and easels. Or perhaps you try to evoke a living, breathing body by breaking up your lines, making them scratchy or jagged or blurred.

For an artist whose own body is broken, this process can be particularly poignant.

Take for instance, Henri Matisse, a leading light in the Parisian art scene at the turn of the century. As a young man, he was one of 'Les Fauves' (French for 'Wild Beasts'). His portraits scandalised audiences by ignoring the natural colour of their subjects in favour of a much more evocative painterly style, relishing the sheer vitality of his medium. He produced numerous sculptures of the human body in wood, plaster and bronze: rough-hewn, primitive, exuberant.



At the age of 71, Matisse was diagnosed with cancer of the duodenum. The treatment entailed a major surgery, after which he suffered a pulmonary embolism and was forced to convalesce for 3 months, two of which he spent in a state of high fever. The nuns who were caring for him declared his recovery a miracle. Even he himself, a lifelong atheist, decided it must be some sort of divine blessing: the beginning of what he called his Second Life. But it wasn't easy. Unable to stand for more than an hour a day, his upper body held in place with an iron corset, there was no way he could return to the physicality of his earlier work. Instead, he picked up a pair of scissors and swathes of coloured paper and pretended to be a child again.

In order to encapsulate the spirit of improvisation with which he embraced his new craft, Matisse entitled his first series of cutouts 'Jazz'. From the confines of his wheelchair, from his imagination, he summoned up schoolboy tales and the delights of the circus. Simple, lyrical human forms in bright monochrome, often presented inside a decorative frame, they have come to be viewed as metaphors for the artistic life. They

# Article

## Life drawing and pain: Henri Matisse and Tracey Emin



Dance Henri Matisse 1910. The State Hermitage Museum, St. Petersburg.



Tracy Emin. Public domain.

often depict people in pain. Look, here is lcarus in black silouette; having aimed higher than mortality could stand, his charred body is descending through a cobalt, star-filled sky, its heart still pulsing red with life. And here is the head of the Sword Swallower, bald and white against a magenta background, craning to receive not one but three cruel blades down his swelling throat. It is tempting to associate such images directly with the life of their creator.



With contemporary artist Tracey Emin, there is never any doubt about the link between her personal life and her art. One of the rebellious young British artists of the 1990s, in her twenties and thirties, she gained notoriety with her autobiographical work: her trashy, unmade bed and an empty tent appliquéed with 102 names: 'Everyone I have ever slept with, 1963–1995'. In 2020, she was suddenly brought up short by bladder cancer, and with typical boldness, let it be known that her treatment required the removal of all her reproductive organs, plus her bladder and half her vagina. She survived and, like Matisse, regards her recovery as a new beginning. 'I really messed up a lot of my life earlier and did loads of really stupid things', she says. 'Luckily I realise that I've got this other chance, it's almost like someone's said, "She's not that bad, give her another chance!" And I'm really making the most of it'.

Emin's rehabilitation has begun with a return to her home town of Margate. It was here that she was raped as a teenager and went on to attempt suicide. But now, she has purchased the town's Victorian baths and is converting them into an art school with residencies for visiting artists and study grants for mature artists who never received a formal training. With typical irony, she has transformed the local morgue into a mini Emin museum and is providing the community with a sculpture park and a life drawing club. Because when it comes down to it, her true passion lies not in beds or tents but in life drawing. She says it is the essence of all art, which in her case must also have to do with the essence of Emin. On the walls of her Margate studio hang huge, dripping nudes - full of energy, but also bearing the burdens of her broken body. In one, she is crawling on all fours with a huge white moon on her back. In another, she is straining on her stoma bag. The pain in these drawings is much more overt than it is in Matisse's cutouts, but somehow their effect is the same: They let us know that both artist and model, and in turn the viewer, are very much alive. That any of us might succumb to disease at any time, but there is still hope. And that by sharing our suffering through an artistic process like life drawing, we can expand the well of human empathy.

# The social side of pain: the social in the biopsychosocial model



Pain News 2024, Vol 22(1) 8–10 © The British Pain Society 2014

S Sage

# **Gareth Parsons**

The biopsychosocial conceptual model of pain offers a useful and convenient way to think about pain.<sup>1</sup> It allows the integration of different ideas about what pain is and can help in the consideration of how people experience pain, how they present pain to the world and how the world treats people in pain. This approach to considering pain has value for all types of pain but has particular utility when applied to persistent or chronic pains as it can provide interesting perspectives on the world in which people who have persistent pain are living.

The biopsychosocial model was conceived in response to perceived inadequacies in the existing biomedical model to explaining pathology and developing treatments by George Engel,<sup>2</sup> a psychiatrist who realised that his medical training did not fully explain the clinical features presented by his clients. In the 1980s, this model was adapted separately by Loeser and Waddell and applied to low back pain as an explanation as to why spinal surgery was often unsuccessful.<sup>1</sup> These approaches offer a hierarchical systems-based model, built up from the basic building blocks of life, from molecules and genes through organ structures and the nervous system, which forms the substrate for psychological systems and then out from the person to the society that person lives in and placing them in their environmental context.3 The different levels of this hierarchy dynamically interact with each other, thus explaining the complex nature of pain, where psychological and social factors contribute to pain behaviours, experiences and expressions and adding to understanding of the role that biomedicine plays in pain.

The biopsychosocial model was developed as an integrated systems approach, and it represented a paradigm shift in the way, first mental illness and then chronic conditions and now most health issues are considered. This model is often more commonly represented by a Venn diagram with three overlapping circles, usually representing Biological, Psychological, and Social domains, with the overlap purporting to represent an individual's overall pain. This simplified biopsychosocial pain model has great value in emphasising that appropriate attention needs to be paid to these different domains. Moreover, the imagery of the model suggests that these three domains should be equally important to understanding pain. Conversely in such a simplified model, the interaction between different aspects of pain can be lost, and this simplification can also contribute to misunderstandings about pain.

The reality is that when it comes to pain the effort to understand pain does not reflect this paradigm view. In practice there often is a lack of balance between the different domains. This is not to say that there should be equal effort in understanding each domain but that there should be proportionality. Currently, we focus an awful lot on physical aspects of pain, and by this I mean the 'bio', we do some work on the psychological and we hardly ever pay attention to the social aspects of pain, unless they relate to the individual's social situation.

This article is partly an attempt to address proportionality and trigger some thoughts and responses around social aspects of pain.

So, just to look a bit deeper into what is mean by this. From the biological side of things, we often focus upon biomechanical and neurological aspects of pain. Now this is of course very useful work, our human bodies that experience pain are physical entities made up of matter that is organised organically into structures and systems. Knowing about these allows us to have better and earlier identification, develop physical and pharmacological therapies, and make diagnoses and predictions of how pathologies will progress. This enables us to focus upon analysing functions and to understand persistent pains better through developing ideas around, for example, neurobiology<sup>4</sup> or genetics.<sup>5</sup> These fit very well into the systematic hierarchical approach to the biopsychosocial model when looking at in-person aspects. But these ideas can only take us so far. The need for the biopsychosocial model arose because focusing purely on the biological has not provided all the answers and unfortunately in some cases has created problems.

An understanding of psychological aspects of pain has provided insights into risk factors, underlying cognitive and behavioural mechanisms, and these in turn have led to better

# Article

The social side of pain: the social in the biopsychosocial model



assessment of pain interventions that can help people with persistent pain such as cognitive behavioural therapy<sup>6</sup> or acceptance and commitment therapy.<sup>7</sup> Indeed our better understanding of psychological aspects of pain have shaped how pain has come to be described, so that pain experience is at the core of the revised International Association for the Study of Pain's definition.<sup>8</sup>

An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

However, when it comes to the social aspect of pain, the application of the biopsychosocial model needs some attention.

The social domain often focuses upon personal aspects of an individual, and this can lead to it being conflated with psychological aspects which dominate. As an illustration, run a query on your favourite search engine and you will see the phrase 'psychosocial pain' dominates over 'sociopsychological'. In addition, people who work in the area of pain tend to focus on individual effects of pain, such as the existence and nature of social relationships<sup>9</sup> and rarely if ever pay attention to group or societal effects of pain, with the largest social groups that merit consideration being the family or workplace. This is not to say that social determinants of pain have not been studied.

As pain is an ubiquitous experience it has meaning to everyone, as we all have the potential to experience pain, but the likelihood of any one person actually experiencing the significant negative effects of pain is shaped by society because pain is unevenly distributed based upon ingrained structural disparities.<sup>10</sup> The most commonly studied include gender,<sup>11</sup> socioeconomic status,<sup>12</sup> educational attainment<sup>13</sup> or organisational aspects such as provision of services<sup>14</sup> or access to help and support.<sup>15</sup> More recently, ideas around classism have begun to be studied;<sup>16</sup> classism involves making detrimental judgements about people based upon placing them within a particular social grouping and has great potential for leading to discrimination and further harms.<sup>17</sup> This can lead to oppressive practices such as dehumanising or through implicit biases effect decisions that are made about care.<sup>17,18</sup> Such situations arise when people with chronic pain lack power in their relationships with others, and this is often compounded when there is more than one factor in play.<sup>19</sup>

The prevalence of pain in society reflects the state of a nation. It has been identified as increasing during economic downturns, particularly in Western nations,<sup>20</sup> even though people are incentivised to work harder and for longer hours in prosperous times. In addition, at a societal level, the prevalence and management of chronic pain can act as an indicator of the well-being,<sup>21</sup> health and happiness of a population.<sup>10</sup>

Having an understanding of these social aspects of persistent pain can protect people in pain from internalising their problems and blaming themselves or others for their pain. It can prevent health carers from perpetuating inequities in the way they interact with people in pain. Moreover, it can help identify gaps in knowledge and unmet needs and improve the distribution and allocation of resources for people who are in pain.

#### References

- 1. Nicholas MK. The biopsychosocial model of pain 40 years on: Time for a reappraisal? *Pain* 2022; 163: S3–14.
- Engel GL. The need for a new medical model: A challenge for biomedicine. Science 1977; 196: 129–36.
- Parsons G and Preece W. Principles and Practice of Managing Pain: A Guide for Nurses and Allied Health Professionals. Maidenhead: Open University Press, 2010.
- Fenton BW, Shih E and Zolton J. The neurobiology of pain perception in normal and persistent pain. *Pain Management* 2015; 5: 297–317.
- Li S, Brimmers A, Van Boekel RLM, et al. A systematic review of genome-wide association studies for pain, nociception, neuropathy, and pain treatment responses. *Pain* 2023; 164: 1891–911.
- Yang J, Lo WLA, Zheng F, et al. Evaluation of cognitive behavioral therapy on improving pain, fear avoidance, and self-efficacy in patients with chronic low back pain: A systematic review and meta-analysis. *Pain Research & Management* 2022; 2022: 4276175.
- Ma TW, Yuen AS and Yang Z. The efficacy of acceptance and commitment therapy for chronic pain: A systematic review and meta-analysis. *Clin J Pain* 2023; 39: 147–57.
- Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: Concepts, challenges, and compromises. *Pain* 2020; 161: 1976–82.

The social side of pain: the social in the biopsychosocial model

- 9. Sturgeon JA and Zautra AJ. Social pain and physical pain: Shared paths to resilience. *Pain Management* 2016; 6: 63–74.
- Zajacova A, Grol-Prokopczyk H and Zimmer Z. Sociology of chronic pain. Journal of Health and Social Behavior 2021; 62: 302–17.
- 11. Keogh E. Sex and gender differences in pain: Past, present, and future. *Pain* 2022; 163: S108–16.
- Mu C, Jester DJ, Cawthon PM, et al. Subjective social status moderates back pain and mental health in older men. Aging & Mental Health 2022; 26: 810–7.
- Townsend TN. Contemporary issues in population health: Disability, pain management, and opioid overdose in the United States. *Dissertation Abstracts International. Section B, The Sciences and Engineering* 2021; 82.
- Jain S, Jadwani V, Spogmy S, et al. Inequalities and inequities in the types of chronic pain services available in areas of differing deprivation across England. *Scandinavian Journal of Pain* 2023; 23: 168–74.
- Nguyen LH, Dawson JE, Brooks M, et al. Disparities in pain management. Anesthesiology Clinics 2023; 41: 471–88.

- Bernardes SF, Tome-Pires C, Brandao T, et al. Classism in pain assessment and management: The mediating role of female patient dehumanization and perceived life hardship. *Pain* 2021; 162: 2854–64.
- Hollingshead NA, Matthias MS, Bair M, et al. Healthcare providers' perceptions of socioeconomically disadvantaged patients with chronic pain: A qualitative investigation. *Journal of Health Disparities Research and Practice* 2016; 9: 35–44.
- Job C, Adenipekun B, Cleves A, et al. Health professional's implicit bias of adult patients with low socioeconomic status (SES) and its effects on clinical decisionmaking: A scoping review protocol. *BMJ Open* 2022; 12: e059837.
- Macgregor C, Walumbe J, Tulle E, et al. Intersectionality as a theoretical framework for researching health inequities in chronic pain. *British Journal of Pain* 2023; 17: 479–90.
- 20. Macchia L and Oswald AJ. Physical pain, gender, and the state of the economy in 146 nations. *Social Science & Medicine* 2021; 287: 114332.
- Macchia L. Governments should measure pain when assessing societal wellbeing. *Nature Human Behaviour* 2023; 7: 303–5.

# Article



Pain News 2024, Vol 22(1) 11–17 © The British Pain Society 2024



# Current practice of managing lower back pain in the UK with facet joint/MBB interventions compared with clinical guidelines and informed consent

Adam Samways Consultant in Anaesthesia & Pain Management, Ashford and St. Peter's Hospitals NHS Foundation Trust adam.samways3@nhs.net

Ahsan KamranST6 in Anaesthesia & Pain Management, Epsom and St Helier University Hospitals NHS TrustRajesh MunglaniConsultant in Pain Medicine, Vice President British Pain Society

# Background

Back pain is the largest single cause of disability in the United Kingdom, with lower back pain alone accounting for 11% of the total disability of the UK population.<sup>1</sup> The term 'low back pain' is used to describe pain and discomfort felt in the area below the costal margin and above the gluteal folds. There are many possible biomedical causative factors, including lumbar facet joint pathology, sacroiliac joint pathology, discogenic back pain, muscle tension and lumbar spinal nerve root pain, as well as more serious spinal pathology. The prevalence of low back pain secondary to degeneration of the lumbar facet joints has previously been estimated as being 15%–45% of cases.<sup>2</sup> If chronic low back pain is thought to be due to facet joint arthropathy, then historical clinical practice has been to treat with diagnostic intra-articular facet joint injections with local anaesthetic with or without steroid or by targeting the nerve supply to the joint namely by injecting around the medial branch with local anaesthetic with or without steroid.

