MARCH 2019 VOLUME 17 ISSUE 1

PAIN NEWS

A PUBLICATION OF THE BRITISH PAIN SOCIETY

Credit: SurfUpVector

Is pain a symptom or sign?

Understanding Pain in Veterans

Pain and Loneliness

Advances in Peripheral Neuromodulation

How to fix the NHS

Assessing pain in drug dependant patients

ISSN 2050–4497

THE BRITISH
PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Third Floor Churchill House
35 Red Lion Square
London WC1R 4SG United Kingdom
Tel: +44 (0)20 7269 7840
Email info@britishpainsociety.org
www.britishpainsociety.org

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

THE BRITISH PAIN SOCIETY
PAIN NEWS

contents

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

PAIN NEWS MARCH 2019

Editorials

Regulars

Professional Perspectives

Informing practice

End Stuff

Officers
Dr Andrew Baranowski
President
Prof. Roger Knaggs
Honorary Secretary
Dr Heather Cameron
Honorary Treasurer
Dr Arun Bhaskar
President Elect
Dr Ayman Eissa
Honorary Secretary Elect
Dr Glyn Williams
Honorary Treasurer Elect

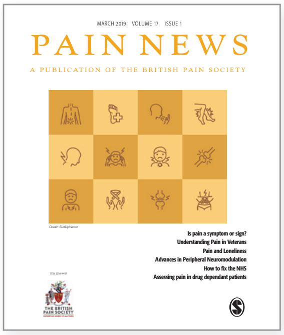
Elected
Prof. Sam Ahmedzai
Dr Peter Brook
Dr Neil Collighan
Dr Ashish Gulve
Dr Tim Johnson
Dr R Krishnamoorthy
Dr Sarah Love-Jones
Dr Zoey Malpus
Dr David Pang

Co-opted Members
Mr Neil Betteridge
Representative Chronic Pain Policy Coalition
Ms Felicia Cox
Editor, British Journal of Pain and Representative, RCN
Prof. Sam Eldabe
Chair, Science & Research Committee
Dr Martin Johnson
Representative Chronic Pain Policy Coalition
Dr Barry Miller
Representative: Faculty of Pain Medicine
Dr Rajesh Munglani
Editor, Pain News
Prof. Andrew Rice
Representative: IASP
Dr David Walsh
Chair, Scientific Programme Committee
Ms Margaret Whitehead
co-Chair, Patient Liaison Committee
Dr Amanda C de C Williams
Representative: Science

Secretariat
Jenny Nicholas
Chief Executive Officer
Dina Almuli
Secretariat Manager
Dylan Taylor
Membership & Events Officer

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

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



MARCH 2019 VOLUME 17 ISSUE 1
PAIN NEWS
A PUBLICATION OF THE BRITISH PAIN SOCIETY
Credit: SurfUpVector
Is pain a symptom or sign?
Understanding Pain in Veterans
Pain and Loneliness
Advances in Peripheral Neuromodulation
How to fix the NHS
Assessing pain in drug dependant patients
ISSN 2050-4497
THE BRITISH PAIN SOCIETY

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

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

ISSN 2050-4497 (Print)
ISSN 2050-4500 (Online)
Printed by Page Bros., Norwich, UK

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

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

BOOK BY 31ST JANUARY AND SAVE £400 | BOOK BY 28TH FEBRUARY AND SAVE £200 | BOOK BY THE 29TH MARCH AND SAVE £100

SMi presents the 19th annual conference on...

Pain Therapeutics

Discover the latest innovations in analgesic therapies

13th - 14th May 2019 | Copthorne Tara Hotel, London, UK

SMi
LINKING BUSINESS *with* INFORMATION

Sponsored by
Lotus CLINICAL RESEARCH® LLC
mdbiosciences.

CHAIRS FOR 2019:
- **Michael Scherz,** Founder and CEO, **Metys Pharmaceuticals**
- **Kerrie Brady,** Chief Business Officer, **Centrexion Therapeutics**

FEATURED SPEAKERS 2019:
- **Theo Meert,** Senior Research Fellow, Therapeutic Area Leader & Biology Head, CNS, Pain & Neurology, **Johnson & Johnson**
- **Dalma Sugár,** Global Medical Affairs Director, **Reckitt Beckinser**
- **Kirk Johnson,** Senior Research Advisor, **Eli Lilly**
- **Karin Hygge Blakemann,** Head of Medical Affairs, **Grunenthal Group**

CPD CERTIFIED The CPD Certification Service

SMi Pharma
@SMiPharm
#smipaintherapeutics

www.pain-therapeutics.co.uk/painnews
Register online or fax your registration to +44 (0) 870 9090 712
or call +44 (0) 870 9090 711

How do you get more people to read and cite your research?

EXPLAIN
it in plain language

SHARE
it via web, email and social media

GET STARTED
www.growkudos.com

- ✓ Free service
- ✓ Quick and simple to use
- ✓ Proven to increase readership
- ✓ Keeps track of outreach wherever you do it
- ✓ Across all publications with a CrossRef DOI

KUDOS
Greater Research Impact

SAGE
Publishing

Have your say and contribute to *Pain News* today

Pain News is the newsletter for members of the British Pain Society and we welcome member and non-member contributions to share your news with the wider membership and beyond.

Do you have a news item to share?

Perhaps a professional perspective, or informing practice piece?

Maybe you would you like to feature as our 'Spotlight' member?

We'd love to hear from you so drop the Editor an email today at: rajeshmunglani@gmail.com

Pain News is published four times per year.

The Editor Dr Rajesh Munglani and Jenny Nicholas, CEO, welcome submissions for consideration of inclusion. Thoughtful pieces on Pain Medicine and related subjects including personal opinions, original work and reviews will be considered. By submitting an article, potential authors are agreeing to active editorial input to ensure conformity to house style, clarity and reasoned debate.

JUNE 2018 VOLUME 16 ISSUE 2

PAIN NEWS

A PUBLICATION OF THE BRITISH PAIN SOCIETY

Credit: Studiovin

Focus on pain research day

Consent in Pain Medicine

Increasing access to psychological services (IAPT) and pain services

ISSN 2050-4497

THE BRITISH PAIN SOCIETY

SEPTEMBER 2018 VOLUME 16 ISSUE 3

PAIN NEWS

A PUBLICATION OF THE BRITISH PAIN SOCIETY

Credit: Eva-Foreman

A role for cannabis in pain? Is there a future for pain physicians?

Consenting in pain medicine

Will we ever be able to measure pain?

ISSN 2050-4497

THE BRITISH PAIN SOCIETY

DECEMBER 2018 VOLUME 16 ISSUE 4

PAIN NEWS

A PUBLICATION OF THE BRITISH PAIN SOCIETY

Credit: Siphotography

Communication in pain: are we harming our patients by what we say?

Consent in pain medicine

Pain; is it physical or mental?

ISSN 2050-4497

THE BRITISH PAIN SOCIETY

Editorial

THE BRITISH
PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 4–7

SAGE

The not so vital sign or why there is no stethoscope for pain

Rajesh Munglani *Editor Pain News*

The Redundant Sign, over Fields in Cambridgeshire.

Much has been written about understanding better the factors which contributed to the opioid epidemic in the United States.

The role of the pharmaceutical industry has been rightly scrutinised but in the end it was the doctors who wrote the scripts for such medication. Without the *vector of the physician and his pen*, the epidemic would never have happened. The disasters of the Appalachian and Florida pill mills portrayed pure greed as the driving force behind the doctor's hand.

In fact, the crucial role played by the recategorisation of *the pain experience* by the medical profession needs closer analysis. There is little doubt that in the past pain was poorly treated. Marks and Sachar[1] in 1973 interviewed 37 medical inpatients and found that despite the prescription of analgesics, 73% reported moderate or severe distress. Junior doctors were also interviewed for the same study and the results revealed considerable lack of understanding of effective opioid dose and duration. There then followed the two small reports which received undue attention despite their lack of scientific rigour. First, a one paragraph letter to the NEJM by Porter and Jick[2] described low (0.03%) addiction rates for inpatients receiving opioids for acute pain, second a paper by Portenoy and Foley,[3] a retrospective review of 38 patients, demonstrated that only 2 of 38 patients with chronic pain developed misuse or abuse issues when receiving opioids.

Mularski et al.[4] and Jones et al.[5] described the other critical events which also contributed to the crisis. In 1986, the World Health Organization (WHO) declared that opioids are effective in cancer pain. Curiously, what was overlooked was a warning giving on page 10 of the WHO report that in fact these recommendation do not apply to chronic non-cancer pain:

> *It is important to stress that a clear distinction exists between patients with chronic non-malignant pain and patients with pain from progressive cancer. Extensive clinical experience has demonstrated that, while most cancer pain responds readily to established clinical treatments, this is not true of many non-malignant, chronic pain syndromes. Severe cancer pain commonly responds to strong opioid drugs, whereas this is not the case for most forms of non-malignant chronic pain.*
>
> WHO, 1986.[6]

In 1990, Ronald Melzack[7] wrote an article titled 'The Tragedy of Needless Pain' in *Scientific American* and questioned why opioids were not used in chronic pain. Eventually, a rebuttal by John Loser followed in 2000, called the 'The Tragedy of Painless Needs' which tried to address this and included the flowing prescient comment:

> *Intractable pain demands the attention of both the patient and the physician. However, modern science and medicine cannot and should not promise the abolition of pain and suffering ... not all painful experiences in life are deleterious, nor should they all be prevented.*

He went on to say

> *I will not discuss the problems engendered by side effects of narcotics or by their illegal uses and diversion. I am not opiophobic, but remain unconvinced that simply increasing the use of narcotics for chronic pain will reduce the number of patients or the costs to society.*[8]

However, the medical opioid juggernaut moved ahead regardless. In 1995, the American Pain Society set out to improve the assessment and recording and ultimately the treatment of pain.[9] Henry James in his 1996 address said that

> *if pain were assessed with the same zeal* as other **vital signs** *are, it would have a much better chance of being treated properly. (My emphasis)*

In 1998, the Veterans Health Administration (VHA) promoted a national strategy to improve pain management. In 1999, the VHA sent a memorandum to over 1,200 sites of medical care which in effect *took a patient's self-reported pain score and called it the fifth Vital sign*. In this guidance, a pain score of >4/10 would trigger a comprehensive pain assessment and necessitate intervention.

This fundamental error of converting an objectively unverifiable self-reporting of a symptom of pain into a sign which had to be recorded and treated literally forced the hands of doctors to write pain scripts – usually for opioids. Not to do so would potentially lay the doctor open to a lawsuit of inadequately treating a patient's pain. Post-operative patients were sent home with large tubs of analgesics. In the case of chronic pain, doctors had to passively accept what their patients' said, as in effect there was little or no room for a doctor to objectively assess whether the patient might be in pain. For pain, as we have all been taught, is what the patient says it is and so in practice, it was difficult to deny patients analgesics.

Gart described how in 2001, the Joint Commission mandated that hospitals across the country assess pain on each patient they treated. With the support of the Joint Commission, The Federation of American Medical Boards urged individual state medical societies to make the under treatment of pain punishable for the first time.[10]

Ben Rich,[11] a professor of Bioethics and Law in 2001 emphasised the legal duty of doctors to relieve suffering by citing two legal cases; that of *James and Chin*. In 1991, a North Carolina jury awarded $15 million in compensatory and punitive damages to the family of Henry James, a nursing home patient who died a painful death from terminal metastatic prostate cancer. The Court found that a nurse's refusal to administer the opioid analgesics necessary to relieve Mr James's pain (on the misguided rationale that he would become addicted) constituted *a gross departure from acceptable care*.

In the case of Chin, in 1998, William Bergman was admitted to Eden Medical centre California, in severe pain under the care of Dr Wing Chin. The records indicate Mr Bergman's daily pain was rated between 7 and 10 and a pain level of 10 was recorded on day of discharge. The organisation Compassion in Dying then assisted the Bergmans in filing suit against Dr Chin and Eden Medical centre. The standard of proof required to succeed was that that the care was *grossly negligent or reckless*. On 13 June 2001, the Court awarded against Dr Chin the sum of $1.5 million.

In support of this approach of applying legal sanctions, Rich goes on to quote Cassell[12]

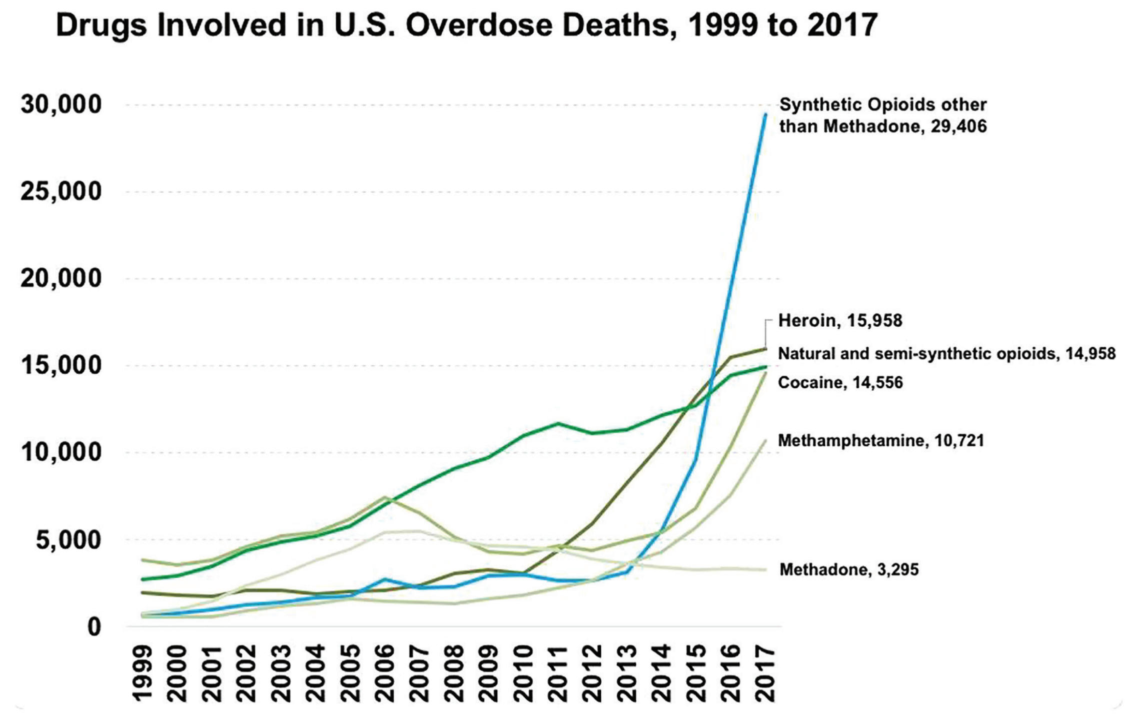
> *The relief of suffering, it would appear, is considered one of the primary ends of medicine by patients and lay persons, but not by the medical profession.*

But does treating pain as a *sign* instead of a *symptom* actually improve outcome? Mularski et al.[4] considered this in their 2006 paper and found *pursuing* the fifth vital sign strategy *did not* achieve better outcomes. This seems to match the outcome of studies examining opioid prescriptions in chronic pain which show no improvement in quality of life; indeed there is evidence of the exact opposite effect.[13]

This unthinking rush to treat has led to profound human and economic consequences. The White House stated on 20 November 2017 that in 2015 alone, the opioid epidemic cost the United States an estimated $504 billion.[14] The increase in opioid overdose deaths has been dramatic and opioids were responsible for 49,000 of the 72,000 drug overdose deaths overall in the United States in 2017.[15]

The response of the medical profession has now been to question both the validity and indeed the value of pain being treated as a sign. Morone and Weiner[16] in 2013 wrote the following:

> *the 5th vital sign has proven to be more complex to assess, evaluate, and manage than originally anticipated. It has also had some serious consequences which were never intended. Associated with the national push to adequately manage patients in pain has been a rise in prescription opioids as well as a rise in opioid related death.*



US yearly overdose deaths and the drugs involved. Among the more than 72,000 deaths estimated in 2017, the sharpest increase occurred among deaths related to fentanyl and synthetic opioids (>29,000 deaths).[13] Copyright free.

But some doctors have gone much further in reaction to being seen as a scapegoat for the United States's opioid overdose epidemic. Following the lead of the house of delegates of the American Medical Association, physicians at the American Academy of Family Physicians (AAFP) 2016 Congress of Delegates voted to eliminate pain scores as the 'fifth vital sign',

> *'This is a subjective measure put in an objective category',*

said Dr Rubin, president of the Georgia Academy of Family Physicians. One person might rate a pin prick 4 on a 10-point pain scale, whereas another might rate an identical prick 8 ... and a patient who believes a physician did not do enough to lower his or her pain score has ways to get even ...'

Lowes goes on to describe how since 2018, the previous perverse financial incentives to prescribe have been removed. It was usual practice, in a post discharge questionnaires[i] for patients to be asked about pain and in fact they seemed to encourage patients and doctors to rate pain highly, and critically, pay hospitals and doctors to treat it. The questions implicitly equate pain management with the prescription of a painkiller. These pain questions ceased to be part of VBP (Value Based Programme) calculations in 2018, which health care providers had used to decide how much to pay a hospital.[17]

Levy et al.[18] describe how other organisations also followed suit including the American College of Surgeons and The Joint Commission by withdrawing support for 'pain as the 5th vital sign' campaign. The Joint Commission that acts as the regulatory body for many US healthcare institutions now recognises there is a direct link between healthcare policies, the numerical pain scale, pain expectations and opioid addiction. In commenting on the UK situation, Levy et al. go on to state that

> *It is now time for the anaesthetic community within the UK to re-evaluate our reliance on self-reported unidimensional pain intensity scores in our management of postoperative pain, and to be judicious in both prescribing and deprescribing of opioids.*[19]

They point out that until 2017, the BNF (British National Formulary) was still espousing opioid dependency is 'rarely a problem with therapeutic use'. Fortunately, this advice in the BNF has become more cautious in the latest edition.[20]

The Road to Nowhere. Yellowstone National Park 2018.

We do not have a stethoscope for pain[21] and as discussed in a previous editorial, there is unlikely to be a single test or signature for chronic pain in the foreseeable future.[22]

Nobody foresaw the calamitous cost in terms of human suffering that would be precipitated by a desire to treat pain well, but then again, the road to hell has always been paved with good intentions.

Note

i. These questionnaires were from the Centres for Medicare and Medicaid Services (CMS) known as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS).

References

1. Marks RM, and Sachar EJ. Undertreatment of medical inpatients with narcotic analgesics. *Annals of Internal Medicine* 1973; 78(2): 173–181.
2. Porter J, and Jick H. Addiction rare in patients treated with narcotics. *The New England Journal of Medicine* 1980; 302(2): 123.
3. Portenoy RK, and Foley KM. Chronic use of opioid analgesics in non-malignant pain: Report of 38 cases. *Pain* 1986; 25(2): 171–186.
4. Mularski RA, White-Chu F, Overbay D, et al. Measuring pain as the 5th vital sign does not improve quality of pain management. *Journal of General Internal Medicine* 2006; 21(6): 607–612.
5. Jones MR, Viswanath O, Peck J, et al. A brief history of the opioid epidemic and strategies for pain medicine. *Pain and Therapy* 2018; 7(1): 13–21.
6. WHO. *Cancer Pain Relief*. Geneva: WHO, 1986.
7. Melzack R. The tragedy of needless pain. *Scientific American* 1990; 262(2): 27–33.
8. Loeser JD. The tragedy of painless needs. *Pain Research and Management* 2000; 5(3): 228–232.
9. American Pain Society Quality of Care Committee. Quality improvement guidelines for the treatment of acute pain and cancer pain. *JAMA* 1995; 274: 1874–1880.
10. Gart M, Pain is not the fifth vital sign. Available online at http://www.medicaleconomics.com/medical-economics-blog/pain-not-fifth-vital-sign#_edn1 (accessed 25 January 2019).
11. Rich B. Physicians' legal duty to relieve suffering. *The Western Journal of Medicine* 2001; 175(3): 151–152.
12. Cassell EJ. The nature of suffering and the goals of medicine. *The New England Journal of Medicine* 1982; 306(11): 639–645.
13. Munglani R. Numbers needed to heal, numbers needed to harm, numbers needed to kill: Reflections on opioid therapy and the primary duty of medicine. *Pain News* 2013; 11(1): 34–38.
14. CNBC, Available online at https://www.cnbc.com/2017/11/20/the-true-cost-of-opioid-epidemic-tops-500-billion-white-house-says.html (accessed 25 January 2019).
15. National Institute of Drug Abuse, Available online at https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates (accessed 25 January 2019).
16. Morone N, and Weiner D. Pain as the 5th vital sign: Exposing the vital need for pain education. *Clinical Therapeutics* 2013; 35(11): 1728–1732.
17. Lowes R. Drop pain as the fifth vital sign, AAFP says. *Medscape*, 22 September 2016. Available online at https://www.medscape.com/viewarticle/869169 (accessed 25 January 2019).
18. Levy N, Sturgess J, and Mills P. 'Pain as the fifth vital sign' and dependence on the 'numerical pain scale' is being abandoned in the US: Why? *British Journal of Anaesthesia* 2018; 120(3): 435–438.
19. Martinez V, Beloeil H, Marret E, et al. Non-opioid analgesics in adults after major surgery: Systematic review with network meta-analysis of randomized trials. *British Journal of Anaesthesia* 2017; 118(1): 22–31.
20. Nice, Available online at https://bnf.nice.org.uk/treatment-summary/analgesics.html (accessed 25 January 2019).
21. Neergaard L. No stethoscope for pain: Scientists seek real way to measure. *The Washington Post*, 10 January 2018. Available online at https://www.washingtonpost.com/national/health-science/scientists-seek-ways-to-finally-take-a-real-measure-of-pain/2019/01/10/23c82c6c-149f-11e9-ab79-30cd4f7926f2_story.html?utm_term=.2131fb3dfbaf (accessed 25 January 2019).
22. Munglani R. The colour of pain. *Pain News* 2018; 16(3): 98–102.

