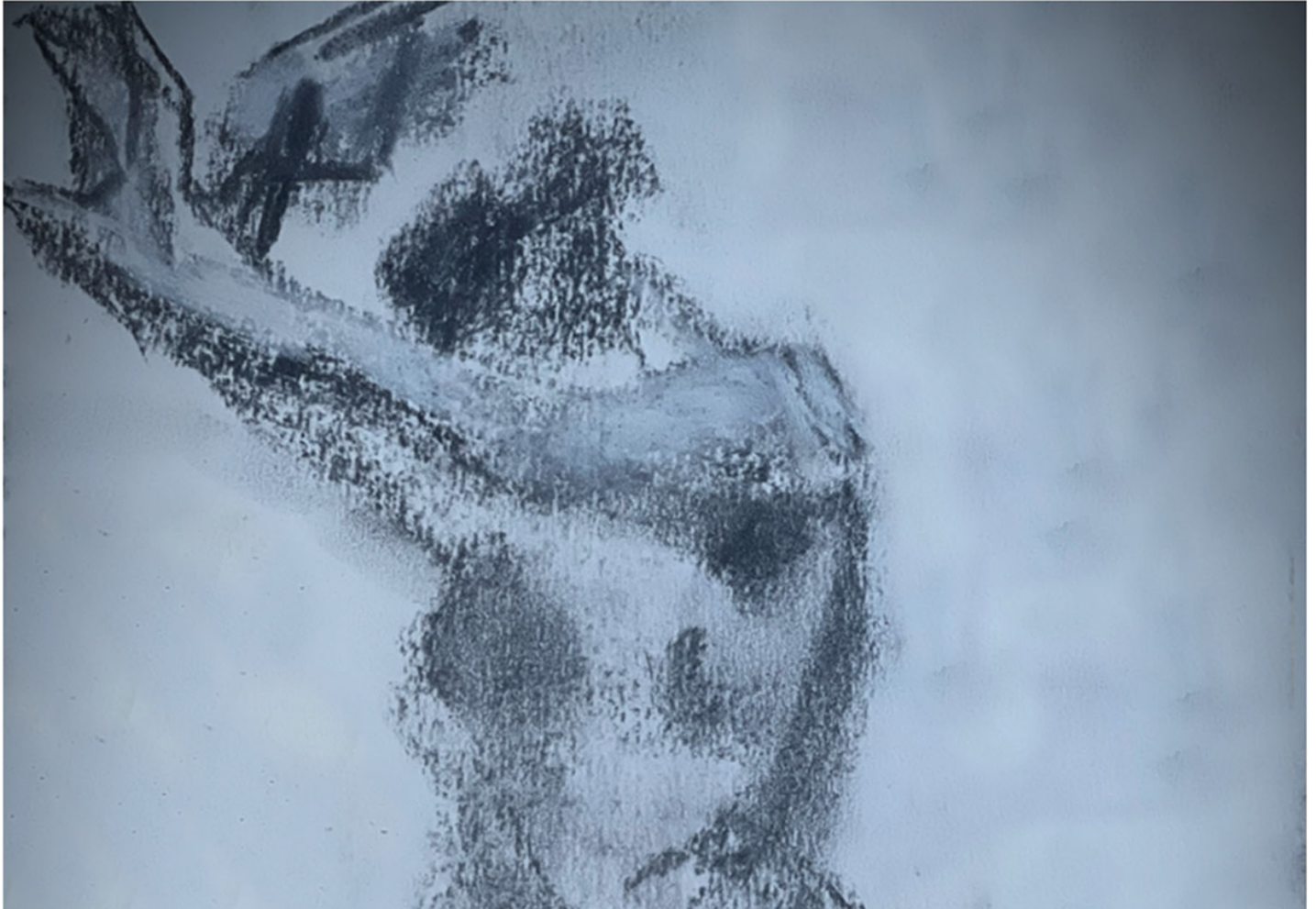


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PAIN NEWS

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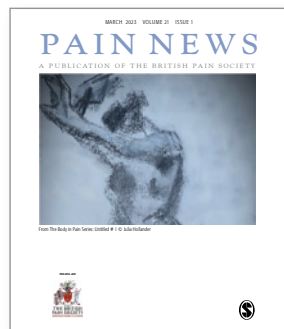
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<https://www.britishpainsociety.org/for-members/pain-news/>

From the editor: whither pain and whither pain news?

Dr Rajesh Munglani

The direction of our world and society appears increasingly uncertain. The chaos of global events, both natural and man-made with war close to home, is compounded by the daily disruption to our lives from the lingering effects of the Covid-19 pandemic. Shortfalls in the capacity of health and social care to cope with overwhelming demands for medical treatment are accompanied by shortages and high prices in the supply of food, energy and other essential goods.

There are intense pressures on the NHS, and in all of this we see the suffering and stresses of both patients and health care professionals. How we respond to such widespread pressures by making the conscious decision to continue care for each other is a measure of our common humanity. Human beings need to be nurtured and cared about, whether they are patients, health care professionals or other members of our global society.

The presentation of pain and suffering in an individual, how it affects us and how we react is varied. The biopsychosocial model applies both to the assessment and treatment of pain and suffering, but can also accurately describe the response of individuals and society to the same. At times, these responses can be unexpectedly and outstandingly creative and transformational – and include art, music and literature. The fact that works of art, music, literature and philosophy produced as a result of pain, sorrow and suffering can go on to transform and inform society has been demonstrated throughout history. Ernest Hemingway once said, 'Writing is easy. All you do is sit down at a typewriter and bleed', while Van Gogh suffered with mental illness while painting *The Starry Night* and other works.

The many varieties of responses to pain and suffering will continue to be explored in both this and future issues of *Pain News*.

This issue includes articles on updates to new treatment guidelines in Wales, an analysis of pain expression in long Covid, a philosophical analysis of pain and suffering, an examination of an artist painting scenes in the north of England, the reflections of pain specialist moving to Australia

but first an insight into the therapeutic role of singing in people who suffer.

We welcome and will consider all contributions to this conversation for future editions.

Oxford

Spring 2023



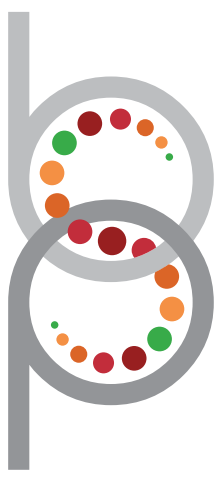
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[Robert Furber \(1674-1756\) The twelve months of flowers](#)

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More song less pain: why we sing

Julia Hollander



As I walk down the Care Home corridor, I can hear a woman wailing. In the mess of syllables, I try to catch some meaning. ‘I told ‘em . . . ma . . . ki . . . mu . . . I did . . . dudud . . . did . . . I told ‘em . . . you’ve, you’ve . . . told ‘em . . . kaka . . . kot, kot . . . kotter . . . ketter . . . ket ‘er away from here . . . I’m telling you . . .’

When I get to the drawing room, there are none of the usual smiles of welcome. Everyone is exceptionally sombre. I shift the table out of the way and start assembling my books, music stand and instruments.

The wails are getting louder.

At last, Pam the activities officer appears, pushing one of the residents I know well, Daphne, in her wheelchair. ‘Sorry about the racket’, says Pam.

‘I’ve not heard it before’.

‘Well, no, poor Grace – she only arrived at the weekend’.
‘And she hasn’t stopped shouting since’, Daphne pitches in.

I feel sorry for Daphne. She seems to be completely in control of her mental faculties, but surrounded by people who are not. ‘Grace’s dementia makes her very confused’, Pam says, defensively.

‘It must be hard for the others’, I say.

‘It’s horrible’, scowls Daphne. ‘You’d have thought they could give her something for it . . .’

Pam shakes her head which I take to mean Grace is already stuffed full of medication. Doctors will prescribe antipsychotic drugs for severe dementia, despite all sorts of side effects including an acceleration in cognitive decline, and sometimes stroke or death. The irony is such treatment can also lead to phases of increased distress like the one Grace is going through.

I look around the circle, reminding myself of people’s names, and then begin the simple ‘Hello’ song I first learnt at a toddler group with my children, a long while ago. I did worry when I started singing in care homes that it might seem condescending, but my trainer insisted the only thing that mattered was it made everyone happy. Beating a strong two-time on my thighs, I go clockwise around the room, focusing on each individual in turn, skipping the notes down the triad and up again: ‘Hello Ethel, hello to you’. The same tune one step down for the next person: ‘Hello Brian, hello to you’. Up again for the next: ‘Hello Sylvia, hello to you’. Finally, with a gesture that takes in Ethel, Brian and Sylvia all together, my tune finds its way home: ‘It’s nice to have you here’.

I’m doing my best to make eye contact and demonstrate an engaging, loving mood. However stressed people feel, surely they will respond to the name they’ve carried all their lives, or at the very least sense that they are unique and adored in this moment. My face beaming, with outstretched hands, I’m searching for even the subtlest of signals that I am getting through. Is that a tapping slipper; a mouth opening and shutting in time to my beat?

Beyond our circle, the screaming continues. I pick up the guitar and start to strum, projecting my vocal so as to drown out Grace's: 'Daisy, Daisy, give me your answer do . . .'

Not a single toe is tapping, which is rare for everybody's favourite music-hall number. Even Daphne just sits there, scowling. The floor-to-ceiling curtains and thick pile carpet conspire to muffle my efforts; the stratospheric thermostat setting that keeps inactive bodies warm has a soporific effect.

I eventually wind down 'Daisy' and get out my percussion instruments, in the hope that more activity will wake people up. I'm also hoping some extra noise from them will help compete with Grace's cacophony. I like using percussion in my singing groups, especially for people with motor problems associated with neurological degeneration. The entrainment from a repeated rhythmic pattern can stop them feeling dizzy or disorientated, especially when there are major distractions going on. A solid beat also provides what is called 'rhythmic anticipation', which helps stimulate physical movement. I heard from a friend with Parkinson's that a three-time pulse was good for her, unlocking the left-right-left-right symmetry in which her body so often became stuck. One day, when I spotted a woman in a care home starting to panic because she was unable to get out of her chair, I gave her my best rendition of 'Edelweiss'. Up she rose, striding right across the room in front of everyone.

Pam helps me distribute tambourines, claves and maracas.

'I'm sorry about Grace', she says, 'I actually know her quite well. She lives in the village . . . used to run the hairdresser's . . . She's a lovely lady. We need to give her time to settle down'.

'What sort of help has she had?' I ask.

'I reckon they've tried everything . . .' she shrugs, and Daphne rolls her eyes in exasperation.

'You might consider a one-to-one music therapist . . . someone who sits with her and really explores what kind of music she can respond to, even just to help distract her . . .'

In Scandinavia, researchers have examined the effect of individual music therapy on care home residents suffering agitation from severe dementia. In a large-scale trial, they compared the lives of those who received a couple of music sessions a week with those in standard care, measuring their levels of agitation, quality of life and dependence on medication. The therapists used instruments and recorded music as well as singing a wide variety of repertoire, similar to

mine. The trial came out with pretty definitive results: when people received standard care, there was an increase in what was termed 'agitation disruptiveness', but when they received music therapy the agitation decreased, as did prescriptions for psychotropic medication. Recipients also showed increased levels of the hormone melatonin, which was helping to regulate their other hormones and maintain their circadian rhythms. It may well have been this that had improved their general mood and especially their sleep patterns: a good reason why all of us should be making music all the time.

*

My newly formed percussion section let their instruments fall to the floor as they slip back into the comfort of sleep. But Daphne looks keen, and Pam is standing there, tambourine at the ready for 'She'll be coming round the mountain'.