If there was benefit from these diagnostic injections, it was considered that the source of low back pain was likely to be facetogenic in nature and therapeutic radiofrequency denervation (RFD) of the medial branch nerve could be undertaken to give a prolonged duration of benefit. In recent years, there has been consensus that diagnostic medial branch block (MBB) injections were more predictive than intra-articular facet joint injections in identifying those patients who would benefit from therapeutic radiofrequency ablation of the medial branch nerve.<sup>3</sup>

The National Institute for Health and Care Excellence (NICE) guideline NG59 was published in 2016 to cover the assessment and management of low back pain and sciatica in those aged 16 and over in the United Kingdom.<sup>4</sup> In the guideline, it is stated that clinicians should not offer spinal injections generally for managing low back pain. However, clinicians can refer for assessment for a form of spinal injection namely RFD of the medial branch for people with chronic low back pain when:

- Non-surgical treatment has not worked for them;
- The main source of pain is thought to come from structures supplied by the medial branch nerve;
- They have moderate or severe levels of localised back pain (rated as 5 or more on a visual analogue scale, or equivalent) at the time of referral.

NG59 goes on to state 'only perform radiofrequency denervation in people with chronic low back pain after a

positive response to a diagnostic medial branch block' which is another type of spinal injection. However, this guidance and other guidance from the FPM does not give guidance on the type and volume of local anaesthetic used in the diagnostic block, or indeed the potential for steroid inclusion in the injection. Indeed, there is limited literature on these points. Recent consensus statements have endorsed targeted MBB injection techniques, using low dose 0.5 mL local anaesthetic only solutions.<sup>5</sup> But a lack of quality evidence, along with vague guidelines on the subject, has led to a wide variation in clinical practice between health professionals in the United Kingdom in the management of facetogenic lumbar back pain.

In this study, we surveyed practising UK pain medicine clinicians who manage low back pain to get an overview of current practice in the United Kingdom. Those sampled were overwhelmingly Consultants but did include some advanced pain trainees who intend to become Consultants. We then went on to consider how the variation in practice and divergence from NICE guidelines may be seen in the medicolegal framework in relation to current acceptable clinical practice and the issue of consent.

### **Objectives**

The objectives of this study were to:

- 1. Provide an overview of current multi-centre UK-wide practice of managing facetogenic lower back pain;
- Provide a comparison of this practice with NICE guideline NG59;
- Provide an overview of the principles of Montgomery vs Lanarkshire Judgement of 2015<sup>6</sup> on informed consent and managing such pain.

## Methodology

A study containing two surveys was carried out. An initial survey was completed, which included five questions to determine current practice:

- 1. Do you do therapeutic facet or MBBs that is with local anaesthetic and/or steroid as a standalone, therapeutic procedure?
- 2. Do you do precision injections of the medial branches with

or without steroid? These are typically of smaller volume around the medial branches?

- 3. Would you ever do an RFD without having done some sort of prior facet/medial spinal injection at some point?
- 4. Would you count a positive response to a therapeutic spinal injection around a facet joint or medial branch as enough of a positive response to go onto RFD?
- 5. Would you only do an RFD after a positive response to a precision medical diagnostic injection of the facet joint?

After recording their responses, supplementary information was then provided to participants, including:

- NICE guideline NG59,
- Use of diagnostic blocks by Veizi and Mchaourab,<sup>7</sup>
- Effectiveness of lumbar facet joint blocks before RFD by Cohen et al.<sup>8</sup>

A subsequent second, much longer survey was then undertaken with the same questions as previously, and the addition of the following questions:

- 1. Are you aware of NICE NG59?
- 2. Will information from NG59 affect whether you offer large volume generally imprecise therapeutic injections around MBB/facet joint blocks generally in your clinical practice?
- 3. With direct reference to part 1.3.1 of guidance (do not offer spinal injections), do you think this piece of information affects whether you offer precision small-volume injections around MBB/facet joint blocks in your clinical practice?
- 4. Veizi and Mchaourab suggest that one or two precision diagnostic blocks should be performed prior to RFD. Do you consider that this information suggesting doing a precision diagnostic block(s) is usually an important step on the clinical pathway to doing an RFD?
- Opinion on Cohen's hypothesis of predicting RFD outcome; NG59 says only RFD after positive response to MBB; FPM and BPS suggest only consider RFD after outcome MBB assessed (but no guidance on volume of injectate, use of steroid or guidance on assessment).

# Results Survey 1 – 126 participants Survey 2 – 94 participants

Questions		Yes		No	
Do you do therapeutic facet or medial branch blocks, that is, with local	88	69.84%	38	30.16%	
anaesthetic and/or steroid, as a standalone, therapeutic procedure?	51	55.43%	41	44.57%	
Do you do precision injections of the medial branches with or without	114	90.48%	12	9.52%	
steroid? These are typically of smaller volume around the medial branches	84	91.30%	8	8.70%	
Would you ever do a radiofrequency denervation without having done some	7	5.60%	118	94.40%	
sort of prior facet/medial spinal injection at some point?	6	6.52%	83	90.22%	
Would you count a positive response to a therapeutic spinal injection around	80	64.52%	44	35.48%	
a facet joint or medial branch as enough of a positive response to go onto radiofrequency denervation?	44	47.83%	48	52.17%	
Would you only do a radiofrequency denervation after a positive response to	92	73.60%	33	26.40%	
a precision medical diagnostic injection of the facet joint?	74	84.43%	15	16.30%	



Additional Survey 2 questions

Are you aware of NICE NG59?

•	Yes	59 (64.13%)
•	Read summary only No	27 (29.35%) 2 (2.17%) 1 (1.09%)
		( ,



Will information from NG59 affect whether you offer large volume generally imprecise therapeutic injections around MBB/ facet joint blocks generally in your clinical practice?

•	Fewer	35 (38.04%)
•	Will offer if I think indicated	48 (52.17%)
•	Unsure	9 (9.78%)



With direct reference to part 1.3.1 of guidance (do not offer spinal injections), do you think this piece of information affects whether you offer precision small-volume injections around MBB/facet joint blocks in your clinical practice?

•	Fewer	7 (7.61%)
•	Will offer	76 (82.61%)
•	Unsure	11 (11.96%)

With direct reference to part 1.3.1 of guidance (do not offer spinal injections), do you think this piece of information affects whether you offer precision small volume injections around MBB/facet joint blocks in your clinical practice?



Veizi and Mchaourab suggest that one or two precision diagnostic blocks should be performed prior to RFD. Do you consider that this information suggesting doing a precision diagnostic block(s) is usually an important step on the clinical pathway to doing an RFD?

•	MBB important	64 (69.57%)
•	Therapeutic/larger volume acceptable Unsure	43 (46.74%) 18 (19.57%)

Veizi & Mchaourab suggest that one or two precision diagnostic blocks should be performed prior to RFD. Do you consider that this information suggesting doing a precision diagnostic block(s) is usually an important step on the clinical pathway to



The respondents' opinion to particular scenarios was sought after considering Cohen's hypothesis of predicting RFD outcome; NG59 says only RFD after positive response to MBB; FPM and BPS suggest only consider RFD after outcome MBB assessed (but no guidance on volume of injectate, use of steroid or guidance on assessment).

I will now offer fewer therapeutic MBB/ facet joint blocks because perhaps the literature suggests that they do not work	13	14.13%
I will offer therapeutic MBB/facet joint blocks but explain it is a short-term procedure to mobilise patients perhaps in conjunction with physiotherapy and other treatments	43	46.74%
I will offer therapeutic (large volume) MBB/facet joint blocks but consider them diagnostically useful as well so they are covered by the guidance	16	17.39%
I do injections in such a way that in my view they are both therapeutic and also have diagnostic value	35	38.04%
I will continue to perform MBB/facet joint injections but do not use steroid	18	19.57%
I will offer MBB/facet joint injections (large or small) but change my practice and now not add in any steroid	1	1.09%
I will continue to perform MBB/facet injections with LA and steroid as before. My practice will not change	22	23.91%
I will be doing fewer precision MBB/facet joint blocks because they do not predict outcome with any certainty and I want to limit exposure of a patient to unnecessary or futile procedures with their risks, including X-ray exposure	2	2.17%
I will decide my practice after discussion with the patient. MMB/facet joint block may be right for this particular patient	24	26.09%
I still consider it good practice to offer some sort of MMB/facet joint block prior to RFD	61	66.30%
The literature and NICE guidance is not clear. Many of my patients do benefit from such MBB/facet joint blocks, perhaps even a course of them. Some of them get prolonged benefit. I will continue to offer what I continue to believe is clinically appropriate	26	28.26%

## (Continued)

Where possible, I will continue to offer MBB/facet joint injections with or without steroid a number of times per year as my patients find it useful	9	9.78%
I continue to offer whatever injections I am of the opinion are clinically appropriate for the patient. This may include epidurals and caudals. So long as I have patient consent (comment below)	17	18.48%
There are differences between my NHS and private practice. I detail in comments below	8	8.70%
The NICE guidance is just that, guidance. My practice will be judged by my peers who have to work in the real world	23	25.00%
NICE guidance is based on a limited data set of usually only RCTs. It does not consider individual patient response such as case series. NICE guidance is flawed in that respect	34	36.96%
I will offer more RFD without performing prior MBB/facet joint blocks	3	3.26%
I will offer RFD simply on the basis of a positive SPECT scan and patient symptomatology	1	1.09%
I have stopped offering RFD as it does not work	2	2.17%
I have stopped/reduced offering RFD as it is not funded anymore/reduced availability	2	2.17%

MBB: medial branch block; LA: local anaesthetic; RFD: radiofrequency denervation; NICE: National Institute for Health and Care Excellence; NHS: National Health Service; RCT: randomised controlled trial; SPECT: single-photon emission computed tomography.

# **Discussion points**

The process of obtaining informed consent for procedures is set out in guidance from the General Medical Council (GMC).<sup>9</sup> The guidance sets out the principles on which good clinical decisions should be based and encourages patients and doctors to work in partnership. The British Pain Society (BPS) and Faculty of Pain Medicine of the Royal College of Anaesthetists (FPMRCA) have collaboratively produced the document 'Recommendations for Good Practice in the use of Medial Branch Block (MBB) Injections and Radiofrequency Denervation (RFD) for Low Back Pain of Lumbar Facet

(Continued)

Origin',<sup>10</sup> which was last updated in April 2020. The document considers how much information should be discussed in the consent process. This includes adverse outcomes that may result from the proposed treatment including the potential outcome of taking no action. The risks and side effects should be discussed, including less serious complications if they are common, as well as serious adverse outcomes even if the likelihood is very small. It is thought that intra-articular injection may be associated with a higher risk of iatrogenic joint infection compared to MBB. It is not known whether large- versus smallvolume MBBs are associated with differential risks. Largevolume MBB and intra-articular injections are thought to be less predictive of a successful response to RFD than precision small-volume MBBs. The implications are to avoid putting forward a patient for unnecessary or less likely successful RFD (with its associated risks); only small-volume MBBs should be performed. This has implications for consent.

NICE guideline 59 recommends consideration for RFD if the main source of pain is tested to be from the medial branch nerve and RFD to be performed only when a positive response to MBB is received. However, the literature suggests a single diagnostic block carries a high false-positive rate. Significant research in favour of high-volume therapeutic MBBs or facet joint injections is unavailable.

Our study showed that a significant number of health professionals (69.8%) performed therapeutic MBB/facet joint injections as standalone procedures for managing lower back pain. However, this number was reduced to 55.43% after NICE guidelines were shared with them. This practice may be justifiable by Bolam test, as many clinicians would still be undertaking this practice. Nonetheless, there are risks associated with these procedures as mentioned in the FPM recommendations. Also, the practice of injecting large-volume therapeutic injections is considered less precise in predicting a subsequent positive outcome following RFD.

Before Montgomery, a doctor's duty to warn patients of risks was based on whether they had acted in line with a responsible body of medical opinion. This was known as the Bolam test.<sup>11</sup> However, Montgomery guidelines override the use of Bolam test for the purposes of assessing standard of consent only.

In our view, the distinction between consent (as judged by the Courts in line with the Montgomery ruling) and practice (as judged by Bolam – that is a responsible body of contemporaneous clinicians) is not as clear-cut as clinicians would like.

This is because the Montgomery judgement has imposed a duty for the doctor to inform the patient on how the proposed

medical practice might change outcome and/or likelihood of success of a procedure.<sup>12</sup>

The vast majority of professionals (90.4%) were using precision blocks for diagnostic purposes. However, there were still 9.52% who did not. It was hard to evaluate whether this minority of professionals were mostly in favour of therapeutic high-volume blocks. A small proportion of professionals (5.6%) would still consider performing RFD without first having performed a diagnostic (precision) block.

In our initial survey, 73% of professionals considered RFD after a positive precision MBB. This number increased to 84.4% after our second survey, when professionals were given a chance to consider NICE guidelines.

Surprisingly, only 64% of participants were aware of the full NICE guidelines NG59 for managing lower back pain, although a further one-third were aware of parts of the guidance. This may indicate that professionals preferred their chosen clinical practice over the guidelines.

Both before and after considering the NICE guidelines, a significant number of professionals (two-thirds dropping to just over half) chose to perform large-volume therapeutic MBBs or facet joint blocks if they deem that clinically appropriate. This is a significant finding, as a number of professionals share this idea and therefore the realms of Bolam test would make its appearance significant. However, this treatment may have side effects that may make this approach riskier when compared to the implications of Montgomery (2015).