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 8

SAGE

In this issue

Jenny Nicholas

Welcome to the first 2019 edition of *Pain News* and what a bumper packed edition it is!

Here's a sneak peak of what this issue has in store for you:

- *Mindfulness on Pain Management Programmes – are we teaching it as well as we could?* In this article, Lars Williams considers the need for mindfulness training for those who lead mindfulness practices as part of a Pain Management Programme (PMP).
- *Are opioids used appropriately or inappropriately in low- and middle-income countries?* Brigitta Brandner and Jackie Walume discuss a case study looking at opioid manufacture supply and provision with regard to inequity of access in low- and middle-income countries.
- *Assessing pain and drug dependence: can we get it right?* In part one of a two-part series, Dr Lesley Haines looks at what to consider when you are unexpectedly confronted by patients with substance misuse problems in pain services.
- *The Future of the NHS*; Dr Jenny Jessop reflects on the National Health Service (NHS) as it once was and talks about the changes that have taken place and how we might secure its future.
- We also start to explore the topic of *Peripheral Neuromodulation* across a three-part series covering the history of electrical stimulation with a particular emphasis on its role in invasive and non-invasive peripheral nerve stimulation.

As you can see, we have quite a variety of articles for you this issue and I am pleased to say that we have quite a selection of content already lined up for future editions too, but we're not one to rest on our laurels!

We would love to hear from as many of our members and colleagues as possible who have informative, thought-provoking and interesting view points and articles to share.

We want *Pain News* to be YOUR newsletter where you discuss and share the key pain topics relevant to you and your role. What's new in your field of pain? What have you learnt that has really helped your practice that you want to share with others? What are your views on the impact of Brexit on the National Health Service?

Don't be shy and drop us a line! We'd also be happy to hear your ideas for articles before you work them up and articles can be submitted for consideration all year round.

From the President

Dr Andrew Baranowski

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 9–10

SAGE

During my 9 years of being on Council, as I move to demitting from being President, what have I learnt? The main issue has been trying to engage members and to support joint work. When people are altruistic, because we are a charity with limited money and commitment requires time, and members forgo their differences mountains can be moved and huge achievements made.

The Annual Scientific Meeting (ASM) is highly valued by our members as evidenced by the surveys that we have undertaken over the years. It is a time when many Pain Management Professionals from all disciplines meet and exchange opinions and learn from each other. This experience is underpinned by an excellent scientific content. Over the years listening to our members we have revised and re-organised the structure to try and ensure that there are themes running throughout the day that would meet the needs of all our members. As a British Pain Society (BPS) member, you have preferential registration rates and those on lower incomes can apply for bursaries.

The 2019 ASM will be held at the Hilton London Tower Bridge from Wednesday 1 May to Friday 3 May 2019. Places are limited, please apply early.

Why you should attend the ASM?

- Network with colleagues;
- Raise questions, partake in debates and discuss outcomes;
- Meet with poster exhibitors and discuss their research;
- Meet with technical exhibitors and hear about their products and services;
- Discuss your own research.

And, it is all down to a few: I would like to thank David Walsh and his excellent team for organising the scientific content of the meeting, as well as Arun Bhaskar and Ciaran Wazir for their work behind the scenes around logistics and trade.

Position statements have become an important part of the clinical and political environment. There are several members that take the brunt of this work, supported by Council. These statements help all our members to manage what can be difficult clinical and management/commissioning situations.

Our website has been upgraded on several occasions to showcase what the Society and its members do. Position Statements are easy to find on the front page.

The position statements are as follows:

- BPS Position Statement on the medicinal use of cannabinoids in pain management;
- BPS Position Statement on Lidocaine Plasters;
- Press Statement on suspension of mesh surgery in NHS Hospitals.

By standing together with our colleagues, a more sensible view of cannabinoids was taken by NHS England. We look forward to constructive research in the future.

By highlighting the issue of pain when there are mesh complications, pain is now on the agenda for those bodies looking at mesh complications and what needs to be done in the future.

Lidocaine plaster prescription is still an issue, but at least members have clear support for their use from the BPS.

Publications

During my time as President, there have been several key publications. These always require a significant amount of time input and money over the years has been limited to support the process.

> *Pre-registration Pain Education*, a practical guide to incorporating Pain Education into Pre-Registration Curricula for Healthcare Professionals in the United Kingdom, is freely available on our website. Not only is it impressive to look at, but it is a seminal piece of work and will influence education for years to come.
>
> *The Assessment of Pain in Older People: UK National Guidelines*. A joint project with the British Geriatrics Society has proven to be key in developing guidelines on assessment of pain in the elderly.

Dr Andrew Baranowski

Outcome measures. This is a topic that has been discussed on many occasions over the years. The joint piece of work with the Faculty has produced a definitive guide on health service outcomes that can be used to benchmark services against one another and against targets, and to improve patient care. A must read for all our members.

Understanding and managing pain after surgery. Information for adult patients and their carers was instigated by our Acute Pain SIG with the Patient Liaison Committee.

Other publications over the last few years have included the following:

- Intrathecal drug delivery for the management of pain and spasticity in adults; recommendations for best clinical practice.
- Intrathecal drug delivery systems for treating pain and spasms – information for patients.
- Opioids aware: a resource for patients and healthcare professionals to support prescribing of opioid medicines for pain. A joint project with the Faculty and Public Health England.
- Understanding and managing long-term pain information for people in pain.

And of course we must not forget:

Pain News and the British Journal of Pain. These are thriving. They are free to our members and again we are informed highly valued by our members.

UK Pain Messages. First published a few years ago and updated in September 2017, these are key facts and figures around Pain that are agreed by The BPS, The Faculty of Pain Medicine, The Chronic Pain Coalition and Pain UK. They are evidence based and are used to inform national bodies, local commissioning and the press.

Pain Scales in multiple languages can also be downloaded from our website.

These are examples of how when we work together, we can make a significant difference. Over the years, I have worked on rationalising the process within the BPS and hopefully have engaged as many as possible. I accept that there is still a lot to be done around breaking down the barriers, particularly between the different professional groups. For us to work together, we all have to see the bigger picture but also accept the limitations of what a small members charity can do. As a previous President said, 'it is better to be at the table rather than on the menu'.

From May we will have a new executive team

I know that they are passionate about the BPS. However, we face difficult times and they need not only your support but also commitment that we will work together to maintain a Society that provides great inspiration for our members and others who support Pain Management Patient Care.

Finally, I would like to extend a special THANK YOU to the secretariat led by Jenny that has had to manage not only a full-time clinician, but my idiosyncrasies. Also thank you to my past Vice Presidents, Martin Johnson and Paul Wilkinson, and Honorary Treasurer Heather Cameron and Honorary Secretary Roger Knaggs. Without their dedication, much would not have happened within the Society. There remain far too many others to say thank you to, past and present, both Elected and Co-opted Council Members, members of the Patient Liaison Committee and many volunteers.

From the Honorary Secretary

Professor Roger Knaggs

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 11
© The British Pain Society 2019
SAGE

Membership update

Overall, membership numbers remain relatively stable around 1,114, although inevitably the precise number fluctuates around the time of subscription renewal by direct debit in May and November. At present, the major professional groups represented are anaesthesia (512), nursing (148), psychology (125) and physiotherapy (101).

Following the comments raised at the last Annual General Meeting, the Council has had further discussions on membership structure and bands. As part of this review, it has highlighted the relatively large number of members in the lower income categories. This may be related to the fact that your salary was lower when you first joined and that our membership database has not been updated. Current bands are based on taxable income. Before renewing your subscription, please take a few moments to check that your band matches your salary, and if not, please let the Secretariat know. We rely on your honesty to ensure that correct subscriptions are paid.

Council elections

You may recall from my last column I wrote about the forthcoming elections for two Council members. The National Health Service (NHS) continues to face unprecedented continuing pressures at present and that it may be increasingly difficult to be able to take on additional external commitments. However, YOUR Society needs your help and support.

I know that the incoming Executive team have an ambitious plan to see the Society develop over the next few years. In order to ensure ongoing multidisciplinary representation at Council, I reiterate my call to encourage all non-medic members to think about colleagues who may be able to best represent their discipline or consider standing yourself.

The next few years are going to be critical for The British Pain Society and why not consider playing a part in shaping the future of pain management in the United Kingdom. If you would like to know more about what the role involves, please do not hesitate to contact me or any current Council member.

European Diploma in Pain Medicine

The European Pain Federation (EFIC) is holding the third sitting of the Examination for the European Diploma in Pain Medicine. The Examination will take place on the 12 and 13 April 2019 in Leuven, Belgium.

The Examination is open to all qualified doctors who see and treat pain. Appropriate clinical experience in pain assessment and treatment is essential. Residents and fellows working in multidisciplinary pain centres or multidisciplinary pain clinics are ideal candidates, though the Examination is open to all doctors, specialists or general practitioners, with an interest in pain and its management.

Registration is now open.

EFIC website: https://www.europeanpainfederation.eu/core-curriculum/diploma-in-pain-medicine/

Registration portal: https://www.regonline.com/registration/checkin.aspx MethodId=0&EventSessionId=bf0a42e68e11496bb5a443d990e4ad41&EventId=2536279

Further information can be found on the EFIC website and questions should be addressed to secretary@efic.org

And finally, ...

This will be my final column in *Pain News* as Honorary Secretary as my term of office finishes at the Annual General Meeting in May. It is hard to recollect that 3 years have passed so quickly. It has been an honour to serve the Society as Honorary Secretary working with the other Executives, Council members and Secretariat staff, and to have gained a clearer understanding of the workings of The British Pain Society. I wish my successor Honorary Secretary Elect, Dr Ayman Eissa, and the new Executives every success over the forthcoming years and I look forward to seeing the Society flourish.

I look forward to seeing as many of you as possible in London at the Annual Scientific Meeting on 1–3 May.

The British Pain Society's position statement on the medicinal use of cannabinoids in pain management

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 12
© The British Pain Society 2019
SAGE

The British Pain Society welcomes the increasing awareness and changes in government policies towards the potential use of cannabinoid preparations for the management of various chronic medical conditions including epilepsy, multiple sclerosis and pain management. Members of The British Pain Society have occasionally come across patients who have benefitted from using cannabis and acknowledge that it may have a place in pain management for a small number of carefully selected people. However, meta-analyses of clinical studies on cannabinoids for the management of pain conclude that there is no positive evidence to support routine use in pain management. These include neuropathic pain, chronic non-malignant pain and cancer pain.

The British Pain Society acknowledges that the quality of some studies is not of a high standard and supports the need of well-designed robust clinical trials and registries to evaluate the safety, efficacy and harms of cannabinoid preparations in pain management. In the meantime, any use of cannabinoid preparations for pain management should be closely monitored for benefit and side-effects; these findings should be evaluated within a national database and any concerns should be appropriately investigated.

The British Pain Society shares the concerns raised in the position statement of the Faculty of Pain Medicine and reports from the United States, Ireland and Australia. More than 150 Consultants in Pain Medicine signed a letter to the editor of *The Times* expressing their concern about the unregulated use of cannabinoid preparations for pain due to their uncertain effectiveness and the potential for misuse and adverse effects on cognition and mental health.

Currently, there is a paucity of effective analgesics that could be safely used in the long term without deleterious side-effects and this highlights the need for analysing the scope of medical cannabis in the management of chronic pain through scientific rigour, rather than extrapolating findings following recreational use of cannabis products. There are a wide variety of cannabinoid products available with varying composition of active ingredients with different potencies and doses; hence, there is a need for close monitoring to ensure safety for people prescribed cannabinoid medicines.

The British Pain Society considers there may be a role for medical cannabis in pain management, but more reliable evidence is warranted following robust clinical evaluation. In the meantime, a short therapeutic trial of cannabis should be only considered when established treatment options have not provided sufficient efficacy and tolerability, and it is clinically justified for an individual person. Appropriate clinical surveillance should be carried out for the duration of treatment with cannabinoids in a multidisciplinary pain service with the relevant clinical expertise. Treatment goals should be defined, and as with other therapies, medical cannabinoids should be withdrawn if there is failure to achieve therapeutic benefit and/or in the presence of adverse effects and/or there is evidence of abuse or misuse.

Chronic pain is a difficult condition to manage and The British Pain Society supports multidisciplinary assessment and appropriate management with pharmacological, interventional, physical and psychological therapies that are tailored to individual patients' requirements. The British Pain Society is committed to supporting the millions of people suffering with chronic pain in the United Kingdom and would work proactively with other stakeholders in understanding better the role and place of cannabinoids in pain management.

References

1. Mücke M, Phillips T, Radbruch L, et al. Cannabis-based medicines for chronic neuropathic pain in adults. *Cochrane Database of Systematic Reviews* 2018; 2018(3): CD012182.
2. Stockings E, Campbell G, Hall WD, et al. Cannabis and cannabinoids for the treatment of people with chronic non-cancer pain conditions: A systematic review and meta-analysis of controlled and observational studies. *Pain* 2018; 159: 1932–54.
3. National Academies of Sciences, Engineering, and Medicine. *The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research*. Washington, DC: The National Academies Press, 2017.
4. Guidance for the use of medicinal cannabis in Australia: Overview, ver. 1, 2017. Available online at https://www.tga.gov.au/sites/default/files/guidance-use-medicinal-cannabis-australia-overview.pdf (accessed 25 January 2019).
5. *Cannabis for medical use – A scientific review*. Health Products Regulatory Authority, 2017. Available online at https://www.hpra.ie/docs/default-source/publications-forms/newsletters/cannabis-for-medical-use—a-scientific-review.pdf?sfvrsn=7 (accessed 25 January 2019).
6. Häuser W, Finn DP, Kalso E, et al. European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. *European Journal of Pain* 2018; 22: 1547–64.
7. Hauser W, Finnerup N, and Moore RA. Systematic reviews with meta-analysis on cannabis-based medicines for chronic pain: A methodological and political minefield. *Pain* 2018; 159: 1906–7.

THE BRITISH
PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

ANNUAL
SCIENTIFIC
MEETING

Book Now!
2019 ASM

1st – 3rd May 2019, Hilton London Tower Bridge
52nd Annual Scientific Meeting

Confirmed Sessions include:

- Compassion focused therapy for pain: how to use self-compassion to soothe pain-related distress, self-criticism and allow pacing of activity
- Acute neuropathic pain update
- Patients as research partners
- How can surgical practitioners deliver effective reassurance to people with back pain who are not offered surgery?
- Addressing the evidence to practice gap in pain management
- Squaring a circle: new models for pain services
- Essential Pain Management (EPM) – a universal structure for teaching pain management to healthcare professionals
- Growing up with chronic pain: trials and tribulations in adolescence
- Benefits of multi-disciplinary decision making in neuromodulation: improving patient satisfaction and outcomes
- Biologics for pain
- Benzodiazepines and opioids – interactions, management and impact on rehabilitation outcomes
- How to maximise the effect of your interventions - selection and technique

Why you should attend:

Network with colleagues
Raise questions, partake in debates and discuss outcomes
Keep up to date with latest research, practice and developments relevant to pain
Meet with poster exhibitors and discuss their research
Find out about the latest developments in industry

We look forward to seeing you there!

THE BRITISH
PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Biennial National Pain Management Programme Conference
11-12 September 2019

"The Societal Impact of Pain"

Following 2017's successful Pain Management Programme (PMP) Special Interest Group's Conference in Glasgow, the Biennial National PMP Conference will be held at **Bristol University** on the **11th and 12th September 2019.**

The conference is placing the spotlight on the Biopsycho**SOCIAL.** It will explore a range of related topics including: how to capture social outcomes; social prescribing; co-creating services and resources; perceptions of injustice; risk factors for chronic pain and disability; the impact of chronic pain on employment; follow on groups, and will try and answer questions such as 'What is the 'social' in biopsychosocial?' and 'What are the social influences on pain?'

Save the date – we hope to see you there!

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 15–19

SAGE

Veterans' experience of chronic pain management: it takes experience to manage this difficult relationship

Catherine Hitch *Registered PhD Student, University of Ulster*

Credit: Guvendemir.

For my MSc thesis, I took a qualitative approach to studying pain-coping experience in veterans. I found that veteran chronic pain is managed through understanding and drawing upon personal experience, and personal experience changes over time. The most effective pain management strategy for veterans comes from using a blend of military–civilian techniques, but whether the majority of coping techniques are military or civilian (or an equal blend of the two) is tailored to the individual, who is in a long-term relationship with pain.

I have been interested in veteran physical and mental health for many years; I come from a military family, with my brother being third-generation Army. As much as possible, I have attempted to tailor academic work towards veteran health, so for my Health Psychology MSc dissertation, I asked my veteran friends and family 'what is the most common post-military physical health issue you manage?' The resounding response was chronic pain. Even those who said they did not suffer pain often referred to some sort of pain in a later conversation; they just did not think it was worth complaining about. The consensus seemed to be it is very much taken for granted that chronic pain is an integral part of civilian life. This is also a finding in previous research.[1]

However, what I also found when embarking upon my own preliminary investigations is that chronic pain in veterans is all too often associated with mental health issues and post-traumatic stress disorder (PTSD). Previous research suggests that PTSD exacerbates pain[2] and that veteran PTSD sufferers are more likely to use avoidance coping strategies or perhaps focus on managing emotions rather than being more problem focused.[3,4] While PTSD does seem to exacerbate pain,[2] it is clear that chronic pain still has an impact on veterans' lives, even in the absence of mental health issues.

Furthermore, the vast majority of previous research is conducted using questionnaires to measure pain coping, which are generic in nature. At the date of writing, a veteran coping questionnaire and/or a veteran chronic pain questionnaire do not exist, so one cannot assume you can really capture the

Credit: z_wei.

veteran experience of living with chronic pain by using a general coping questionnaire. Often these questionnaires are only administered once, or at the most a few times, whereas chronic pain sufferers manage pain for years. So, how can you adequately understand veteran chronic pain management, by measuring it a few times, with inadequate scales?

Often previous methods used have just followed the pattern that much existing research has taken, and Munglani[5] points out that this may be due to perceptual bias and/or having a narrow view within that field of research. Health issues need to be researched in such a manner that factors for specific cultures and the time in which specific cultures are situated, and this is especially true of the veteran community.

Veterans have been conditioned by the Forces to have specific health and illness beliefs (e.g. reject help and ignore health warnings),[6,7] as well as being situated socially within specific contexts when transitioning to civvy street. Some veterans, for example, may leave the military and find themselves in an area of high unemployment, so low income (or no income) may impact on their ability to access resources needed to manage chronic pain. Some may even struggle to afford necessary medication. Some veterans may find themselves in areas of isolation, with low social and/or physical support, and this could impact on their ability to manage chronic pain. The United Kingdom presently has many veteran and military charities, and this reflects the current attitude that UK society (generally speaking) is supportive of its veterans, and yet some veterans may not utilise charitable support for several reasons. It could be due to logistics; the veterans cannot access support due to poor transport networks or a lack of personal transport, or it could be a case of pride; the veteran attitude of pride has possibly remained unchanged for several hundred years.[8] Therefore, how veterans cope with chronic pain is multifaceted, and many factors should be considered to obtain a full understanding of the chronic pain-coping relationship.

For this reason, I decided to conduct semi-structured interviews with veterans, who had not been diagnosed with mental health issues and who had managed their pain for a minimum of 3–6 months. For pain to be considered chronic, it should have been present (sometimes intermittently) for at least 3–6 months, so the word 'chronic' refers to time and not pain intensity. I also did not make any assumptions about how the veterans managed their pain; I did not assume they all self-managed and had no assistance. How they managed the pain (what steps they took, resources accessed, resources accepted, assistance or support sought) would be explored through the research process. I took a grounded theory approach to attempt to find a theory or explanation for veteran coping with chronic pain and to get a real insight into the relationship the veterans had with coping and chronic pain.

Similar themes repeatedly emerged throughout the interviews, and after I had transcribed and analysed seven veteran interviews, no new themes emerged. This is referred to as the saturation point. The majority of veterans actually had managed their chronic pain for many years, so they had extensive and often profound pain management experiences. When encapsulating the essence of their experience, it struck me that for them it was literally like being in a relationship with their pain. For some, the relationship was like being with someone who was a bit irritating, and for others, it was like managing a persistently intense and difficult relationship. Each veteran's relationship with their pain took managing, and each veteran's coping strategies were unique examples of how they managed their own relationship.

The way the veterans described their pain relationships and coping revealed that the pattern of coping relationships was unique to each individual. Some elements of coping were shared, but not all coping was the same. There is no universal or standard way that veterans manage chronic pain.