As we start to get into the two-time beat, Grace's shrieks reach a climax. Suddenly, there she is in the doorway: a sleek bob of hair fringing eyes that are squeezed tight-shut, her large mouth lolling open as she wails. From behind the wheelchair, her carer sends us a beaming smile. Perhaps she's got wind of my music therapy idea.

I know better than to hope someone with severe dementia will sing along; her cerebral degeneration is surely too far gone. But I hold on to some possibility of engagement, trusting she still has the same ability to detect pitch and timbre and rhythm as my daughter Immie, severely brain-damaged at birth. I ease the guitar strap over my shoulder and stand up. Somehow I need to distract Grace from whatever is distressing her. I sidle over.

'Singing ay ay yippee yippee ay . . .'

My voice is gentler now because, amazingly, Grace is silent. Her mouth is still open, eyes still shut, but the noise has stopped.

I wonder what it was that did the trick. The predictability of my tune, or my tempo? I know it's soothing to match one's beat to a person's pulse, though what Grace's is I have no idea. Perhaps by some fluke my singing has found it. The way she sits there reminds me of Immie, entranced by a Disney song. But Grace isn't the same, because she has a past life where she was fully cognisant. Perhaps her silence has been triggered by an association from long ago. It is well known that listening to something recognisable can alleviate agitation. In the 1990s, a pilot study by Linda A. Gerdner at Stanford University became the impetus for numerous investigations into dementia

More song less pain: why we sing

sufferers recalling songs. Her research has led to singing becoming part of reminiscence therapy, where participants are encouraged to reconnect with past events and relationships still clear in their memory. Sally Magnusson's charity, Playlist for Life, encourages people with dementia to gather favourite song recordings as soon as they have a diagnosis. As the disease advances, listening to a personal playlist can make life much easier and happier than it might otherwise have been. In the Scandinavian music therapy trial, practitioners met up with carers and family members who were close to those taking part, so they could be sure their singing would be familiar to them. I wish Grace's family was here now, so I'd know what other songs she might like.

I glance across the room and see Daphne smiling and beating her tambourine, celebrating the first scream-free moment she's had all week. And I'm remembering Charles Darwin's idea that in nature silence signals danger: all those failed bedtimes with my babies, when I finished singing too soon and they bounced awake again. I can't tell if Grace is asleep or just listening hard, but no way can I risk her starting to scream again.

OK, Julia, you'll just have to do another round.

'She'll be coming round the mountain when she comes . . .'
And again . . .

'We'll kill the old red rooster . . .' It's getting tiring. 'We'll be shouting Hallelujah . . .' And a bit boring. How about improvising some new lyrics?

'There'll be drinking and a-feasting when she comes . . .'
Not bad.

'We'll be happy, oh so happy . . .'

Less cool. How long till the end of the session? No – don't think about that. Keep on with the improvising. You can do it. This is really important work you're doing here. Look how peaceful everyone is. Just stick to the same set of chords and the same tune, and all will be well. The only thing that matters is that you don't stop singing. Ever.

Why we sing

It was because of experiences like this one that I decided to write my book, 'Why we Sing'. I wanted to let everyone know what miracles were going on. I have spent more than a decade singing with people who have dementia and have many, many

stories to tell from every stage of this cruel disease. As I began composing them into book form, I started to realise that the benefits experienced by this group of people towards the end of their lives were no different from everyone else's, whether it's a distressed babies calmed by a lullaby or a church worshipper inspired to reach beyond their mortal selves towards the consolations of Heaven. Singing is a major tool in dealing with life's hardest challenges. Think of the way slaves once sang in the plantations in order to dull the torment of enforced labour, or political protesters utilise songs in what they term 'de-escalation' (keeping violent conflict at bay) or Long Covid sufferers to help restore natural breathing patterns. In the broadest sense, to participate in a song means relief from pain.

With plenty of lived experience to share, I needed to catch up on the science. Take as one example endorphins. I had only ever thought of them as some sort of chemical feel-good factor, or that euphoric feeling runners claim to enjoy when they exercise hard: the 'runner's high'. But during lockdown, I had plenty of time to learn more because my professional work as a singer was on hold: with an airborne virus at large, the powers that be had decided mine was a super high-risk occupation. So what have I learnt about endorphins? Well, I now know that the term is short for 'endogenous morphine', and that they have the potential not only to make us happy or high but to provide us with pain relief. I also know that their production is stimulated by singing. In 2017, London-based psychobiologist Daisy Fancourt tested for salivary endorphins in sample groups of people asked first to chat to one another and later to sing. She discovered that after half an hour's chatting, levels remained the same as before, but after the same amount of time singing they increased significantly. In 2018, a team from Nottingham University decided to take things one step further and sample blood plasma before and after comparable physical activities, testing not for endorphins but for endocannabinoids or eCBs (a form of cannabis that swooshes around the body, with a similar analgesic function to endorphins). After 30 minutes of dancing or cycling, there was no effect on eCB levels, but after singing they were boosted by a whopping 42%. In another piece of research looking at opioids in the brains of songbirds, biologists in Wisconsin gave starlings injections to either stimulate or inhibit the receptors in their little bird brains (a process regarded as unethical if performed on humans) and discovered there were consistent correlations: the more singing, the more opioids; less opioids, less song.

So now I know that opening your voice to make music stimulates the nervous system, sending pain-relieving signals coursing through the body. It explains why during the 24 hours I

spent in labour with my first child, the midwife kept saying how impressed she was with my pain threshold, which she put down to my singer's ability to breath deep and strong, and my lack of inhibition when it came to giving voice to my agony. She was an enthusiastic singer herself and actively encouraged her patients to sing in order to cope with their labour pains. Similarly, a friend of mine who recently had surgery on the tendons in her legs has discovered that if she sings while she is flexing them back into working shape, the pain is much reduced.

Of course, pain relief is more than a simple dulling of physical sensation. I imagine that as a reader of *Pain News* you know much more than I do about all the hormones and other chemicals working together as we humans strive to endure our sufferings. To name just a couple, Fancourt has been testing for biomarkers associated with feelings that seem more mental rather than physical. For example, her data consistently reveal that levels of salivary cortisol are reduced by low-stress singing such as informal gatherings and rehearsals (as opposed to high-stress public performance); serotonin levels are raised. In other words, singing makes people feel less anxious and more able to cope. Other social gatherings like art clubs or coffee mornings, however chilled, just don't have a comparable effect. Moreover, for people already experiencing high levels of stress (Fancourt looked at cancer patients and their carers, and mothers suffering postnatal depression), the beneficial changes are especially marked.

So should health professionals be prescribing singing as an effective treatment? Many GP's already are, with Social Prescription programmes for those whose conditions can't be remedied by medication. Could we expand on this? Instead of taking a paracetamol each time I have a headache, should I first try launching into song? I think the answer is yes. At the very least, I have nothing to lose. And neither have you. Go on – I dare you – gently, sensitively, like my

midwife, take your voice out there into the field and encourage your patients to do the same. Only then will the world begin to discover how much healing power singing has to offer.

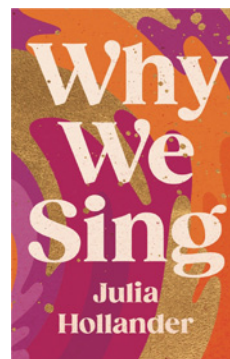
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President's message: Spring 2023

Arun Bhaskar



Dear Friends

I trust this finds you well. This is my last column in *Pain News* as President of The British Pain Society (BPS). It has been a great honour to follow the footsteps of some illustrious and dedicated colleagues. It was a pleasure and an honour to represent the interests of BPS and its members on various forums and organisations in EFIC and IASP.

My presidency was immediately faced with guiding the Society through major structural and financial challenges during the once-in-a-lifetime impact of the worldwide pandemic. I would like to thank the tremendous effort of my colleagues; we steered the society through some unprecedented times and events, and I am in a position to say that the foundation for taking the Society forwards is in place. It is now time to pass on the mantle, and I wish Professor Roger Knaggs and his colleagues every success in their roles in leading the Society and building a robust and financially stable future for BPS.

The two main objectives I had when I took over the helm of BPS were to ensure the survival of the society as an MDT organisation and to establish financial stability by a combination of loss mitigation and income generation. Despite the

challenges posed by loss of activity and income stream due to the unexpected *force majeure* in the form of the Covid-19 pandemic, we managed to fulfil most of the planned strategy. The Society has successfully weathered the storm and I am sure it will continue to grow under Roger and colleagues. I would like to thank Dr Ashish Gulve, Hon. Treasurer and Dr Ayman Eissa, Hon. Secretary for their outstanding work in the difficult task of cutting down expenses as much as possible to make us financially stable in the face of a reduced income stream due to the pandemic, including the cancellation of the 2020 Annual Scientific Meeting (ASM).

BPS was supported by the Secretariat for many years, but it was clear that a leaner and more responsive model of administration was required and Kenes International successfully bid for the contract to run the Secretariat. Kenes has been actively engaging with the Executive to chart out the future plans for the Society. Their considerable experience in assisting several global organisations including other Pain organisations will be invaluable in supporting us in realising our plans to grow the Society into a flourishing organisation in the future. I look forward to watching the evolution of our Society in the coming years.

I had identified, even before I took over as President, that the membership of the Society has been steadily declining over the past few years. Unfortunately, some of the plans to address this could not be implemented due to the Covid-19 pandemic and I know that Roger will make this a priority in the first half of his term. It is important to address the issue of the membership fees so that our junior colleagues and students will be encouraged to enrol as members as well as attend our ASM and other meetings. Additionally, I would encourage past members and new members to join and be part of the Society and its meetings. It is vital as many as possible attend and participate in the ASM, which this year is being held in Glasgow. Have a look out for the details in this issue of *Pain News*.

There is no doubt you as members of the Society are a group of talented and experienced professionals. Many of you could usefully contribute to the future of the Society and I would encourage you to engage with the Council and the various committees that do sterling work in representing the multidisciplinary fabric of pain management in the United

Kingdom. The SIGs attached to the Society also need new blood to bring new ideas and vigour as they will form the basis of future educational events, including those at the ASM that eventually will be shared on a global platform.

I would like to take this opportunity to thank Dr Stephen Ward and the Scientific Programme Committee for putting in a lot of effort in delivering programmes of very high quality for the ASM. I am hoping that the 2023 ASM in Glasgow would be a new start in that direction and I hope to see many of you there.

Management of pain has been evolving over the past few years and it is important to have ongoing dialogue and collaborations with various stakeholders. We have a great working relationship with the Faculty of Pain Medicine, and I am grateful for the support of the past Dean, Dr John Hughes, and the current Dean, Dr Lorraine de Gray. The process of credentialing has been on the agenda for a while and discussions have been ongoing with the GMC and HEE as well as other relevant stakeholders. Prof Roger Knaggs, Ms Felicia Cox and Prof Paul Cameron will be representing the BPS for this process. We have also been building relationships with the Royal College of General Practitioners and Royal College of Physicians. Additionally, we have also been collaborating with the American Academy of Pain Medicine, the Canadian Pain Society and the Spanish Pain Society and we anticipate these relationships will flourish in the coming years.