Apart from providing a snapshot of current practice of managing lower back pain, this survey also served the purpose of making professionals aware of NICE guidelines of managing low back pain. In total, 84% of professionals in part 2 of the survey agreed to perform precision blocks before offering RFD as opposed to 73% at the start of the study. However, 46% still believed that a large-volume therapeutic block was still acceptable and only 14% agreed to offering fewer therapeutic blocks as a direct consequence of considering the literature.

Furthermore, 38% of clinicians were found to believe that large-volume injections hold an important value as they could serve as both diagnostic and therapeutic. Our survey also revealed 28% of professionals will not change their practice as they are of the opinion that they should perform the injection that they feel is clinically indicated. A similar number (25%) believe that NICE guidelines are only to be used as a guide and not a rule to apply in real world.

As was emphasised in the decision of the High Court in Sanderson v Guy's and St Thomas,  $^{\rm 13}$ 

the Guidelines do not provide a complete compendium of either definitions or clinical management options. The Guidelines are useful so far as they go, but they are limited. The Guidelines do not provide a substitute for clinical judgement but must be interpreted by the clinician and then applied in light of that judgement.

It follows that NICE guidance cannot simply be slavishly applied – it is not always as simple as 'following the guidelines'.

The judgement in **Sanderson** reemphasises that NICE guidelines are exactly that – they are guidelines, not tramlines. **Sanderson** makes it clear that clinical judgement still has a critical role to play alongside any relevant NICE guidelines when determining pathways of care.

### **Summary**

This survey has highlighted the variations in the current practice of managing lower back pain in the United Kingdom with facet joint/MBB interventions compared with clinical guidelines. These variations reflect the complex nature of chronic lumbar back pain and the challenge of its management. These variations in practice have led us to consider how stringently national guidelines should be followed, and how deviation from these guidelines would be viewed in the current UK medicolegal framework when considering informed consent.

## Limitations

The volume of local anaesthetic or whether steroid was used for a therapeutic MBB/facet joint injection was not assessed. This was a two-stage survey carried out with the help of questionnaires; an element of incoherent information could not be eliminated.

The number of pain clinicians who completed part 1 of survey was not equal to those completing part 2. However, it was likely that the same professionals completing part 2 had completed part 1 as they were drawn from the same professional pain medicine discussion groups.

#### References

- GBD 2016 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: A systematic analysis for the global burden of disease study 2016. *Lancet* 2017; 390(10100): 1211–59.
- Zwiebel H, Aginsky R, Hananel A, et al. In vivo measurements of medial branch nerve depth and adjacent osseous structures for ablation of facet-related back pain: Predictors for patient candidacy. *North American Spine Society Journal* 2020; 3: 1000018.
- 3. Available online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7362874/
- 4. Available online at https://www.nice.org.uk/guidance/ng59
- 5. Available online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7026831/#b ibr2-2049463719840053
- Montgomery v Lanarkshire Health Board (Scotland). Available online at https:// www.supremecourt.uk/cases/docs/uksc-2013-0136-judgment.pdf
- Veizi E and Mchaourab A. Medial branch blocks and facet joint injections as predictors of successful radiofrequency ablation. *Techniques in Regional Anesthesia and Pain Management* 2011; 15(1): 33–8.
- Cohen SP, Doshi TL, Constantinescu OC, et al. Effectiveness of lumbar facet joint blocks and predictive value before radiofrequency denervation: The Facet Treatment Study (FACTS), a randomized, controlled clinical trial. *Anesthesiology* 2018; 129(3): 517–35.
- 9. General Medical Council. *Consent: Patient and Doctors Making Decisions Together*. London: General Medical Council 2008.
- The British Pain Society. Recommendations for Good Practice in the use of Medial Branch Block (MBB) Injections and Radiofrequency Denervation (RFD) for Low Back Pain of Lumbar Facet Joint Origin. London: The British Pain Society, 2020.
- 11. Available online at https://www.themdu.com/guidance-and-advice/guides/ montgomery-and-informed-consent
- 12. Munglani R. Oxford Handbook of Pain Medicine (in press).
- Available online at https://www.dacbeachcroft.com/es/gb/articles/2020/february/ guidelines-not-tramlines-the-interplay-between-nice-guidelines-and-clinicaljudgement/

**Tom J Quick** Consultant Peripheral Nerve Surgeon, Peripheral Nerve Injury Unit, Royal National Orthopaedic Hospital; Associate Professor, Institute of Orthopaedics and Musculoskeletal Science, University College London; Clinical Lead for Peripheral Nerve, Centre for Nerve Engineering, University College London; Director, Peripheral Nerve Injury Unit

# **Take-home points**

- Think of surgically amenable pathology in neuropathic pain occurring shortly after or with onset a few months following trauma.
- Consider any history of operation, fall, fracture, dislocation or laceration as a potential for a local pain-generating pathology.
- True MDT working.
- I have knowingly made a small handful of people worse over the past 12 years, but this is a very rare (<1%) complication of surgery in neuropathic pain.
- Full clinical examination with assessment of motor, touch sympathetics and pain with Tinel sign and compressive examination assessment.

'Neuropathic pain is a symptom not a diagnosis in of itself' is the principle of surgical treatment of *post-traumatic neuropathic pain*. Surgeons (and specifically trauma surgeons) are adept at diagnosing, restoring and supporting the best environment for tissue healing. Anaesthetists and pain clinicians are often primarily focused on symptomatic relief from pain.

Post-traumatic neuropathic pain is a complex and confusing area within the wider practice of neuropathic pain. It is an area specifically amenable to surgical intervention to produce improvement. The principles of trauma surgery are well established and have informed this area of peripheral nerve surgery. That of the assessment of mechanism, the understanding of the inflammatory interaction from trauma, the impact of scarred tissue and the benefits of establishing tissue homeostasis. There is also an established recognition of the importance of psychology, pacing, self-efficacy, acceptance, education, team work and rehabilitation.

The impact of physical trauma on the body is that it distorts anatomy. Fractures, dislocations, tendon and ligament failure, bruising and inflammation are all insults which affect all the tissues around them. The mechanism of injury allows us to appreciate how and where the kinetic energy has been delivered. This, when allied with an appreciation of tissue healing and specifically traumatic neuropathy, allows a diagnosis to be made and a discussion of the natural history and possible methods to improve function and engagement.

Following trauma, there are often many nociceptive pain generators and, in this group, complex psychology too. Surgeons bring the knowledge of trauma treatment and the ability to correct anatomic derangement, understanding that surgery is a tool to be deployed as part of a wider strategy that bridges pre- and post-surgical care.

It is important to tease out the continuing pathologies and to address each in turn. Many teams are using the WHO ICF to appreciate the impact of each condition on the wider engagement.



For all of these reasons, post-traumatic neuropathic pain is an ideal pathology to consider collegiate interactive multidisciplinary treatment. The interplay of analgesia and supportive pain therapy is linked with progressive rehabilitative physiotherapy, focused occupational rehabilitation and psychology. This team of colleagues is very infrequently linked with a surgeon, and I hope this article will widen this practice.



2024, Vol 22(1) 18–23 © The British Pain Society 2024 Sage

Pain News

To many pain physicians, it is an anathema to suggest surgery as an intervention to improve pain outcomes. Similarly any surgeons are taught never to consider surgery on a patient with neuropathic pain. It is certain that surgery can in some cases, and if poorly delivered, worsen or just change, rather than improve, pain. However, surgery can, in many pathologies, produce outcomes similar to many of the best pharmacologic interventions alone. A NNT (number needed to treat) of three in medical management is not something that is unusual. In surgery, this is a huge departure from the requirement of most surgery to be effective and efficacious in every intervention. To balance the risks of surgery, there must be appropriate consent, understanding of the nature of the surgery, its aims, implications and potential complications. In expert hands, there are very few patients who are made worse, and a risk of 1%-2% would be an acceptable risk of this. For those surgeons who are not functioning in a team environment with a large volume structured practice, this low rate of improvement leads to the view that surgery does not help. However, the cases that do improve and those who have pain removed from their constant daily life are those who, had it not been for surgery, would have laboured on with a burden which was reducible. These cases can be transformative.

Surgery in such cases should not be a first-line intervention; avoidance of surgery should be a goal within the framework of treatment. However, if surgery is indicated, it should not be seen as a 'failure of medical management', just a next step in the treatment ladder.

There are a number of nerve injury states that cause pain and can only be improved by surgical intervention:

# Neurostenalgia

A condition described by its etymologic roots: Stenos in Greek has both the meanings 'squeezing' and 'moaning' and this is a pathology of traumatised nerves and peri-neural tissues (particularly the paraneurium). This is a condition which can occur following trauma where over time inflamed nerve or inflamed tissue becomes scarred. Nerve tissue becomes tethered and thus undergoes physical deformation. This creates a physical and chemical environment which irritates the nerve. The cardinal signs are evoked pain (allodynia) over the nerves distal territory of altered sensation, often with a Tinel sign at the point of injury. The nerve is in continuity so there is sympathetic function of the skin maintained although touch and motor may be altered. This is often well treated by extra neural – neurolysis (removing the encircling scar tissue).









Surgical input into the pain MDT

#### PTSN (post traumatic, symptomatic neuroma)

All nerves which have been lacerated or ruptured grow an end neuroma – this is a physiologic response to a loss of continuity. This neuroma can in some cases be asymptomatic – in some cases it leaves the patient with paralysis or a numb region, in many cases it creates pain. This neuropathic pain can be spontaneous (meaning present constantly without any trigger) or it can be evoked (brought about by touch or pressure or movement). This difference will dictate how the PTSN is to be treated, either to relocate the neuroma or excise it and encourage it to regrow in a better environment.



## **Deafferentation pain**

The pain specific to traumatic nerve root avulsion is a deep severe pain and very difficult to improve. It is constant but has spontaneous or evoked exacerbations. It is felt in the area which has been deafferented but is created in the scarred dorsal root entry zone of the cord at the level the rootlets have been avulsed. This is one of the most malign of symptoms from a traumatic brachial plexus injury, and pharmacologic treatment alone is often not sufficient to provide any meaningful relief.

Surgery to restore some sensation to the painful and anaesthetic area and any movement to the paralysed limb often assists with pain (nerve transfers to both motor and sensory fibres from extra-plexal donors-intercostal transfers, for example). This improvement in pain is likely occurring through cortical pathways seeing the limb moving and exerting a suppressive effect on the scarred cord. This is a theory which has had further support with the recent work with virtual reality providing visual cues to movement of a virtual limb providing meaningful pain relief in the simulation at first, then in further sessions 'bleed through' into time outside the simulation, which appear to grow with more sessions.



Surgical photograph of avulsion of all five roots of the brachial plexus seen delivered from a neck incision onto a surgical swab. The ventral and dorsal rootlets are seen – (a DRG is evident on one of the dorsal rootlets seen as a yellow mass in the top right of the photograph).

Article



MRI of a pseudomeningocele created by avulsion of the spinal nerve from the spine.



An inflamed or 'injected' appearing nerve - neuritis.



A virtual reality therapy set up being trialled.

# **Post-traumatic neuritis**

Post-traumatic neuritis (PTN) is a condition where the kinetic energy deposited into the nerve creates an inflammatory response – the initial concussion is similar to hitting the inner aspect of the elbow on the funny bone (percussive neuritis of the ulnar nerve). When severe, this will lead to an inflammatory response to the tissue damage, and this can create a neuritis. This is often self-limiting, but this oedema can be sustained by local tissue compression (see focal compressive lesion). It is also a condition which can become neurostenalgic following a fibrotic reaction to the inflammation.

# Post-traumatic causalgia

There is a specific form of severe neuropathic pain (not to be confused with CRPS as defined by the Budapest criteria) that is created by high-energy tissue trauma. This energy damages a neurovascular bundle. There is a spontaneous pain generated and a severe allodynia and hyperpathia – even the thought of touch to the area creates pain, a huge apprehension of evoked pain.

## Focal compressive lesion

There is also a group of pathologies whereby there are predisposing (congenital) anatomic variations which predispose an individual to a nerve injury from a mechanism which, had it not been for the strain focus of one of these anatomic variations, would not have caused traumatic neuropathy. One such is a group of anatomic variations, (of aberrant blood vessels or tendinous insertions or muscle bellies) which focus the strain (stretch) of a traumatic injury on the brachial plexus in the neck. These are often known as Thoracic Outlet Variants. They can be entirely asymptomatic throughout life but, with a trigger (often trauma), lead to significant neuropathic pain or sensory change and, in some people, muscle weakness also. These symptoms can in the vast majority of cases be improved and function restored by an operation to neurolyse and decompress the nerves of the brachial plexus. This is similar to a neurostenalgic lesion but occurs due to anatomic variation rather than local trauma alone, and thus requires correction (excision, division, or recession of the structure).

Surgical input into the pain MDT



#### **Diagnosing these diagnoses**

Mechanism is the key concept; the magnitude, vector and mode of delivery of the kinetic energy is important. A full history of the accident should be taken, with the specifics being dictated by the type of injury (was this a closed injury from a sudden deceleration in a motor vehicle collision, a blunt blow from a solid object, a dislocation in sport, an intraoperative surgical injury, etc?).

Any predisposing features, general medical conditions (diabetes, preexisting neuropathy, etc), or musculoskeletal conditions (spinal degeneration, hyper laxity, previous neuropathic pain conditions, previous operations, implants etc.)?

Examination is specific to the presentation but should be precise in assessing the likely location of the injury–the question, 'Where is the lesion?' can be ascertained by understanding the interplay of peripheral nerve cutaneous territories and muscle innervation maps. Assessing where sensation is normal, absent (analgesic), reduced (hypoaesthetic), increased (hyperaesthetic), altered (dysthetic, paraesthetic, allodynic). The presence, alteration or absence of sweating and other sympathetic functions. Where muscles are weak or paralysed. Of course, what the exact distribution of pain is, what characteristics it has, its onset, if it is spontaneous or evoked, alleviating and exacerbating factors and the effect of therapies on this. Then provocative tests: the Tinel's sign is an oft missed but very important piece of physical examination following trauma-the percussion along the length of the nerve, asking the patient to report any tingling in the distal territory of that same nerve can locate the region of pathology in a nerve. Its documentation is often painful in a patient with a painful limb but the information gained from this is very important, its necessity cannot be over-stated following traumatic nerve injury. Other provocative manoeuvres again may elicit pain but, if positive, may assist in localising a cause of the pain (a traction manoeuvre for thoracic outlet pathology, for example).