Key points that emerged from the findings were that veterans do draw on their military training and identity and very much want to manage their pain their way. Research does indicate that veterans show lower levels of agreeableness,[9] are trained to be problem solvers[10] and prefer self-care.[11] This may include making adaptations and/or taking a trial and error approach. They do not seem to be afraid of exacerbating pain while discovering what they can and cannot do, but they have learned what makes the pain unnecessarily worse, so at times use active avoidance to minimise unnecessary pain. All veterans actively avoid associations with being disabled, whether that be disabled-related assistance or just being labelled disabled as this would appear to clash with the military/veteran ethos/identity.[11]

The veterans used very emotional language when describing their pain experience. Both negative and positive emotions are frequently found in chronic pain research[12–14] and can act as motivators to managing chronic pain.[15,16] For example, it is beneficial to engage in activities that produce feelings of passion, as this distracts the sufferer from the pain and boosts feelings of general wellbeing.[15] Pride was also a commonly reoccurring emotion, which can act as a significant barrier to help-seeking, and this can be seen in previous research.[8] However, contrary to some existing evidence,[17] no veterans were particularly focused on managing their emotions, but rather acknowledged that emotional responses occurred throughout pain experience/management.

The veterans also discussed the use of support; whether this was social support or professional support. What was interesting in terms of these particular veterans' experiences was that many did seek help, despite a vast body of research suggesting that veterans are poor help-seekers.[8] Many veterans commented that they were dissatisfied or disillusioned with healthcare professionals or support services. Yet, despite that, many would seek out new treatment and/or different professional assistance to help manage the pain relationship. Many veterans sought assistance rather than waiting to be offered help, so they were active rather than passive with their pain relationship management. Also, many veterans acknowledged that social support was important to general wellbeing, and just being in company could make a difference to a veteran's pain levels. Support even seemed to extend to good relationships with work colleagues and employers, so the working environment was easier to navigate when pain levels were higher. Again, many veterans seem to be actively managing these relationships to assist with the pain management relationship.

Finally, another type of language used when discussing the pain relationship was temporal language, and it was clear that the pain relationship had changed over time for these veterans; often for the better. Most veterans shifted between the past and the present and compared what they could do now with what they could previously do. This seemed to act as a barometer, so the veterans could assess where they were with their pain management and how much it impacted on quality of life. When pain was particularly bad, it seemed like time stood still, and the pain relationship needed special attention. However, in most cases, this seemed temporary, and before long life was moving along again at an acceptable speed. The veterans were often able to reflect that their current situation is not as bad as it was, and they could see progress had been made with the pain management. This helped them to reflect that their pain relationship had improved, and this was a positive thing.

The use of a qualitative methodology in this study enabled understanding of what the pain relationship was and how it had changed over time. The qualitative nature of the study was also able to produce findings which suggested that while all veterans' reactions to pain was very much shaped by military inspired experiences, beliefs and culture, it was also unique to each individual. Explanations were also offered to account for the uniqueness. Upon listening to these explanations, it made me wonder whether a coping questionnaire would find that veteran A is more positive towards medication and analgesics because they were a military medic, that veteran B prefers to self-care because their father was in the military and they were conditioned to believe that 'you just crack on with it', way before they joined the military, or that veterans C and D have positive relationships with healthcare professionals because they spent extended periods of time in hospital so had no choice but to trust doctors. These sorts of insights provided explanations for why some sought and accepted help and some did not and that acceptance of help often came after experience altered veterans' perceptions.

This demonstrates that over time, through experience, many veterans had altered their attitudes and incorporated many so-called 'civilian' coping methods to have a better quality of life. Civilian style coping could be classed as seeking out and more easily accepting assistance and having trusting relationships with support services. While the military style of coping may be better described in terms of self-reliance that is 'cracking on with it' and it may have been the default coping style many veterans used, some recognised this was not suitable in all instances of managing chronic pain. So, it seems that all managed their pain relationship by drawing on a blend of military–civilian techniques, and how much of that was military or civilian was down to the individual. The veterans' overall life experiences shaped how much military or civilian techniques they drew upon.

Interestingly, regarding context, factors such as living in a more or less affluent area and access to resources (physical and psychological) did not seem to make a great deal of difference to these veterans' pain-coping experiences, because any pain-related issues that arose seemed to be dealt with by using a problem-solving approach. Many veterans with more difficult pain relationships seem to attribute the relationship difficulty to the pain itself (e.g. location of pain site, impact of pain – lack of sleep, concerns of medication); therefore, it could appear that context or environment is not a factor within the pain management relationship. However, through the interviews, it became clear that context played a key role in

Credit: Brian A Jackson.

managing the pain relationship. It was in rehabilitation contexts that some learned to trust healthcare professionals. Contrastingly, where veterans grew up in a military-orientated environment, they were conditioned to reject help, on the basis that veterans should not and do not need assistance. So, the many contexts veterans have found themselves in have very much shaped coping strategies adopted, whether this was pre, during or post military service.

These findings are useful for several reasons:

1. They support existing veteran research which suggests military style techniques are often inadequate for dealing with some veteran experiences of pain; civilian style techniques need to be created and developed further which are more appropriate for certain scenarios.[18] This is especially true when veterans are transitioning from one situation to another.
2. Findings demonstrate that quantitative measures used during pain management intervention sessions (e.g. at a pain clinic) are insufficient to fully capture the experiences a veteran has had. As mentioned above, questionnaires do not fully capture the reasons that people cope in specific ways. For example, a questionnaire would not necessarily capture that a veteran does trust healthcare professionals now because they spent a lot of time in hospital and rehabilitation, and during that time, they had no choice but to trust professionals. Eventually, after forming a trusting relationship with different people in a specific setting, their attitude changed. This development of trust and change in attitude will take some time.
3. Interviews together with questionnaires would be far more useful in obtaining a better understanding of experience, which is rich in detail. Those personal experiences can be highlighted and built upon to assist with individualised chronic pain management. So, an interview could produce an account of general life experience which contained positive examples of problem solving and proactivity (e.g. researching, sourcing equipment/aids, enlisting help), and these positive examples (which come from any area of life) could be used to counterbalance and challenge unhelpful pain management strategies and attitudes (if, for example, questionnaire results suggested someone was emotion focused (partially helpful) or avoidant (even less helpful)). Using positive examples elicited from interviews is also beneficial for veterans psychologically, because the emphasis is placed on utilising the positive techniques that are already in place. A veteran could use them as starting blocks rather than suggesting (as per possible questionnaire results) that they are starting off from scratch with no (or few) examples of positive coping to work from.
4. Any intervention could be personally tailored to the pain suffering veteran, and this could prove more effective than having the sufferer enrolled in a generic pain management intervention course. This would be particularly beneficial for veterans, as it is useful to those creating interventions to understand that veterans are probably already aware that military signature injuries cause pain (e.g. long period of marching causes injuries, carrying heavy loads causes injuries, holding the 'firing' position for extended periods of time causes injuries, being caught in a blast causes injuries, and falling off vehicles/buildings causes injuries),[19] and that factors such as age and co-morbid conditions (e.g. arthritis) exacerbate pain.[1] Veterans also share wellness and illness management beliefs, which are accompanied by their own unique wellness and illness views. The intervention should be a blend of the two, suited to the recipient.
5. The assessment process needs to be repeated regularly over a period of time, because if experiences change over time, then these need to be re-examined. More recently occurring positive experiences could be incorporated into long-term pain management interventions, and ineffective strategies can be discarded.
6. The knowledge that pain can be effectively managed over time via experience is beneficial for managing expectations. It can be explained that chronic pain management is not a quick fix, and like any difficult relationship, it can take a protracted length of time to feel that the relationship is manageable at worst and positive at best.

Of course, it is also worth noting that many of these principles can be applied to the general population, so people can be taught that the pain management relationship can be improved over time. Those who create general pain management interventions could look to the positive strategies adopted by veterans and the military and weave them into intervention programmes, to make them more effective. Being proactive, engaging in activity, finding something you are passionate about, making adaptations so that life does not feel like it has stopped, enjoying socialising and being as efficacious as possible can improve pain levels and general quality of life.

A full article of the study is currently being reviewed for publication.

References

1. Williams R, Allen-Collinson J, Evans A, et al. 'We may be falling apart but we still keep going': Retired servicemen's experience of their aging bodies. *Qualitative Research in Sport, Exercise and Health* 2018; 10: 190–205.
2. Stojanovic MP, Fonda J, Fortier CB, et al. Influence of mild traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD) on pain intensity levels in OEF/OIF/OND veterans. *Pain Medicine* 2016; 17: 2017–25.
3. Boden MT, Bonn-Miller MO, Vujanovic AA, et al. A prospective investigation of changes in avoidant and active coping and posttraumatic stress disorder symptoms among military veteran. *Journal of Psychopathology and Behavioral Assessment* 2012; 34: 433–9.
4. Rodrigues S, and Renshaw KD. Associations of coping processes with posttraumatic stress disorder symptoms in national guard/reserve service members deployed during the OEF-OIF era. *Journal of Anxiety Disorders* 2010; 24: 694–9.
5. Munglani R. This is us ... or why we need a multidisciplinary pain society so as not to miss the gorilla in the room. *Pain News* 2018; 16: 47–8. Available online at: https://www.britishpainsociety.org/british-pain-society-publications/pain-news-1/ (accessed 5 October 2018).
6. Denke L, and Barnes DM. An ethnography of chronic pain in veteran enlisted women. *Pain Management Nursing* 2013; 14: e189–95.
7. Kerns RD, Heapy A, Kerns RD, et al. Advances in pain management for veterans: Current status of research and future directions. *Journal of Rehabilitation Research and Development* 2016; 53: vii–x.
8. Stecker T, Fortney J, Hamilton F, et al. An assessment of beliefs about mental health care among veterans who served in Iraq. *Psychiatric Services* 2007; 58: 1358–61. Available online at: https://www.ncbi.nlm.nih.gov/pubmed/17914017 (accessed 11 October 2018).
9. Jackson JJ, Thoemmes F, Jonkmann K, et al. Trautwein, Military training and personality trait development: Does the military make the man, or does the man make the military? *Psychological Science* 2012; 23: 270–7.
10. Cornell-d'Echert B. Beyond training: New ideas for military force operating beyond war, New Dir. *Adult and Continuing Education* 2012; 136: 17–27.
11. American Pain Society. Better self-management Improving VA outcomes for chronic pain care. In: *American Pain Society's 35th Annual Scientific Meeting*, 2017. Available online at: http://americanpainsociety.org/about-us/press-room/better-self-management-improving-va-outcomes-for-chronic-pain-care (accessed 1 June 2018).
12. Matthias M, Miech E, Myers L, et al. A qualitative study of chronic pain in operation enduring freedom/operation iraqi freedom veterans: 'A burden on my soul'. *Military Medicine* 2014; 179: 26–30.
13. Outcalt SD, Nicolaidis C, Bair MJ, et al. A qualitative examination of pain centrality among veterans of Iraq and Afghanistan conflicts. *Pain Medicine* 2016; 18: 211–9.
14. Rice V, and Liu B. Personal resilience and coping. Part II: Identifying resilience and coping among U.S. military service members and veterans with implications for work. *Work* 2016; 56: 335–50.
15. Subnis UB, Starkweather A, and Menzies V. A current review of distraction-based interventions for chronic pain management. *European Journal of Integrative Medicine* 2016; 8: 715–22.
16. Kouchaki M. Guilt enhances a sense of control and drives risky judgements. *Journal of Experimental Psychology* 2014; 143: 2103–10.
17. Beaton C, Hodge F, Nyamathi A, et al. Male veterans coping with the pendulum swing of rheumatiod arthritis pain: A qualitative study. *Californian Journal of Health Promotion* 2012; 10: 44–55. Available online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4270000/ (accessed 11 October 2018).
18. Reyes A. Student veterans' construction and enactment of resilience: A constructivist grounded theory study. *Journal of Psychiatric and Mental Health Nursing* 2018; 25: 37–48.
19. Ministry of Defence. Annual medical discharges in the UK regular armed forces, 2017, Available online at: https://assets.publishing.service.gov.uk/.../20170713-MedicalDisBulletinFinal-O.pdf (accessed 1 June 2018).

Professional perspectives

The future of the NHS

Jenny Jessop *Retired Consultant in Pain Management*

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 20–21

SAGE

The NHS was arguably the United Kingdom's greatest achievement of the 20th century, and it remains a source of great national pride 70 years after its foundation. The NHS of my childhood was very different to the NHS of today. General practitioners (GPs) were mostly single-handed, and if you needed to be seen, you have to walk in during surgery hours, sit down and wait for your turn. Sometimes, the surgery would be interrupted because the GP had to make an urgent visit to a patient, but the patients simply sat and waited until he (it was almost always he) got back. GPs also ran cottage hospitals, where they looked after their sicker patients and did operations. I had my adenoids removed in 1958, aged 7 years, in the local cottage hospital with one GP giving the anaesthesia (almost certainly ether) and the other doing the surgery. I was kept in for 4 days and only saw my parents during short visiting hours. In the 1950s, we spent less than 4% of gross domestic product (GDP) on health, and waiting lists for cataracts and joint replacements were measured in years, not months, until comparatively recently. One of my house jobs in the early 1980s involved covering an oncology unit while on call, which was an absolute nightmare. The patients were all hospitalised for the duration of their chemo and most were horrendously sick. Chemotherapy had to be administered round the clock through veins that were crying out for mercy and you had to make up the chemo yourself in a fume cupboard. I was doing this while working over 80 hours a week, and anything over 40 hours was paid at 30% (I repeat, one-third) of your base rate. So, please forgive me if I don't buy into the rosy picture of the halcyon days of the NHS. It has never been a Rolls Royce service, rather it has always struggled to provide a Ford Focus service for the price of a Trabant, but that has not meant that people weren't profoundly grateful for it.

So what has changed?

First, most people now do not remember what it was like not to have the NHS, and it is increasingly taken for granted. Second, because we have clung to the principle that it is free at the point of access, the link in patients' minds between their treatment and their own money has been lost. This is made worse by the fact that all central taxation is pooled, so there is a visible and constant tension between the needs of the NHS and those of other government departments, which leads to the view that government could find more money for health by making cuts elsewhere or making big business pay more tax. So, politicians of all colours see increasing taxes to improve the NHS as a vote loser.


Credit: Sturti.

Third, the NHS has never been great at organising itself, its computer systems are shambolic and missing important functionality, it wastes gazillions by not flexing its mass purchasing muscle and the operating of its patient handling pathways is chaotic and inefficient. This all leaves the way open for government to argue that the NHS has to sort itself out and stop just asking for more money, even though it may still be underfunded.

Fourth, there is a lot of publicly aired disgruntlement from people who work in the NHS. Junior doctors, for instance, see themselves as being badly treated, although I fail to be convinced that their working conditions are as bad as those experienced in times gone by. I think part of the problem is that the profession has expanded enormously, so where you used to be able to look forward to becoming a very big fish in a smallish pond once you became a consultant, the probability now is that you will be a smaller fish in a much larger departmental and institutional ocean. This is also true for GPs. Once upon a time, they would have worked much longer hours than their successors, and with little time off, but they were hugely respected members of their local community. Doctors feel the loss of status and resent what are seen as the demeaning demands on them, for example, appraisal and revalidation, and if doctors are demoralised, then it drags down the national mood about the NHS.

Are there any changes that would make the NHS more likely to survive?

My view is that the NHS will certainly survive if people want it enough to pay for it. As discussed above, there is currently a bit of a disconnection between people's expectation of the service and their own money. Could this be managed better? I believe it could. It's interesting to look at how France and Sweden fund their services, and I have chosen these two countries partly because they are often cited as beacons of excellence and partly because I have informants in both countries who had experience of the NHS before emigrating. Both countries collect specific taxes ring-fenced for healthcare, and both charge patients at the point of access. In France, there is a tax levied on employers which funds approximately 70% of state healthcare, but you have to pay around 30% up front at the point of access. People are expected to take out insurance to cover this gap, and they have to reclaim any payments from their insurance company. In Sweden, all except specialist health facilities are provided by local councils (of which there are 20) who raise the money through a local income tax which is ring-fenced for health. There is a mechanism for spreading this revenue evenly across councils so that all areas have comparable services irrespective of local wealth. There is a nominal charge that is payable at the point of access to the service which is around £10–30 and a cap of £110 on annual payments by any individual. Neither service would refuse to see a sick person with no money. Both countries spend around 11% of GDP on health, which is higher than that in the United Kingdom at 9.8%, so collecting taxes specifically for health appears to be politically acceptable, and indeed, there are signs in the United Kingdom that people are open to the idea of paying higher taxes to fund the NHS, provided they know that the money won't get diverted elsewhere. I think that a charge associated with accessing the service also helps to reinforce the links between the health service and people's own money, although I prefer the Swedish model of nominal payments to the stress that must be involved in France with finding what can be sizable sums of money up front and then having the bureaucracy of reclaiming them. Incidentally, the same Swedish councils that provide healthcare also raise other taxes to provide infrastructure, and that includes social care. I understand it is rare for patients to get stuck in hospital beds while waiting for social services.

Even if we sort a different method of taxation for the NHS, the service has got to do a lot better in terms of efficiency. The actual care delivered to patients is pretty good, but the organisation around it is abysmal. I have already mentioned the information technology (IT) chaos and the money wasted on overpaying for drugs and consumables. Once you've had a cataract operation done on the NHS in the private sector, and you've seen the team operates on 25 patients in a day, in a way that felt relaxed and unhurried, you can't help asking yourself why an overlapping population of surgeons can only manage 5 on a list in the local NHS provider. The NHS will have to be dragged, kicking and screaming if necessary, into the 21st century and doctors must learn to stop reflexly resisting change and start taking a lead in designing it.

I am not going to tackle what you do about medical morale. Everyone has their own views on that, and I've been out of the workplace for too long, so you can draw up your own action plan for that!

Hopefully I have given a convincing account of how we might restore realistic funding to the NHS by taking it out of party politics and the need to win elections and removing health from the continuous horse trading between government departments. It seems obvious to me, and it works elsewhere. Unfortunately, I can hear the voice of a very sensible Director I worked for just before I retired. 'Jenny' he used to say as we discussed stupid decisions made by others, 'you're making the mistake of applying common sense to this!' That just about sums up the NHS in a nutshell. It's time to rescue it before we end up spending over 17% of GDP to get the nightmare that constitutes healthcare in the United States.

Acknowledgements

I would like to thank Tim Jessop and Helen Taylor for insights into the French and Swedish systems, respectively.

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 22

SAGE

The assessment of pain in older people: UK national guidelines 2018

Margaret Dunham *Post Graduate Research Tutor for Health & Social Care, Senior Lecturer in Nursing and Pain Management at Sheffield Hallam University*

The presentation of these revised guidelines[1] is timely and very welcome. The undertaking of this exercise has been supported and endorsed by the British Geriatrics Society and funded by Bupa. The working group, coordinated by Professor Pat Schofield, is refreshingly representative of a variety of health professionals and inclusive of patient/service user groups. This exacting task was driven by the needs of an increasingly aged population and associated potential rise in need for pain care provision. It revisits and updates the 2007 paper[2] endorsed by the Royal College of Physicians, British Pain Society and the British Geriatrics Society.

The consideration of pain as identifiable and manageable in the ageing population is an important premise for this article alongside the limited recognition of needs of people in later life. In addition, the heterogeneity of physical disease and illness experience of 'the aged', those within an age range of 65–100 years, make this a complicated and exacting area to consider. Which other health care group are so easily identifiable and supported in health care provision?

This article is divided into sections capturing various aspects of pain assessment including one entitled 'self report measures of pain assessment'. It is interesting that some 47 papers were noted as relevant to the useful section about structured self-assessment. Each section helpfully gives the reader more detail on the range and number of papers considered. Previous guidelines are also considered with some critique included in the final section.

A glossary of terms is included, usefully at the beginning, which makes the paper easily informative and accessible for those who are not pain specialists. The variety of available pain scales and tools is quite extensive and a useful brief summary of its application is included with each one. The appendix (in the online publication) includes more detail on the searches undertaken, a table of the cited papers and a compendium of some of the associated assessment tools.

The detail on levels of evidence is very helpful to the reader, however; a section on particular recommendations for practice would have been useful. However, this review does what it intended, in identifying what is out there, so perhaps a future project and consequent publication should address this?

On the whole, this article informs a very important general conversation about what is purposeful and effective in health care for those older than 65 years. However, the consensus of what makes a person different because of age and how the pejorative terminology of ageing may detract from the development of appropriate health care provision are areas which need urgent attention if the needs of *our* ageing population are to be adequately supported.

An important move with this and other recent research projects is the inclusion of the 'service user'.[3] Until recently, the voice of the patient as 'service user' has been either absent or sometimes tokenistic. However, in regard to the ageing demographic, we are and will become 'the aged', 'the old', 'the elders' and 'the geriatrics'. We are, as adult humans, necessarily older than others. So, the concept of the 'elderly' is not related to some remote disparate section of society unless you live in the fantasy of an ageist dystopian future as described in the 1967 book Logan's Run and it's eponymous film.[i] Be aware this affects all of you!

Note

i. Logan's Run is a novel by Nolan W.F. & Johnson G.C. where all adults are euthanised at the age of 21 years.

References

1. Schofield P. The assessment of pain in older people: UK national guidelines. *Age and Ageing* 2018; 47: i1–22.
2. Royal College of Physicians, British Geriatrics Society and British Pain Society. *The Assessment of Pain in Older People: National Guidelines* (Concise Guidance to Good Practice Series No. 8). RCP: London, 2007.
3. Department of Health. *Creating a Patient Led NHS: Delivering the NHS Improvement Plan*. London: The Stationery Office, 2005.

Does it matter that Ketamine lifts mood through an opioid-based mechanism?