The *British Journal of Pain* has been steadily increasing in popularity as a place to publish high-quality research and I would like to thank Ms Felicia Cox and Prof Roger Knaggs for their unstinting work over the years to bring this to fruition. The *Pain News* has come up leaps and bounds under the editorial leadership of Dr Raj Munglani and is now attracting articles of very high quality, and does not shy away from debates

addressing the controversies affecting pain medicine in the broadest sense, including health economics and government policy. The online platform for educational dissemination to the membership and beyond is also in place and I would like to thank Dr Amelia Swift and Dr Patrick Hill for their contribution to the project. The Communication Committee had been supported by Dr Krishnamoorthy and I wish Martin Hey, the current Chair, all success in that role. I am delighted to note that the Patient Voice Committee has grown from strength to strength under the leadership of Mrs Victoria Abbott-Fleming and I hope the collaboration between the Council and the Patient Voice Committee would continue to flourish in the coming years. The National Awareness Campaign is a vital project to 'Make Pain Visible' and is currently led by Dr David Pang and Mrs Victoria Abbott-Fleming, who will certainly need your support to reach the public as some of the plans that were proposed were delayed due to the pandemic pressures. It is vital for professionals and patients to work together to seek more resources for pain services and to have better patient care for some of the most vulnerable members of our society.

Finally, I would like to thank all my Executive colleagues and members of the Council, the SIG chairs and all other members who have supported me in all matters and provided me with wise counsel in various matters during my tenure. I can proudly say that all the successes we had are due to the hard work of these individuals and I am privileged that I could serve you wholeheartedly with the strength of their unstinting support.

I will continue to support the Society in the years to come and will offer the incoming President and the BPS Council my unwavering assistance, and I have no doubt that in their hands the Society's future will continue to be assured.

Arun

President Elect's message

Professor Roger Knaggs



Emerging from the COVID-19 pandemic, both society and professional life appears very different from this time last year. We are beginning to return to a 'new normal' with an increasing number of professional activities and meetings and returning to personal activities. It is great to see friends and colleagues in person again rather than only virtually. As human beings we thrive and grow on our interactions with others; indeed, for the vast majority this interaction is essential. This is as true for our professional networks as well as family and social circles.

The new Secretariat structure is evolving with new ways of working that aim to be more responsive and efficient being established and a transition very clearly started. We are now in a position where we can begin to think about developing a strategy for the changing environment we find ourselves in. We aim to place The British Pain Society (BPS) at the centre of pain management in the United Kingdom for the benefit of the many patients who live with pain every day.

It also provides the BPS with an opportunity to ask some fundamental questions about its values, mission and vision. At the Council meeting last December we began by considering core elements required to make a sustainable Society. Over the festive period I have been reflecting on these discussions and some of the issues raised. I spent some time re-reading papers

from previous Council meetings where we have discussed and debated some of these issues and I am reminded of the following that comes from our website:

'The British Pain Society is an alliance of professionals advancing the understanding and management of pain for the benefit of patients.

We achieve this by:

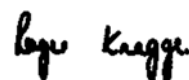
- Promoting excellence and awareness for the benefit of people living with pain.
- Promoting partnership in pain research, education and management.
- Influencing policies relevant to pain.
- Nurturing the next generation of pain researchers and healthcare professionals.
- Encouraging dialogues about pain.
- Contributing to national and international dialogues of pain'.

Over the last few years, some of these have been achieved to a greater extent than others. Reviewing and updating the vision, mission and strategy of the Society is clearly not something that can happen immediately and it is a process that is going to take some time. This is something that will impact us all and I intend to update you as this evolves. However, I am also keen that all members can contribute to this process. So, if you would like to be involved in this work, please contact me.

Thank you to those who have taken the time to contact me since my column in the previous issue of *Pain News*. It is interesting to read your thoughts about the future of pain management and reflections about the Society. I am interested to hear your thoughts about anything related to pain management and the provision of services for people living with pain, so do not hesitate to contact me. As stated previously, I will take the time to read and respond to every email received.

I look forward to meeting as many of you as possible at the Annual Scientific Meeting in Glasgow in May.

With best wishes,



Email for contact: roger.knaggs@nottingham.ac.uk

WHAT DO YOU WANT FROM YOUR WORK?

A nighttime photograph of the Sydney Opera House, illuminated with warm lights. The building's iconic white, shell-like roof is the central focus. In the background, the Sydney city skyline is visible, featuring several tall skyscrapers with lit windows. A prominent tower with a red 'Gold' sign is also visible. The sky is a deep twilight blue.

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Pain News roundup: Spring 2023

Margaret Dunham *Associate Professor, Edinburgh Napier University*
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Happy New Year. It's 2023, nearly a quarter of the way into what still feels like a new century, and I am just old enough to remember 'Pain after Surgery' the 1990 working party report, 33 years since and what has changed . . .

It always surprises me that we don't have a UK wide NHS, with UK wide policies, the four nations operate their services separately with pain being no exception. So, in 2022, the Welsh NHS launched their 'All Wales resources for pharmacological management of pain',¹ Wales is the first of the four nations to publish formal guidance on analgesic stewardship.

At the request of the Welsh Government, an all Wales multi professional collaborative group was established, including the All Wales Prescribing Advisory Group (AWPAG) and the All Wales Therapeutics and Toxicology Centre (AWTTC), to support prescribers in making the best choices for pain medication. These new guidelines include sections on low back pain, neuropathic pain and fibromyalgia. The document uses the International Classification of Diseases, 11th Revision (ICD-11) classification of pain and acknowledges the importance of a biopsychosocial approach and suggests how particular factors may inform the best strategy for individualised pain management. The guide does not include information to support specialist services. It specifically states that it is not inclusive of recommendations for pain in end-of-life situations and references the World Health Organization analgesia ladder with a strong cautionary note this was never intended for use in non-cancer chronic pain or general acute pain.

The document is clearly designed to be helpful to those who are not pain specialists, with particular emphasis on the risks of opioid prescribing. It has some helpful embedded links to support prescribers and other healthcare professionals with understanding how opioid analgesics should be prescribed and when they should not be prescribed. In chronic pain, it has particular cautionary notes for tapentadol, pethidine, co-proxamol, nefopam and fentanyl/alfentanil. In acute pain, similarly there is advice regarding opioid prescribing and the importance of regular review for dose and effect. General advice regarding the prescribing of paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) is included. The

document is entitled 'guidance'; hence, it will be interesting to see how it is applied in practice and if it informs future best practice in pain management within Wales and if the other nations follow suit in developing national guidelines and strategies.

Our understanding of the role human gut and gut bacteria play in general health and well-being is growing and the connection between brain and gut, specifically microbiota has huge potential. The potential to regulate pain through manipulation of microbiota is amazing,² with recent review proposing the potential for gut bacteria to affect fibromyalgia.³ Clearly there is growing support for the theory that the gut brain axis has massive influence on the experience and regulation of pain, also that long-term opioid use may influence gut microbiota leading to the development of opioid tolerance.⁴ Proposed remedies include use of specific probiotics or naturally occurring gut chemicals to modify the gut's bacterial population.^{5,6}

Endometriosis has a long track record of misdiagnosis at best, at worst dismissed as psychiatric illness. The renowned author Hilary Mantel's recently published memoir 'Giving up the Ghost' endorses a long-held view that 'women's health' concerns are less believable. She describes a catalogue of disbelief and mismanagement about her endometriosis pain leading to admission for psychiatric treatment, major surgery and ultimately other unfortunate physical and psychological sequelae. Sadly, the Royal College of Obstetricians and Gynaecologists' report and a recent survey suggest that little has changed in terms of support and attitudes.⁷

The current climate regarding opioid use has led to much exploration of interventional alternatives. For example, neuromodulation has been proposed as a useful alternative to opioids for people with complex regional pain syndrome (CRPS). In a small Spanish study, dorsal root ganglion stimulation was found to have better results than spinal cord stimulation in CRPS.⁸ Hopefully, this small study may lead to the growth of more evidence for other beneficial procedures in chronic pain management. Implantable devices have long been heralded as 'life saving' for those living with some types of chronic pain. However, the vulnerability of companies that

make spinal cord stimulators and other implantable chronic pain devices, as heralded by the recent collapse of Autonomic Technologies, Inc (ATI),⁹ is very concerning for the future of these as viable alternatives.

The renaissance of spinal anaesthesia in surgery, hip fracture in particular, has been linked to significantly more analgesia use post-operatively when compared with those having general anaesthesia.¹⁰ Cannabinoids continue to rear their ugly heads, yet the evidence is still limited and possibly hugely biased due to hyperinflated media reports, there may be some evidence for particular disease-specific processes but for chronic pain there is little equivocal data.^{11,12}

Despite all the fantastic research and wonderful clinical efforts to improve pain and pain services in the United Kingdom, a major issue is the growing number of people living with chronic illness alongside the inability to recruit and retain health care professionals in the UK NHS. What can be done to remedy that? Some long-term strategic thinking and change is needed post-haste.

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Late Autumn (1886)

John Atkinson Grimshaw (English, 1836–1893)

Pain symptoms in a cohort of adults referred to a regional long-COVID rehabilitation service in the United Kingdom – a cross-sectional study

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The post-COVID-19 condition that has come to be known as long-COVID has been defined by the World Health Organization as occurring in individuals usually 3 months after the initial onset of their acute COVID-19 illness with symptoms that last at least 2 months.¹ The symptoms affiliated with long-COVID are varied and include fatigue, shortness of breath, cognitive dysfunction and pain.²

The exact nature, duration and chronicity of pain associated with long-COVID remain unclear. Publications have focused on data obtained from patients hospitalised with acute COVID-19³ and those admitted to critical care.⁴ Initial reports speculated that long-COVID would be characterised by mostly myalgic and arthralgic symptoms.^{2,5,6} Other hypotheses suggested that neuropathic pain is likely to predominate^{4,7} and emerge later in the course of the post-COVID illness.⁸ There have also been animal studies that have demonstrated neuroinflammation, cerebral hypoxic/ischaemic changes, neurodegeneration and apoptosis in non-human primates' cerebral tissue which did not suffer from severe respiratory disease, indicating that the complex nature of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) may affect the nervous system.⁹

In this study, we evaluated the prevalence of pain in patients presenting to the only long-COVID service that covers the city of Sheffield, United Kingdom. Observations made with regard to the frequency, nature and chronicity of pain symptoms would provide further insight into the needs of this poorly understood patient group and serve to inform the development of pathways between the Sheffield long-COVID hub and the Chronic Pain Service.

Objectives

1. To evaluate the incidence and nature of pain symptoms among adults referred to the Sheffield long-COVID rehabilitation hub.
2. To estimate the proportions of persons with pre-existing pain symptoms and new onset pain.
3. To characterise the pain management strategies employed by the rehabilitation hub.
4. To inform the development of pathways between the Sheffield long-COVID rehabilitation hub and the Chronic Pain clinic.