#### Operating to treat neuropathic pain

These are not operations to be undertaken by a surgeon with a low volume practice and should be referred for an opinion to a specialist regional MDT. They should be undertaken as part of a multidisciplinary package of treatment with pharmacologic, physical, psychologic and social support. The process of consent should include the likelihood that the operation will not improve pain and not be presented as a 'final step' or the 'culmination' of the treatment. Surgery is to be seen as another modality to try in those who are aware that once all options have been tried, there is continuing support psychologically towards acceptance, resilience, and self-activation.

Any surgery should be undertaken with expressed caution to avoid any other nerve injury. Care to attend to pressure areas is essential for those with a sensitised nervous system.

The patient is fully briefed about the operation and the rehabilitation preoperatively.

Normal analgesics are not ceased pre-op and taken with a tiny sip of water.

The anaesthetist may choose to provide specific agents such as ketamine as part of the induction and anaesthesia.

Infiltration of local anaesthetic (with adrenalin) is placed prior to the skin incision (and given time to work). Long incisions are necessary to see the full course of the nerve and to ensure that traction is not placed on the nerve to gain full visibility. Also to ensure that decompression of any potential compression points is undertaken.

Plain long-acting local anaesthetic is directly used to bathe the injured nerve proximal to the point of injury.

The nerve is assessed physically (how does the tissue bed around the nerve look and how does it feel, how does the nerve look and how does it feel to manual examination?).

Neurolysis is undertaken and the bed and the nerve

assessed again. The experienced decision-making undertaken as to what the final surgical procedure should be (neurolysis alone, nerve graft, neuroma relocation, targeted muscle reinnervation?).

Manipulation and dissection will lead to a postoperative oedema and swelling. To reduce the impact of this on the patient, a local decompression must be undertaken of any area of anatomic compression which is latent and could be created by the tissue reaction to the trauma of surgery.

Meticulous haemostasis is essential – creating a hematoma will produce mechanical and chemical insult to the nerve and create more pain.

An anaesthetic infusion catheter can be placed proximal to the location of the nerve pathology and infused for 12 hours post-operatively.

# Conclusion

The realm of pathologies which can create pain are vast and reside in the peripheral and central nervous system. In order to exert improvements upon pathologies created by trauma to the peripheral nervous system, often surgery is necessary. Not all patients are candidates for such intervention but many are, and the place of an experienced and collegiate expert peripheral nerve surgeon can benefit many patients' care.

# Article

Perceptions about legal framework and prescription guidelines for cannabis-based medicinal products (CBMP) among healthcare professionals in the United Kingdom



Pain News 2024, Vol 22(1) 24–26 © The British Pain Society 2024



Anusha Kashif School of Medicine, University of Leeds
Joshua Collier School of Medicine, University of Leeds
Yasir Abbasi Cheshire West and Chester, Westminster Drug Project, London, UK
Marie-Claire Van Hout Public Health Institute, Liverpool John Moore's University, UK



Street cannabis smoking has been associated with several physical and mental health complications, including drug-related psychosis. A study showed that participants with previous cannabis usage showed worsening cognitive function on first presentation with psychosis compared to those who had never used cannabis.<sup>1</sup>

The legislation around prescribing changed in November 2018; however, there is still some reluctance in prescribing the products. The British Medical Journal (BMJ) reported that 1.4 million medical cannabis users still source from the black market.<sup>2</sup> Plant-based cannabis products have been proven to have a vast range of medical benefits and to be particularly effective at providing pain relief. A meta-analysis reviewed the therapeutic effects of cannabis and found that the effects of plant-based cannabinoids increase the likelihood of pain improvement by around 40% overall. There is significant evidence indicating that cannabis can be used to treat chronic pain in adults.<sup>3,4</sup> It also concluded that oral cannabinoids can be used as antiemetics to treat this common chemotherapy side effect. Delta-9-tetrahydrocannabinol (THC) capsules have been found effective to improve symptoms associated with Tourette syndrome; however, there is only limited evidence to support this. A retrospective study of 446 people was conducted, with inclusion criteria of the study being having sustained traumatic brain injury and having a toxicology screen on admission. This found that those who had THC(+) levels in their blood on admission were more likely to survive the traumatic brain injury than those with THC(-) levels.<sup>1</sup> The use of cannabis as medicine (CaM) rather than other prescribed medicine showed it was used mainly to replace either their pain or antidepressant medication. There is some evidence to support the use of non-inhaled cannabis for chronic pain, with the BMJ reporting that the result of a recent meta-analysis found a 'clinically important decrease in pain for a small to very small proportion of patients'. In current practice, cannabidiol

Perceptions about legal framework and prescription guidelines for cannabis-based medicinal products (CBMP) among healthcare professionals in the United Kingdom

(CBD) oil is the most common form of cannabis that is used to replace prescription medication.<sup>5,6</sup> Furthermore, data from studies conducted in humans show CBD can effectively be used in the treatment of certain patients suffering from epilepsy.<sup>7</sup> However, the prescription of CaM by doctors has been restricted due to attitudes towards the drug and perceptions about decriminalisation of cannabis leading to increased recreational use of it. Some general practitioners (GPs) did find it acceptable for it to be prescribed for pain management.<sup>5</sup> Another view is to have cannabis available via social clubs – this is currently the case in Belgium. It is possible to have control over quality and potency of the products consumed at social clubs leading to less adverse side effects.<sup>8</sup>

When people are self-sourcing cannabis, there is a wide variation in type of cannabis used and reason for usage. A study that interviewed 3021 people found that the most common pattern of use was CBD oil followed by inhalation, and 75.4% of people smoked cannabis 6–7 days a week. The study found the most frequent reasons for using cannabis were pain 32%, sleep disturbances 27.5% and stress 23.7%. A large majority (79.3%) of said cannabis is improving their psychiatric condition. Around 36.7% said it is improving their mental health condition as well as cancer diagnosis. Interestingly, some users reported reduction in use of cannabis during the COVID-19 pandemic due to fear of the respiratory virus infection potentially being made worse by cannabis usage.<sup>9,10</sup>

Given the increasing interest in CaM in the United Kingdom since November 2018 when it was legalised to prescribe for more conditions, we designed an educational session for clinicians working in mental health and addiction. Based on our review of literature, cognisant of the medicolegal and clinical context, and professional expertise in addictions, we created a lecture entitled 'Cannabis-based medicinal products'. This was delivered at two separate training sessions (November 2022 and January 2023) at different sites and different training events, which was followed by facilitation of discussion with the attendees. Prior to the lecture, we asked three broad introductory questions: Is it legal to prescribe in the United Kingdom in 2022/23?; How many cannabinoid compounds does the cannabis plant have?; Who can prescribe unlicensed medicinal cannabis products in the United Kingdom? Attendees selected their responses to the questions using the code provided by the software tool using the interactive and anonymised engagement software (www.mentimeter.com). The responses were then presented 'live' on a screen and were then used by the facilitators to support questions and general student engagement. There were 36 responses, out of which











Perceptions about legal framework and prescription guidelines for cannabis-based medicinal products (CBMP) among healthcare professionals in the United Kingdom

27 answered the first question. Only 22% knew it was legal to prescribe, while 44% thought it was not, and the rest assumed that it was being considered. Around 42% correctly knew that there are 60 cannabinoid compounds in a cannabis plant. Almost 72% of the respondents were aware that you must be a doctor on the General Medical Council specialist register to prescribe CaM, 25% thought any doctor can, while 3% suggested that GPs can prescribe CaM.

The perceptions about the legality and indication of use for CaM are still unclear for several clinicians. This is probably due to multiple factors and needs addressing. One suggestion would be to increase awareness among clinicians and to present a balanced literature review to them. Randomised, double-blind and placebo-controlled clinical trials need to be carried out to draw appropriate knowledge before preparations of CBD can be approved and prescribed readily. We recommend more surveys to include attitude and knowledge about CaM prescribing, particularly among consultants in psychiatry neurology, pain medicine and sports medicine in the United Kingdom.

#### Author contribution

All authors have made substantial contributions to the conception, design and drafting of the article (Short Communication) and have approved the version to be submitted.

#### **Ethical approval**

This study did not need ethical approval as it was an outcome of an audit of attendees.

#### References

- Nguyen BM, Kim D, Bricker S, et al. Effect of marijuana use on outcomes in traumatic brain injury. *The American Surgeon* 2014; 80(10): 979–83
- It is time to embrace cannabis for medicinal use, say experts. BMJ, September 2020. Available online at https://www.bmj.com/company/newsroom/it-is-timeto-embrace-cannabis-for-medicinal-use-say-experts/
- National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Population Health and Public Health Practice. *Therapeutic Effects of Cannabis and Cannabinoids*. Washington, DC: National Academies Press, 2017
- Whiting PF, Wolff RF, Deshpande S, et al. Cannabinoids for medical use: A systematic review and meta-analysis. *Journal of the American Medical Association* 2015; 313(24): 2456–73
- Kvamme SL, Pedersen MM, Rømer Thomsen K, et al. Exploring the use of cannabis as a substitute for prescription drugs in a convenience sample. *Harm Reduction Journal* 2021; 18(1): 72
- Kröger E and Dionne CE. Medical cannabis for chronic pain. BMJ 2022; 374: n1942
- Friedman D and Devinsky O. Cannabinoids in the treatment of epilepsy. New England Journal of Medicine 2015; 373(11): 1048–58
- Pardal M and Bawin F. The supply of cannabis for medical use through cannabis social clubs in Belgium. *Contemporary Drug Problems* 2018; 45(2): 127–45
- Kvamme SL, Pedersen MM, Alagem-Iversen S, et al. Beyond the high: Mapping patterns of use and motives for use of cannabis as medicine. *Nordisk Alkohol- & Narkotikatidskrift* 2021; 38(3): 270–92
- Donovan KA and Portman DG. Effect of COVID-19 pandemic on cannabis use in cancer patients. American Journal of Hospice and Palilative Medicine 2021; 38: 850–3
- Zongo A, Lee C, El-Mourad J, et al. Substance use disorders and psychoactive drug poisoning in medically authorized cannabis patients: Longitudinal cohort study. *Canadian Journal of Psychiatry* 2022; 67(7): 544–52

# Article

# Pain train

Yipei Serena Yen APT Leeds Teaching Hospitals NHS Trust Jo Krawczyk Anaesthetic ST5, Swansea Bay University Health Board

Are you a pain research enthusiast, or perhaps just starting your academic journey and looking to learn more? Pain-Train, the National Network of Pain Trainees Interested in Research and Audit, has had a busy 2023. As well as developing our own research projects, in May 2023, we held our first in-person event.

J\_TD

The theme was research collaboration. Our goal was to foster and promote research to aspiring researchers via better partnerships with academics, educators and other healthcare professionals.

> Opportunities for collaboration with academic institutions are abundant and can bring a wealth of resources, expertise and



# A day of discovery

The day commenced with an inspiring keynote address by Faculty of Pain Medicine Dean Dr Lorraine DeGray. Dr DeGray highlighted the importance of treating patients as individuals,

tailoring management to their needs and the necessity of research to achieve this. We have been very lucky to have the support of the Faculty of Pain Medicine as we develop as a network and hope this will continue long into the future.

We recognise collaboration is about working with others and we were keen to take as broad a view of the UK research scene as we could for the rest of our day's activities.

innovation to research. Professor Shiva Tripathi from the University







2024, Vol 22(1) 27-28 © The British Pain Society 2024

S Sage

Pain train

of Central Lancashire emphasised embedding research culture into daily practice and patient-centred care. He also touched on how resources and infrastructure for research are in place and within reach, and the challenge is to utilise them to their full potential.

We didn't forget about patient-centred care and followed with two speakers who presented on their success stories of setting up a Patient and Public Involvement (PPI) groups. Dr Beatrice Bretherton and Dr Kar Yen Phoong have set up a chronic pain PPI group and a paediatric PPI group, respectively. Both talks shared their valuable insights into why PPI matters in research and healthcare and the new perspectives it brings.

The National Institute for Health and Care Research (NIHR) is a fantastic resource for junior researchers, and we were lucky enough to be joined by two speakers from the organisation. Karen Pearson spoke on the structure of and research opportunities provided by the NIHR, while Brian Crosbie described the huge range of fantastic career opportunities trainees can utilise to develop as a clinical researcher regardless of their training grade or existing academic background.

Another thought-provoking session was the panel discussion on 'facilitating pain research in the NHS'. Speakers included representatives from medical device manufacturers and pharmaceutical (Boston Scientific, Curonix and Grunenthal) and Dr Tripathi, Honorary Clinical Professor at the University of Central Lancashire. Much of the research funding coming into Pain medicine comes from industry at present and having the opportunity to explore and question how different funding models for research are utilised within the National Health Service (NHS) and industry will undoubtedly prove valuable.

## **Hands-on learning**

Amid the knowledge-sharing and learning, Boston Scientific were kind enough to bring their augmented reality spinal cord stimulator trainer. Attendees enjoyed the opportunity for some hands-on clinical sim alongside refreshments.

After lunch we had a light-hearted peer review session, where some attendees presented research concepts against a timer and then faced immediate peer review. We aimed for this to be good humoured and creative, giving a light-hearted approach to the first step to the big wide wonderful world of research.

# Inspiring closing speech

We were honoured to have Professor Roger Knaggs of British Pain Society (BPS) deliver a closing speech that celebrated our progress while inspiring us to push the boundaries of pain research.

# **Future plans**

We aim to carry out yearly events focused on education in pain research with a strong emphasis on multidisciplinary involvement. This year we have gone international with our first committee member from the Republic of Ireland (ROI), so we hope to expand our future scope to projects across the United Kingdom and ROI.