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 23
© The British Pain Society 2019
SAGE

Varun Jaitley *Wigan*

At the end of August 2018, an open access online editorial (Published Online: 29 August 2018, https://doi.org/10.1176/appi.ajp.2018.18070800) appeared on the website of the *American Journal of Psychiatry* which commented on a Ketamine study that had been published within the journal. The (very small) study itself set out to investigate if an opioid-based mechanism was responsible for the rapid antidepressant effect of Ketamine, and the study was actually halted before completion because an interim analysis showed quite clearly that opioid-based mechanisms were involved – so the study question was answered. In my view, the editorial provided a very level-headed analysis of the possible implications for psychiatrists of this study and I would urge anyone interested in delving into the matter further, to follow the link.

So why should UK pain clinicians have some peripheral awareness of this work? It is because Ketamine now occupies the borderland of practice occupied by anaesthetists, and some emergency medicine specialists, psychiatrists and pain physicians, and whatever is undertaken in one arena has the potential to change our understanding of what might be going on in another. Ketamine is a drug which is capable of influencing brain perception and thus the human experience – including the pain experience. We should not be surprised that when Ketamine lifts mood, it involves a mechanism that has a basis in opioid receptor pharmacology. After all, opioids have been misused for millennia for their euphoric effects. The problem for mankind of course has always been the rapid tolerance to the euphoric effects (requiring bigger and bigger doses to get the same effect) and the development of a physical dependence to the opioid and the resulting substance misuse disorder. Alcohol is another substance that can help mood for a very short period of time, and again, it would be a problem for mankind if the population relied on this to keep themselves permanently happy. My own view is that it is not morally wrong to lift mood by invoking a mechanism that has a basis in opioid receptor pharmacology provided that the dose of the drug doing the mood lifting is not escalated so that another substance misuse problem is created. How likely is it that this could happen? Well that, of course, is the big unknown, and for psychiatric practice, it must be so tantalising and confusing that at the same time as this, evidence is starting to emerge that Ketamine may be useful in reducing problematic alcohol and drug use.[1] We will hopefully hear plenty more about this potential role as more randomised controlled studies on this subject start getting published in the next few years.

In the meantime, medical prescribers of Ketamine will undoubtedly recollect that Ketamine works on many different biological pathways, and it may just be that it is this unique combination of pathways and the subsequent effects that are responsible for the end result. In my view, it would not be unreasonable to posit that initial mood lift is achieved by one mechanism and mood stabilisation by another – thus, for example, from rat experiments, we know that Ketamine causes the release and activation of brain-derived neurotrophic factor (BDNF), and BDNF induces synaptogenesis, dendritic arborisation, improved neuronal health and neurogenesis.[2] The latter mechanisms may be how mood is stabilised once mood is lifted, but this is pure supposition on my part, for I am an anaesthetist who has never undertaken any animal research and I feel somewhat underqualified to comment authoritatively on how an anaesthetic drug may be influencing mood, when my main preserve is pain. However, as a medical prescriber of low-dose oral/sublingual Ketamine for pain and as someone who has being doing so for some time, I am very clear that in my hands whatever Ketamine does, and however it does it, it does seem to work for some people. Equally from a purely pragmatic point of view, I am very clear with my patients that the dose will not be endlessly escalated and that there is a ceiling dose in my practice. To date, with the small doses I have been using, I do not believe that I have created a dependence problem, and anecdotally this has been the experience of others. For large doses, of course, the situation may be different.

References

1. Jones JL, Mateus CF, Malcolm RJ, et al. Efficacy of Ketamine in the treatment of substance use disorders: A systematic review. *Front Psychiatry*. Epub 24 July 2018. DOI: 10.3389/fpsyt.2018.00277.
2. Lepack AE, Fuchikami M, Dwyer JM, et al. BDNF release is required for the behavioral actions of Ketamine. *The International Journal of Neuropsychopharmacology* 2014; 18: 1–6.

Pain News
2019, Vol 17(1) 24–27

SAGE

Loneliness and its relationship to the pain experience and medically unexplained physical symptoms in patients and in us: some thoughts and questions

Pip Chagger *Psychologist, London*

Thresher shark diving, Malapascua Island, Philippines.

Credit: francescoch.

'Jo Cox recognised the scale of loneliness across the country and dedicated herself to doing all she could to help those affected' (Prime Minister May). Unlike many of our G20, European and Commonwealth counterparts, we now have a Minister for Loneliness, Tracey Crouch, who said she was proud to take on the 'generational challenge' to tackle an issue affecting about 9 million UK people, young and old. It appears to be a myth that loneliness only affects those in their later decades of life.

In October 2018, Her Majesty's Government published, 'A connected society: a strategy for tackling loneliness – laying the foundations for change'. In this document, it states

> *health and other public services can recognise the importance of people's social wellbeing, and explore how they can identify, refer and better support those at risk of feeling lonely often. They can also share knowledge and best practice for tackling loneliness and improve connections across sectors and the country*.

Are there questions that can be put forward to make us more aware of this initiative?

Many acute and chronic pain sufferers undergoing pain therapies and other medical treatments by different professionals experience loneliness even when there are lots of people around, for example,

> *... part of what makes pain 'painful' is its privacy and unsharability, the feeling of aloneness ... 'Nothing is quite so isolating', ... This underappreciated feature (to that outsider,*

> *that is) is especially true for pain that persists, chronic versus acute pain ... it becomes more and more difficult to reintegrate oneself into a world that has no idea what you are experiencing ...* (cited by Biro, 2011)

Some research evidence helps to demonstrate that loneliness has an impact not only on pain vigilance but also on bodily posture, the body's and brain's physiology, interpretation of physical sensations and sleep pattern. Many patients report pinch points in conversations with clinicians feeding back from a bio-psychosocial assessment and in pain management programmes when they became more aware of their loneliness, even when practising mindfulness and compassion-focused therapy techniques – perhaps a reason for them discontinuing self-management techniques.

Equally important is that many pain clinicians report *points of loneliness* even though they attend regular MDT meetings, participate in digital professional CPD groups with others, conduct face-to-face conversations with patients or use digital healthcare, as they struggle to deal with the changing complexities of their patients and other members of staff and in the same landscape deal with feelings of loneliness in their own personal lives.

Acknowledging that both patients and health professionals (and this may not be easy when people feel vulnerable in doing so) can experience loneliness and fear loneliness is important. However they perceive it, loneliness may have an impact on their life's journey (e.g. whether to undertake a PhD or move to another pain job) and on their colleagues. Sometimes, we only start to understand why patients and colleagues behave as they do when we understand how they cope with loneliness (e.g. read this year's Bake Off winner Rahul Mandal's account of being quite lonely). Sometimes, and regrettably, some people can make us feel lonely to gain from knowing how it affects our self-esteem, for example, through harassment, bullying and intimidation.

Undeniably, there are different meanings of loneliness as it is such a personal experience. In the 2018 '*Connected Society*' document, the meaning advocated is 'a subjective, unwelcomed feeling of lack or loss of companionship. It is a mismatch between the quantity and quality of social relationships that we have, and those that we want' (p. 18).

There are models of loneliness and a number of questionnaires are often used in the study of psychopathology that focus on loneliness. There have been many national surveys on measuring the prevalence of loneliness. Despite this, the single question 'How often do you feel lonely?' may help us to get a national prevalence rate (see p. 22 of the strategy), give us a starting point and make us more aware of the issue in pain experience. Briefly, Table 1 includes some good examples of field questions asked in a London acute hospital audit at a pain clinic. These questions help draw attention to this issue, other than focusing solely on the frequency of loneliness and on service users (Table 2).

Table 1. Questions asked to pain sufferers about loneliness.

Question	Number of respondents (N = 10)
How often do you feel lonely?	Every day
How many times have you noticed you have felt lonely in the past week, including today?	125 times in total
How much time in total have you noticed you have spent feeling alone in the past week, including today?	Mean equals 4 hours
When do you notice that you are feeling alone the most?	At night

Table 2. Questions asked to pain clinicians about loneliness.

Question	Number of respondents (N = 5)
How often do you feel lonely?	Every day
How many times have you noticed you have felt lonely in the past week, including today?	40 times in total
How much time in total have you noticed you have spent feeling alone in the past week, including today?	Mean equals 1 hour
When do you notice that you are feeling alone the most?	At night. At work

Table 3. Where and when pain sufferers have felt lonely.

Location	Brief narratives
Toilet	'... in the toilet when you are so bunged up and you can't go and you are just sitting there ... I spend hours in the toilet. You're hit with how alone you are ...'
Theatre having a pain injection	'... it was busy around me ... doctors and nurses everywhere ... I felt so alone ... for such a short period of time ...'
Outside a consultation room	'... when I was discharged ... I felt so alone ...'
Hospital	'... sitting in an ambulance and stuck in traffic ... made me feel alone ... watching everyone walking by ...'
Pain Management Programme	'... six weeks in and suddenly during the programme I noticed I felt alone ...'

Table 4. Where and when pain clinicians have felt lonely.

Location	Brief narratives
Multi-disciplinary team meeting	'... I don't know why, but in a room full of people I work with I felt alone ...'
Using a pain digital phone app group	'... I felt so alone using it ...'
Consultation room	'... I felt so alone ... everyone had gone home and I was still here ...'
Car park	'... walking to my car after clinic I felt so alone ...'

It may also be worthwhile asking people where and when they have felt lonely, as the following accounts demonstrate in Tables 3 and 4.

What issues need to be resolved initially? It will be important to bring up this topic in pain teams in a humanistic, sensitive and compassionate manner within an ethical framework and try to adopt a normal psychology paradigm. Psychologists trained in therapy may be able to make a significant contribution by developing and planning discussions, audits and research on this issue. They should remember to acknowledge the support and contributions of other pain clinicians working tirelessly and often single-handedly to help pain sufferers. It may be prudent to think about gender similarities and differences relating to the disclosure of loneliness among children, adolescents and adults.

What about the impact of loneliness on medically unexplained physical symptoms (MUPS)? Persistent MUPS are an important public health issue across the world. They are a clinically complex predicament and challenge, not only for the patient but also for pain clinicians and services treating and interacting with them. An estimated 50% of secondary care patients meet the criteria for MUPS and account for up to 30% of primary care consultations in the United Kingdom. Interestingly, research questionnaires have revealed that there is an association between feeling lonely and the likelihood of presenting with MUPS. That is, MUPS patients feel more alone and socially isolated than non-MUPS patients in general practice. MUPS patients may present in a variety of settings including prisons and also work in a wide range of jobs including doctors, pain clinicians and psychologists, among others.

That said, to develop the treatment of MUPS patients and to improve their own satisfaction about their discussions on this topic with patients, clinicians across all public and private health services will need to probe deeper by developing and using structured qualitative clinical interview schedules. They will need to examine the impact of coping strategies used by patients when experiencing episodes of loneliness. This seems to be particularly relevant when loneliness is actually being imposed by significant others, as demonstrated in the emerging literature on loneliness in coercively controlling relationships and on solitary confinement in prisons.

MUPS patients need to be thoroughly assessed about their experience of loneliness (as well as other psychological vulnerability and maintenance factors such as anxiety and depression) and must be given the time to be heard and taken seriously when they disclose their narratives about loneliness. They are then far more likely to use services economically or sparingly as they interact with other people, and with agencies providing health, education, social and housing services.

Furthermore, patients in whom loneliness has been identified and addressed are less likely to suffer from iatrogenic harm (i.e. harm relating to illness caused by a clinical examination or treatment). At the same time, clinicians who are revered by patients or lead pain services, or who have strong therapeutic working alliances with their patients, must use their motivational interviewing skills to stimulate and encourage MUPS patients and others in all clinical occupational groups (e.g. at pain clinic MDT meetings) to talk about loneliness more frequently. They will need to advocate strongly that participating regularly in social activity is a worthwhile endeavour, as the 2018 strategy emphasises.

Over the next few years, it will be important to evaluate the long-term effects of developing evidence-based interventions and sensitivity of loneliness outcome measures, and the processes involved. Keeping up to date with the government-related publications around loneliness is equally important. Pain teams who are thinking about and becoming more aware of the impact of loneliness would probably benefit from attending training to help both themselves and patients. Loneliness management groups or loneliness psychotherapy for pain sufferers within specialist pain services (as opposed to mentalisation-based therapy, which focuses on thinking about the ability to think) may be a resource to which general practitioners (GPs) could refer their patients or which they could socially prescribe under this strategy.

Finally, although loneliness is being highlighted as a relatively new challenge to be incorporated into pain therapies, the role of agencies outside specialist pain teams, such as social care services, will also need to be addressed in the near future. This will probably mean even more change to the scope of work that pain clinicians participate in, the bio-psychosocial formulations made, and the agencies and stakeholders involved in making decisions about pain management services.

References

1. Crouch T. A connected society: A strategy for tackling loneliness – Laying the foundations for change. Office for Civil Society, October 2018. Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/750909/6.4882_DCMS_Loneliness_Strategy_web_Update.pdf
2. Biro D. The loneliness of pain: Acknowledging the isolating quality of pain. *Psychology Today*, 2011. Available online at https://www.psychologytoday.com/intl/blog/listening-pain/201108/the-loneliness-pain
3. Thomson A, and Sylvester R. I started baking out of loneliness – I didn't know how to meet people. *The Times*, 3 November 2018, pp. 38–9.
4. Hammond C. Who feels lonely? The results of the world's largest loneliness study. *Radio 4's All in the Mind*. Available online at https://www.bbc.co.uk/programmes/articles/2yzhfv4DvqVp5nZyxBD8G23/who-feels-lonely-the-results-of-the-world-s-largest-loneliness-study
5. Dirkzwager AJE, and Verhaak PFM. Patients with persistent medically unexplained symptoms in general practice: Characteristics and quality of care. *BMC Family Practice* 2007; 8: 33.
6. Coughlan S. Girls 'more likely to face loneliness'. *BBC News*, 5 December 2018. Available online at https://www.bbc.co.uk/news/education-46459954

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 28–30

SAGE

Are opioids are used appropriately or inappropriately in low- and middle-income countries?

J Walumbe, B Brandner, C Roques, B Duncan and V Tidman

Credit: Hailshadow.

Background

The prevalence of chronic pain in low- and middle-income countries (LMICs) has been estimated at 34% of the general population and 62% of the elderly,[1] and the World Health Organization (WHO) states that over 80% of the world's population live without access to treatments for moderate to severe pain.[2] At a global level, the distribution of consumption of opioids is disproportionate, with six high-income countries consuming around 80% of the world's morphine.[2]

Opioids are considered an essential part of pain management in high-income healthcare settings, primarily in acute pain and palliative care settings, but there has also been an increase in their use in the management of chronic non-cancer pain (CNCP). However, the lack of evidence of benefit for most patients suffering with CNCP has resulted in concerns over the potential for harm. For example, in 2011, in the United States, deaths from prescription opioids exceeded those from cocaine and heroin combined.[3] Although contentious, a number of reasons for this so-called overuse of opioids in the United States have been proposed, including overzealous prescribing in the treatment of CNCP, the presence of multiple prescribers and direct marketing to patients.[3]

In contrast, as described in a recent Lancet Commission[4] in LMICs, there is 'virtually non-existent' access to immediate release morphine for medical use.[4] The reasons for low levels of use include a lack of education, overly stringent legislation and poor medication availability. The WHO Public Health Model has been proposed as a framework for improving these issues particularly within the palliative care setting.[5]

The use of opioids in LMICs has been promoted mainly for acute pain and palliative care. In these regions, the specialty of chronic or persistent pain management has usually not yet been fully established and pain management practices for CNCP tend to reflect the service provision for acute and palliative care. Furthermore, although some initiatives such as those led by the International Association for the Study of Pain and the World Federation of Societies of Anesthesiologists (WFSA) address the treatment of acute, chronic and cancer pain, the vast majority of global initiatives focus on improving access to opioids in the palliative care setting. Examples of these include the Global Opioid Policy Initiative,[6] the Global Atlas of Palliative Care at the End of Life[7] and the Lancet Commission on Palliative Care and Pain Relief.[4]

The situation is further complicated by the expanding remit of palliative care. For example, the recently published Lancet Commission 'explicitly rejects any time or prognostic limitation on access' to palliative care.[4] The commission is also promoted on social medial through the phrase '#painfreeworld'. There is the potential for this to contribute to the existing issues associated with problematic opioid use in CNCP.

In order to explore the inequity of access in LMIC, a case study of opioid manufacture supply and provision delivered by a charity in a rural setting in Uganda was presented.

Do Hospice Africa Uganda patients with CNCP receive appropriate opioid prescriptions?

Anne Merriman founded 'Hospice Africa Uganda' (HAU) in 1993 with a vision of developing and providing an African model of accessible, affordable palliative care. Working with the Ministry of Health in Uganda, HAU introduced a cheap oral solution of morphine and palliative care education for all healthcare professionals. Legislation to allow nurses and clinical officers trained in palliative care to prescribe morphine has ensured good access to vital pain relief.

HAU set up the Institute of Hospice and Palliative Care in Africa (IHPCA) on its Kampala campus teaching palliative care. Palliative care teaching in Uganda has previously focused on relieving moderate to severe pain by titrating oral immediate release morphine until there is no pain reported. This approach can be problematic when applied to CNCP patients.

A project was set up to evaluate whether CNCP patients receive appropriate opioid prescriptions. Using a cross-sectional survey, a total of 50 current patients with CNCP and cancer survivors on long-term opioids, as defined by Højsted et al.,[8] with underlying diagnoses ranging from HIV/AIDS, sickle cell disease, cancer, arthropathies and lumbar spinal disease were included.

The survey showed that the duration of morphine use within this cohort ranged from 6 months to 18 years (mean 54.1 months). Maximum daily dose of morphine prescribed during that time ranged from 15 to 5400 mg (mean 312 mg). The current morphine dose ranged from 15 to 300 mg (mean 87.8 mg). Based on the current daily morphine equivalent dose, there were 13 patients receiving more than 120 mg morphine daily.

Following this survey, current patients at HAU are now offered biopsychosocial and spiritual assessments which includes an in-depth psychological or psychiatric assessment, an explanation of the adverse effects of morphine. The clinical palliative care team then develops a treatment plan to manage patients' pain through pharmacological and non-pharmacological means and if indicated are referred to a psychiatrist for psychological or psychiatric therapies.

Going forward, HAU will expand their teaching on the appropriate use of opioids in non-cancer pain using case conferences, journal clubs, daily team briefs and project updates by the investigators. The new edition of The Blue Book, an African palliative care handbook, will include a section on managing CNCP and the problems related to opioid prescribing. Finally, a clinical officer within the case study site is doing a Post Graduate Diploma in Pain Management.

IHPCA Kampala has successfully introduced the management of CNCP in their palliative courses and aims to facilitate the expansion of palliative care education throughout the region.

Direction of opioid therapy in LMICs

The direction of opioid therapy in LMIC is of concern. Current provision and understanding is focused mainly on palliative care mainly relying on the WHO pain ladder. This is based on titrating up medication including opioids until pain relief is achieved. This approach might foster inappropriate opioid prescribing in non-cancer pain conditions. The use of opioids in chronic pain is an increasingly contentious issue.[9] In practice, there are issues with managing common chronic conditions such as low back pain (LBP) in LMIC using existing models of treating pain. The recent Lancet series on LBP explored some of these concerns and highlighted increased LBP-related disabilities, increased use of inappropriate treatments, increased sedentary behaviours and poor access to quality healthcare especially in public health settings.[10]

There is some concern that the pharmaceutical industry has identified a new market for opioids in the face of shrinking market share in high-income countries.[11] This may lead to inappropriate use of opioids for inappropriate conditions for reasons discussed above.

The charity, Specialists in Pain International Network (SPIN), has identified the lack of access to high-quality multidisciplinary pain education. For example, Essential Pain Management is a teaching manual and guide from the WFSA which is led by doctors and focuses on basic acute and palliative pain management and has been adopted in many countries. The role of the wider multidisciplinary team, for example, nurses, physical therapists, psychologists, occupational therapists, remains an untapped resource. We acknowledge that even in high-income countries, there is limited evidence of how to best manage chronic pain and as such the current education model is unlikely to be appropriate for the long term. Widening access to other healthcare professionals as well as non-healthcare workforce has the potential to broaden access to non-pharmacological approaches to help manage CNCP.

The context of each country is likely to be different and a one size fits all approach is not advocated. Resources, legislation, availability of medication, health systems will vary and it is important to adapt and innovate pain management practice according to local circumstances.

Conclusion

There are promising developments in improving appropriate access to opioid therapy in LMIC. This is an opportunity to avoid the unwanted consequences of inappropriate opioid use and presents an opportunity to develop innovative solutions for pain management that are contextual, locally led and effective.

References

1. Jackson T, Thomas S, Stabile V, et al. Prevalence of chronic pain in low-income and middle-income countries: A systematic review and meta-analysis. *The Lancet* 2015; 385(Suppl. 2): S10.