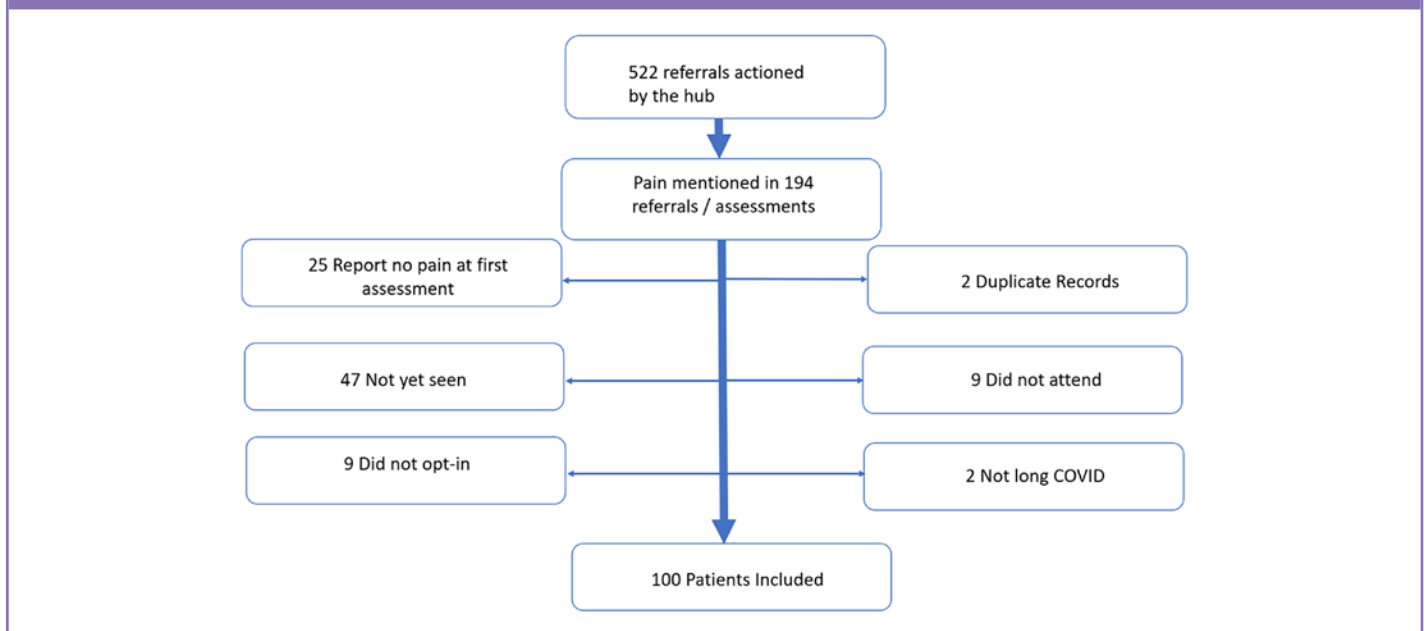
Methodology

Population and data extraction

Authors conducted a retrospective cross-sectional analysis from primary care records of all adults (age >18 years) referred to the Sheffield long-COVID rehabilitation hub between 3 February 2021 and 13 October 2021 from data obtained as part of a formally approved service evaluation.

Setting

The long-COVID rehabilitation hub is the only such National Health Service (NHS)-provided service in Sheffield. The hub received referrals from general practitioners in primary care and secondary care consultants. Prior to referral, all patients underwent a set of investigations to screen for potentially treatable causes. These included full blood counts, urea and electrolytes, pro-BNP (B-type natriuretic peptide), thyroid dysfunction and X-ray of the chest. The referrals were screened

Figure 1. Study diagram of patients screened and included in the final analysis of pain symptoms.

by healthcare professionals that included physiotherapists, occupational therapists and rehabilitation physicians. Assessments were conducted via either telephone or a video call, and self-management guidance was provided. Specialist referrals to other secondary care services were arranged as required.

Search strategy

We searched the SystmOne database in use at the long-COVID rehab hub to screen records of all patients referred to the hub. Inclusion criterion was 'pain' coded on the initial referral or during subsequent clinical assessments. The exclusion criteria included (1) patients who had not yet been assessed by the long-COVID rehab hub team; (2) those who did not report any previous or current pain at the time of their assessment; (3) those who did not opt-in to be assessed by the long-COVID rehab hub team; (4) those who opted in but subsequently did not attend their appointments; (5) duplicate records; and (6) patients who attended the hub for reasons other than long-COVID such as post-vaccination complications.

Data analysis

We assessed the effectiveness of the initial visit in covering the major facets of a pain assessment. This included the chronicity, location and nature of the pain. The impact of the pain on quality of life and its effect on work, sleep, mobility, mood and relationships were noted. The results were collated and

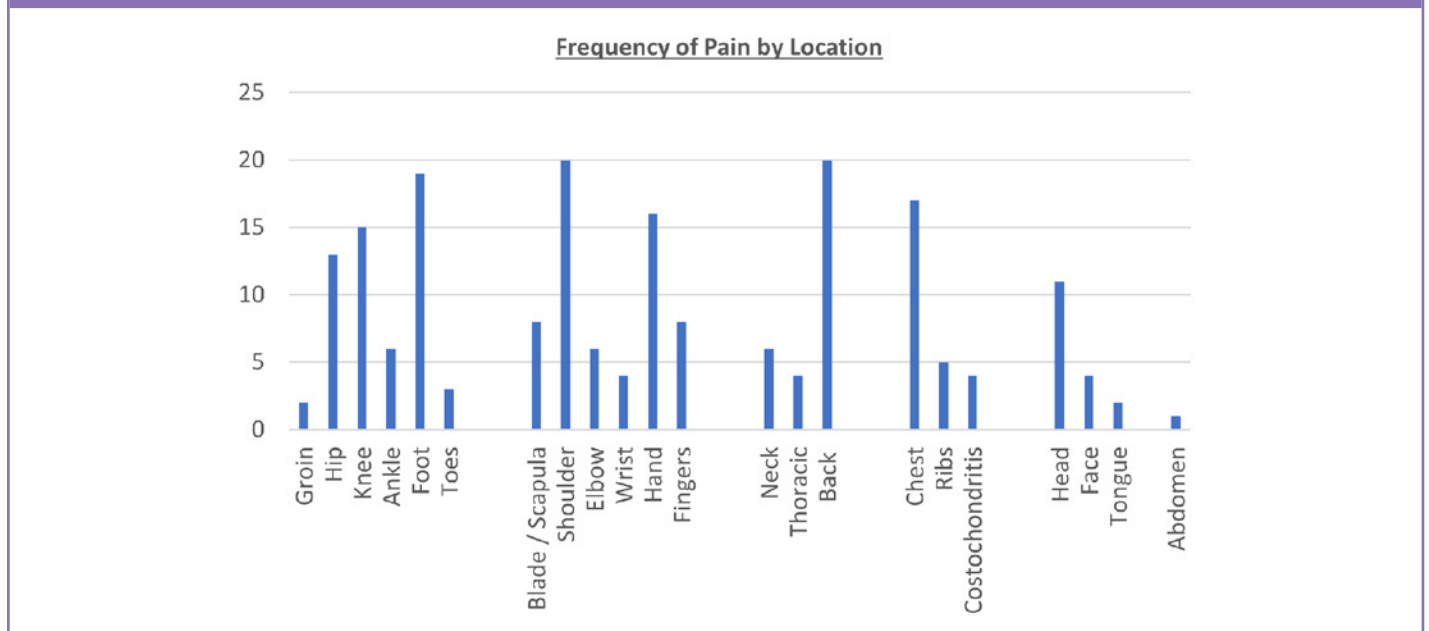
presented as frequency tables and charts. For ratios of categorical outcomes, odds ratios (ORs) with 95% confidence interval (CI) were calculated. Finally, we also looked at the general measures taken to address the pain.

Results

The numbers of accepted referrals to the long-COVID rehabilitation hub in this period totalled 1,014, of which 522 referrals had been processed and reviewed when data were extracted (Figure 1). Of these, 194 patient records were identified to have documented pain. These records were manually screened by a member of the pain team and a member of the long-COVID team. Out of 194 patient records, 94 were excluded and 100 records were analysed. One in 5 (100 out of 522) patients reviewed in the long-COVID rehabilitation hub had pain identified as a symptom in their presentation. The cohort was predominantly female (3:1 ratio with males) with a mean age of 47.5 years (range, 18–77 years). Seventy-seven had a polymerase chain reaction (PCR)-confirmed diagnosis of COVID at the time of their original infection.

Pain

New onset pain was reported in 80 (80%) patients. Nineteen (19%) patients had chronic pain prior to their COVID diagnosis. Of those with chronic pain, 13 (68%) also experienced new symptoms that were not part of their pre-existing chronic pain syndrome and 16 (84%) reported a sustained exacerbation of their original chronic pain since their COVID diagnosis.

Figure 2. Frequency of pain by location.

Location and nature of the pain

Most of the reported symptoms were in the limbs (including limb girdles), followed by the spine, chest and head (Figure 2). Those with more distal limb pain reported predominantly neuropathic symptoms compared with patients whose pains were more proximal in the limb who mainly reported arthralgias and myalgias, with 16 (66%) symptoms in the hands and 16 (73%) symptoms in the feet fitting neuropathic descriptors.

Overall, 52 (52%) patients experienced pain that could be described as non-neuropathic, with 42 (42%) experiencing some, if not entirely, neuropathic element to their pain. Of the 80 patients with new pain only, the pain descriptors in 5 of those patients were insufficient to classify as neuropathic or otherwise, and 75 were analysed. Of these, 27(36%) reported a neuropathic element to their pain, and the remainder were non-neuropathic. This contrasted with those with long-standing pain, 15 of 19 (79%) of whom reported a neuropathic element to their pain (OR, 6.67; CI, 2.01–22.12; $p=0.002$).

Pain and quality of life

Different aspects of the effect of pain on quality of life were documented by hub assessments. These included the impact on employment, sleep, mobility, mood and relationships. Forty-nine (49%) reported that pain affected their ability to perform their jobs, 67 (67%) had negative impact on sleep, 76 (76%) perceived impaired mobility and 57 (57%) felt their mood was affected.

The most common intervention for pain was self-management advice aided with information leaflets. In addition, 20% were referred to physiotherapy services, 36% for psychological support through organisations such as Improving Access to Psychological Therapies (IAPT), 5% were returned to primary care for further management of underlying causes for their pain and 1% was referred to the Chronic Pain Service.

Discussion

Our study looks at the nature of pain in a broad-based COVID population, and we did not focus only on those who have been hospitalised or those with specific symptoms like headaches. We sought to classify and quantify the nature and characteristics of pain in our long-COVID population without excluding or focusing on a specific subgroup, but at the same time wanted to gain more insight into whether pre-existing chronic pain patients formed the bulk of this population and whether their symptoms differed in any way. Publications relating to pain and long-COVID are gradually making their way into the literature, but all highlight that our understanding of this syndrome and its symptoms is far from complete. In view of this, we felt it would be of interest to the community of doctors looking after patients with long-COVID and pain to share some of the observations we made.

The long-COVID hub is the only such service in Sheffield. Searching through its database does select out those who do

not require a referral to a mainly rehabilitation-focused service; it captures the broad characteristics of patients with troublesome long-COVID better than any other local database could. Our cohort was still comparable in terms of the proportion of patients with long-COVID reporting pain^{2,3} and sat at a conservative estimate of 20%. Our work also differed in the fact that it did not document the time that had lapsed since the initial COVID infection, as all the patients had been classed as having long-COVID (i.e. with symptoms lasting more than 12 weeks post-infection).

One of the special characteristics of SARS-CoV-2 is that it can cause peripheral or central neurological complications, either through direct invasion of the nervous system or through post-viral immune reactions.¹⁰ Despite indications that neuropathic pain is likely to emerge later in the course of the post-COVID illness,⁸ it is yet unclear how long these symptoms could last or whether they will resolve.

Our data showed that long-COVID patients with pre-existing chronic pain prior to their COVID-19 diagnosis were more likely to use neuropathic descriptors to describe their pain compared to those who did not suffer from chronic pain. This raises some questions regarding whether the nature of pre-existing chronic pain (neuropathic, nociceptive or nociplastic) influences the development or hastens the presentation of neuropathic symptoms as part of the long-COVID pain presentation. This would be an area requiring further research.