See what we are up to at www.paintrainuk.com or email us at paintrainresearch@gmail.com. We look forward to having you involved with our trainee lead projects and seeing you at an event in the future!



Pain News 2024, Vol 22(1) 29–32 © The British Pain Society 2024

S Sage

Sarvesh Palaniappan Boston University School of Medicine; Intern with the Pain Management Service, Royal Brompton & Harefield Hospitals, part of Guy's & St Thomas' NHS Foundation Trust

**Development of an e-learning** 

module for epidural analgesia



## Introduction

Epidural analgesia can be highly effective for managing acute pain after surgery or trauma to the chest, abdomen, pelvis or lower limbs. It provides excellent pain relief with high patient satisfaction when compared with other methods of analgesia and may avoid side effects associated with systemic therapy.

However, epidural analgesia can cause serious, potentially life-threatening complications, and all practitioners should be aware of these. Safe and effective epidural management requires patient education and a coordinated interdisciplinary approach. Clinical staff must be properly trained to manage epidural patients from the time of admittance to discharge.

The advent of the COVID-19 pandemic caused a drastic shift in the way hospitals educate and train clinical staff. The

subsequent growth of e-learning has prompted the development of online modules that offer a variety of benefits. These include improved accessibility and user engagement. It also allows for clear and uniform content to be presented with images supplementing text (Figure 1). Technology has also allowed for content that stimulates users in a more unique way than did traditional education. This includes situational scenarios, interactive diagrams, as well as clearly labelled pictures and associated knowledge checks (Figure 2). These capabilities improve user retention of information.

Through the development of an e-learning module for epidural analgesia tailored towards clinical staff, we envisioned a successful platform in which users become more confident in their ability to care for a patient with an epidural. The outcome of this module will direct future e-learning projects.

## Materials and methods Approach

Analysis of existing virtual epidural training material was done using educational videos developed by the Royal Brompton and Harefield Hospitals Pain Management team. From these sources, information was collected as a template for the module. Next, in-depth interviews were conducted with a variety of nurses across the Royal Brompton Hospital. Questions regarding experience with epidurals and optimal learning were asked. Once data were collected, the module was built using existing education with the addition of situational and interactive elements as well as inputs from the nurses. The current hospital guidelines were used extensively as an additional framework.

#### Module development

The platform, Articulate, was used for the development of the e-learning module. An outline of the lessons composing the module was then created and finalised (Figure 3).

Development of an e-learning module for epidural analgesia

#### Figure 1. Sample lesson page within a module allowing vivid images alongside description



Lesson 2 of 8
Epidural Analgesta

**Figure 2.** Matching knowledge check. Users are prompted to match the answer options using the provided images as guidance. Instant feedback is provided for all incorrect answers with an explanation of why the selected answer was incorrect



The lessons included:

– Aims

- What is an epidural?

# **Epidural Anatomy**

The epidural space is a space that surrounds the spinal chord and is located between the vertebrae and the tough, fibrous outer layer of the dura mater (ligamentum flavum). An epidural injection involves inserting a needle into the epidural space and injecting medication, such as a local anaesthetic and an opioid, into the space. This can provide pain relief for surgeries such as thoracotomy or aortic dissection.

Because the epidural space is located close to the spinal chord, it is important to perform epidural injections with great care and precision to avoid potential complications, such as nerve damage or infection.

- Complications and side effects
- Epidural patient management
- Documentation
- Epidural removal and discharge
- Setting up the Sapphire epidural pump

Scenario knowledge check.

Within each of these lessons, interactive elements were embedded to engage the user actively. Examples include matching, diagrams, toggle menus, multiple-choice questions and so on (Figure 4).

The final scenario-based knowledge check led users through an epidural patient's journey from recovery until discharge (Figure 5). Users answered questions regarding the best course of action along the way. Users could only progress forward once they chose the right answer, with an explanation of why it was correct.

#### Focus groups and revisions

After initial development, nurses across different wards were invited to review and test the module in focus groups. Two focus groups were held, with nurses seated at a conference table to facilitate discussion. Before exposure to the module, confidence scores were taken across a variety of indicators regarding previous knowledge of epidurals.

# Article

### Development of an e-learning module for epidural analgesia

Figure 3. Overall course page with module outline and lesson plan. An entirety of eight lessons were included (not all shown). The individual lessons can be accessed from the course page

Figure 4. Example of an interactive image. Users can click over the toggle symbol to open a description about what the selected item is

# **Epidural infusion equipment**

Click on each item of a standard epidural infusion kit to learn more.



Nurses were then shown the module and encouraged to provide live feedback. After a walk-through of the module, nurses were asked how confidently they believed the module addressed the same indicators as before.

#### **Results**

In all 17 indicators of epidural patient-related knowledge measured, nurses' confidence increased. The average increase after module review was 3.4 points on a scale of 10. Development of an e-learning module for epidural analgesia

**Figure 5.** Presentation of situational scenario-based final knowledge check. The user is presented with multiple 'what would you do?' style questions modelled after real-life patient interactions. Scenarios are first presented, and then two options are offered, with feedback given for incorrect answers



Enthusiastic verbal feedback regarding the module reflected positive reactions to the course. When asked to rank the biggest advantages of an online e-learning module, nurses indicated that it would be easy to refer back to content. Another major advantage indicated was the accessibility of the material. The nurses unanimously agreed that the module's ability to integrate interactive elements as well as scenarios better prepared them for the management of an epidural patient.

## **Conclusions**

As medical education transitions to becoming available in online platforms, it is necessary that institutions consider the incorporation of e-learning to educate and certify clinical staff. The epidural e-learning module is to be incorporated into the Royal Brompton Hospital nurse training in replacement of the former annual epidural training day. This transition marks the first of many projects to make training content more accessible and uniform. Moreover, it represents an improvement to current medical education.

The nurse-centred study design allowed for integration of vital information regarding epidural patient care. Data collected from initial nurse interviews showed that many topics regarding epidurals are often overlooked by traditional training. The focus groups were another opportunity for nurses to provide unique input and voice their opinions. When asked to rank the biggest advantages of an online e-learning module, nurses indicated that it would be easy to refer back to content. Another major advantage indicated was the accessibility of the material. It can be reviewed anywhere, even with a mobile device. Overall, e-learning options are highly sought after by nursing staff as they drastically increase nurses' confidence in managing epidural patients through engaging, uniform and easily accessible content.

# The patient voice: who is listening?

Tim Atkinson Vice-Chair of the Patient Voice Committee

THE BRITISH PAIN SOCIETY EXPERTISE WHERE IT MATTER

Pain News 2024, Vol 22(1) 33–34 © The British Pain Society 2024

**S** Sage

Lived experience is king. One of the world's most famous pain scientists, Professor Lorimer Moseley, has written: 'When it comes to understanding the problem of persistent pain, its impact and potential solutions [the experts] are those challenged by pain who take on a journey of discovery and manage an often remarkable recovery'.

Certainly, no self-respecting organisation or association dealing with pain can now ignore the so-called 'patient voice'. It is deeply embedded in good practice. No new pain campaign or initiative could possibly do without that all-important sign of authenticity and credibility. But how much of what we, the patients, say is actually heard? How seriously is the patient voice taken? Does it inform everything that is done, from top to bottom? Or is it merely an attempt to 'tick all the boxes' and pay lip-service to good practice?

I've been involved as a patient advocate, lived experience volunteer, pain mentor, call it what you will, for several years. It began almost by accident, after a former student got in touch at the start of what was to become the 'Flippin Pain' campaign, 4 years ago. The soft launch involved a presentation by Lorimer Moseley himself who was at his entertaining and informative best. I was hooked. I wanted to know more and, the more I knew, the better I felt and the better I felt, the more I wanted to help spread the word. Pain science wasn't simple, but it was fascinating. The thought of being able to re-wire my brain and reduce the constant, daily background noise of pain was seductive. And the notion of being able to combine the two in roles that involved helping others derive the same benefits was inspiring.

I was unaware, at the time, of the small army of people like me, lived experience volunteers up and down the country, the likes of former BPS Patient Voice Committee Vice-Chair Louise Trewern, Niki Jones, Lee Vaughan, Ann Livingstone and others, all of whom had been speaking from experience about managing pain for some time. It's a small pond, and you very soon meet up with others who've been sharing their experience with patients and professionals for several years. Word of my own involvement spread and I was invited to speak at other events, both in-person and online; then, a couple of years ago, I was asked to join the Patient Voice Committee of the British Pain Society.

Of course, I said 'yes'. Why not? I was keen to make a contribution, had experience and insights to share and it

seemed obvious to accept the opportunity to speak truth to what I assumed was power. I was rather surprised to be called for an online interview every bit as thorough as any I've attended for work, but that only served to confirm my impression that this was a serious organisation, serious about patient engagement and representation.

The idea of taking notice of what patients think seems to have its origins in NHS internal market reforms, beginning with the 1990 NHS and Community Care Act. Although primarily designed by Health Secretary Kenneth Clarke to effect a purchaser–provider split and increase efficiency through competition, the free market ideology also required a re-think of the role of patients, who effectively (but not explicitly) took on the role of consumers in this Brave New healthcare world.

Things have come an awfully long way since then. Even a casual glance at a hospital notice board reveals a host of measures designed to elicit the views of patients and we are constantly being asked to 'rate' our care by a bombardment of post-appointment text messages and emails. But integrating the patient voice is about far more than how quickly we've been seen or how comfortable we are in the waiting room. Done properly, it can be 'inspirational'.

Hartley and Penlington's 2023 study, '*I Will Fight for People to Not Have the Experience I've Had': A Thematic Analysis of the Experiences and Perspectives of Chronic Pain Lived Experience Advocates*,<sup>i</sup> quotes one of the participants as saying . . . '[health care professionals] think that patients have something genuinely useful to say, and that it's genuinely important for them to hear it. It's been quite inspirational, really' (Participant L, lines 196–202). As the authors go on to say, '"Inspirational" is a powerful and emotive use of language. L feels recognised, both in that his lived experience is valuable and that he is in turn valued by his colleagues'. The authors add that 'Patients are in a unique position to understand the mismatch between service provision and patient need. Some act to help bridge this gap through sharing their own lived experience with other patients and clinicians'.

So, at its best, the patient voice is valued, useful and highly regarded. Richard Pell, a trustee of Pain Concern and lead for Connect Health's *Flippin Pain* campaign, is certain that the role of patients should be central. He says, 'Finding ways to learn

The patient voice: who is listening?

from and give a platform to the voices of those personally affected by persistent pain has been a priority of *Flippin Pain* since its inception'. Done properly, it can clearly be of enormous benefit to all involved.

But it's also clear that, if we're to have any influence at all, what we say has to be heard. And understood. And acted upon. It's not enough to tick off items on an agenda, report up the chain of command and then hear nothing back. It's not enough to be regarded as a second-class member of an organisation, expected at times to fund out of our own often shallow pockets our personal attendance at conferences and seminars – if, that is, we're actually allowed to attend them at all!

Of course, patient advocates do what they do for love, not money, don't they? And a great many go the extra mile (or 44 miles in the case of Niki Jones and Lee Vaughan who recently completed a coast-to-coast peloton raising almost £2,000 for *Pain Concern*) to help spread the word. Others involved in the delivery and implementation of pain management services and advocacy, however, are receiving a salary and/or expenses. So should patient advocacy be paid? There are some organisations that increasingly recognise that the contribution of patient advocates is something worth paying for. The *Live Well With Pain* training programme established by Frances Cole is among them. Although run entirely as a not-for-profit enterprise, *Live Well With Pain* routinely remunerates lived experience trainers for their time and expertise.

The question of payment remains an awkward one, and many of the lived experience volunteers I meet are happy to do what they do *pro bono*. We all want to be part of the solution, after all, rather than creating another problem for charities and others doing their best to improve the understanding and delivery of pain management. But as one of the respondents in Hartley and Penlington's study [op. cit.] says: 'We've got expertise, and we've given away [our expertise] for free. Would healthcare professionals do that? No, they wouldn't' (Participant S, lines 479–480).

What is – or should be – non-negotiable is the question of expenses. If you want us to attend your conferences, speak at your events, sit on your committees and contribute to the development of policy and practice (and if not, why not?) you shouldn't expect us to be out-of-pocket after doing so. If it's important enough – and I don't think that is in question – then money must be found. Otherwise, it really will become a 'tick box' exercise designed to make an organisation look good . . . while effectively exploiting the goodwill of pain patients.

So, in short, it's time for organisations to put their money where their mouth is. Unlike professionals, patients are often on a low income due to the limitations placed on them by their chronic condition; we can't claim expenses from our Trusts or Practices; we aren't eligible for CPD points; there's no career advantage in doing what we do. But we are passionate advocates with all-important lived experience and – often – expertise in understanding and managing our condition. We are also the 'customers' with day-to-day experience at the receiving end of the healthcare 'product'. Health policy and practice would be very much the poorer without that input. In fact, it's hard to think of any recent initiatives that don't in some way rely on it.

So, the Patient Voice is speaking.

But who is listening?

#### Notes

i. https://journals.sagepub.com/doi/ full/10.1177/10497323231188639.

# Preventing pain: a multi-modal approach



Pain News 2024, Vol 22(1) 35–38 © The British Pain Society 2024

S Sage

Drew McMichael University of Aberdeen, UK

# Introduction

Pain is a complicated topic, with conflicting treatment evidence and poorly understood pathophysiology. Due to limited treatment options, prevention is far superior to treatment<sup>1</sup> and is the most effective way to tackle the relentless increase in those suffering from chronic pain<sup>2</sup> (now estimated to affect between one-third and half of UK residents).<sup>3</sup> Chronic pain syndromes, especially those without an obvious medically diagnosed cause, that is, 'functional pain', are even more of a challenge to treat and are associated with a worse morbidity at follow-up.<sup>4</sup>

While the classic definition of pain is 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage', many patients present with no apparent tissue damage but with unbearable functional activity limitations.<sup>5</sup> As patterns of pain presentation evolve, the definition of pain has broadened to include recognition that pain can be separate from nociception.<sup>6</sup> There is also a move away from defining chronic pain by expected length of duration and relating the diagnosis to functional hindrances.