2. Milani B, and Scholten W. *The World Medicine Situation: Access to Controlled Medicines*, 3rd edn. Geneva: World Health Organization, 2011. Available online at http://apps.who.int/medicinedocs/documents/s18062en/s18062en.pdf (accessed 25 January 2019).
3. Kotecha MK, and Sites BD. Pain policy and abuse of prescription opioids in the USA: A cautionary tale for Europe. *Anaesthesia* 2013; 68(12): 1210–1215.
4. Knaul FM, Farmer PE, Krakauer EL, et al. Alleviating the access abyss in palliative care and pain relief-an imperative of universal health coverage: The Lancet Commission report. *The Lancet* 2018; 391(10128): 1391–1454.
5. Stjernsward J, Foley KM, and Ferris FD. The public health strategy for palliative care. *Journal of Pain and Symptom Management* 2007; 33(5): 486–493.
6. Cherny NI, Cleary J, Scholten W, et al. The Global opioid policy initiative (GOPI) project to evaluate the availability and accessibility of opioids for the management of cancer pain in Africa, Asia, Latin America and the Caribbean, and the Middle East: Introduction and methodology. *Annals of Oncology* 2013; 24(Suppl. 11): xi7–xi13.
7. Conner SR, and Bermedo MCS (eds). *The Global Atlas of Palliative Care at the End of Life*. Worldwide Palliative Care Alliance, 2014. Available online at http://www.who.int/nmh/Global_Atlas_of_Palliative_Care.pdf (accessed 25 January 2019).
8. Højsted J, Ekholm O, Kurita GP, et al. Addictive behaviors related to opioid use for chronic pain: A population-based study. *Pain* 2013; 154(12): 2677–2683.
9. Mordecai L, Reynolds C, Donaldson LJ, et al. Patterns of regional variation of opioid prescribing in primary care in England: A retrospective observational study. *The British Journal of General Practice* 2018; 68(668): e225–e233.
10. Clark S, and Horton R. Low back pain: A major global challenge. *The Lancet* 2018; 391(10137): 2302.
11. Ryan H, Girion L, and Glover S. OxyContin goes global – We're only just getting started. *LA Times*, 2016. Available online at http://www.latimes.com/projects/la-me-oxycontin-part3/ (accessed 25 January 2019).

The British Pain Society is nothing without you, its members, and we appreciate your continuing involvement and support. We recognise that, for many members, in recent years, the decision to pay the membership fee for a non-compulsory professional society has been more challenging so we will continue to look closely at our fees and we will take care to limit any increases. We hope that you will continue to encourage your colleagues to joins us.

May we also remind you that The British Pain Society is a registered charity and we welcome funds received from legacies and through sponsorship. As we know from the numbers who have joined fun runs at previous ASMs, many of our members are actively engaged in sporting activities. So, if you are signing up for any marathons, half-marathons, triathlons, swims or tiddlywinks contests, please consider nominating The Society as your chosen charity.

Thank you for supporting the BPS!

Professional perspectives

THE BRITISH
PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 31–32

SAGE

Mindfulness on pain management programmes – are we teaching it as well as we could?

Lars Williams *Consultant in Pain Medicine, NHS Greater Glasgow and Clyde*

Mindfulness originates from Buddhist contemplative practice, but is commonly used in Western society in a secularised form. This form of mindfulness has exploded into public awareness over the past decade or so, with a parallel growth in its use as a therapeutic technique in different healthcare settings. Mindfulness practice cultivates present-moment awareness, non-reactivity and acceptance, all of which are thought to be helpful attitudes in the psychological management of chronic pain. The jury is still out when it comes to the effectiveness of mindfulness as a stand-alone intervention for chronic pain,[1,2] but mindfulness techniques are often incorporated into wider self-management programmes for this difficult condition.

I was introduced to mindfulness when I began working in my local Pain Management Programme (PMP). We run an Acceptance and Commitment Therapy (ACT)-based course, and mindfulness practices are an integral part of the ACT therapeutic model. A recent survey of members of the British Pain Society PMP Special Interest Group suggests ACT-based PMPs are the norm in the United Kingdom now – 85% of respondents described their PMP as ACT-based or ACT-informed, incorporating regular mindfulness practices into the content of the programme.[3] But who delivers this content, and how is it delivered?

On the surface, mindfulness appears a very simple thing to teach. The essence of mindfulness could not be simpler – awareness of what is happening while it happens. There are countless ways to access guided practices: books, online audio and video recordings, apps, CDs and so on. Anyone with no prior experience of mindfulness could find (or write) a script for a simple mindfulness practice, read it out to a group of participants and describe the process as 'leading a mindfulness practice'. In truth, this process is a reasonable description of how we first led mindfulness practices on our PMP. Were we teaching mindfulness effectively to our patients? Knowing what I know now, I don't think we were.

By 2015, mindfulness had already established itself as a legitimate therapeutic technique, particularly in the field of mental health, where it was a NICE (The National Institute for Health and Care Excellence)–recommended treatment for relapsing depression.[4] Even so, the publication of the Mindfulness All-Party Parliamentary Group (MAPPG)[5] report that year did much to push mindfulness further into the mainstream, with recommendations for expansion of its application in healthcare settings as well as in schools and prisons. For me, one of the most striking things in the report was a small aside in the introductory remarks: 'Many members of the MAPPG have been further impressed by the potential of mindfulness after personally experiencing the benefits on courses held in Westminster'. We all learn new skills and techniques as part of our training as healthcare practitioners, but mindfulness is unusual in that many who learn about it go on to develop a personal practice of their own. Mindfulness is an experiential technique, so learning about it is of course inseparable from practising it. The corollary to this is that teaching mindfulness is likewise inseparable from practising it.

Credit: MajaArgakijeva.

The need for a personal practice as a pre-requisite to teaching mindfulness seems self-evident to the mindfulness community[6] and is built into existing training guidelines.[7]

A survey of staff leading mindfulness practices and inquiry sessions as part of their PMP suggested that having a personal practice is helpful: confidence in leading practices and inquiry was strongly correlated with time spent in regular personal practice.[8] But what of formal training? At present, the formal training pathway for those who wish to teach mindfulness is time-consuming and expensive, and primarily intended for staff who want to deliver Mindfulness-Based Cognitive Therapy (MBCT), Mindfulness-Based Stress Reduction (MBSR) or Mindfulness-Based Pain Management (MBPM) courses. As it stands, the mindfulness training pathway is all or nothing – there is no intermediate training on offer for staff who 'dabble' in mindfulness, leading short practices as part of a PMP. Although a small proportion of the PMP staff surveyed last year had been able to complete formal training, the majority had not, with lack of management support for time and funding cited as the main obstacle.[8] On a multidisciplinary PMP, no one specialty has overall responsibility for mindfulness training and delivery, which probably compounds the problem. As a group, psychologists were the most likely to have had formal mindfulness training and were also the most likely to be leading mindfulness practices. Nurses were the least likely to have accessed training and the least likely to lead practices.

Is there a need for some form of mindfulness training for staff who lead mindfulness practices as part of a PMP, as opposed to full MBCT, MBSR or MBPM courses? The aforementioned survey suggests there is. Confidence in leading practices and inquiry was strongly correlated with a level of training in mindfulness, as well as time spent in regular personal practice. Anecdotally, there is a big appetite for mindfulness training among PMP staff. Staff struggle with mindfulness inquiry, and there are questions around the choice of practices, as well as modifying standard practices for people in pain. But it is probably unrealistic to expect that every member of the PMP team who will be involved in delivering mindfulness as part of a general PMP will be in a position to complete formal mindfulness training to the level required to deliver formal mindfulness courses.

As things stand, PMP staff delivering mindfulness interventions to patients may be doing so without any formal training. Formal mindfulness training pathways exist, but for most PMP staff, the level of commitment required for these is unrealistic and probably unnecessary. Might there be a middle way between these two extremes that would help staff deliver mindfulness more effectively? An informal, national working group of interested PMP clinicians was established last year to discuss these issues, and there appears to be consensus on the need for some minimum level of standard mindfulness training (probably attendance on an 8-week MBSR, MBPM or MBCT course), followed by further bespoke training (e.g. on leading inquiry) relevant to the particular circumstances of the PMP. Supervision was identified as being of key importance and could be provided by those individuals who had followed a formal mindfulness training pathway. We welcome further discussion.

For more information about the informal working group looking at mindfulness training for PMP staff, please contact lars.williams@ggc.scot.nhs.uk.

References

1. Bawa FL, Mercer SW, Atherton RJ, et al. Does mindfulness improve outcomes in patients with chronic pain? *British Journal of General Practice* 2015; 65(635): e387–e400.
2. Hilton L, Hempel S, Ewing BA, et al. Mindfulness meditation for chronic pain: Systematic review and meta-analysis. *Annals of Behavioral Medicine* 2017; 51(2): 199–213.
3. Williams L, Watson J, Semple L, et al. The use and perceived importance of mindfulness on pain management programmes (PMPs) – A survey. *Poster Presentation at 16th Biennial BPS PMP SIG Conference*, Glasgow, September 2017. Available online at https://doi.org/10.13140/RG.2.2.14380.77448 (accessed 25 January 2019).
4. NICE Clinical Guidelines 90. Depression in adults: Recognition and management. Available online at https://www.nice.org.uk/guidance/cg90/chapter/1-guidance
5. Mindfulness All-Party Parliamentary Group. Mindful Nation UK Report, October 2015. Available online at https://www.themindfulnessinitiative.org.uk/images/reports/Mindfulness-APPG-Report_Mindful-Nation-UK_Oct2015.pdf (accessed 25 January 2019).
6. Crane RS, Kuyken W, Williams JMG, et al. Competence in teaching mindfulness-based courses: Concepts, development and assessment. *Mindfulness* 2012; 3: 76–84.
7. UK Network for Mindfulness-Based Teachers. Good practice guidelines for teaching mindfulness-based courses, 2015. Available online at https://www.mindfulnessteachersuk.org.uk/pdf/UK%20MB%20teacher%20GPG%202015%20final%202.pdf (accessed 25 January 2019).
8. Williams L, Watson J, Semple L, et al. Mindfulness training and personal practice for PMP staff – Does it matter? *Poster Presentation at 16th Biennial BPS PMP SIG Conference*, Glasgow, September 2017. Available online at https://doi.org/10.13140/RG.2.2.22965.12009 (accessed 25 January 2019).

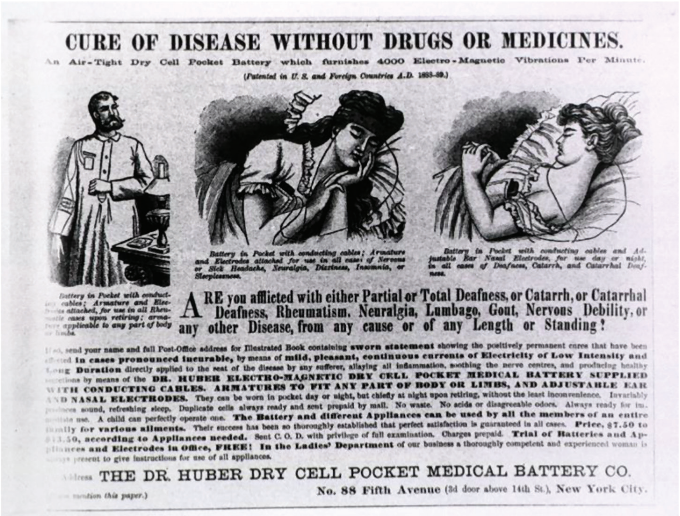
Informing practice

Peripheral neuromodulation: part 1: historical aspects and theory

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 33–37
© The British Pain Society 2019
SAGE

Teodor Goroszeniuk *Interventional Pain Management and Neuromodulation Practice, London*
Andrzej Król *St George's University Hospital NHS Foundation Trust, London*



CURE OF DISEASE WITHOUT DRUGS OR MEDICINES.

An Air-Tight Dry Cell Pocket Battery which furnishes 4000 Electro-Magnetic Vibrations Per Minute.

(Patented in U. S. and Foreign Countries A.D. 1888-89.)

Battery in Pocket with conducting cables; Armature and Electrodes attached, for use in all Rheumatic cases upon retiring; armature applicable to any part of body or limbs.

Battery in Pocket with conducting cables; Armature and Electrodes attached for use in all cases of Nervous or Sick Headache, Neuralgia, Dizziness, Insomnia, or Sleeplessness.

Battery in Pocket with conducting cables and Adjustable Ear Nasal Electrodes, for use day or night, in all cases of Deafness, Catarrh, and Catarrhal Deafness.

ARE you afflicted with either Partial or Total Deafness, or Catarrh, or Catarrhal Deafness, Rheumatism, Neuralgia, Lumbago, Gout, Nervous Debility, or any other Disease, from any cause or of any Length or Standing?

If so, send your name and full Post-Office address for Illustrated Book containing **sworn statement** showing the positively permanent cures that have been effected **in cases pronounced incurable,** by means of **mild, pleasant, continuous currents of Electricity of Low Intensity and Long Duration** directly applied to the seat of the disease by any sufferer, allaying all inflammation, soothing the nerve centres, and producing healthy secretions by means of the **DR. HUBER ELECTRO-MAGNETIC DRY CELL POCKET MEDICAL BATTERY SUPPLIED WITH CONDUCTING CABLES. ARMATURES TO FIT ANY PART OF BODY OR LIMBS, AND ADJUSTABLE EAR AND NASAL ELECTRODES.** They can be worn in pocket day or night, but chiefly at night upon retiring, without the least inconvenience. Invariably produces sound, refreshing sleep. Duplicate cells always ready and sent prepaid by mail. No waste. No acids or disagreeable odors. Always ready for immediate use. A child can perfectly operate one. **The Battery and different Appliances can be used by all the members of an entire family for various ailments.** Their success has been so thoroughly established that perfect satisfaction is guaranteed in all cases. **Price, $7.50 to $13.50, according to Appliances needed.** Sent C. O. D. with privilege of full examination. Charges prepaid. **Trial of Batteries and Appliances and Electrodes in Office, FREE! In the Ladies' Department** of our business a thoroughly competent and experienced woman is always present to give instructions for use of all appliances.

Address THE DR. HUBER DRY CELL POCKET MEDICAL BATTERY CO.
No. 88 Fifth Avenue (3d door above 14th St.), New York City.

(Please mention this paper.)

Advert, in the public domain.[52]

This is the first of a three part series on the history of therapeutic electrical stimulation (ES) with a particular emphasis on its role in invasive and non-invasive peripheral nerve stimulation.

History

The ancient Greeks and Egyptians used electric fish as a source of electric stimulation. Scribonius Largus was the first person to describe this method in 46 AD.[1] The use of electric current for the treatment of various diseases became more popular in the 19th century.

Through the 19th and early 20th centuries, neurostimulation with electric current was used as a treatment method for many ailments, often by unskilled, non-medical people. Because of a lack of evidence supporting its effectiveness, neuromodulation ceased to be part of mainstream medicine in the 1920s, and people who offered such treatments were viewed as charlatans.

Currently, transcutaneous electrical nerve stimulation (TENS) is used commonly to treat patients with most pain syndromes. Although we have a vast experience with TENS, and there are many reports on its use, the effectiveness of this treatment is often compared to that of placebo.

The first Medical Electricity Department was founded at Guy's Hospital in London, headed by Golding Bird.[2] In 1885, a safe method of applying high-frequency electric current (10 kHz) was used in humans, which later led to the development of modern diathermy.[3] In 1918, one of the first portable devices, similar to the currently used stimulators for TENS, was patented, although many regard TENS as no better than placebo.[4–6] The transistor neurostimulator and the gate control theory of pain (1965) gave a new framework for the use of electric current in medicine.[7,8] Peripheral percutaneous stimulation to relieve pain, as described by Wall and Sweet[9] in 1965, opened a new chapter in the field of medical electrostimulation.

Shealy et al.[10] implanted the first permanent dorsal column stimulator by laminectomy in 1967. One year later, Sweet and Wepsic[11] were the first to implant a permanent system for peripheral nerve stimulation. One of the first modern reports on the clinical use of electrostimulation for pain relief, by Rutkowski et al.,[12] dates back to 1975. This report described a successful use of low-frequency (1.5–2.5 Hz) ES for back pain, headache, trigeminal neuralgia, vascular diseases and cancer-related pain. The publication analysed 12,000 sessions, each lasting from 15 to 20 minutes, carried out among 786 patients. Initially (1965–1999), all implantations of peripheral nervous system (PNS) electrodes were performed by open surgery.

Peripheral nerve stimulation

A percutaneous inserted cylindrical nerve stimulator was first implanted in the PNS in 1999 by Weiner and Reed[13] when electrodes were used to stimulate the occipital nerves to treat patients with refractory headaches.

The technique was later expanded to other peripheral nerves and nerve plexuses to treat patients with neuropathic, visceral facial, cardiac and back pain. Current studies are examining the effects of stimulation of the vagus and nerve tibial nerve, or gastric stimulation on the symptoms of different diseases, such as epilepsy, urinary incontinence and obesity. Currently, most reports on the effects of PNS are either observational studies or case reports.

Technological methods and challenges

Initially, the electrodes for peripheral nerve stimulation were designed as cuffs that would surround the target nerves. Thus, the placement of those electrodes required an open access, which required surgery. The cuff electrode unfortunately caused nerve fibrosis and adhesions between the nerve and the electrode, and also unintended stimulation caused by patients' movements. These complications led investigators to develop paddle (spoon-shaped) surgical electrodes. Although the paddle electrodes were better than the cuff electrodes in many respects, the paddle electrodes frequently dislocated.[14]

Due to a lack of good equipment and frequent complications, researchers and clinicians lost their interest in PNS, and only a small group of enthusiasts continued to develop PNS in several specialised centres. Initially (1968–1999), less than 500 patients underwent an implantation of stimulation electrodes, mainly for the treatment of post-traumatic neuralgia in individual peripheral nerves.

Cylindrical electrodes, which are 1.2 mm in diameter, are now standard electrodes for spinal cord stimulation (SCS). The seminal work of Weiner and Reed in 1999 prompted the development of PNS, which led to many new indications for PNS and new methods of electrode implantation.[15–18]

New indications for PNS include many conditions, such as supraorbital neuralgia,[15] atypical facial pain,[19] post-herpetic neuralgia, ilioinguinal neuralgia,[20] ulnar neuralgia,[17] and reflex sympathetic dystrophy (CRPS) of the sciatic nerve.[21] Newer techniques that utilised percutaneous insertion of stimulation electrodes into the peripheral nerves made PNS more feasible. Effective stimulation of the brachial or lumbar plexuses is now an alternative to central nervous system stimulation.[22,23]

The introduction of peripheral nerve field stimulation (PNFS)[16] and subcutaneous target stimulation (STS) (both terms are used interchangeably, with PNFS being more common) made it possible to use PNS to treat patients with diffuse pain, in whom it is difficult to relate the pain to a specific nerve or nerve plexus. In such patients, SCS is not indicated, and PNFS can be used instead. Moreover, PNFS can be used in combination with SCS.[24,25] Another advantage of using electrodes inserted percutaneously is that the stimulation can be tested during implantation, which is difficult or impossible in patients who undergo open surgery. The PNS techniques are based on the principles of local anaesthesia, in which nerve stimulation by electrodes implanted with ultrasound guidance is more precise and possibly reduces the risk of complications.[26]

Further miniaturisation of stimulation devices will increase the comfort for patients, reducing the risk of electrode displacement, and provide access to nerve structures that cannot be stimulated with current devices in standard sizes.

A new type of electrode that uses a wireless power source from an external battery (StimWave) has been developed. Moreover, the StimWave system does not interfere with magnetic resonance imaging (MRI).[27] Recently, high-frequency stimulation of peripheral nerves has been used in patients with post-amputation pain, and this application of PNS seems promising.[28]

An innovative stimulation cannula (CoudeStim) is an example of a simple device for stimulation of peripheral nerves. This cannula enables nerve stimulation during electrode insertion, which shortens the procedure and improves the precision of electrode placement.[29]

Mechanism of action of peripheral neuromodulation

The gate control theory of pain (Wall and Melzack) is the framework within which researchers in the field of SCS have described how potential mechanisms of pain reduction occur by ES.[30–32] It has also been shown that direct stimulation of the nerves reduces their excitability, increases the stimulation threshold, and reduces the conduction velocity along the same nerves.[33] According to the gate control theory of pain, the paresthesias experienced by patients undergoing peripheral stimulation are mediated by the A-beta fibres. It is very likely that the mechanism of action of peripheral stimulation is very similar to that of the SCS, because the same A-beta fibres run medially both in the posterior horns and the posterior cords of the spinal cord. In animal models, it has been shown that low-frequency stimulation of A-delta fibres increases the long-term depression of monosynaptic and polysynaptic excitation potentials in the substantia gelatinosa of the spinal cord. This effect in the substantia gelatinosa persisted for up to several hours after cessation of stimulation, and it was long term in some cases.[34,35] In experiments involving cats, stimulation of the sciatic nerve and the posterior tibial nerve reduced the response of C-fibres to pain stimuli at the level of the spinal cord pain, which showed the important place of spinal mechanisms in pain modulation.

The gate control theory of pain does not distinguish between neuropathic and nociceptive pain, although SCS is effective mainly in reducing neuropathic pain. Ellrich and Lamp investigated the effects of peripheral nerve stimulation in somatic pain, using infrared stimulation to activate nociceptive A-delta fibres and non-myelinated C-fibres in the superficial radial nerve (a sensory branch of the radial nerve). They showed that low-frequency stimulation of the sensory branch of the radial nerve reduced both the pain and the amplitude of the evoked cortical potentials, compared to the control group.[36]

More recent understanding of the mode of action of peripheral stimulation

The endogenous electrical field effect

The endogenous electrical field (EF) at the site of a tissue injury is an increasingly recognised phenomenon.[37] The level of interaction between EF and the effects of PNS on wound healing require further investigation. The application of PNS to accelerate wound regeneration is a known modality, but it is not acceptable as the first-line clinical treatment option as yet. There are multiple reports of the positive effects of low-frequency stimulation (below 10 Hz) on tissue regeneration,[38–42] contrary to the outcome of use of the higher frequency such as 100 Hz, which resulted in restricted regeneration or even degenerative tissue changes.[42] The evidence of the effect of the kilohertz frequency on tissue regeneration has not been adequately investigated.