We expected more crossover of patients between the long-COVID clinic and the Chronic Pain Service. Although only about a fifth of patients with pain had chronic symptoms preceding their COVID diagnosis, most of them (84%) had experienced worsening of their pre-existing chronic pain symptoms since their COVID-19 diagnosis. While exacerbation of chronic pain in patients infected with COVID-19 has been mentioned in the literature, to our knowledge this has not been quantified. Multiple contributing factors have been postulated, including psychological,^{11,12} the ergonomics of the home working environment,¹³ discontinuation of therapy and reduced access to treatments playing a role.¹⁰

Study limitations

We acknowledge there are limitations to our study. The patients were identified as having 'pain' by searching the data labels on the Hub database. The data labels are manually entered by the clinicians accepting the referral or reviewing the patient on the day. It is, however, likely that the search strategy would have picked up all those with significant pain symptoms. We also only screened the information gathered from the first assessment of

each patient, so if pain had developed or been noted in future visits this was not acknowledged. We are aware that relying on neuropathic descriptors instead of using validated tools such as Leeds Assessment of Neuropathic Symptoms and Signs (LANSS) or Douleur Neuropathique 4 (DN4) is not ideal; this was as a consequence of the retrospective nature of our study design. We are also aware that as this service became available later in the course of the pandemic, referrals encompassed patients diagnosed with COVID-19 at any point during the pandemic and up to 13 October 2021.

Conclusion

About 20% of patients referred to the Long-COVID Rehabilitation Hub service in Sheffield were identified as having pain as one of the presenting symptoms. Most of this cohort did not have chronic pain prior to their COVID-19 diagnosis. Neuropathic descriptors were predominant in those with pre-existing chronic pain. More research is needed to further evaluate and understand pain as a symptom of long-COVID to facilitate the development of pathways for managing this patient group.

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John Atkinson Grimshaw: urban landscape painter

John Atkinson Grimshaw (6 September 1836 to 13 October 1893) was an English Victorian-era artist best known for his nocturnal scenes of urban landscapes. He was called a ‘remarkable and imaginative painter’ by the critic and historian Christopher Wood in *Victorian Painting* (1999).



Autumn Morning

Grimshaw’s love for realism stemmed from a passion for photography, which would eventually lend itself to the creative process. Though entirely self-taught, he is known to have used a camera obscura or lenses to project scenes onto canvas, which made up for his shortcomings as a draughtsman and his imperfect knowledge of perspective. This technique, which Caravaggio and Vermeer may also have used, was condemned by a number of his contemporaries who believed it demonstrated less skill than painting by eye, with some claiming that his paintings appeared to ‘show no marks of handling or brushwork’, while others ‘were doubtful whether they could be accepted as paintings at all’. However, many recognised his mastery of colour, lighting and shadow and his unique ability to provoke strong emotional responses in the viewer.

He was born on 6 September 1836 in a back-to-back house in Park Street, Leeds to Mary and David Grimshaw. In 1856, he married his cousin Frances Hubbard (1835–1917). In 1861, at the age of 24, to the dismay of his parents, he left his job as a clerk for the Great Northern Railway to become a painter. He first exhibited in 1862, mostly paintings of birds, fruit and



Moonlight on the lake, Roundhay Park, Leeds



Old Scarborough, Full Moon, High Water (1879) (<https://artvee.com/dl/old-scarborough-full-moon-high-water/>).

blossom, under the patronage of the Leeds Philosophical and Literary Society. He and his wife moved in 1866 to a semi-detached villa, which is now numbered 56 Cliff Road in

John Atkinson Grimshaw: urban landscape painter



A Wet Road, Knostrop, Yorkshire (1886) (<https://artvee.com/dl/a-wet-road-knostrop-yorkshire/>). John Atkinson Grimshaw

Headingley and in 1870 to Knostrop Old Hall. He became successful in the 1870s and rented a second home, Castle-by-the-Sea in Scarborough. Scarborough became a favourite subject.

Grimshaw's primary influence was the Pre-Raphaelites. True to the Pre-Raphaelite style, he created landscapes of accurate colour and lighting, vivid detail and realism, often typifying seasons or a type of weather. Moonlit views of city and suburban streets and of the docks in London, Hull, Liverpool and Glasgow also figured largely in his art. His careful painting and his skill in lighting effects meant that he captured both the appearance and the mood of a scene in minute detail. His "paintings of dampened gas-lit streets and misty waterfronts conveyed an eerie warmth as well as alienation in the urban scene".

Further reading

https://en.wikipedia.org/wiki/John_Atkinson_Grimshaw

<https://artvee.com/dl/reekie-glasgow-2/>

Prescribing in Pain Symposium #PIPS22

Felicia Cox *Chair, Acute Pain SIG; Founder Member, Pain Nurse Network*



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The British Pain Society joined forces with the Pain Nurse Network and the Physiotherapy Pain Association to hold our inaugural co-badged Prescribing in Pain Symposium (PIPS).

Our first hybrid 1-day educational meeting, on 16 November 2022, we attracted 130 delegates (+10 speakers) with a mix of physiotherapists, pharmacists, and nurses. PIPS was held at the Churchill House and costs were kept to a minimum as we were grateful to have the support of our industry partners: Ethypharm, Grünenthal, Sandoz and Reducept. As the lecture theatre does not have the ability to live stream, we used the audiovisual expertise of Jacobs Massey.

We welcomed Jenny Nicholas back for the day to help us with the planning and practical aspects. I would like to express

my sincere thanks to Paula Kelsey (Cloud9 events) and to the expert faculty:

Assoc Prof Roger Knaggs, Karin Cannons, Martin Galligan, Dr Emma Briggs, Lloyd Allen, Dr Jackie Walumbe (congratulations), Louise Trewern, Dr Emma Davies, Diarmuid Denny and Dr Gill Chumbley.

Feedback of delegates was overwhelmingly positive, with the event being great value for high-quality education with expert speakers. The only negative comments related to accessing the polling software for virtual delegates. We have taken this on board. Not a single negative comment about the excellent lunch for in-person delegates. High praise indeed for the RCoA catering team.



The next event is planned for November 2023 with a focus on out-of-hospital pain, analgesia provision and emergency medicine.

Please visit the event website for further information <https://www.pips-uk.com/>

British Pain Society Annual Summer Retreat, 25–28 June 2023: save the dates

Dear friends and colleagues,

The Philosophy and Ethics Special Interest Group invites you to take part in the BPS Summer Retreat this year. Once again, the event takes place at the magnificent Grade II listed building, Rydal Hall in the heart of the Lake District. The programme consists of a mix of interesting speakers, discussion, good food as well as plenty of time off for relaxation ranging from walking in the gardens and parkland to swimming in Rydal Water.

Our theme is based around the concept of art, humanities, creativity and pain. The principle speaker is Deborah Padfield,

visual artist and senior lecturer in Arts and Health Humanities at St George's, University of London.

Other speakers include Jens Foell, GP and teaching fellow at Imperial College; Laura Rathbone, physiotherapist specialising in pain and founder of 'Pain Geeks'; Tim Atkinson, author of 'Where Does It Hurt?' and Pain Consultants: Mike Hudspith and Tim Johnson.

Arrival is on Sunday 25 June in time for dinner at 6.30 p.m. and departing after lunch on Wednesday 28 June. Bookings will be available very soon via the British Pain Society website.



Special interest group for philosophy and ethics



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Peter Wemyss-Gorman

The Special Interest Group for Philosophy and Ethics has been holding residential meetings every summer for more than 20 years, only to be interrupted in 2019 by the Covid epidemic. So last year it was a particular delight to be able to get together again in June at Rydal Hall in the Lake District. The meeting was gratifyingly well attended both with long-standing members and, perhaps more importantly, with new people, which bodes very well for the present and future health of the group.

There were several themes this year including the contribution of philosophy and philosophers to our understanding of pain and suffering (returning to our original intentions from which we have often strayed into more practical and clinical matters), the association of chronic pain with poverty and deprivation and the uses and misuses of metaphor in our intercourse with patients.

We were particularly delighted to welcome among our speakers two General Practitioners (GP) and one researcher into GP's attitudes to patients with chronic pain. We have long been aware of the reality that sufferers are looked after most of the time and for much of their lives by their GPs.

Pain management takes place, overwhelmingly, in general practice. We have been long aware of the importance of recruiting GPs into our group and indeed The British Pain Society (BPS), so this is a very welcome development. We were also joined by a number of patients bringing a firsthand perspective on the experience of chronic pain and suffering, and, sadly, of the unhelpful attitudes of some health practitioners.

So at the invitation of the editor of *Pain News*, our speakers have contributed articles, based on their presentations, to this and future editions of *Pain News*.

This year's meeting will be held at Rydal Hall from 25 to 28 June 2023. Further details will be available from our BPS webpage <https://www.britishpainsociety.org/philosophy-ethics-special-interest-group/> (as well as transcripts of all our previous meetings).



[Nearing home \(1872\)](#)
[John Atkinson Grimshaw](#) (English, 1836 – 1893)

A philosopher's account of pain and suffering

Dr Jennifer Corns *Senior Lecturer, Department of Philosophy, University of Glasgow*

Like many of life's most important domains, pain and suffering have both practical and theoretical aspects that are difficult to untangle and address.

Theoretically, most centrally, are the difficult questions of just what, exactly, pain and suffering *are*. What *is* pain? What *is* suffering? Practically, most centrally, are the questions of how to reduce pain and suffering. How can we best get *rid* of them? In addressing these practical questions, too, we must grapple with the fact that we do not always want to get rid of them. Both pain and suffering have their useful and proper place.

For pain and suffering, the practical and theoretical are most successfully and usefully addressed together. As a philosopher, I am most often surrounded by those who address the theoretical questions in blissful ignorance of the practical difficulties. But, of course, as most all readers of this journal will know better than I, both pain and suffering are most often vexing practical problems. Theories of the nature of pain and suffering which ignore the practical realities are incomplete, at best, and at their worst may be useless. The central difficulty is not merely to think clearly about pain and suffering, but to effectively confront them. Effective interventions, however, require at least a working understanding of their nature.

In what follows, I aim to address both the practical and theoretical aspects of pain and suffering and, crucially, to distinguish them. I proceed by situating my reflections within a general understanding of the role of philosophy generally, before deploying it first for thinking about pain and then suffering.

First, then, a very little about philosophy. Philosophers have a rather bad reputation as being abstract, narrow and divorced from the real world. Sometimes, that's true! But philosophy can also play a useful and practical role. According to one influential philosopher, Sellars,¹ 'The aim of philosophy . . . is to understand how things in the broadest possible sense of the term hang together'. The goal of philosophy, in this view, is to develop an overall, synoptic vision. The philosopher may aim to contribute to a vision of the world in general, but will likely start with some particular phenomenon of interest. In practice, this

means that the philosopher must consult specialised theories from every and any field, using any tools and insights available. Philosophers, then, are reflective generalists of the very broadest kind. They are, in short, synthesisers.

With this approach, philosophers can then play a useful role whenever diverse specialised theories and interests need to be harmonised to develop a coherent and useful theory, model, framework, approach or policy. As I hope will be obvious to readers of this journal, understanding and addressing pain and suffering require just this sort of synthesis. So, philosophers can hopefully help. To be clear: help with what? Help with developing clear, coherent theories, models, frameworks, approaches and policies concerning pain and suffering. The goal for the philosopher of pain or suffering is then to develop an understanding of these phenomena that harmonises our everyday understanding with our specialised theories in medicine, relevant sciences, sociology, anthropology and the many other specialised theories which may be relevant.

With this understanding of philosophy in mind, let's first consider pain.

Recall that pain is both a theoretical and practical problem. Theoretically, we can ask *what is pain?* Practically, we want to know how to get rid of it, when we indeed want to get rid of it.

An answer to the theoretical question of 'what is pain' may initially seem obvious, even if the practical question is blatantly challenging. Don't we all know what pains are? After all, we routinely talk about them in everyday life. Using our above approach to philosophy, to begin to figure out what pain (or anything else) is, we start with our everyday way of thinking and talking about pain, and then use our specialised theories to revise those everyday ideas as necessary for coherence and utility. And while it may initially seem that our everyday ideas of pain are clear and simple, we actually don't have to go very far to see that identifying the nature of pain is tricky.