The most notable risk for the inception of chronic pain syndrome is a physical site of tissue damage, which includes surgical treatments.<sup>7</sup> The relationship between the number of sites of tissue damage and the likelihood of developing chronic pain syndrome is linear, with the number of sites and increasing duration of pain cited as poor prognostic factors.<sup>8</sup> In addition, patients with multiple co-morbidities and chronic health conditions, including cardiac and respiratory disease, are significantly predisposed to develop chronic pain. A study conducted across Europe determined that 88% of those diagnosed with a chronic pain syndrome had at least one additional chronic disease, as well as an overall increased disease burden. Cancer and COPD had the worst chronic pain outcomes, whereas patients who described themselves as resilient to pain carried a significantly better prognosis.<sup>9,10</sup> Psychiatric diagnoses also carry a poor prognosis in patients who present with chronic pain. Up to 50% of those with depression, anxiety, post-traumatic stress disorder (PTSD) and personality disorders suffer from chronic pain. In this cohort of

patients, treatment is often complex and outcomes are significantly worse than those without such disorders.<sup>11–13</sup>

In the field of anaesthesia, significant research has been carried out around pre-operative optimisation, a relatively new concept. This is the process by which patients are coached and encouraged to take positive steps in relation to their lifestyle before planned procedures and surgeries. Treatment of chronic pain is largely led by those trained in anaesthesia, but requires the skill of specialist nurses, physiotherapists, psychologists and even psychiatrists.

# Treating acute pain appropriately

Acute pain, caused by trauma, results in activation of nociceptive receptors by prostaglandins, Substance P and histamine.<sup>14</sup> These receptors depolarise, sending signals using two types of nervous fibres: type C (slow and unmyelinated) and type Alpha-delta (fast and myelinated). When these signals arrive at the spinal cord they are both upregulated and downregulated, often at the same time. This allows for fast transmission to the brain as well as continued bodily functioning to prevent further damage. Pain is further modulated by descending pathways releasing inhibitory neurotransmitters, such as noradrenaline and serotonin.<sup>15</sup> In addition, this type of pain can co-exist with neuropathic pain. The main clinical difference is the site of activation neuropathic pain is due to a lesion of the somatosensory system, as opposed to activation of the peripheral nociceptive receptors.

In normal subjects, the threshold for activation of nociceptive receptors is relatively high, preventing nonsignificant, unpleasant and random activation. With repeated activation, there is a reduction in this threshold and a resultant increase in firing.<sup>16</sup> In theory, this is a protective function, allowing the individual to avoid movements or actions likely to lead to tissue damage. However, when this is a long-term response with no tissue damage, or when there is unprovoked activation, the result is unpleasant to experience. In addition, in many disease processes, there is a local release of inflammatory mediators such as prostaglandins and adenosine Preventing pain: a multi-modal approach

triphosphate, which attract inflammatory cells. These cells release further downstream mediators such as tumour necrosis factor and interleukins, which allows for spontaneous and ectopic activation of nociceptive receptors.<sup>17</sup> Clearly, it is important to prevent this response, through adequate treatment of acute pain.

The World Health Organization (WHO) has produced useful guidelines for the treatment of acute post-operative pain, using a progressive approach. This starts with the weakest, least potent drugs, such as paracetamol, and can then be stepped up to non-steroidal anti-inflammatories, weak opioids and strong opioids.<sup>18</sup> Such an approach enables a standardised evidence-based approach when treating patients. The allowance for the use of opioids has reduced clinical prejudice and fear of prescribing such medicines. However, some clinicians have questioned this aspect of the guidance, especially when differentiating between acute and chronic pain, as it may have contributed to increased rates of opioid addiction in the last 10 years.<sup>19,20</sup> Such considerations highlight the importance of prescribing appropriate pain relief, and the need to differentiate between acute and chronic pain.

# **Modification of risk factors**

Increasing awareness of realistic medicine and holistic care has changed the way that chronic pain is treated.<sup>21,22</sup> Pharmacological agents to treat pain are restricted, with opioid medications being the most widely popularised class. Opioids target G-coupled protein receptors (GPCRs) which have seven domain transmembrane receptors. They have three commonly utilised pharmacological targets, the  $\mu$ -receptor,  $\delta$ -receptor and the K-receptor.<sup>23</sup> Opioids are effective pain relievers, but carry a risk of sickness, constipation, hallucinations, tolerance and addiction.<sup>24</sup>

A more effective way of dealing with the rising problem of chronic pain is prevention. Several lifestyle factors have been implicated in the development or increased likelihood of suffering from chronic pain. The most relevant of these is obesity, affecting an increasing number of people, especially in the developed world.

#### **Obesity and pain**

The severity of obesity has been shown to demonstrate a linear relationship with the development of chronic pain, including during childhood.<sup>25–27</sup> Studies in hyperphagic Zucker rats indicate that increased body mass index (BMI) is associated with a lower threshold for developing pain and a greater opioid

requirement.<sup>28</sup> A further study demonstrated an increased peripheral and central inflammatory response in obese rats when compared to lean rats, utilising the Zucker model. Since the increased body habitus of the Zucker rat is similar to that of an obese human, it is an excellent model for demonstrating the biochemical relationship between pain and obesity. When exposed to painful stimuli, the inflammatory response was more pronounced and included an increased release of cytokines in obese rats, compared with rats of normal weight. Obese rats also showed reduced adipocyte-derived adiponectin in the spinal cord, suggesting its involvement in anti-inflammatory pathways, with downregulation leading to hyperalgesia.<sup>29</sup> All of this research provides evidence that as the population becomes more overweight, more aggressive pain relief regimes will be required.

#### Smoking and pain

Smoking has an extensive research history, with many adverse health outcomes directly or indirectly linked to the habit. However, the effect of smoking on the experience of pain remains unclear. Utilising a large data set collected over 4 years, an analysis of pain outcomes in smokers was undertaken. This was weighted for other factors which may have an influence upon pain outcomes. The analysis showed that at the time of consultation, smokers had a significantly worse pain score, in addition to reduced sleep, poor functional status and worsening emotional status.<sup>30,31</sup>

#### The implications of lifestyle medicine

This relatively new specialty is beginning to have an impact on modern day healthcare practice. It utilises behavioural changes to influence disease trajectory, based on the theory that removal of the behavioural drive will reverse the disease process.<sup>32</sup> Although many argue that lifestyle medicine is yet to become an established medical specialty with a strong evidence base, there is a growing movement for utilising lifestyle interventions to reduce disease. The usefulness of lifestyle medicine has been demonstrated in reversing damage caused by coronary artery disease, type 2 diabetes and even inflammatory bowel disease.<sup>33–35</sup> With the link between chronic disease and pain syndromes well established, it is likely that a reduction in chronic disease will be accompanied by a reduction in chronic pain.

Potentially, the most important target for lifestyle interventions is obesity and weight management. There are many theories as to why obesity sufferers are at an increased risk of pain. Unsurprisingly, those with a higher BMI have been shown to have reduced joint spaces in knee joints and spinal facet joints.<sup>36,37</sup> Obesity has been linked to degenerative disc disease of the spine, with the severity positively related to BMI. In addition, the higher the BMI, the greater the likelihood of an abnormal spinal shape and increased risk of pain.<sup>38</sup>

Adipose tissue is not simply a storage facility for fat cells. It remains metabolically active, releasing pro-inflammatory cytokines which alter weight management. Studies have concluded that an increased BMI is related to a potentially low-grade inflammatory state, with raised serum interleukin-6 (IL-6) and C-reactive protein (CRP). Even just a small increase in CRP has an odds ratio (OR) of 2.87 for the development of lower back pain.<sup>39,40</sup> This begs the question, would prevention of this chronic, low-level inflammatory state lead to improved pain outcomes?

A sedentary lifestyle is also a risk factor for the development of pain. A longitudinal study over 6 years demonstrated that a reduced activity level was significantly related to the chance of developing lower back pain, with an OR of 2. Specifically, this study focused on central adiposity and not overall BMI. It was found that light exercise in obese patients was not enough to prevent the development of back pain, but with moderate exercise, there was a significant reduction in the development of back pain.<sup>41</sup>

While in theory, weight loss requires only a calorie deficit, in clinical practice, it represents a significantly larger resource commitment from healthcare professionals. Non-surgical weight loss programmes generally bring about less weight reduction than surgical options. In a study looking at obese patients with knee osteoarthritis, a 5-kg reduction in weight resulted in a 50% reduction in pain scores.<sup>42</sup> Surgical management of weight has higher success, with some studies reporting near complete remission of chronic pain syndromes.<sup>43</sup> Bariatric surgery is not without risk, including perioperative death, nutritional deficiency, anastomotic leak, anastomotic stenosis, hernia and the development of acute kidney failure.44 Therefore, it is important to carry out an individual patient assessment before undertaking surgical weight management, especially with this patient group at high risk of complications from anaesthesia.

### Conclusion

Pain is a growing problem, a burden not only to patients' quality of life but also to the worldwide economy. It requires a multi-modal approach, involving pharmacological treatment and lifestyle changes. Chronic pain carries a poor prognosis with significant morbidity. Several conditions are implicated with its pathogenesis – and prevention is without doubt the most effective way of tackling the problem. Obesity and other modifiable lifestyle factors, such as smoking, are likely to need more focus in the future, with additional research required to develop further strategies to reduce the impact of pain.

#### **Acknowledgements**

This article was awarded the second prize for the 2022 Andrew Lawson Prize essay on pain, Royal Society of Medicine.

#### References

- Palermo TM. Pain prevention and management must begin in childhood: The key role of psychological interventions. *Pain* 2020; 161(Suppl.): S114–21.
- Zajacova A, Grol-Prokopczyk H and Zimmer Z. Pain trends among American adults, 2002–2018: Patterns, disparities, and correlates. *Demography* 2021; 58(2): 711–38.
- Fayaz A, Croft P, Langford RM, et al. Prevalence of chronic pain in the UK: A systematic review and meta-analysis of population studies. *BMJ Open* 2016; 6(6): e010364.
- Robertson AR. What becomes of the frequent hospital attenders with centrally mediated gastrointestinal pain syndrome? *Visceral Medicine* 2020; 36(4): 312–7.
- 5. Pain terms: A list with definitions and notes on usage. Recommended by the IASP Subcommittee on Taxonomy. *Pain* 1979; 6(3): 249.
- Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: Concepts, challenges, and compromises. *Pain* 2020; 161(9): 1976–82.
- Elliott AM, Smith BH, Hannaford PC, et al. The course of chronic pain in the community: Results of a 4-year follow-up study. *Pain* 2002; 99(1–2): 299–307.
- Pagé MG, Fortier M, Ware M, et al. As if one pain problem was not enough: Prevalence and patterns of coexisting chronic pain conditions and their impact on treatment outcomes. *Journal of Pain Research* 2018; 11: 237–54.
- Breivik H, Collett B, Ventafridda V, et al. Survey of chronic pain in Europe: Prevalence, impact on daily life, and treatment. *European Journal of Pain* 2006; 10(4): 287–333.
- Bouhassira D, Luporsi E and Krakowski I. Prevalence and incidence of chronic pain with or without neuropathic characteristics in patients with cancer. *Pain* 2017; 158(6): 1118–25.
- de Heer EW, Ten Have M, van Marwijk HWJ, et al. Pain as a risk factor for common mental disorders. Results from the Netherlands Mental Health Survey and Incidence Study-2: A longitudinal, population-based study. *Pain* 2018; 159(4): 712–8.
- Von Korff M, Resche LL and Dworkin SF. First onset of common pain symptoms: A prospective study of depression as a risk factor. *Pain* 1993; 55(2): 251–8.
- Macfarlane GJ, Beasley M, Smith BH, et al. Can large surveys conducted on highly selected populations provide valid information on the epidemiology of common health conditions? An analysis of UK Biobank data on musculoskeletal pain. *British Journal of Pain* 2015; 9(4): 203–12.
- Kehlet H, Jensen TS and Woolf CJ. Persistent postsurgical pain: Risk factors and prevention. *The Lancet* 2006; 367(9522): 1618–25.
- Marks DM, Shah MJ, Patkar AA, et al. Serotonin-norepinephrine reuptake inhibitors for pain control: Premise and promise. *Current Neuropharmacology* 2009; 7(4): 331–6.
- Costigan M, Scholz J and Woolf CJ. Neuropathic pain: A maladaptive response of the nervous system to damage. Annual Review of Neuroscience 2009; 32: 1–32.
- Zhang N and Oppenheim JJ. Crosstalk between chemokines and neuronal receptors bridges immune and nervous systems. *Journal of Leukocyte Biology* 2005; 78(6): 1210–4.
- Ventafridda V, Saita L, Ripamonti C, et al. WHO guidelines for the use of analgesics in cancer pain. *International Journal of Tissue Reactions* 1985; 7(1): 93–6.