Anti-inflammatory action in the PNS

Another fascinating aspect of the role of PNS in function improvement is its anti-inflammatory action. The body of evidence demonstrating the anti-inflammatory benefits of PNS is rapidly expanding, with multiple basic sciences and clinical studies published.[43,44] Most of the research has been concentrating on the vagal nerve stimulation (VNS) for rheumatoid arthritis. The results are very promising. The recent study with the combined application of kilohertz at vagal nerve with VNS is especially interesting.[45,46] The result of VNS studies for other inflammatory disorders such as Crohn's disease has also been positive.[47]

Stimulation of single nerves

The first reports of percutaneous stimulation of single nerves involved patients with mononeuropathy of the supraorbital nerve.[15] Thereafter, percutaneous stimulation of single nerves was used in patients with other painful nerves, such as the median, ulnar, tibial, ilioinguinal and genitofemoral nerves.[17,21,22,48]

The equipment used, particularly the implanted pulse generators, was very large because it had not been developed specifically for the stimulation of peripheral nerves. This technical issue made it difficult to use PNS in patients with diseases of the face or limbs. Connecting the electrode in the target organ to the stimulator placed elsewhere in the body, sometimes far away from the stimulation electrode, often required extension leads that would run, for example, through the shoulder. Because of these difficulties, each patient had to have individualised planning for the implantation of the stimulating system.

It was perceived as a great advancement when the implanted pulse generator was placed near the stimulation electrode in patients requiring stimulation of the sciatic, ulnar or medial nerves.[17,22,48] Another logical step to improve the implantation techniques for PNS devices was to reduce the unnecessary tunnelling by introducing single-incision procedures. These minimally invasive procedures proved useful because the cylindrical electrodes that had been inserted percutaneously to stimulate individual peripheral nerves remained stable for a long time. Further miniaturisation of devices for PNS open up more possibilities for this treatment method. Such new PNS systems are now being assessed in clinical trials.[28,49–51]

In the next two parts of this article, we will cover specific indications for peripheral nerve stimulation. Examples of implanted peripheral nerve stimulation are shown (see Figures 1–5).

Figure 1. Radial nerve neurostimulation trial, mono-lead for neuropathic pain in the area of the radial nerve in forearm and hand (TG copyright, with permission).

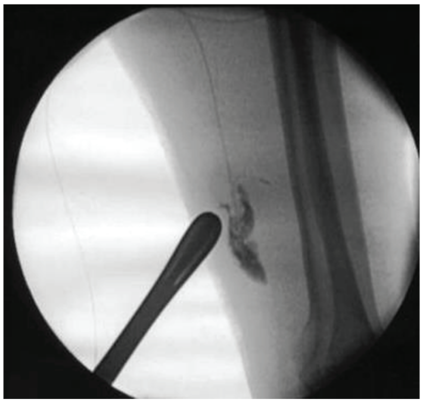


Figure 2. Ilioinguinal for neuropathic groin pain (TG copyright, with permission).

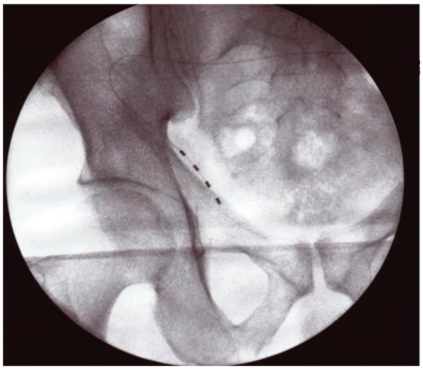


Figure 3. Implanted median nerve stimulator also showing an impulse generator in a case of severe neuropathic pain following the traumatic finger amputation and the successful surgery post re-implantation. The hand and fingers are fully functional. However, the patient had median nerve stimulation in forearm for treatment of persistent neuropathic pain in the fingers (TG copyright, with permission).

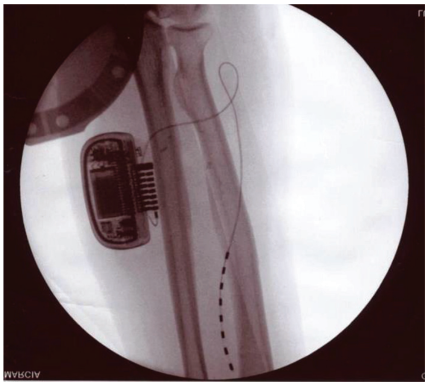
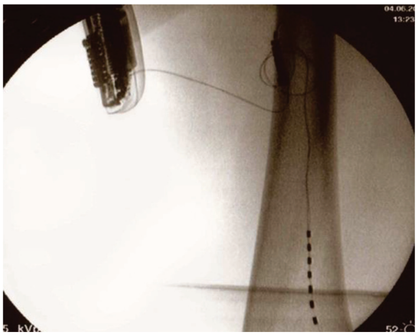


Figure 4. Sciatic nerve stimulator for a case of lower leg pain. The impulse generator can also been seen (TG copyright, with permission).



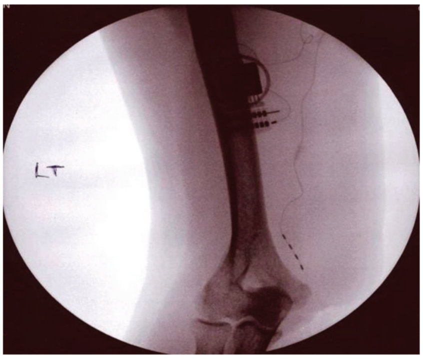
Acknowledgements

The authors would like to acknowledge that this work is based on their previous publication: Goroszeniuk T, Król A. Peripheral neuromodulation: An update. *Ból* 2017; 18(1): 15–27. The official journal of Polish Pain Society. T.G. is a developer of ExStim.

References

1. Baldwin B. The career and work of Scribonius Largus. *Rheinisches Museum Für Philologie* 1992; 135(1): 74–82.
2. Wilks S, Bettany GT., and Dr. Golding Bird . In: Wilks S, and Bettany GT (eds) *A Biographical History of Guy's Hospital*. London: Ward, Lock, Bowden & Co, 1892, pp. 245–250.
3. D'Arsonval A. Action physiologique des courants alternatifs. *Comptes Rendus des Seances de la Societe de Biologie et de ses Filiales* 1891; 43: 283–286.
4. Fernandez-Del-Olmo M, Alvarez-Sauco M, Koch G, et al. How repeatable are the physiological effects of TENS? *Clinical Neurophysiology* 2008; 119(8): 1834–1839.
5. Nnoaham KE, and Kumbang J. Transcutaneous electrical nerve stimulation (TENS) for chronic pain. *The Cochrane Database of Systematic Reviews* 2008; 16(3): CD003222.
6. Vance CG, Dailey DL, Rakel BA, et al. Using TENS for pain control: The state of the evidence. *Pain Management* 2014; 4(3): 197–209.
7. Greenblat GM, and Denson JS. Needle nerve stimulator-locator: Nerve blocks with a new instrument for locating nerves. *Anesthesia and Analgesia* 1962; 41: 599–602.
8. Melzack R, and Wall P. Pain mechanisms: A new theory. *Science* 1965; 150: 971–979.
9. Wall P, and Sweet WH. Temporary abolition of pain in man. *Science* 1967; 155: 108–109.
10. Shealy CN, Mortimer JT, and Reswick JB. Electrical inhibition of pain by stimulation of the dorsal columns: Preliminary clinical report. *Anesthesia and Analgesia* 1967; 46(4): 489–491.
11. Sweet WH, and Wepsic JG. Treatment of chronic pain by stimulation of fibres of primary afferent neurons. *Transactions of the American Neurological Association* 1968; 93: 103–107.
12. Rutkowski B, Niedzialkowska T, and Otto J. Electrostimulation in the management of chronic pain. *Anaesthesist* 1975; 24(10): 457–460.
13. Weiner RL, and Reed KL. Peripheral neurostimulation for control of intractable occipital neuralgia. *Neuromodulation* 1999; 2: 217–221.
14. Racz GB, Browne T, and Lewis R. Peripheral nerve stimulator implant for treatment of causalgia caused by electrical burns. *Texas Medicine* 1988; 84: 45–50.
15. Dunteman E. Peripheral nerve stimulation for unremitting ophthalmic post-herpetic neuralgia. *Neuromodulation* 2002; 5(1): 32–37.
16. Goroszeniuk T, Kothari S, and Hamann W. Subcutaneous neuromodulating implant targeted at the site of pain. *Regional Anesthesia and Pain Medicine* 2006; 31(2): 168–171.
17. Kothari S, and Goroszeniuk T. Percutaneous permanent electrode implantation to ulnar nerves for upper extremity chronic pain: 6 year follow up. *Regional Anesthesia and Pain Medicine* 2006; 31(Suppl. 5): 16.
18. Stanton-Hicks M, Panourias IG, Sakas DE, et al. The peripheral nerve stimulation. *Progress in Neurological Surgery* 2011; 24: 210–217.

Figure 5. Ulnar nerve stimulation and impulse generator for a case of ulnar neuritis (TG copyright, with permission).



19. Slavin KV, Colpan ME, Munawar N, et al. Trigeminal and occipital peripheral nerve stimulation for craniofacial pain: A single institution experience and review of the literature. *Neurosurgical Focus* 2006; 21(6): E5.
20. Stinson LW, Roderer GT, Cross NE, et al. Peripheral subcutaneous neurostimulation for Control of Intractable Postoperative Inguinal Pain: A case report series. *Neuromodulation* 2001; 4(3): 99–104.
21. Siddalingaiah V, Goroszeniuk T, Palmisani S, et al. Permanent percutaneous sciatic nerve stimulation for treatment of severe neuropathic pain [Abstract PH 367]. In: *Proceedings of the 13th world congress on pain*, Montreal, QC, Canada, 29 August–2 September 2010.
22. Goroszeniuk T, Kothari SC, and Hamann WC. Percutaneous implantation of a brachial plexus electrode for management of pain syndrome caused by a traction injury. *Neuromodulation* 2007; 10: 148–155.
23. Petrovic Z, Goroszeniuk T, and Kothari S. Percutaneous lumbar plexus stimulation in the treatment of intractable pain. *Regional Anesthesia and Pain Medicine* 2007; 32(5 Suppl. 1): 11.
24. Mironer YE, Hutcheson JK, Satterthwaite JR, et al. Prospective, two-part study of the interaction between spinal cord stimulation and peripheral nerve field stimulation in patients with low back pain: Development of a new spinal-peripheral neurostimulation method. *Neuromodulation* 2011; 14(2): 151–155.
25. Navarro RM, and Vercimak DC. Triangular stimulation method utilizing combination spinal cord stimulation with peripheral subcutaneous field stimulation for chronic pain patients: A retrospective study. *Neuromodulation* 2012; 15: 124–131.
26. Huntoon MA, and Burgher AH. Ultrasound-guided permanent implantation of peripheral nerve stimulation (PNS) system for neuropathic pain of the extremities: Original cases and outcomes. *Pain Medicine* 2009; 10(8): 1369–1377.
27. Shellock FG, and Audet-Griffin AJ. Evaluation of magnetic resonance imaging issues for a wirelessly powered lead used for epidural, spinal cord stimulation. *Neuromodulation* 2014; 17(4): 334–339.
28. Soin A, Shah NS, and Fang ZP. High-frequency electrical nerve block for post amputation pain: A pilot study. *Neuromodulation* 2015; 18(3): 197–205.
29. Goroszeniuk T, Pang D, Shetty A, et al. Peripheral nerve and subcutaneous targeted stimulation using a stimulating Coude needle. *Neuromodulation* 2014; 17(5): 506–509.
30. Libionka W, Skrobot W, Basinski K, et al. Neurosurgery for the relief of pain-part III: Neuromodulation in chronic pain syndromes. *Ból* 2015; 16(4): 51–58.
31. Linderoth B, and Meyerson B. Spinal cord stimulation: Exploration of the physiological basis of a widely used therapy. *Anesthesiology* 2010; 113(6): 1265–1267.
32. Linderoth B. Spinal cord stimulation: A brief update on mechanism of action. *European Journal of Pain Supplements* 2009; 3: 89–93.
33. Ignelzi RJ, and Nyquist JK. Direct effect of electrical stimulation on peripheral nerve evoked activity: Implications in pain relief. *Journal of Neurosurgery* 1976; 45: 159–165.
34. Randić M, Jiang MC, and Cerne R. Long-term potentiation and long-term depression of primary afferent neurotransmission in the rat spinal cord. *The Journal of Neuroscience* 1993; 13(12): 5228–5241.
35. Barker AT, Jalinous R, and Freeston IL. Non-invasive magnetic stimulation of human motor cortex. *The Lancet* 1985; 325(8437): 1106–1107.
36. Ellrich J, and Lamp S. Peripheral nerve stimulation inhibits nociceptive processing: An electrophysiological study in healthy volunteers. *Neuromodulation* 2005; 8(4): 225–232.
37. Sun YS. Electrical stimulation for wound-healing: Simulation on the effect of electrode configurations. *Biomed Research International* 2017; 2017: 5289041.
38. Vivó M, Puigdemasa A, Casals L, et al. Immediate electrical stimulation enhances regeneration and reinnervation and modulates spinal plastic changes after sciatic nerve injury and repair. *Experimental Neurology* 2008; 211(1): 180–193.
39. Alrashdan MS, Park JC, Sung MA, et al. Thirty minutes of low intensity electrical stimulation promotes nerve regeneration after sciatic nerve crush injury in a rat model. *Acta Neurologica Belgica* 2010; 110(2): 168–179.
40. Gordon T, Amirjani N, Edwards DC, et al. Brief post-surgical electrical stimulation accelerates axon regeneration and muscle reinnervation without affecting the functional measures in carpal tunnel syndrome patients. *Experimental Neurology* 2010; 223(1): 192–202.
41. Cavalcante Miranda de Assis D, Martins Lima E, Teixeira Goes B, et al. The parameters of transcutaneous electrical nerve stimulation are critical to its regenerative effects when applied just after a sciatic crush lesion in mice. *Biomed Research International* 2014; 2014: 572949.
42. Lu MC, Ho CY, Hsu SF, et al. Effects of electrical stimulation at different frequencies on regeneration of transected peripheral nerve. *Neurorehabilitation and Neural Repair* 2008; 22(4): 367–373.
43. Koopman FA, Chavan SS, Miljko S, et al. Vagus nerve stimulation inhibits cytokine production and attenuates disease severity in rheumatoid arthritis. *Proceedings of the National Academy of Sciences of the United States of America* 2016; 113(29): 8284–8289.
44. Levine YA, Koopman FA, Faltys M, et al. Neurostimulation of the cholinergic anti-inflammatory pathway ameliorates disease in rat collagen-induced arthritis. *PLoS ONE* 2014; 9(8): e104530.
45. Patel YA, Saxena T, Bellamkonda RV, et al. Kilohertz frequency nerve block enhances anti-inflammatory effects of vagus nerve stimulation. *Scientific Reports* 2017; 7: 46848.
46. Patel YA, and Butera RJ. Differential fiber-specific block of nerve conduction in mammalian peripheral nerves using kilohertz electrical stimulation. *Journal of Neurophysiology* 2015; 113(10): 3923–3929.
47. Bonaz B, Sinniger V, Hoffmann D, et al. Chronic vagus nerve stimulation in Crohn's disease: A 6-month follow-up pilot study. *Neurogastroenterology and Motility* 2016; 28(6): 948–953.
48. Shetty A, Pang D, Mendis V, et al. Median nerve stimulation in forearm for treatment of neuropathic pain post re implantation of fingers: A case report. *Pain Practice* 2012; 12(Suppl. 1): 92.
49. Chakravarthy K, Nava A, Christo PJ, et al. Review of recent advances in peripheral stimulation (PNS). *Current Pain and Headache Reports* 2016; 20(11): 60.
50. Deer T, Pope J, Benyamin R, et al. Prospective, multicenter, randomized, double-blinded, partial crossover study to assess the safety and efficacy of the novel neuromodulation system in the treatment of patients with chronic pain of peripheral nerve origin. *Neuromodulation* 2016; 19(1): 91–100.
51. Sokal P, Zielinski P, and Harat M. Stimulation in chronic pelvic pain. *Neurologia I Neurochirurgia Polska* 2015; 49: 307–312.
52. NIH. Cure of Disease Without Drugs or Medicines. Available at https://collections.nlm.nih.gov/catalog/nlm:nlmuid-101435467-img (accessed 25 January 2019).

Pain News
2019, Vol 17(1) 38–43

SAGE

Survey on standard practices in chronic pain patients on anticoagulation requiring intervention

S Alva *Specialist Trainee in Anaesthetics, University Hospitals of Leicester NHS Trust*
S Ramani *Consultant in Anaesthetics and Pain Management, Northampton General Hospital*
B Raithatha *Advanced Pain Trainee, University Hospitals of Leicester NHS Trust*

Introduction

Pain physicians considering invasive procedures as a treatment for patients on antithrombotic therapy are often faced with a dilemma with three potential options. They could perform the procedure while the patient is on the antithrombotics, they could stop the antithrombotics prior to the procedure or not perform the procedure and suggest alternative management options.

The main factors to be considered prior to any procedure in this cohort of patients are the risk of bleeding complications. Epidural haematomas, although rare, can be a devastating complication due to the potential for significant neurological injury. There are many guidelines, constantly updated, which we can rely on regarding the duration for which the antithrombotic drugs need to be stopped in order to minimise their bleeding risks. However, what also needs to be considered is the risk of stopping anticoagulant therapy and the possible subsequent increased risk of systemic thromboembolic complications. These risks need to be balanced against the potential benefit of the proposed procedure.

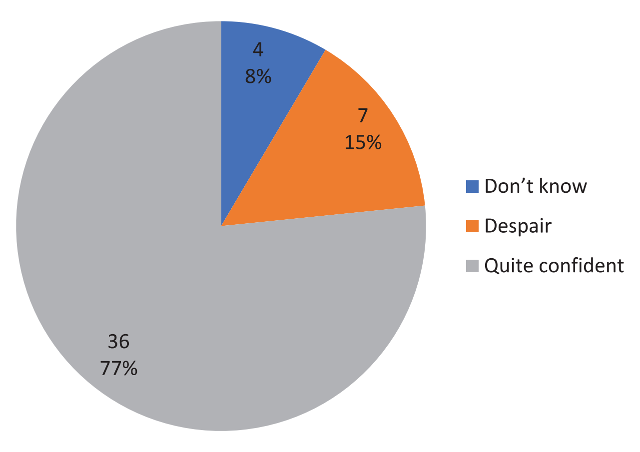
Methods

We conducted a survey of pain physicians and the decision-making process of clinicians faced with such decisions, in order to derive a consensus on managing patients on anticoagulants in the United Kingdom. We included two clinical scenarios. The study was carried out using electronic questionnaires sent to pain physicians in the United Kingdom. A total of 50 chronic pain physicians participated in the survey.

Results

We asked the clinicians how confident they felt when assessing this group of patients on antithrombotic drugs. Of the 47 responders, 36 (Figure 1) felt that they were quite confident in managing patients on anticoagulants requiring intervention, 7 felt otherwise and 4 said it would depend on various patient and clinical factors.

Figure 1. How confident are you managing patients on anticoagulant drugs scheduled for intervention?



Regarding the plan for stopping anticoagulant therapy, 12 said they would stop without consulting anyone (Figure 2) and 10 did so after consulting the general practitioner (GP), while most preferred stopping after consulting with the initiating physician. Only one doctor said they would never stop anticoagulants.

Most centres initiate a bridging therapy. A total of 16 physicians stop the anticoagulant therapy and start bridging therapy on their own (Figure 3). Nearly half of the respondents requested the anticoagulant clinic to do this, and nine pain physicians would request GPs to start the bridging therapy. This may have implications and delay the interventions.

Figure 2. Decision to stop anticoagulants is made by whom?