There are many questions about the nature of pain which our everyday understanding of pain doesn't answer. Consider just a few: Are pains in the body or in the mind? Is there really any

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pain without bodily damage? Are there pains that don't hurt? Are unpleasant emotional episodes like grief or heartbreak ever pain? Can someone be wrong about whether they are in pain? Everyday theory struggles to answer these further questions about pain's nature. As above, identifying and attempting to fix the problems or inadequacies of our everyday ideas is right up the philosopher's street. But philosophers, too, disagree about the right answers to these questions. Until recently, there was also no consensus among scientists or clinicians about some of the basic questions concerning the nature of pain.

Our ordinary notion of pain has been the source of controversy for science throughout history. Views differed as to whether pain was a specific, distinct phenomenon or a convergence of many phenomena experienced together. Views differed as to whether pain was (1) *any* intense sensation – including, for example, hearing a very loud or high pitched sound or seeing a bright light; (2) a distinct sort of sensation or perception of something involving particular sensory receptors such as so-called 'nociceptors'; or (3) an affective phenomenon, such as a bad emotional feeling that is not essentially sensory or perceptual at all. In describing these controversies, one historian of pain² declared it '... the like of which has never before, nor since, appeared in the scientific literature'. While this may be overblown, it is clear that there was rampant disagreement. These disagreements led to the well-known revolution in our understanding of pain beginning in the 1960s and perhaps most clearly offered in Melzack and Wall's³ gate-control theory. They influentially identified a new 'gate' in the spinal cord whose being open or closed contributed to whether pain was felt on a particular occasion. Most important, perhaps, were Melzack and Wall's proofs and insistence that pain was not merely a simple feed-forward sensation.

Let's fast forward, then, to the growing consensus. In brief, we may say with some confidence that both pain science and pain medicine now recognise pain to be complex with many dimensions, only poorly correlated with any specific identifiable biological marker in the body. In practice, this has led to the rather strange situation in which the pain report is the only valid marker for pain. Pain, in the clinic, is ultimately present and has whatever nature the patient reports. Notice, too, we continue to talk about pain in everyday life much as we have always done, seemingly untouched by the scientific and medical revolution.

So what, then, should the philosopher be doing? As above, the philosopher should be trying to harmonise the insights from the various disciplines contributing to the revolution in our understanding of pain to address questions of both theory and practice. They should attempt to build a synoptic vision of pain,

rooted in everyday theory, informed by specialised inquiries. In attempting to do this, I offer four key points about pain. These are controversial and I offer them in order of increasing controversy. It seems to me, however, that these represent an overall synoptic picture of pain that draws on key insights from across the disciplines.⁴

First, I maintain that pain is a diverse class of mental episodes which paradigmatically has those features posited by our everyday theory. A paradigmatic pain is one that everyone would agree is a pain. For some key salient features: a paradigmatic pain hurts, has an identifiable bodily location wherein there is some damage and motivates us to try to get rid of it. But, as we now recognise, some pains may be lacking *any one* of these paradigmatic features and still be pain. It is, then, not useful to specify some particular essence or particular feature which unites all pain. It seems to me that this first key point is recognised by most all practicing clinicians, even if it is not yet recognised by even the majority of philosophers.

Second and related, I maintain that pain results from the complex and idiosyncratic activity of multiple mechanisms. As recognised by Melzack and Wall⁵ some time ago (1988), 'It is now becoming increasingly evident that virtually all of the brain plays a role in pain'. This recognised complexity is connected to my claim about pain's idiosyncrasy – a feature of pain that we are only recently beginning to truly appreciate. All of one's particular thoughts, desires, feelings, memories and more contribute to whether and how any particular pain is or is not felt.

Though pain is thus idiosyncratic, science is nonetheless general and the idiosyncrasy of pain has under-appreciated and currently highly controversial implications.

In particular, I maintain that *since* science rightly offers generalisations, it is not appropriate to seek to have a science of pain. This is my third claim. This does not mean that there is no role for what we currently think of as *pain* science. Instead, science can appropriately generalise about the mechanisms whose activity may be converging to constitute a particular person's pain at a particular person's time. Our generalisations about mechanisms and interventions may facilitate quite broad and robust explanations and predictions. Which mechanisms are relevant to a particular person's pain will nonetheless always remain a highly idiosyncratic matter.

Fourth and finally, I maintain that since medical interventions rightly target mechanisms, it is not appropriate to take pain as a treatment target. We ought not to understand ourselves as treating pain – at least, not directly. Rather, we should follow

Wall's good but undervalued advice from 1996⁶: pain reports are *invitations* to identify an appropriate treatment target. The simple pain report tells us nothing about how, or whether, to intervene. This we might expect given the poor correlation between pains as reported and any specific identifiable biological marker for pain. Those in pain may need treatment, but the good clinician must identify the appropriate treatment target. The pain report does not do this.

With these four claims in hand, let us return to our theoretical and practical questions. What is pain? The answer offered by this philosopher is that pain is a diverse range of mechanistically complex and idiosyncratic episodes. This bears on and is informed by the answer here offered to the practical question: to get rid of pain when we want to do so, we need to break the complex apart and address the contributing mechanisms that are best targeted in a particular person's case.

What, then, should we say of suffering? What is it (our theoretical question) and how can we get rid of it when we want to get rid of it (our practical question)?

Pain and suffering are often lumped together. Suffering is sometimes thought just to be very bad pain, or a very unpleasant experience of any sort. Again, using our Sellarsian approach to philosophy, to begin to figure out the nature of suffering, we start with our everyday way of thinking and talking, and use our specialised theories to revise as necessary and useful.

If we begin with our everyday way of thinking and speaking, we see that pain and suffering are distinct. We sometimes suffer without being in pain. Consider being sad, confused, lost, addicted or involuntarily restrained. In these and a range of other episodes we may report suffering, sometimes intense suffering, but deny that we were in pain. Similarly, we are sometimes in pain without suffering. Imagine, for one example, a nasty papercut. The pain may be quite intense, but it would be mere hyperbole to declare that we were suffering. Examples proliferate.

Less obviously, if we begin with our everyday way of thinking and speaking, we can also see that suffering and very unpleasant experiences are distinct. We may have a very unpleasant experience without suffering. Think again of a papercut or imagine an extremely unpleasant smell. It would again be hyperbole to declare these or many other unpleasant experiences to be suffering. Less obviously, we may suffer without having an unpleasant experience. During COVID, for example, we may all have been suffering from closures and

restrictions to our movements, at the very same moments when we may have been having a very pleasant time in our homes. We need a synoptic understanding of suffering that respects its distinctness from pain and any other unpleasant experiences.

There are surprisingly very few theories of suffering out there – in philosophy, or anywhere else. I have elsewhere offered an account that tries to respect key features of our everyday ways of thinking about suffering and which I think can also do justice to any relevant specialised theories. I here only offer and briefly explain this account.⁷

The central idea is that suffering is the significant disruption of our agency. This theoretically loaded claim about the nature of suffering needs to be broken down a bit. First, we should ask: what is agency? This is a big question and here there is a lot of technical, theoretical work to be consulted. In everyday language, on my permissive account of agency, we can think of an agent as a distinct something that acts in an environment in ways that keep it acting as that kind of something. An agent is an actor that does things to keep its integrity as that kind of actor. Whenever an agent's ability to act in this self-preserving way is significantly disrupted, they suffer.

Two key points about this account of suffering will help to illuminate it. First, we – adult, human persons – have many forms of agency. I, and presumably you, am a biological agent, a psychological agent, a social agent and many more. We are complex biopsychosocial agents. When your ability to act in ways that keep you functioning in any of these integrated agentive forms is disrupted, you will suffer. Second, agency – in any form – can be disrupted in many ways. Central ways include changes in your abilities and capacities, changes in your environment and changes in what matters for being the kind of agent that you are.

Let's consider some examples. Consider a painful headache. Whether or not your headache is *suffering* is determined by whether or not the headaches significantly disrupt your ability to function – biologically, psychologically, socially or in any other agentive way. Some headaches will. Some headaches will not. For another example, consider grief. Grief may involve terrible suffering – it may significantly disrupt one's ability to act in *any* of one's agentive forms. The loss of my husband will disrupt my ability to act as a wife, as a partner, as a co-parent and more. These disruptions to my social agency will be so distressing psychologically that my ability to think, plan or engage in conversation will be disrupted, and so I will suffer as a psychological agent. My ability even to eat, sleep, breathe or maintain my other biological activities will also be disrupted and so

A philosopher's account of pain and suffering

I will suffer as a biological agent. Notice that the suffering across one's agentive forms is not isolated: the disruption to one agentive form will often disrupt another. I am, at least, a *biopsychosocial* agent and much of our most profound suffering is most profound precisely because it affects all forms of one's complex agency. The key claim here, again, is that suffering occurs when any of one's agentive forms are significantly disrupted.

It follows from this view that to alleviate suffering we must appropriately *enrich agency*. To address suffering, something needs to change in how the sufferer is able to act in their environment as that kind of agent. Sometimes this means a particular disruption needs to be removed. Sometimes the environment needs to be altered, to facilitate action. Sometimes, the sufferer's capacities need to develop. As with pain, we see that suffering and its appropriate alleviation will be highly idiosyncratic.

In brief, then, return to our theoretical and practical question for suffering. *Suffering is the significant disruption of agency*. To get rid of it when we want to get rid of it, we must enrich the agentive form in which we wish not to suffer at a particular time and in a particular place.

This account of suffering has a number of theoretical benefits and practical implications. Armed with this account, we can distinguish between pain and suffering, recognise the suffering of any agent, and recognise the many different ways that agents like us may suffer. Crucially, the account also enables us to appreciate the dynamics of the suffering of complex agents like ourselves. This yields some distinctive practical implications. Complex agents like us will often be forced to engage in trade-offs across our forms of agency; enriching agency in one form will often involve suffering in another. When I choose to stay out late drinking with friends despite an early morning, I choose to suffer as a biological agent for the enrichment of my social and psychological agency. Less prosaically, we must often make difficult policy choices involving agentive trade-offs. For example, we may have to decide about the wisdom of pharmaceutical interventions which enrich biological agency at the expense of psychological agency. There are no easy answers to questions of agentive trade-offs, but as complex agents, the difficulties are unavoidable. The present account of suffering allows us to appreciate these difficulties and grapple with them in all their complexity.

In closing, I want to emphasise the idiosyncrasy and diversity of both pain and suffering. It is my fervent hope that the more we appreciate this diversity, the better we will be at individually tailoring our interventions to alleviate both pain and suffering. For pain, this will crucially include seeking to identify which contributing mechanism is appropriately targeted in response to the pain report. For suffering, this will crucially include seeking to identify how agency is being disrupted and which agentive trade-offs may be involved or preferred by the sufferer. So too, respecting the idiosyncratic diversity of pain and suffering can better equip us to identify their positive features. As every clinician knows, though some pains are dysfunctional and maladaptive, some pains are useful and involve the activation of mechanisms which facilitate appropriate withdrawal, avoidance and recuperation. Similarly, while suffering will always be bad for the functioning of some form of one's agency, not all suffering will be bad *overall*. Significant disruptions to agency can force us to change and grow. We sometimes willingly sacrifice our agency for this growth or for the other people and things we care about. Not all pain and suffering are created equal.

There is of course far more work to be done on the theoretical and practical problems of pain and suffering. Making progress requires bringing together what we have learned from a wide range of disciplines, inquiries and everyday experiences. I hope I have convinced you that philosophy can usefully contribute. At least a little bit. More importantly, I hope I have provided some reasons for taking seriously the ideas that pain and suffering are distinct, that both are highly idiosyncratic and that both sometimes have an appropriate and positive role in our lives.