#### Preventing pain: a multi-modal approach

- Okie S. A flood of opioids, a rising tide of deaths. New England Journal of Medicine 2010; 363(21): 1981–5.
- Ballantyne JC, Kalso E and Stannard C. WHO analgesic ladder: A good concept gone astray. *BMJ* 2016; 352: i20.
- Calderwood C. Personalising realistic medicine: Chief Medical Officer for Scotland's annual report 2017-2018. April 2019. Available online at: https://www. gov.scot/publications/personalising-realistic-medicine-chief-medical-officerscotland-annual-report-2017-2018/#:~:text=Publication%20%2D%20 Corporate%20report-,Personalising%20Realistic%20Medicine%3A%20 Chief%20Medical%20Officer,Scotland's%20Annual%20Report%20 2017%2D2018&text=The%20Chief%20Medical%20fficer's%20fourth,a%20 Personalised%20Approach%20to?
- Santana MJ, Manalili K, Jolley RJ, et al. How to practice person-centred care: A conceptual framework. *Health Expectations* 2018; 21(2): 429–40.
- Valentino RJ and Volkow ND. Untangling the complexity of opioid receptor function. *Neuropsychopharmacology* 2018; 43(13): 2514–20.
- Cepeda MS, Farrar JT, Baumgarten M, et al. Side effects of opioids during shortterm administration: Effect of age, gender, and race. *Clinical Pharmacology and Therapeutics* 2003; 74(2): 102–12.
- 25. Smith SM, Sumar B and Dixon KA. Musculoskeletal pain in overweight and obese children. *International Journal of Obesity* 2014; 38(1): 11–5.
- Deere KC, Clinch J, Holliday K, et al. Obesity is a risk factor for musculoskeletal pain in adolescents: Findings from a population-based cohort. *Pain* 2012; 153(9): 1932–8.
- Higgins DM, Kerns RD, Brandt CA, et al. Persistent pain and comorbidity among operation enduring freedom/operation Iraqi freedom/operation new dawn veterans. *Pain Medicine* 2014; 15(5): 782–90.
- Roane DS and Porter JR. Nociception and opioid-induced analgesia in lean (Fa/–) and obese (fa/fa) Zucker rats. *Physiology & Behavior* 1986; 38(2): 215–8.
- Iannitti T, Graham A and Dolan S. Increased central and peripheral inflammation and inflammatory hyperalgesia in Zucker rat model of leptin receptor deficiency and genetic obesity. *Experimental Physiology* 2012; 97(11): 1236–45.
- Khan JS, Hah JM and Mackey SC. Effects of smoking on patients with chronic pain: A propensity-weighted analysis on the Collaborative Health Outcomes Information Registry. *Pain* 2019; 160(10): 2374–9.

- Shiri R, Karppinen J, Leino-Arjas P, et al. The association between smoking and low back pain: A meta-analysis. *The American Journal of Medicine* 2010; 123(1): 87e7–35.
- Esselstyn CB. A plant-based diet and coronary artery disease: A mandate for effective therapy. *Journal of Geriatric Cardiology* 2017; 14(5): 317–20.
- Ornish D. Intensive lifestyle changes for reversal of coronary heart disease. JAMA 1998; 280(23): 2001–7.
- Davis BC, Jamshed H, Peterson CM, et al. An intensive lifestyle intervention to treat type 2 diabetes in the Republic of the Marshall Islands: Protocol for a randomized controlled trial. *Frontiers in Nutrition* 2019; 6: 79.
- Sandefur K, Kahleova H, Desmond AN, et al. Crohn's disease remission with a plant-based diet: A case report. *Nutrients* 2019; 11(6): 1385.
- Ding C, Cicuttini F, Scott F, et al. Knee structural alteration and BMI: A crosssectional study. Obesity Research 2005; 13(2): 350–61.
- Cimen OB, Incel NA, Yapici Y, et al. Obesity related measurements and joint space width in patients with knee osteoarthritis. Upsala Journal of Medical Sciences 2004; 109(2): 159–64.
- Cimolin V, Vismara L, Galli M, et al. Effects of obesity and chronic low back pain on gait. *Journal of NeuroEngineering and Rehabilitation* 2011; 8(1): 55.
- Ronti T, Lupattelli G and Mannarino E. The endocrine function of adipose tissue: An update. *Clinical Endocrinology* 2006; 64(4): 355–65.
- Blüher M, Fasshauer M, Tönjes A, et al. Association of Interleukin-6, C-reactive protein, Interleukin-10 and adiponectin plasma concentrations with measures of obesity, insulin sensitivity and glucose metabolism. *Experimental and Clinical Endocrinology & Diabetes* 2005; 113(9): 534–7.
- Shiri R, Solovieva S, Husgafvel-Pursiainen K, et al. The role of obesity and physical activity in non-specific and radiating low back pain: The Young Finns study. Seminars in Arthritis and Rheumatism 2013; 42(6): 640–50.
- Messier SP, Mihalko SL, Legault C, et al. Effects of intensive diet and exercise on knee joint loads, inflammation, and clinical outcomes among overweight and obese adults with knee osteoarthritis. *JAMA* 2013; 310(12): 1263–73.
- Khoueir P, Black MH, Crookes PF, et al. Prospective assessment of axial back pain symptoms before and after bariatric weight reduction surgery. *The Spine Journal* 2009; 9(6): 454–63.
- Pories WJ. Bariatric surgery: Risks and rewards. The Journal of Clinical Endocrinology and Metabolism 2008; 93(11\_supplement\_1): S89–96.



Talk to an artificial intelligence– powered expert about your pain

Pain News 2024, Vol 22(1) 39–40 © The British Pain Society 2024

S Sage

To coincide with Pain Awareness Month, a free interactive resource developed using cutting-edge technology to help millions living with persistent pain was launched in collaboration with Teesside University in September 2023.



Professor Cormac Ryan, Teesside University (back left), Jo Leversuch, Make-up Artist (back right), Dr Sophie Suri, Teesside University (front left), Pete Moore, Pain Champion (front middle) and Professor Denis Martin, Teesside University (front right).

Academics from Teesside University's Centre for Rehabilitation worked alongside artificial intelligence (AI) specialist StoryFile to develop a fully interactive digital version of internationally renowned pain management expert Pete Moore.

Described by StoryFile as a 'conversational video', AI Pete can interact with viewers, answer questions about persistent pain and how it can be managed, and share his firsthand experiences of living with it.

Pete was filmed answering over 300 questions in the rigorous interview stage of the development process. The AI recognises questions from viewers and plays the relevant response in real time, as in an ordinary discussion.

It has the potential to help millions of people living with persistent pain to access support, discover new pain management techniques and improve their quality of life.

Pete, 69, from Essex, worked as a Senior Trainer in the National Health Service (NHS) Expert Patient Programme. He

has been living with persistent pain for more than 20 years and was named a Pain Champion UK in recognition of his efforts to drive positive change.

'I'm fed up with talking about my pain', Pete smiled.

Now AI Pete can do it for me. Living with persistent pain can feel very isolating, but this resource provides around-theclock access to information, advice and support whenever it is needed, and that is a game changer.

I know how much a tool like this would have helped me back in the day, so I'm incredibly proud of what we have achieved.

Pete joins Star Trek's William Shatner, a National Aeronautics and Space Administration (NASA) astronaut and Holocaust survivors, who have all used StoryFile to record their experiences and leave a legacy.

The project has been incorporated into the Pain Toolkit, a resource developed by Pete with useful guidance around persistent pain and self-management which is used worldwide by patients and medical professionals alike. People can ask Al Pete to explain more about the different tools in the Pain Toolkit, which include patience, planning, relaxation and exercise.

Denis Martin, Professor of Rehabilitation and Director of the Centre for Rehabilitation at Teesside University, who led the project, said

Teesside University is committed to transforming lives and leads by example when it comes to showing how innovative technologies can be applied to tackling real-world issues.

That is exactly what we are doing through this groundbreaking project. There are millions of people out there with persistent pain who will be able to take control of that aspect of their lives by engaging in a conversation like never before. It would be lovely for each and every one of them to have personal contact with Pete, but it is not feasible. So, we're using cutting-edge technology to find a Talk to an artificial intelligence-powered expert about your pain

way to bring Pete and his expert advice on self-management techniques to them. While it is very important for patients to get guidance and information from medical professionals, we acknowledge the undeniable benefits which they get from hearing from those with lived experiences of persistent pain as well. That's where AI Pete comes in.

Pete Moore, Senior Trainer in the NHS Expert Patient Programme, added

Self-management is a partnership between a healthcare worker and patient, and it can be hugely beneficial. But healthcare professionals aren't often given the opportunity to focus on the idea of self-management during their training. This new resource and the Pain Toolkit are raising awareness around the positive potential of self-management in all aspects of healthcare. The University has been incredibly supportive in the development of this project and the enhancement of the Pain Toolkit. I've never had so much support from any other institution.

Professor Martin worked with fellow Teesside University academics Professor Cormac Ryan, Dr Sophie Suri and Dr Andrew Graham on the project.

It was delivered with support from the EU Interreg North-West Europe VR4Rehab project and the National Institute for Health and Care Research (NIHR) Applied Research Collaboration (ARC) North East and North Cumbria (NENC).

> @TeessideUni https://www.tees.ac.uk/schools/shls/news\_ story.cfm?story\_id=8331 26 September 2023

# Polypharmacy

Steve Johnson



Pain News 2024, Vol 22(1) 41–42 © The British Pain Society 2024

S Sage



You think you know your patients. You slowly build up a relationship over years. You start to believe they couldn't surprise you.

Sam shuffled in when I called his name over the Tannoy. He sat down, hands in his lap:

# Just my medication please, Doctor.

Sam was in his late 30s, physically big and imposing. He had been good-looking once, if you liked rough-around-theedges ruggedness. Now, he had a gone-to-seed look, a burgeoning gut, grubby clothes, lank greasy hair, deep bags under his eyes and a faint unwashed smell. He was always polite and deferential to me and the staff and he always made appointments 4 weeks apart for me to prescribe 4 weeks of an antidepressant called Dothiepin and a sleeping tablet called Nitrazepam. He never asked for extra and if we couldn't provide an appointment before his pills ran out, he would wait. 'I made them last, Doctor', he would say, with no hint that we had inconvenienced him in any way. While fully aware that I was prescribing a big nightly dose of sleeping pills, not something I, nor any of the doctors in the practice, did lightly, I had grown to like him and felt we had a rapport.

He would often attend with bruises and gashes on his face and knuckles. He never volunteered their origin, but when I asked he would give a coy smile and say,

# Ah, Doctor, I was in a fight.

The fights were always when he was drunk and normally took place inside, or in the vicinity of, a pub. Often the police broke up the fight and he spent the night in the cells. He had been barred, at one time or other, from most of the pubs in town.

He lived in a rented flat with a 'mate; I can only imagine what state it was in. He didn't work other than occasional cash-inhand jobs and was signed off sick with three-monthly certificates giving 'Alcoholism' as the reason. It was true he was not fit for employment. He could not be relied upon to turn up for work sober and fully fit. Initially, I had insisted that I would only provide certificates if he attended a support group for alcoholics. He did so but I observed no change in him and when I asked him a year or so later he told me the group had suggested he 'take a break' and return when he was more serious about addressing his problem. After that, I just provided the certificates.

His mother was also my patient. She was a cheerful retired local government officer who had sired three children. The two elder girls were successful professionals and the youngest, Sam, she described as 'my wayward one'. Sam would go and see his mother once a week for a meal. She would insist he had a bath first at her house and then provide him with a washed set of clothes. But they were the only times he put on clothes that were clean and the only times he bathed. She had stopped giving him any money years ago because she knew it would just be squandered. The bath/meal provision coincided with his weekly visits to see his son, and she provided a small gift for him so that he didn't go empty-handed. The visits were at a supervised centre. The court had decreed that he could not provide a safe environment for his access visits and his ex-partner refused to meet him in person.

#### Polypharmacy

Sam attended one time with one side of his head shaved and a 6-inch jagged line of sutures above his ear. He asked for his medication and would have said nothing more had I not asked.

'Fight'. He fingered the scar gingerly. 'F\*\*\*ing broken beer glass', he said, outraged, as if his quarry had not been fighting by the usual rules:

## What was the fight about?'

'I was drinking with my mate. He's short'. He raised his hand to chest height to illustrate. 'A guy at the bar orders his drink then he turns to us, rests his pint on my mate's head and says to the rest of the pub – like he's some kind of comedian – 'there's no beer mats'. Sam smiled to himself and said quietly, 'Couldn't let that go'.

At various times, without being pushy, I tried to talk to Sam about how he might try and address his issues with alcohol. He would listen politely and nod encouragingly at my suggestions, as if I was providing a novel and workable solution. But I was working on a premise that alcohol was the main problem and that he might want to change. Wrong on both counts.

I found this out when he came to see me to collect his prescription one time. He hobbled in looking particularly rough. He was sweating profusely and sheepishly asked me to take a look at his upper leg: I thinks it's an abscess, Doctor. Could you give me some antibiotics?

There was a truly enormous thigh abscess. He was pyrexial and symptomatic of a systemic infection. No way would antibiotics fix that. It needed incision and drainage at the hospital. I told him so and started making arrangements with the hospital. He was a week late for his prescription and I asked.

'Made 'em last, doctor'. The usual answer. Previously, I had assumed he meant that he staved off withdrawal symptoms by eking them out – cutting pills in half or taking on alternate days. This time, I enquired further:

To be honest, doctor, I take them all on the day I get them. Well . . . the Nitrazepam, that is. I don't take the Dothiepin. I swap them with my mate for . . . for other stuff.

Later, I learned from the discharge summary that the abscess was caused by a dirty needle. He had failed to find a vein for a heroin hit and tried the intramuscular route instead.

Now, I see Sam every 3 months; I no longer provide a prescription for anything. The drug clinic provides a weekly script for Methadone.

He shuffles in when I call his name over the Tannoy:

Just my certificate please, Doctor.

# The denouement

Steve Johnson



Pain News 2024, Vol 22(1) 43–45 © The British Pain Society 2024

S Sage



At her first consultation with me, a young man wearing an orange summer dress guided Shirley's wheelchair into my room and immediately left. Shirley was then in her late 40s, plump with a doughy complexion and wearing a baggy fleece over a faded print dress. She sat chuckling to herself as if she had just remembered something amusing. Double thickness tubigrip covered both wrists and elbows, and over the top, she wore wrist splints. Around her neck was a brace, her chin resting on the support. There was a urine bag strapped to her lower leg, just visible at the hemline of her skirt. I asked about the young man.

'That's Doug, my son. He's my live-in carer'.

'And, why the wheelchair?

'Multiple Sclerosis'

She began to list her other ailments. Asthma, carpal tunnel syndrome, epilepsy, an indwelling urinary catheter and another five or six items.

Before I met Shirley face to face, her general practitioner (GP) notes had arrived, and one of the admin staff had alerted me to their impressive bulk. Six Lloyd-George envelopes sellotaped together and tightly packed with folded hospital letters. They made 'War and Peace' look like a novella. I had skim-read them in preparation. Curiously, although I found mention of multiple sclerosis, when I had gone searching for a specialist letter I had been unable to find one. There was also no specialist letter regarding her epilepsy. When I read the histology reports for her appendectomy, her cholecystectomy, her hysterectomy and her tonsillectomy they were normal with no pathology.