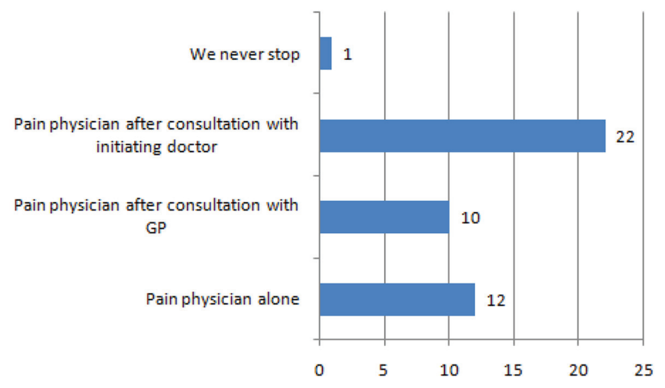


Figure 3. Starting bridging therapy prior to intervention

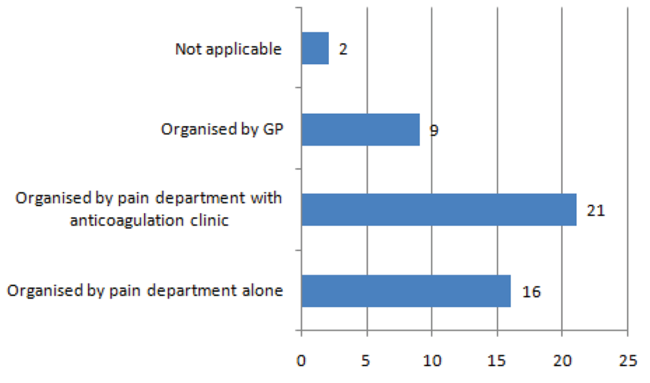
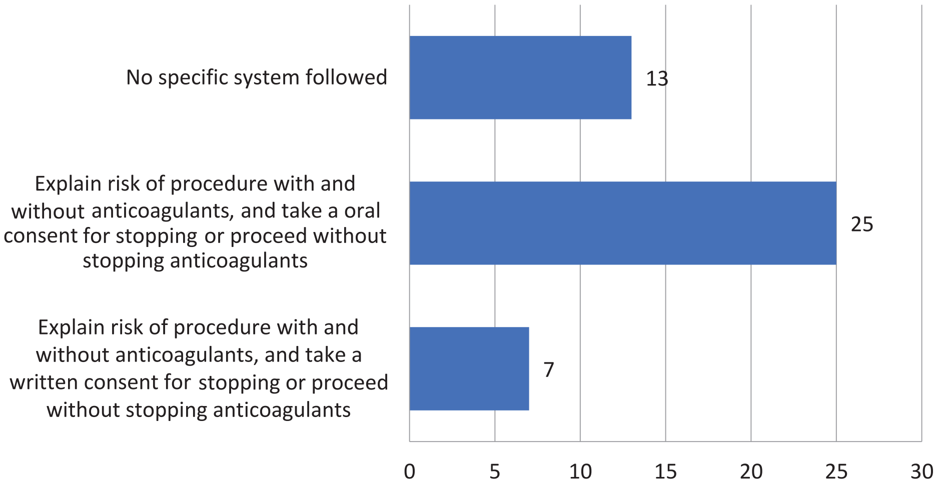


Figure 4. Consent for pain interventions in patients on anticoagulant therapy



Explaining the risks and benefits of the procedures can be very challenging with these patients due to multiple factors. There is no clear evidence of the efficacy of pain interventions or any available relevant guidance. Most physicians (25) would explain the risks with and without anticoagulants (Figure 4) and then consent for stopping anticoagulants or for proceeding without stopping. Only 7 out of 45 respondents said they would take a written consent after discussing the risks involved.

Unsurprisingly, 64% (32) (Figure 5) of the physicians did not have specific written guidelines for the comprehensive management of procedures for chronic pain patients on anticoagulants in their centre. This highlights the lack of consensus and standard protocol for managing these patients in daily practice.

Figure 5. Does your clinic have written guidelines for managing patients on anticoagulant/antiplatelet therapy?

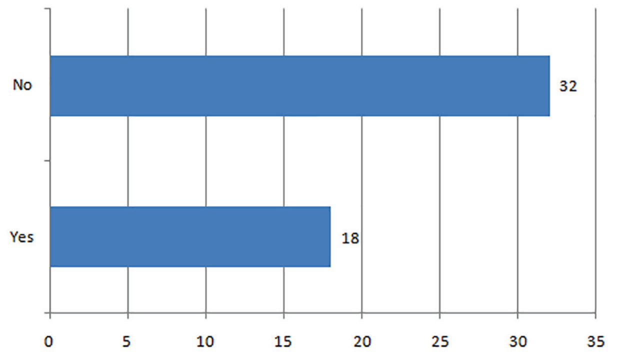
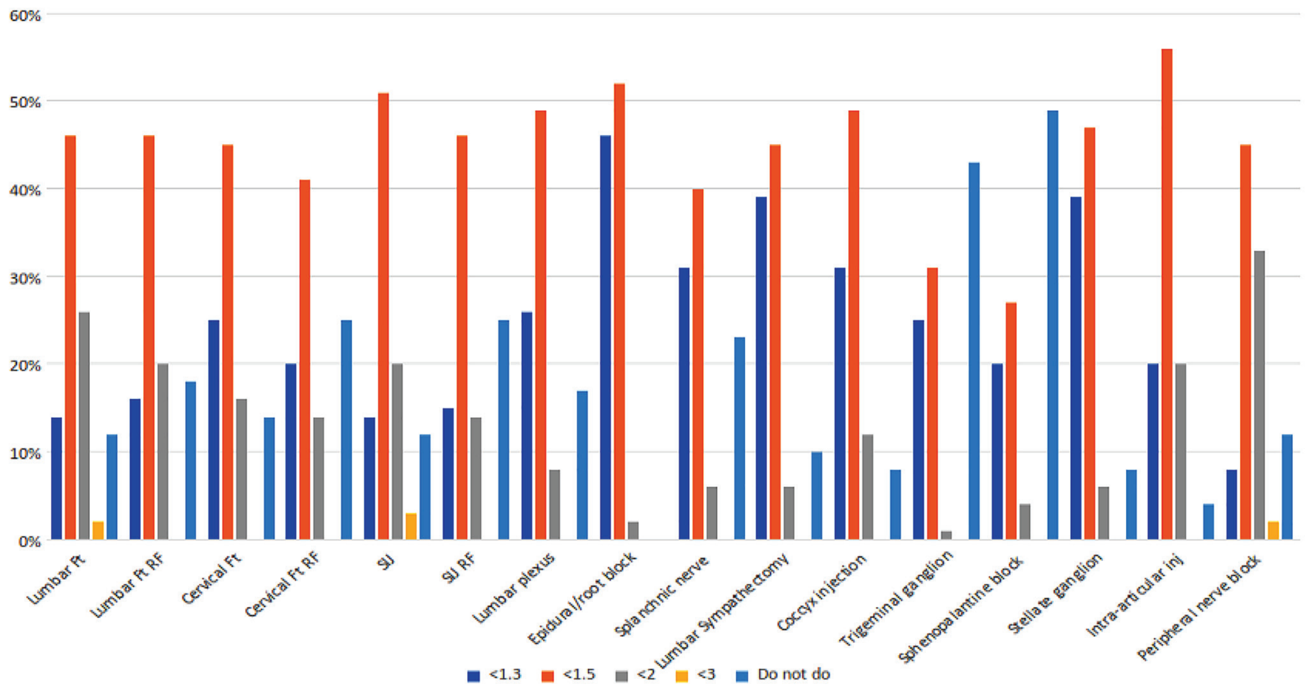


Figure 6. Acceptable INR for procedures



One of the contentious questions would be the international normalised ratio (INR) level at which clinicians feel safe to perform the intervention. The majority of doctors surveyed (40%–50%) (Figure 6) were comfortable performing facet joint injections, sacroiliac joint injections, lumbar plexus blocks, and stellate ganglion blocks at an INR less than 1.5. A few physicians (10%–30%) would perform the procedure, depending on the type, only if the INR was less than 1.3. A very small number of physicians would perform procedures at INR more than 1.5 but less than 2, and no one would perform a procedure when the INR is 2 to 3.

The survey also involved two clinical scenarios, with which we could assess different practices when pain physicians were faced with similar cases. One scenario involved considering pain physicians' practice in cases like epidural or lateral recess injection, where there was consensus that anticoagulants should be stopped. The second scenario involved cases like lumbar facet joint injection and sacroiliac joint injection where there is no clear consensus on whether to stop the anticoagulant in patients with different medical conditions.

In the first scenario, the majority of clinicians (50%–80%) would stop anticoagulation and start bridging therapy (Figure 7) for patients with atrial fibrillation (AF) and history of stroke 1 year back, or in the presence of prosthetic heart valves, prior to performing the procedure. In patients with deep vein thrombosis (DVT) in the last 3 months, 58.3% of the physicians would not offer the procedure and 37.5% would perform the procedure with bridging therapy. In patients with stroke in the last 3 months, 62.5% of physicians would not offer the procedure and 28.9% would perform the procedure with bridging therapy.

In the second scenario, where there is no clear consensus whether to stop anticoagulant therapy or not, an overwhelming number of physicians (70%) would replace anticoagulants with bridging therapy (Figure 8) for patients with AF and history of stroke 1 year back or in the presence of prosthetic heart valves. With DVT or stroke in the last 3 months, the opinion was divided among the options of starting bridging therapy, proceeding without stopping anticoagulants, and the option not to offer the procedure.

Summary of survey results

One of the risks is an enhanced risk of a neuraxial haematoma as a consequence of the procedure performed while on anticoagulation, and the other is an increased risk of stroke or myocardial infarction (MI) which might occur secondary to halting antithrombotic medication. This dilemma is reflected in the cautious practice of the clinicians surveyed where most chronic pain physicians prefer to stop anticoagulants and start bridging

Figure 7. Anticoagulation in high-risk pain procedures

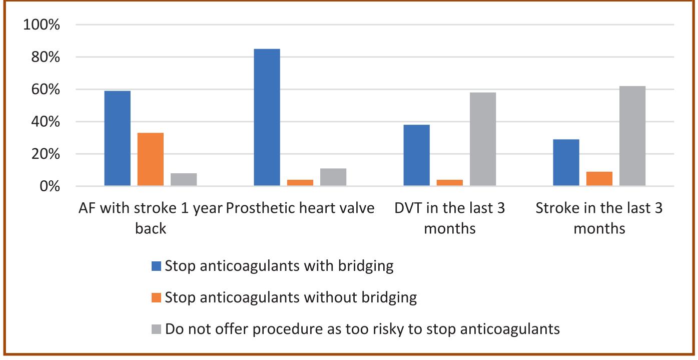
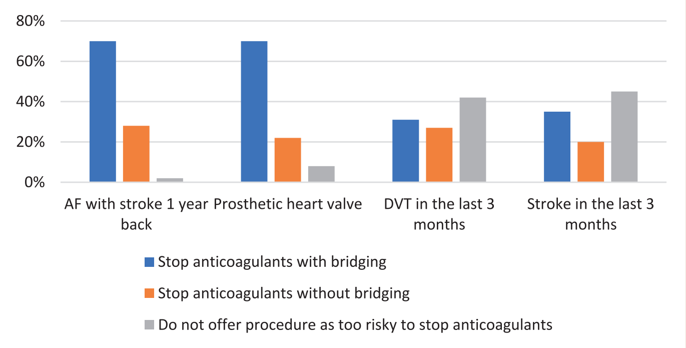


Figure 8. Anticoagulants in low-risk pain procedures



therapy prior to the procedure, which they do after consulting the GP or the referring physician. There is, however, no good evidence that bridging therapy prevents systemic complications, except in venous thromboembolism (VTE) prophylaxis, where this is widely practised. Clinicians had varying opinions when confronted with patients on anticoagulants requiring interventions with different risks. Lumbar facet joint injections and sacroiliac joint injections were considered low risk and often performed while the patient was still on anticoagulants. In contrast, high-risk procedures such as epidural blocks were associated with a universally cautious approach. In the survey, questions about specific clinical scenarios such as AF, DVT, heart valves and stroke showed once again a tendency to stop anticoagulation and utilise bridging therapy.

The majority of clinicians recognised that a recent stroke (62%) was a very high-risk scenario to consider anticoagulation interruption. In fact, the majority chose not to offer the procedure, even where the SIS (Spine Intervention Society) guidelines would support doing the procedure on the anticoagulant. There is, however, an emerging trend towards confidence in the clinician doing the procedure on the anticoagulant and accepting the increased risk of bleeding.

The lack of clear or uniform practice standard in managing these patients is also reflected in the fact that over 60% of the physicians do not have access to written guidelines for pain management interventions in patients on anticoagulants.

Discussion

Managing a patient on antithrombotic therapy for interventional pain procedures is a significant challenge to pain physicians. It involves balancing the risks of stopping or continuing anticoagulants with the potential benefit of short- to moderate-term pain relief interventions. This survey did not consider the duration of stopping anticoagulants once the decision to stop has been made, which is covered extensively in the published guidelines from AAGBI (Association of Anaesthetists Great Britain and Ireland) and most recently ASRA (American Society for Regional Anaesthesia).

Risk of procedures when the patient is anticoagulated

The potential risk of not stopping anticoagulant or antiplatelet medication is that the needle used for the procedure can cause subcutaneous, intramuscular, paraspinal, retrospinal or epidural haematoma. The risk of haematoma and the severity of neurological injury depend on the nature of the procedure. Transforaminal injections carry a higher risk of haematoma as compared to a medial branch block.[1–3] A cervical-level haematoma could be catastrophic in comparison with sacral haematoma. The risk of a perioperative epidural haematoma is estimated to be 1:20,000 to 1:140,000 as reported in the Royal College of Anaesthetists (RCOA) NAP3 project. This risk increases threefold if patients are on anticoagulant therapy; hence, the estimated risk of a haematoma in an anticoagulated patient would be approximately 1:7,000 to 1:50,000.[4]

AAGBI guidelines suggest neuraxial blocks carry a normal risk of vertebral canal haematoma and subsequent cord compression with permanent nerve damage when performed with INR <1.4, >12 hours after prophylactic dose of low-molecular-weight heparin (LMWH), >24 hours after therapeutic dose of LMWH or >4 hours after unfractioned heparin (UFH). There is a greater risk of nerve injury with epidural catheters, single-shot epidurals and paravertebral blocks as compared to lumbar plexus blocks and brachial plexus blocks.[5] Although AAGBI guidelines are specific on when to stop the anticoagulants and prior to what procedures, they do not consider the medical complications associated with stopping anticoagulants in detail.

Risk of stopping anticoagulants

The risk of stopping anticoagulation therapy varies depending on the medical condition for which it was started and the type of anticoagulant initiated. AF and artificial aortic valves carry a risk of 0.5 events per 1,000 patients for 5 days cessation of warfarin therapy. This is different from high-risk AF and prosthetic mitral valves, which carry a risk of 1.6 events per 1,000 patients for 5 days cessation of warfarin.[6] Unfortunately, there is no clear evidence that bridging therapy with LMWH lowers these risks.[7] What is important to note is that the resulting complications such as valve thrombosis and stroke, although rare, can be catastrophic for the patients.

In patients on VTE prophylaxis, the risk of interrupting anticoagulation therapy is small beyond 12 months of starting therapy. Bridging therapy is reported to be effective in this group.

After a cerebral stroke, the first 3 months is traditionally considered to be the highest risk period for recurrence and it would not be prudent to interrupt their anticoagulation regime in this period.[8] There is, however, some evidence that the risk could remain high for many years in certain subgroups with risks such as uncontrolled hypertension.

In patients with a history of coronary stents, stopping anticoagulation within 12 months of stenting, within 6 months of MI or within 6 weeks of angioplasty can increase the risk of systemic complications.[6] Bridging therapy has not been found to be effective in reducing the risks in this group of patients.[6]

Risk benefit analysis

We are currently aware of how and when to safely stop anticoagulants and how to use bridging therapy prior to the procedure. There is, however, no clear consensus or UK guidelines to aid the decision-making process whether to stop or to continue the anticoagulants, depending on the clinical reason for anticoagulation in a specific patient.[3,5]

In view of the Supreme Court judgement in Montgomery (2015), which put patients at the heart of the decision-making process in consent, we consider that the questions which need to be discussed with the patient prior to each intervention in this group are as follows:

- What is the risk of systemic thromboembolic complications, including possible neurological injury, if the anticoagulant is stopped?
- What is the risk of haematoma and possible neurological injury if the anticoagulant is continued?
- What is the benefit of the procedure both in the short term and long term, and do the benefits for the procedure outweigh the risks?
- Are we best placed to estimate this risk benefit in this patient or do we also need to discuss the risks with the clinician who initiated the anticoagulant?
- In particular, is it in the patient's best interest to do the procedure or is it better to try a non-interventional or less invasive procedure?

There have only been a few studies which might help to answer the above questions. The extent to which these recommendations and risks should apply to interventional pain procedures is not clear. Pain management procedures using single injections through a fine gauge needle under fluoroscopic guidance may not carry the same risk as that of anaesthetic regional procedures, which involve larger gauge needles and the placement of catheters. Multiple observational studies reported no cases of major bleeding in patients who continued anticoagulants while undergoing various spine interventions.

Goodman et al.[9] reported no bleeding complications in 90 cases in which anticoagulant and antiplatelet drugs were continued. For lumbar facet intra-articular injections, there were no complications among 58 injections where anticoagulant and antiplatelet medications were continued.[9]

Another study encountered no bleeding complications in 1,109 patients who continued antiplatelet medications during intra-articular injections of the lumbar zygapophysial joints.[10]

Endres et al. assessed risks of continuing or discontinuing anticoagulants for patients undergoing common interventional pain procedures. No complications attributable to anticoagulants were encountered in 4,766 procedures in which anticoagulants were continued. In 2,296 procedures in which anticoagulants were discontinued according to the guidelines, nine patients suffered systemic thromboembolic complications (stroke/MI/PE (pulmonary embolism)), including two deaths.[2] One patient developed a PE after stopping warfarin in preparation for a spinal cord stimulator trial, as reported by Kumar et al.[11] Another patient suffered a middle cerebral artery stroke after discontinuing warfarin for a lumbar epidural injection of steroids.[12] One large retrospective study by Manchikanti et al. reviewed 2,218 cases in which antithrombotic therapy was stopped. No major cardiovascular complications were encountered.

SIS made the following recommendations in its practice guidelines for spinal diagnostics and treatment in 2013. For extra-spinal and intra-articular procedures, they suggest it is not necessary to stop anticoagulants. For cervical or lumbar radiofrequency denervation and lumbar disc stimulation, SIS suggest that it is also probably not necessary to cease anticoagulation. However, in the case of cervical and thoracic disc stimulation, they advise it is only a relative contraindication, and anticoagulants can be stopped at the discretion of the physician. Serious consideration should be given whether to perform cervical and thoracic transforaminal injection at all (irrespective of whether or not to cease anticoagulants).[1,2] SIS recommendations are not prescriptive on which procedures we should stop anticoagulants and when we need to stop them. It does consider the risks of stopping anticoagulants in the context of chronic pain interventions in detail for the first time. The onus, however, is again on the treating physician to weigh up the risks and benefits for each individual patient.

Conclusion

There is some expressed confidence in managing patients on anticoagulants. However, it is not reflected in the uniformity of decision-making regarding when to stop anticoagulants. It is possible that the confidence expressed was more likely in the management of anticoagulants after the decision to stop had been made, as this was the first question in the survey. The current practice is cautious, with most choosing to stop anticoagulation and initiate bridge therapy. There is a recognition of the thrombotic risk of stopping anticoagulants, especially in high-risk patients, but the approach in this group surveyed is cautious with the majority choosing not to do the procedure at all.

SIS guidelines from 2013 are much more liberal in allowing procedures on anticoagulants. A review by Clark C Smith et al.[13] has followed up this guidance with more bold suggestions supporting pain interventions, except for inter-laminar epidurals while the patient is anticoagulated. Should we be doing more procedures such as facet joint or sacroiliac joint injections in these patients on anticoagulants without stopping them? There seems some shift in this direction in this survey. However, there are no clear UK guidelines with which to support the clinicians; hence, it will be difficult to change practice. In the interim, we must continue to engage the patients in discussions of the risks and benefits of performing the procedures both on and off anticoagulants. We also perhaps need to make these decisions with advice from other specialties such as cardiology, haematology and stroke medicine, prior to having such a conversation with this complex group of patients.

In Northampton General Hospital, we have devised a pathway to manage chronic pain patients on anticoagulants. Appendix 1 is a tool which acts as clear documentation of the decision-making process and a communication tool for all the people involved in the care of the patient.[a] This includes other clinicians, nurses and the administrative team. This form allows clear visibility of the plan and documentation of discussions with the patient, and it generates a minimum standard for anticoagulation management. There are also standard letters with instructions to stop, bridge and measure INR that are sent to the patients when the treatment date is decided. An example is included in Appendix 2. Although it has streamlined our process, the decision-making continues to be a challenge at times.

References

1. Endres S, Shufelt A, and Bogduk N. The risks of continuing or discontinuing anticoagulants for patients undergoing common interventional pain procedures. *Pain Medicine* 2017; 18(3): 403–9.
2. Bogduk N (ed.). *Practice Guidelines for Spinal Diagnostic & Treatment Procedures*, 2nd edn. San Francisco, CA: International Spine Intervention Society, 2013.
3. Narouze S, Honorio T, Provenzano D, et al. Interventional spine and pain procedures in patients on antiplatelet and anticoagulant medications (second edition). *Regional Anesthesia and Pain Medicine* 2018; 43(3): 225–62.
4. Cook TM, Counsell D, Wildsmith JA, et al. Major complications of central neuraxial block: Report on the Third National Audit Project. *British Journal of Anaesthesia* 2009; 102(1): 179–90.
5. Regional anaesthesia and patients with abnormalities of coagulation. *Anaesthesia* 2013; 68(12): 1286–7.
6. Keeling D, Baglin T, Tait C, et al. British Committee for Standards in Haematology Guidelines on oral anticoagulation with warfarin. *British Journal of Haematology* 2011; 154(3): 311–24.
7. James D, Douketis MD, Alex C, et al. Perioperative bridging anticoagulation in patients with atrial fibrillation. *New England Journal of Medicine* 2015; 373: 823–33.
8. Kleindorfer D, Panagos P, Pancioli A, et al. Incidence and short-term prognosis of transient ischemic attack in a population-based study. *Stroke* 2005; 36(4): 720–3.
9. Goodman BS, House LM, Vallabhaneni S, et al. Anticoagulant and antiplatelet management for spinal procedures: A prospective, descriptive study. *Pain Medicine* 2017; 18: 1218–24.
10. Manchikanti L, Malla Y, Wargo BW, et al. A prospective evaluation of bleeding risk of interventional techniques in chronic pain. *Pain Physician* 2011; 14(4): 317–29.
11. Kumar V, Turakhia PB, and Wunnava MS. Pulmonary embolism during Dorsal Column Stimulator (DCS) Trial. *Regional Anesthesia and Pain Medicine* 2013; 38: 112–23.
12. Linn AJ, Desilva C, and Peeters-Asdourian C. Thromboembolic stroke: A rare complication associated with peri-procedural management of an epidural steroid injection. *Pain Physician* 2009; 12(1): 159–62.
13. Smith CC, Schneider B, McCormick ZL, et al. Risks and benefits of ceasing or continuing anticoagulant medication for image-guided procedures for spine pain: A systematic review. *Pain Medicine* 2018; 19(3): 438–48.
14. Edwards JD, Kapral MK, Fang J, et al. Long-term morbidity and mortality in patients without early complications after stroke or transient ischemic attack. *CMAJ* 2017; 189(29): E954–E961.