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Chronic pain as a consequence of psychotrauma



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Chronic pain is a challenge for all caregivers. When all the biomedical investigations are negative, when no treatment works, when symptoms remain stubbornly intractable over time and the patient continues to complain of anxiety, insomnia, hypervigilance, weakness, low self-esteem, addiction, and problems at work and home, it is particularly disheartening and confusing for the treating physicians.

In my view, it is not uncommon for this clinical picture to reflect previous psychotrauma. Pain may thus be regarded as a flashback and could have no organic or obvious biomedical basis. To understand and help these patients, it is necessary to understand their past and the adverse events that have occurred in their life.

Below I describe within an individual patient, the range of possible responses to danger and explain the long-term consequences.

History

Traumatic neurosis was first described in 1889 by the German neurologist Professor Hermann Oppenheim (1858–1919). Psychotrauma was then popularised by two psychiatrists, namely, Louis Crocq (1928–2022) and Muriel Salmona, who described the detailed mechanisms.

Hermann Oppenheim was probably the finest neurologist of his time and is regarded by some as one of the fathers of neurology.

He lived through the era of the industrial revolution when, with the introduction of the train, there followed railway accidents. People were injured as a result and some victims developed strange neurological disorders which were also known as ‘railway spine’

Oppenheim noted that the cause of the neurological problems is an apparent mechanism or trigger outside the patient. It is not thought to be due to a particular weakness in an individual, nor mental illness, and apparently could afflict people without any particular predisposition. There is no faking

of symptoms involved. At the time (as now), there was no apparent secondary gain to be had.

Oppenheim concluded that these disorders were the consequence of psychotrauma secondary to the railway accidents and the supposedly resulting neurological damage.

In 1916, Oppenheim was excluded from the German neurology society, a society he himself had founded in 1907 and of which he was president, because he was Jewish. All his work was forgotten and he died in solitude. His definition of this disease as traumatic neurosis is forgotten too, and it has since become regarded as a mental illness. It is now our responsibility to acknowledge Oppenheim’s valuable contribution.

Traumatic neuroses can be highly debilitating. Indeed, even before WW1, in Germany, those diagnosed with it could receive a pension.

The problem came back with every war under another name and has long been known to military psychiatrists. In the Great War, soldiers developed baffling symptoms known as *obusite* in France, *Rentehysterie* in Germany and *shell shock* in the United Kingdom. There was a great opposition from other doctors who called it faking, malingering or cowardice, and also on occasion attributed it to ‘bad genes’.

Oppenheim identified these all as cases of traumatic neurosis, and said that soldiers with the condition should receive a pension.

The term post-traumatic stress disorder (PTSD) first appeared in 1980 in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* although the condition had been known since the time of Plato. The definition has changed with each new edition of the *DSM*.

The predominant symptoms of the disease changed between WW1 and WW2, from motor disorders (‘hysterical paralysis’), to sensory disorders (pain without any organicity, also called Somatic Symptom Disorders (SSD)).

Chronic pain as a consequence of psychotrauma

Louis Crocq noted that there are different definitions of psychotrauma/traumatic neurosis, in the *DSM-V* compared with the International Classification of Diseases, Tenth Revision (ICD-10) sections on PTSD which only adds to the confusion.

Muriel Salmons has affirmed that 60% of psychiatry is psycho-traumatology, and in her books has cogently explained the mechanisms involved in psychotrauma and its common symptoms.

What is the normal reaction to danger?

In a situation of stress and danger, the amygdala becomes active, and all the body's resources are mobilised to escape the threat. Stress hormones (adrenalin and cortisol) are released, a reaction which takes a lot of energy. At the same time, the information reaches the cortex, which processes it and in turn looks for information in the hippocampus (memory). The cortex then neutralises the alarm and the stress reactions disappear. This is an appropriate response. The event is archived in the hippocampus and becomes a memory: this is the biographic memory.

For example: I'm on the way to work at 6.am. The street is badly lit and I see something long and dark on the road. I think it may be a snake. My breathing and pulse are fast, my muscles are tight, and I'm ready to run away. At the same time, the information was sent to the cortex which found that the object is in the database (the hippocampus): it is just a branch. After processing in the frontal cortex and identification of the branch as harmless, the secretion of stress hormones stops. It becomes a memory.

What is a psychotrauma?

When a normal reaction cannot occur, an exceptional mechanism of survival is invoked.

Neuroscientists have described two neurological mechanisms, sideration and disjunction; latter leading to dissociation and traumatic memory.

The secretion of stress hormones is briefly positive for the body. However, too much adrenalin over time is dangerous for the heart, while too much cortisol may cause hyperglycaemia and eventually prove harmful for nerve cells. Up to 30% of neurons in the cerebral areas involved could be destroyed or damaged with dendritic lesions and decreased neural connections. Hypercortisolemia has been described as resulting in grand mal epilepsy, loss of consciousness and coma too.

At this point, an exceptional survival mechanism may occur: the cortex becomes frozen to avoid self-destruction. This is known as sideration.

Concomitantly, amnesia begins; it may last a short time, or be anything up to lifelong. It is very variable, and can be complete or partial. It may also be partial in the beginning and then complete, or complete at the beginning and then partial.

With sideration, the ability to 'switch off' the amygdala and the secretion of stress hormones is lost. The alarm continues and cannot be neutralised. Stress reactions escalate, and so the alarm cycle continues.

If this condition persists, it becomes deleterious. It is like a car with smoke coming out of the engine; it is crucial to act before the engine and car are permanently harmed.

This exceptional mechanism of survival involves disjunction and has two consequences: dissociation and traumatic memory.

The brain can be visualised as an electrical circuit, like an electrical circuit at home. When there is too much current in a device, a circuit breaker isolates the device from the rest of the circuit to save it from destruction. This mechanism in the brain, in chemical form, constitutes disjunction. The brain produces endorphins and ketamine-like substances which isolate the amygdala from the rest of the brain and stop the stress reactions.

This leads to dissociation, which can be thought of as physical and emotional anaesthesia, turning people into automatons who are no longer able to feel anything, react or defend themselves. The victims, for instance of domestic violence, may remain dissociated for as long as they stay with the abuser; those who have lived in constant violence can be dissociated all their life. A subsequent MRI may show evidence of damage such as hippocampal atrophy.

Disjunction leads to traumatic memory too: raw information coming from the sensory organs may remain in the amygdala, causing the alarm to become dysfunctional and constantly sound. From time to time, all or part of this information reaches the cortex via the thalamus, resulting in what we call flashbacks. It is permanent sorrow, like walking through a minefield with a constant sensation of uncontrollable danger. Affected individuals may have invasive thoughts of the abuser's words or actions. Because of the flashbacks, the victim's thoughts are colonised by the abuser's acts, and it becomes

impossible to differentiate between their own thoughts and the abuser's words. This leads to low self-confidence.

Dissociation – physical and emotional anaesthesia – does not prevent the formation of traumatic memory (all the related information remains trapped in the amygdala) because it involves the limbic system, which is involuntary. It is comparable to being stunned when touching a hot object: an initial lack of sensation does not prevent a burn.

Flashbacks are always the same: reliving the psychotrauma in full or in part, with the same emotional burden, helplessness and distress. Flashbacks are usually initiated by a triggering factor. It is important to know if the patient was previously exposed to violence, because flashbacks may otherwise be falsely diagnosed as hallucinations. But be aware: patients with complete amnesia may not be able to tell you that they have been exposed to violence.

Potential causes of PTSD include the following:

- Domestic violence.
- Sexual abuse (physical and emotional).
- Bullying.
- War.
- Terror.
- Witnessing or experiencing a mass disaster or serious accident.
- Robbery and burglary.
- Medical procedures.

Evolution of psychotrauma

If diagnosis and help are available in the 12 hours after a psychotrauma occurs, these mechanisms are reversible and there are no consequences. However, without diagnosis or help, the symptoms become chronic and disabling. People may then 'treat' themselves, either by avoiding situations that may trigger flashbacks, or by dissociation (potentially by exposing themselves to danger in order to cause spontaneous dissociation, or by taking dissociating substances).

Dissociative actions may involve the following:

- Wild driving.
- Substance abuse (90% of substance abusers have been exposed to violence).
- Attempted suicide.
- Self-harm.
- Unprotected sex with multiple, often unknown partners, or prostitution.

- Harmful use of pornography.
- Compulsive masturbation.
- Anorexia and bulimia.
- Dangerous sport.
- Dangerous games (gambling or violent video games).
- Impulsive purchases.
- Escape from home, vagrancy.
- School absence.
- Theft, wanton destruction.
- Active participation in violent, satanic, sectarian movements.
- Violent behaviour, delinquency and criminality (10% of people who have been exposed to violence become violent abusers themselves).

When there is a will to hurt and inter-human violence is involved, psychotraumatic consequences become more likely. This is particularly the case with sexual violence and torture.

80% of victims of sexual abuse survivors (100% of children) develop psychotrauma, compared to 24% of victims of violence not involving human interaction, such as earthquakes and accidents. The consequences of Adverse Childhood Experiences are well known and may include a loss of 20 years life expectancy. Children who have been exposed to sexual abuse have a greater risk of becoming abusers themselves (up to a 16-fold increase in boys) or of being exposed to violence later in life (up to a 19-fold increase in girls).

Somatic complaints after psychotrauma may include the following:

- Chronic exhaustion.
- Chronic pain.
- Abdominal, gynaecological, and urinary symptoms.
- Heart disease.
- Breathing problems.
- Epilepsy.
- Endocrine disease, including diabetes.
- Decreased immunity.
- Allergies.
- Other symptoms, often involving ENT, teeth, or skin.

Mirror neurons

Mirror neurons are a class of brain cells that fire not only when an individual performs an action or has a thought but also when the individual observes *someone else* making the same action or reaction. They are involved in empathy and help us to understand what other people are experiencing. They inform us about the emotional state of others, such as whether they are in

Chronic pain as a consequence of psychotrauma

pain or distress. Some patients may be able to discern other peoples' emotions very well but be unable to regulate their own.

What can we do when we meet such a patient?

In order to avoid inflicting new traumatic events, we need a good knowledge of psychotrauma, as well as empathy and adaptability. The encounter can be difficult because victims of repeated violence may adopt counter-attitudes of rejection towards all interlocutors and especially health workers. Thanks to mirror neurons, the patient may be acutely aware of any doubt and uncertainty on your part, and may not be able to cooperate or think rationally. The most important thing is developing a trusting relationship between the carer and the patient.

Treatment

To treat psychotrauma, traumatic memory must be turned into biographical memory. This involves learning about the patient's previous exposure to violence, and 'rewriting' their traumatic history. The carer has to show active empathy, not neutrality, and reassure patients that it is not their fault but the abuser's; there is nothing wrong with them, but rather what happened to them was wrong.

It is often desirable and/or necessary to involve a multidisciplinary team of physician, psychologist, psychotherapist, physiotherapist, lawyer, and social worker.

The treatment must be flexible and make provision for necessary adjustments. An important aim is to help the patient with control of their emotions. Any breaks or pauses in treatment should be avoided.

Conclusion

Flashback pain is pain which occurred during trauma, but was not felt thanks to dissociation.

In our experience, it is not uncommon and often leads to erroneous diagnoses of somatic conditions, when in fact a psycho-traumatological diagnosis would be appropriate.