'Shirley, could you tell me where the Multiple Sclerosis was diagnosed?'

'In London. St Mary's, I think? It was a long time ago now'.

I mentioned the lack of any specialist letter in her medical notes.

*'My GP refused to refer me'.* She said with mild indignance. *'I had to go privately'.* 

I said there should still be a letter with details of the tests. I asked who she had seen so that I could write to them and get a replacement copy of the letter for the notes. She continued to be vague in the extreme and I let it go. I then spent some time setting up a repeat prescription for the vast quantity of medication she took – three different anticonvulsants for her epilepsy, inhalers, and nebuliser solution for her asthma, pain killers, nerve pain blockers, antibiotics for frequent urine infections, all of the bags and tubes for the catheter, and diuretics for her 3-monthly catheter changes, and I gently enquired about why she had felt the need to change her GP surgery.

In a sing-song voice she said matter-of-factly, 'Oh! They were useless'.

There was something not quite right, so I decided to do some more detective work. I trawled back through all of the hospital

#### The denouement

notes and the many referral letters her various GPs had written. I found a pattern. She changed GPs often. The prompt to change usually appeared to be when the GP refused referral to a specialist. For instance, I could see she had requested referral for an indwelling catheter to be fitted because she was struggling with urinary incontinence. Her GP at the time refused and suggested medication instead. She re-registered with a new surgery and told the next GP that she needed referral to a bladder specialist because of urine issues caused by her multiple sclerosis. The new GP took her word for it and referred. The bladder specialist assumed the information being given by the GP was true and rubber-stamped the insertion of a suprapubic catheter. As far as I could tell, none of the diagnoses she had told me about at the initial consultation had actually been properly confirmed. Strange. For the next 6 months, I saw her multiple times. Each time, there would be a request for a new medication or a request for referral to a specialist or a specialist nurse. I could see no justification for these requests so, aware that repeated refusals would probably lead to her re-registering with another GP practice, I tried gently side-stepping each request and offering an alternative. This seemed to work, and over the next few months, my go-to strategy became a medication substitution - such as stopping one asthma medication and starting an alternative. I could give her a detailed titration plan that took a few months and ensure the replacement medication was virtually identical to the original. She seemed happy with this, and the surgery consultations became less frequent.

I hadn't really been thinking that her odd behaviour might actually be a recognised condition, but a colleague suggested she might have Munchhausen's Syndrome\*\* I looked it up, thought she definitely fitted the bill and decided a psychiatric referral would be the next logical move. Shirley refused. I mulled the situation over and made two decisions. The first decision turned out to be a good one. I decided to do the best I could for Shirley without involving anyone else and without directly confronting her about her made-up illnesses. The second decision, one I now deeply regret, was to shop Shirley to the Benefits Agency.

I was younger then, more zealous, more certain about everything including my responsibilities as a public servant. I justified it to myself that, with a limited pot of public funds, patients who had real illnesses were more entitled to benefits than those with imaginary ones. So when Shirley requested her next sick note instead of writing 'multiple sclerosis' as the diagnosis I wrote 'Munchhausen's syndrome'. A few months later, the DSS (as was – now it is the DWP) wrote back to me requesting more detail, which I provided – an explanation of Munchhausen's syndrome and a declaration that all of her stated ailments were just a figment of her imagination. The wheels of bureaucracy evidently move slowly, but 15 years after I started writing Munchhausen's syndrome on Shirley's 3-monthly certificate, I received a letter from the DSS stating that Shirley's mobility allowance and her sickness benefit had been suspended pending an investigation into her case. Apparently, social services had assigned a 'detective' to do some digging. The 'detective' had filmed Shirley's son pushing her wheelchair to the entrance of Debenhams on the town high street then filmed Shirley standing up. She was filmed pushing the heavy doors open, walking through the store – weaving adeptly between the racks – and then entering the ladies toilets at the back of the store. She walked back out, got into her wheelchair and her son pushed her onwards into the town centre.

When I showed the letter to my colleagues, there was much whooping and back-slapping but now, looking back, I am ashamed. What was I thinking? Was I expecting Shirley to renounce her disabilities, get a job and come back, and thank me for my intervention? The only thing that changed was that Shirley's financial situation went from 'poor' to 'precarious'. Without her benefits (she also lost her housing benefit and carer's allowance), and now financially reliant on her son (who had to sign on or seek employment). Shirley quickly slid a few rungs down the poverty ladder. Their council house became a shell with no furniture or carpets and only one heated room in the winter.



Remarkably, Shirley seemed to bear me no ill-will and our uneasy alliance continued. Having run out of straightforward medication switches, I was now substituting her anti-epileptic

The denouement

drugs and dreaming up fearsomely drawn-out titration regimes to eke out the time between consultations. But there was another surprise to come. A surprise that was like fitting the last piece in a puzzle. In a conversation with her a few years later, Shirley made reference, in passing, to her late husband. I couldn't recall her mentioning him before, so I gently probed as to how he had died. Shirley chuckled to herself and said,

'Oh, he had an accident'.

'Shirley, that's awful, what happened?'

The sing-song voice, 'An accident. Just one of those things'.

That was all I was going to get. Losing her husband, how could she be so casual? I ploughed through her notes a third time to

see if there was any detail there. After an hour and a half and ready to give up, I came upon a single entry in difficult-todecipher handwritten scrawl. It was a mention that in 1987 both Shirley's husband and 11-year-old daughter had been killed in the Zeebrugge ferry disaster.

And here we are, nearly 30 years later. Shirley is now in her mid-seventies. She hasn't moved her allegiances to a new surgery. We've managed not to add numerically to her list of diagnoses nor to her medication regime. When I call her over the tannoy and hear her wheelchair being pushed up the corridor by her transvestite son, I ponder on the enormous power doctors have and how difficult it is to be certain that we are acting in our patients' best interests when we wield that power.

\*\*where a person repeatedly seeks medical attention for spurious symptoms.

FLYNN PHARMA LTD

# TIME IS PRECIOUS

- No reconstitution
- No buffering
- No dilution
- No slow infusion
- Reaches C<sub>max</sub> in 3 minutes<sup>1</sup>

# THINK OUTSIDE THE BAG

Who has time for buffering, dilution and slow-infusion?

# diclofenac sodium 75 mg/1 mL solution for injection

# READY WHEN YOU ARE

Intravenous bolus injection for treatment, or prevention, of postoperative pain in hospital settings

#### AKIS® (DICLOFENAC SODIUM) 75mg/mL SOLUTION FOR INJECTION

PRESCRIBING INFORMATION: Please refer to Summary of Product Characteristics before prescribing. ACTIVE INGREDIENT: Each 1 mL ampoule contains 75 mg diclofenac sodium. INDICATIONS: By intravenous bolus injection for treatment, or prevention, of subcutaneous injection in hospital settings. By intramuscular and subcutaneous injection in acute forms of pain, including renal colic, exacerbations of osteo- and rheumatoid arthritis, acute back pain, acute gout, acute trauma and fractures, and post-operative pain. DOSAGE AND ADMINISTRATION: Adults: by intramuscular, subcutaneous or intravenous bolus injection. Not to be given by i.v. infusion. Use the lowest effective dose for the shortest duration necessary. For severe pain a dose of 75mg may be needed. Exceptionally, and in severe cases, a second dose of 75mg can be administered after 4- 6 severe cases, a second dose of 75mg can be doministered after 4- o hours. Lower doses may suffice for mild and moderate pain, where freedom from the usual side-effects of NSAIDs is a priority and in the elderly particularly if frail or underweight. Maximum daily dose 150mg, Maximum treatment duration two days. **Elderly**: Maximum daily dose 150mg. Monitor regularly for GI bleeding. **Children and adolescents**: Not recommended. CONTRAINDICATIONS: Haemostasis disorders or current anticoagulant treatment (i.m. use only), hypersensitivity to active substance or excipients, active gastric or intestinal ulcer, bleeding or perforation, historic NSAID-related gastrointestinal bleeding or perforation, active or history of recurrent peptic ulcer/haemorrhage, last trimester of pregnancy, severe hepatic, renal or cardiac failure, history of NSAID or acetylsalicylic acid precipitated asthma, urticaria, or acute rhinitis, established congestive heart failure, ischemic heart disease, peripheral arterial disease and/or cerebrovascular disease. Disease, perpheral arterial disease and/or cerebrovascular disease. Specifically for i.v. use: Concomitant NSAID or anticoagulant use (including low dose heparin), history of haemorrhagic diathesis or asthma, history of confirmed or suspected cerebrovascular bleeding, operations associated with high risk of haemorrhage, moderate or severe renal impairment, any cause of hypovolaemia or dehydration. SPECIAL WARNINGS AND PRECAUTIONS FOR USE: Avoid use with systemic NSAIDs or COX-2 inhibitors. Caution in the elderly particularly if frail or underweight. Monitor for anaphylactic/ anaphylactoid reactions and signs and symptoms of infection. Adhere to instructions for intramuscular injection to avoid adverse events at injection site including injection site necrosis and embolia cutis medicamentosa (Nicolau syndrome). Caution and close medical surveillance with symptoms indicative of gastrointestinal disorders or with a history suggestive of gastric or intestinal ulceration, bleeding

or perforation. Consider combination therapy with protective agents for these patients and those requiring concomitant medications likely to increase gastrointestinal risk. Discontinue immediately if gastrointestinal bleeding or ulceration occurs or at first appearance gastrointestinal bleeding or ulceration occurs or at inst appearance of skin rash, mucosal lesions, or other signs of hypersensitivity. Close medical surveillance and caution in patients with ulcerative colitis, Crohn's disease, after gastro-intestinal surgery, impaired hepatic function, hepatic porphyria, impaired cardiac or renal function, history of hypertension, the elderly, patients receiving concomitant treatment with diuretics or medicinal products that can significantly impact renal function and patients with substantial extracellular volume depletion from any cause. Monitor for fluid retention and oedema in patients with history of hypertension and/or mild to moderate congestive heart failure. Laution in patients with significant risk factors for cardiovascular events (e.g. hypertension, hyperlipidaemia, diabetes mellitus, smoking). Careful monitoring in patients with defects of haemostasis. Monitor haemoglobin and haematocrit levels if symptoms of anaemia are detected. Risk of hyperkalaemia in diabetic patients or those taking potassium-sparing drugs. Special precaution recommended in patients with asthma, seasonal allergic rhinitis, swelling of the nasal mucosa, COPD, chronic infections of the respiratory tract, and patients allergic to other substances. Increased risk of aseptic meningitis in patients with SLE and mixed connective tissue disorders. **INTERACTIONS:** Lithium, digoxin, diuretics, ACE inhibitors, angiotensin-II antagonists, other NSAIDs, corticosteroids and acetylsalicylic acid, anticoagulants and heparin (administered in the elderly or at curative doses), thrombolytics and anti-platelet agents, SSRIs, antidiabetics, methotrexate, pemetrexed in patients with normal renal function, calcineurin inhibitors (e.g. ciclosporin, with normal relation and function, calcing in minimized (e.g. clubsporm, tacrolinus), deferasiros, quinolone antibacterials, phenytoin, colestipol and cholestyramine, potent CYP2C9 inhibitors, (e.g. sulfinpyrazone and voriconazole), mifepristone, tacrolinus, zidovudine. PREGNANCY, LACTATION AND FERTILITY: Avoid during first and second trimester of pregnancy unless clearly necessary. Consider antenatal monitoring for oligohydramnios resulting from foetal renal dysfunction and ductus arteriosus constriction after exposure to diclofenac for several days from week 20 onward, discontinue if found. Contraindicated during the third trimester of pregnancy. Not be administered during lactation. May impair female fertility. **DRIVING**: May cause visual disturbances, dizziness, vertigo, somnolence or other central nervous system disturbances. Driving or use of machines

should be avoided if affected. UNDESIRABLE EFFECTS: AKIS Postmarketing experience: Very common: injection site reactions. Common: nausea, limb discomfort. Serious: hypersensitivity reaction, ischaemic colitis, Nicolau syndrome NSAID class effects: Common: headache, dizziness, vertigo, nausea, vomiting, diarrhoea, dyspepsia, abdominal pain, flatulence, transaminases increased, rash, injection site reaction, injection site pain, injection site induration. Serious: Thrombocytopenia, leukopenia, anaemia (including haemolykic and aplastic anaemia), agranulocytosis, anaphylactic and anaphylactoid reactions, psychotic disorder, convulsion, aseptic meningitis, cerebrovascular accident, cardiac failure, myocardial infarction, Kounis syndrome, hypertension, vasculitis, asthma, pneumonitis, gastrointestinal haemorrhage, haematemesis, diarrhoea haemorrhagic, nelaaen, gastorintestinal ulcer, colitis or Crohn's disease), stomatitis, diaphragm-like intestinal strictures, pancreatitis, hepatiti, hepatiti necrosis, hepatic failure, bullous eruptions, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome), acute renal failure, haematuria, proteinuria, nephrotic syndrome, interstitial nephritis, renal papillary necrosis. Prescribers should consult the summary of product characteristics in relation to other adverse reactions. **PHARMACEUTICAL PRECAUTIONS:** Store below 25°C. Do not refrigerate or freeze. Store in the original packaging to protect from light. Do not us if crystals or precipitates are observed. **DATE OF REVISION OF PRESCRIBING INFORMATION:** March 2023 **LEGAL CATEGORY:** POM. **BASIC NHS PRICE:** £24.000 (5x75mg/1 mL ampoules). **MARKETING AUTHORISATION HOLDER:** IBSA Farmaceutici Italia Sf, Via Martiri di Cefalonia 2, 26900 Lodi (Italy).

#### Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Flynn Pharma Ltd. Medical information: Tel 01438 727822

MARKETING AUTHORISATION NUMBER: PL 21039/0042. Marketed in the UK by Flynn Pharma Limited, Hertlands House, Primett Road, Stevenage, Herts SG1 3EE, Tel: 01438 727822, E-mail: medinfo@ flynnpharma.com. Information about this product, including adverse reactions, precautions, contraindications and method of use can be found at http://medicines.org.uk/emc/. AKIS is a registered trademark of IBSA Farmaceutici Italia Srl.