Many patients in our gynaecology department have been exposed to sexual abuse but have subsequent amnesia blocking the memory, and consequently do not receive a diagnosis of or meet the criteria for PTSD, so do not receive appropriate treatment. Thus, we prefer to use Oppenheim's definition, which takes into account amnesia without placing arbitrary time limits around it.

Violence creates violence and increases in intensity with time. It does not stop if it is not stopped. It is always a choice.

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A pain specialist's new beginning

Rajib Dutta *Pain Management Specialist, Sydney, Australia*



I'd been working in the National Health Service (NHS) for years, and I'd found myself working harder and harder. Added to that, I was increasingly frustrated that I could not just get my patients the help they needed quickly and effectively, and indeed get things done without lots of delay. I'd thought about working abroad and spoke about it to my family at times. I liked the sound of Australia, it seemed like a great place to live, but I knew very little about it.

Then in 2019, I met Tony Merritt from Sydney Pain Centres at the BPS conference in London. I was intrigued to hear how pain was practised there, and what it was like to live and work in Sydney. We spoke over several months, and I was obviously cautious about such a big change, so I visited in October 2019. After my visit, I was convinced about working in Australia, and I immediately decided to move in February 2020. I'm pleased to say that Sydney Pain Centres supported me all the way. They helped me with visas, registration, accommodation and support. I'm so grateful and couldn't imagine having to do it myself.

Then, COVID occurred. I found myself caught up working in the United Kingdom caring for COVID patients in hospital while trying to manage the move. Finally, I moved in October 2020, and what a challenging time to move! I spent several weeks in hotel quarantine then found myself about to start a new life in Australia. My family was not due to arrive for many months, and being away from them was hard. However, it also gave me the space and time to throw myself into my new career and hit the ground running.

It was a bold move, no doubt! However, my career has flourished and even with the challenges of COVID, I have built a successful private practice quickly. I now work autonomously in private practice in Sydney and work in collaboration with pain management colleagues and the wider professional team. My work has a strong interventional focus, and I am supported by an excellent multidisciplinary team, including a Nurse Practitioner, Clinical Psychologists and Physiotherapists.

The practice of pain management is quite different to the United Kingdom. Australia has a strong private system backed up by a very good public system. Interventional work takes place in private hospitals that are very focused on supporting specialists. Private health funding for hospital-based treatments is quite strong, so generally, patients have no out-of-pocket expenses. This obviously makes it very easy to practise pain management with an interventional focus.

In our clinic, I have good administrative support. It's also very easy to get things done and to innovate where opportunities arise. The private system here is more adaptive to change and very able to support doctors effectively.

The patient population spans all walks of life, including First Nations people. There are pain problems presenting across the spectrum, as in the United Kingdom. The fundamental difference in the Australian healthcare system compared to the United Kingdom is the prevalence of private health fund-led treatment, and a far greater degree of availability and opportunity for patients in this sector. This promotes greater freedom of choice for patients and clinicians.

A pain specialist's new beginning

Since making the move, I can honestly say I have not looked back. In Australia, I have significantly increased autonomy over patient care, as well as the ability to action change and make a difference in a timelier manner. This is coupled with greater ease of access to other members of the multidisciplinary team for improved collaboration of care and timely patient treatment. Overall, this has led to significant fulfilment in my role as a Pain Management Specialist.

It's been a good move for my family as well. I cannot overlook the enhanced work-life balance, increased salary and the Australian outdoor life, in a far warmer and drier climate (mostly!).

There have been some challenges in adjusting to life in a new country, of course. My daughter has now settled into a great school, but that took some time. I have had to learn the system here, finding out the norms and developing

pathways to navigate myself and family through the transition. I had lots of help, which I needed as selecting a place to live, accessing the education and healthcare sectors, and navigating the taxation system are just a few of the things I've had to face! This has been facilitated by the excellent team I work with, who have been on hand with their support, advice and knowledge every step of the way, making the transition more seamless. However, it has taken some work on my part.

Would I recommend it? Absolutely. The Australian lifestyle is excellent, people live very well here. Pain is a flourishing speciality. The private system makes it much easier to work here, and my income is higher. It takes time to adjust, and making the decision to start out in a new country is no small step to take. However, I feel very positive about my career here in Sydney.

Publication of guidelines for pain management programmes 2023



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SAGE

Iain Jones *Chair of PMP Guideline Development Group*

I am very pleased to be finally writing to alert you to the publication of the fourth update of the Guidelines for Pain Management Programmes (PMP) on behalf of the British Pain Society (BPS) and the Pain Management Programme SIG. The first publication was in 1997.

The intention when I was requested to take on the role of chair of the guideline working group was for this to be a minor revision. However, with the earnest review of a number of new guideline group members, I think we have made a far fuller update than originally intended.

I am grateful to Lars Williams, Francis Cole, Hannah Twiddy, Gail Sowden, Eve Jenner, Cormac Ryan and Sarah Kelly, who all gave their time freely to attend several online meetings as well as meetings in London and Manchester to work on the guidelines and discuss the feedback from the consultation, in addition to several rounds of proofreading the document. I am also grateful to Lance McCracken who continued to support with his insightful appraisal of the evidence around psychological therapies for chronic pain after he had moved to Sweden. I am also grateful to those who took the time to read and comment on the draft edition during the consultation process. I can assure anyone who provided feedback as part of the consultation that this was an invaluable part of the process in helping us to further refine the document.

The aim of the document was to support clinicians working in pain rehabilitation services and personnel involved in commissioning services to understand the evidence behind the key components of PMPs and the resources in terms of skills, staffing and facilities to run a PMP.

The publication of the guidelines has taken longer than I anticipated. This reflects the time and commitment that went into reviewing and updating the document. The impact of the COVID-19 pandemic, during which several of the guideline group were seconded to work in frontline areas or to roles supporting frontline healthcare staff, also took us by surprise. The BPS, like many pain services, has also been taking time to steady itself and adapt to staffing changes, which is reflected in the time it has taken for the document to be reviewed by the communications committee and approved by the council, which are parts of the publication process which many readers like myself may not have been aware of.

During the pandemic period many chronic pain services were suspended and we felt considerable uncertainty about what the implications for the running and provision of PMPs may be, and whether we should attempt to address this in the document. Thankfully pain services do now seem to be returning to some level of normality.

Over the last few years, we have all become far more adept with the use of technology for holding meetings and seeing patients. This has been a benefit for some patients who may have struggled to access pain rehabilitation treatments in a more traditional format. We have included in the guidelines a new section to review the evidence for the use of digital and online technologies for pain management rehabilitation. A more detailed and pragmatic guidance entitled Group-Based Pain Management Interventions through virtual platforms for running virtual PMPs has been written by Meherzin Das, Lead for Psychological Therapies in Dorset National Health Service (NHS) Trust, which are in the process of being published on the BPS website. I would recommend this document to anyone interested in running virtual pain management group treatments.

A further development during the guideline revision was the publication of National Institute for Health and Care Excellence (NICE) guideline (NG1193) on the assessment and management of chronic primary pain guidance in April 2021. There had been concerns that conclusions on the evidence for pain management programmes for people with chronic primary pain may be used to support a withdrawal of support for PMPs. While a wider critique of the NICE guidance has been published elsewhere, in the guideline, we have emphasised that if a PMP is delivered with a psychologically informed framework as recommended in our guidelines, then its delivery is in keeping with the NICE guidelines.

Although it has been a long wait to get the guidelines to the point of publication, I feel we have made valuable updates throughout the document. Importantly, we have emphasised the competencies, skills and staffing levels required to run a PMP, which had been a source of some interprofessional tension in previous guidelines and which was reflected in the consultation feedback. Overall, I believe we have succeeded in our aim to produce a pragmatic evidence-based guideline for clinicians working in PMPs and those involved in commissioning of services.

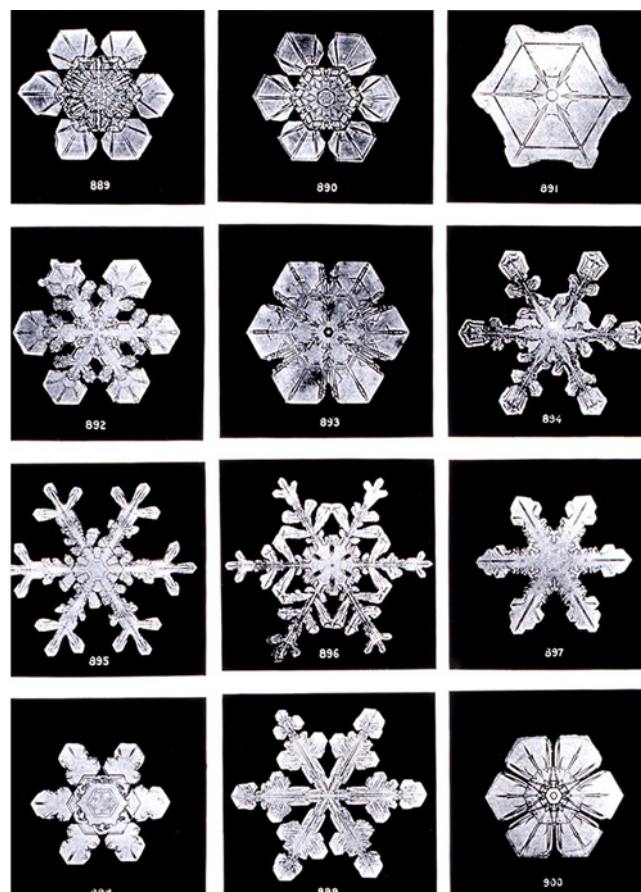
On the photography of snowflakes: the work of Wilson Bentley

Wilson Alwyn Bentley (9 February 1865–23 December 1931), also known as **Snowflake Bentley**, was an American meteorologist and photographer, who was the first known person to take detailed photographs of snowflakes and record their features. He perfected a process of catching flakes on black velvet in such a way that their images could be captured before they either melted or sublimated.



Bentley was born on 9 February 1865, in Jericho, Vermont. He first became interested in snow crystals as a teenager on his family farm. 'Always, right from the beginning it was the snowflakes that fascinated me most', he said. 'The farm folks up in this country dread the winter, but I was supremely happy'. He tried to draw what he saw through an old microscope given to him by his mother when he was 15. The snowflakes were too complex to record before they melted, so he attached a bellows camera to a compound microscope and, after much experimentation, photographed his first snowflake on 15 January 1885. He captured more than 5000 images of crystals in his lifetime. Each crystal was caught on a blackboard and transferred rapidly to a microscope slide. Even at subzero temperatures, snowflakes are ephemeral because they sublimate.

Bentley described snowflakes as 'tiny miracles of beauty' and snow crystals as 'ice flowers'. Despite these poetic descriptions, Bentley brought an empirical method to his work.



In collaboration with George Henry Perkins, professor of natural history at the University of Vermont, Bentley published an article in which he argued that no two snow crystals were alike. This concept caught the public imagination and he published other articles in magazines, including *National Geographic*, *Nature*, *Popular Science* and *Scientific American*.

In 1931, Bentley worked with William J. Humphreys of the US Weather Bureau to publish *Snow Crystals*, a monograph illustrated with 2500 photographs. His other publications include the entry on 'snow' in the 14th edition of *Encyclopædia Britannica*. Bentley also photographed all forms of ice and natural water formations, including clouds and fog. He was the first American to record raindrop sizes and was one of the first cloud physicists.

On the photography of snowflakes: the work of Wilson Bentley

He died of pneumonia at his farm on 23 December 1931. Bentley was memorialised in the naming of a science centre in his memory at Johnson State College in Johnson, Vermont. His book *Snow Crystals* was published by McGraw-Hill shortly before his death and is still in print today. Bentley's lifelong home is listed on the National Register of Historic Places.

Further Reading

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