Note

[a] say Appendices 1 and 2 are available online and from the authors.

Informing practice

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 44–49

SAGE

Outcomes following autologous epidural blood patch for spontaneous and post-interventions–related intracranial hypotension headache

Vanja Srbljak *Clinical Fellow in Chronic Pain Medicine, The Walton Centre, Liverpool, UK*
Bernhard Frank *Consultant in Pain Medicine, The Walton Centre, Liverpool, UK*
Rajiv Chawla *Consultant in Pain Medicine, The Walton Centre, Liverpool, UK*
Manohar Lal Sharma *Consultant in Pain Medicine, The Walton Centre, Liverpool, UK*

Introduction

Spontaneous intracranial hypotension (SIH) is a poorly understood condition of low cerebrospinal fluid (CSF) volume and pressure caused by a leak of CSF through a dural defect at any spinal or intracranial level. This condition is usually managed with conservative measures. Failure to recognise it may subject the patient to unnecessary diagnostic procedures and ineffective treatments.

Diagnosis and management can be challenging; a high level of vigilance often requires close collaboration between experts such as neurologists, neuroradiologists, neurosurgeons and consultants in pain medicine. Patients should be monitored closely, because delayed diagnosis and treatment can lead to potentially serious complications such as prolonged recovery with severe cognitive impairment and deficits or coma and even death.

Autologous epidural blood patch (EBP) is one of the invasive treatment options which we have evaluated and presented in this report.

Aims

As a tertiary referral centre, The Walton Centre Neurosciences Hospital in Liverpool offers treatment for low-pressure headaches. As the Pain Medicine Department consultants at the Walton Centre perform EBPs frequently, we retrospectively reviewed the outcomes for patients who received autologous EBPs in our service.

Methods

We collected outcome data of 34 patients treated with autologous EBP during the period between 2013 and 2016 (see attached Appendix).

The SIH group included 16 patients (Appendix 2)[a] and the intervention-related intracranial hypotension (IRIHH) group had 18 patients (Appendix 1).[a] The initial diagnosis of low-pressure headache was made by the consultant neurologist or referring neurosurgeon. We specifically evaluated the disabling postural component of the headache with autologous blood patch treatment.

We obtained service evaluation approval from our Trust's Audit committee and designed a proforma for outcome data set for systematic service evaluation.

We further classified patients as follows:

- Responders (R);
- Responders with Recurrence but Manageable Symptoms (RRMS);
- Non-responders (NR).

We considered as the Responders (R) those patients who responded to our intervention (EBP) by improving the postural component of headache or improving other symptoms related to intracranial hypotension and/or improved magnetic resonance imaging (MRI) signs of intracranial hypotension. The Responders with Recurrence but Manageable Symptoms (RRMS) were those responding to intervention with residual ongoing but manageable symptoms not requiring further treatment or hospital admission. The Non-responders (NR) were patients who did not respond at all to our intervention.

All treated patients had major postural component of headache (headache worse with upright posture). Neurology patients were investigated with MRI of the head and had lumbar punctures (LPs) to confirm CSF pressure and to rule out the other causes of headache. Neurosurgical patients usually had a history of previous spinal surgery and concerns regarding dural tear at the time of surgery. Further surgery to repair the dural tear was also being considered as an option. These patients were referred to our pain clinic only if they had significant postural component of their headache.

Results

Among 34 patients in total (16 patients in the SIH group and 18 in the Iatrogenic group), 5 received multiple blood patches and the maximum number of EBPs received by a single patient was 3. Three patients in the SIH group required multiple EBPs and two patients in the IRIHH group needed a further autologous blood patch to resolve low-pressure headache.

In the IRIHH group, the most common cause of CSF leakage was diagnostic LP and surgical interventions leading to CSF leak. The most common injection site for blood patch was the lumbar spine. In the SIH group, the most common injection site was also the lumbar level, followed by the thoracolumbar junction. There were no major complications reported after the EBP such as compressive radiculopathy, dural puncture, meningitis or neuraxial haematoma. Some of the patients reported short-term back pain on injection and temporary feeling of pressure at the injection site.

The majority of patients received between 10 and 30 mL of blood into the epidural space. The minimum amount of blood that one of our patients received was 2.5 mL, while the maximum was 35 mL. The volume of blood was injected as per each patient's tolerance.

Three patients in the SIH group did not respond to the EBP treatment, while five were defined as RRMS who achieved good immediate clinical outcome, while during the subsequent follow-ups they had improved postural component of headache with ongoing residual but well-managed symptoms. Eight patients fulfil the criteria as responders who recovered completely after EBP at the last follow-up.

In the IRIHH group, 13 patients recovered completely after EBP, while 3 were classified as RRMS and 2 were included in the NR group (Table 1).

Patients with an iatrogenic cause of headaches were waiting 1–30 days, while patients with SIH were waiting in most of the cases 6–12 months for autologous EBP treatment. The best explanation for this delay in the delivery of EBP was delayed diagnosis and additional time required for subsequent investigations (Tables 2 and 3).

Demographic analysis demonstrated twice the number of males in the SIH group but more females in the IRIHH group. The most frequent iatrogenic intracranial hypotension was recorded in the 20–30 age group, while for the SIH group, the age group most affected was 51–60 years (Tables 4 and 5).

Table 1. Responsivness to EBP.

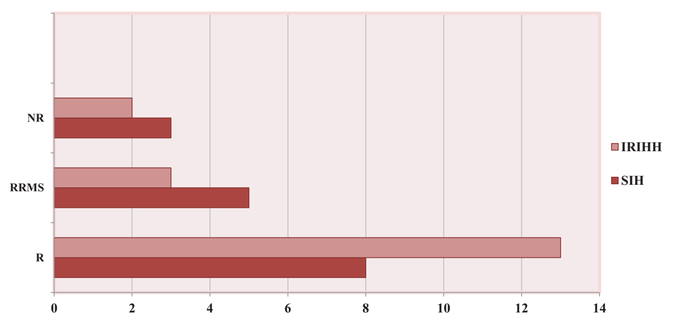
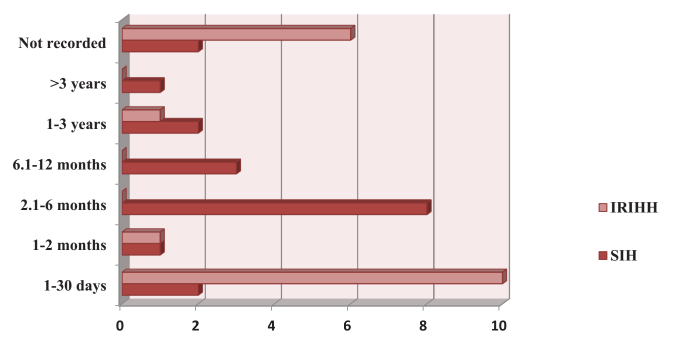


Table 2. Time interval onsets of postural headache/EBP delivery.



Discussion

The International Classification of Headache Disorders-3 (ICHD-3) requires the following to diagnose a headache due to spontaneous spinal CSF leak:[1–3]

- The postural headache with at least one additional symptom (neck stiffness, tinnitus, hypoacusia, photophobia or nausea);
- Confirmatory evidence of low CSF pressure such as on MRI with gadolinium, conventional myelography, computed tomography (CT) myelography, cisternography;
- Low CSF pressure (<60 mm CSF).

The mechanisms by which EBP treats orthostatic headache can be explained in two stages. In the earlier stage, pressure in the epidural space is elevated by the injection of autologous blood, leading to an elevation in CSF pressure and redistribution of the CSF volume and consequently relieving the

Table 3. Time interval intervention/first follow-up.

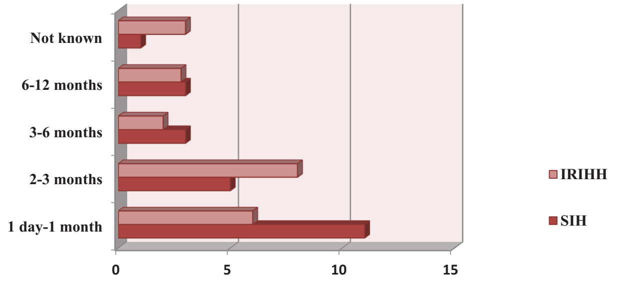


Table 4. Sex characteristics.

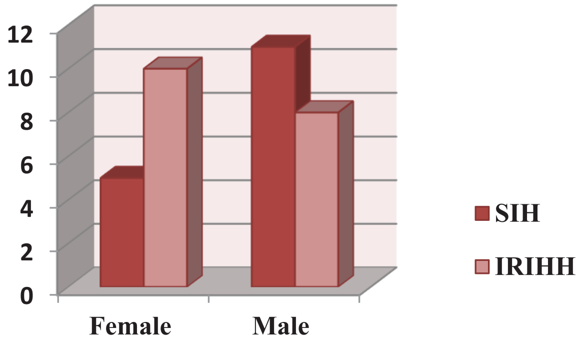
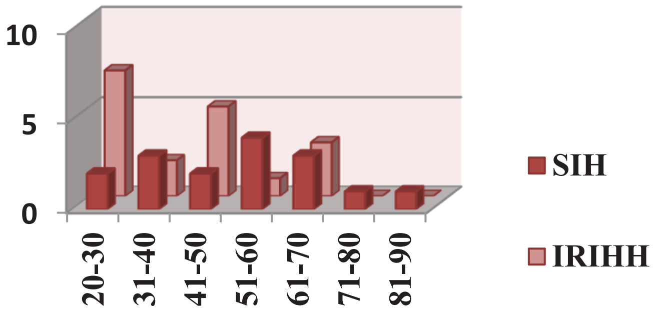


Table 5. Age difference.



orthostatic headache. This mechanism is known as the hydrostatic or mass effect.

In the later stage, the injected autologous blood forms an organised blood clot to seal the CSF leakage site, thus preventing further leakage.[4]

This treatment is often effective in relieving symptoms in a third of patients.[5,6] If this fails, it can be repeated. Other treatments such as a directed EBP or percutaneous placement of a fibrin seal require knowledge of the exact site of the CSF leak.[5,7,8] Patients who fail these treatments should be referred for surgical repair. Despite treatments, some patients continue to have persistent symptoms.[7]

All the patients referred to our unit satisfied diagnostic (ICHD-3) criteria related to headache due to spinal CSF leak.

According to our results, patients in the IRIHH group required a lower number of EBPs for complete recovery compared with the SIH group.

Most iatrogenic headaches (10 patients) were suspected and attributed to LP and CSF leakages were therefore thought to occur precisely at the needle entry point. The other eight patients developed iatrogenic headaches after spinal surgeries.

We are aware that most other studies reported that SIH usually occurred more commonly in women than men and with a peak in the early decades (third and fourth) of life.[5] According to our study, we had twice the number of males in the SIH group but more females in the IRIHH group (Tables 4 and 5). Also, the most frequent iatrogenic intracranial hypotension was recorded in the 20- to 30-year age group, while for the SIH group, the age group most affected was 51 to 60. This could be a coincidence related to the relatively small sample size of the observed patients in our cohort.

However, the aetiology of spontaneous CSF leakage is often unidentified. Spontaneous CSF leakage is thought to occur in fragile areas of the dura mater, and these spontaneous tears tend to have a larger diameter than those caused by iatrogenic needle injuries. That could potentially be one of the reasons for a less successful outcome of EBP applied in the SIH group.[9,10] One of our patients required few EBPs until it was recognised that an osteophyte was most likely causing a dural tear.

In the IRIHH group, 78% of patients fully recovered after the first EBP. Of the 18 patients, 2 failed to respond to the EBP because they developed another leakage site, different from the one where diagnostic LPs were previously performed. Our three other patients in this group partially responded to EBP. Their postural headache component either resolved or improved but they were diagnosed with chronic headache disorder during the later follow-ups with neurologists, which were managed conservatively. One patient requiring multiple blood patches had an osteophyte that was most likely causing a dural tear. A surgical intervention was recommended as a treatment option to resolve his condition.

Clinical vignettes: Case 1

An elderly patient was referred to our chronic pain clinic with a 5-month history of on/off episodes of dizziness with no particular pattern or triggers, complicated with postural headache during the last 2 months. He also complained of lethargy and decreased short-term memory.

CT and MRI scans of his head demonstrated bilateral moderate chronic subdural haematoma along the cerebral convexities, left larger than the right. The collections were causing effacement of the adjacent convexity sulci. The ventricles were also small due to bilateral mass effect. There was generalised diffuse thickening of the dura with avid enhancement. The midbrain appeared 'slumped'. Overall, the intracranial appearances were consistent with chronic intracranial hypotension.

After initial assessment and failed conservative treatment, he was treated with autologous epidural blood patch at the T12/L1 junction. He tolerated intervention very well and 30 mL of blood was injected under fluoroscopic guidance until he started feeling raising pressure in his back. His headache improved immediately clinically and following MRI demonstrated complete interval resolution of the subdural collection and slumping of the brainstem.

Clinical vignettes: Case 2

A 33-year-old man was referred to a chronic pain clinic following an accidental dural tap during difficult SCS (Spinal Cord Stimulator) trial. Patient was previously diagnosed with failed back syndrome.

He presented with a severe postural headache, photophobia, neck stiffness and nausea shortly after performed intervention.

Following 3 days of dural tap, 25 mL of autologous blood was injected at L2/3 level under strict aseptic precautions with fluoroscopic guidance.

His headache responded well to this treatment and he was discharged 3 hours following this intervention.

Subsequent follow-ups demonstrated that he recovered completely.

In the SIH group, 50% of patients made a complete recovery after a single EBP with no residual symptoms, while one third of them had some residual symptoms still present following EBP but with resolved postural headache component. This implies that in 80% of patients diagnosed with SIH, our treatment with EBP was successful; 20% of patients in the SIH group were classified as Non-responders as their symptoms remained the same as before the intervention. These patients either had a complex past medical history requiring multiple cranial interventions or they had some radiological signs of SIH improvements, while the severity of their clinical symptoms remained the same. It is recognised that one third of the patients with SIH do not respond well to a treatment such as EBP.[5,6]

This suggests that spontaneous orthostatic headache could be an important factor predictive of the need for a repeated EBP. Therefore, patients with spontaneous orthostatic headache should be advised that multiple EBPs might be required for symptom resolution.[9,11] Further collaboration with neuroradiology with better diagnostic imaging techniques, such as MRI myelogram with gadolinium, could identify precisely the potential CSF leakage site, leading to better targeting of EBP injection location in spine.

We had three patients in the SIH group requiring multiple blood patches to achieve pain relief. One of the reasons for this poor response to treatment could be because the dural leakage site was not confirmed prior to previous blind EBP attempts. This increases the importance of precise identification of the anatomical site of a dural leakage using available imaging techniques prior to proceeding with a planned intervention.

Patients with a long history of postural headache, confirmed radiological signs of low intracranial hypotension, followed by cognitive impairment and cranial nerve involvement, can require a longer recovery time for all SIH symptoms to resolve.[6,10] For example, after being treated with an initial EBP for long-standing postural headache (not known aetiology), one of the patients, despite modest initial resolution of his postural headache component, required another EBP due to these ongoing low-pressure headache symptoms. After 2 years of the second EBP, his memory and cognitive problems improved gradually.

Figure 1. Anteroposterior radiographic view of the transforaminal epidural at the C7-T1 spinal level

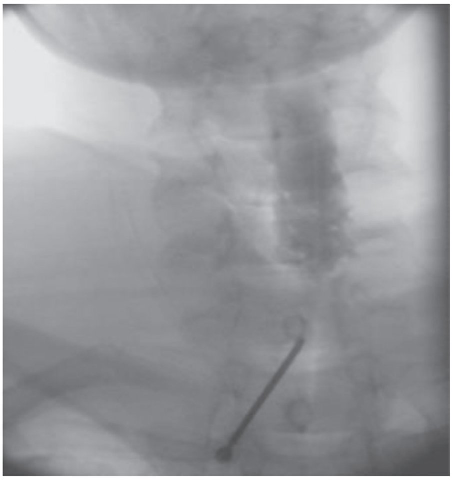
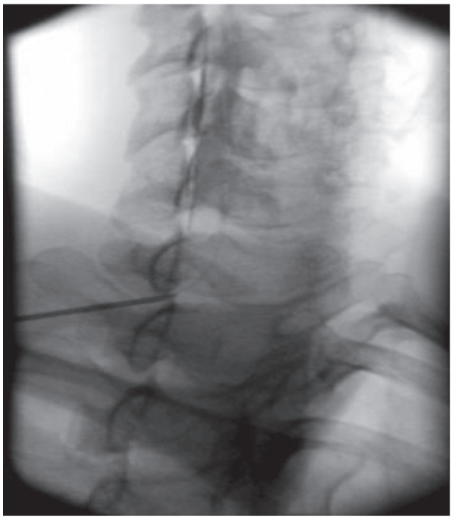


Figure 2. Epidurogram illustrates the Tuohy needle entering the epidural space at the C7-T1 spinal level and the catheter threaded to the C4 level to the left under fluoroscopic guidance, oblique view



A targeted cervical autologous EBP was a successful treatment option in one of the cases. The use of the catheter for targeted high cervical technique for EBP presents a simple method which could help performing blood patch closer to the suspected area of leak, reducing the volume needed for EBP and probably improving patient outcomes while maintaining safety (Figures 1 and 2).[12,13]

As we mentioned before, the aetiology and finding the site of CSF leak in SIH can be challenging.

From the service evaluation perspective, the majority of patients with the iatrogenic cause of low-pressure headache had an EBP performed within a month of a postural headache being diagnosed, while most of the patients with SIH had their EBP delivered within 2–12 months. This may be related to the time taken for diagnosis of SIH in primary care and the time taken for referral to specialist neurology services. There is a potential need for improving this time lag for diagnostics as this condition is debilitating and patients often become bedridden.

In our experience, the amount of blood injected was not related to the final outcome of the treatment performed. We had a patient who responded well after having only 2.5 mL of blood injected at the level of the previous LP, while some of the patients required 30 mL and more to achieve the same results.

The most common side effects reported by patients were temporary back or radicular pain during injection or an unpleasant feeling of increasing pressure in their backs. We did not record any temporary or permanent neurological deficit as a consequence of this treatment.

One of the main limitations of this service evaluation was that the quality of headache reported during follow-ups was often inconsistent and was not very descriptive. Analysis of data has shown that it was quite difficult to compare the severity of headache intensity and to quantify the patients' improvements before and after the treatment.

We have now standardised a recording template of headache description, accurate recording of targeted spine levels for EBP, administered blood volume and immediate response on a patient discharge letter. This is important and should be consistent. The same template could also be used during the follow-ups in order to quantify patient symptoms to ensure consistency in reported outcomes and their characteristics. Unfortunately, we still have not implemented this kind of template in our practice, but this issue was recognised and has been presented at a multidisciplinary meeting. We are hoping that this will be resolved soon.

Conclusion

Although subdural haematoma and stroke are recognised rare complications of low intracranial pressure with a potentially fatal outcome if left untreated, low-CSF-pressure headaches are not usually a life-threatening condition.

Iatrogenic causes of low-CSF-pressure headaches are well recognised and, in our experience, respond better than SIH-related headache to EBP. SIH often remains underdiagnosed.

The spectrum of clinical and radiographic manifestations is variable, with diagnosis largely based on clinical suspicion, cranial MRI and myelography. According to our experience, improved diagnostic methods and close collaboration between neurology, neuroradiology, neurosurgery and specialists in pain medicine offer better patient selection, while identification of the site of CSF leak and therefore targeted EBP can offer better outcomes with minimal risks and side effects. This needs to be studied in a prospective manner, which we are planning to do in the near future.

Acknowledgements

The authors would like to thank Dr Andreas Goebel, Senior Lecturer, University of Liverpool, and Consultant in Pain Medicine at the Walton Centre NHS Foundation Trust, for his appraisal and review of this article. The authors would like to express gratitude to the all pain consultants involved in this project.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Note

[a] Appendices 1 and 2 can be found online and from the authors.

References

1. Schievink WI, Maya MM, Louy C, et al. Diagnostic criteria for spontaneous spinal CSF leaks and intracranial hypotension. *AJNR: American Journal of Neuroradiology* 2008; 29(10): 853–6.
2. Raskin NH. Lumbar puncture headache: A review. *Headache* 1990; 30(4): 197–200.
3. Mokri B. Spontaneous low pressure, low CSF volume headaches: Spontaneous CSF leaks. *Headache* 2013; 53(7): 1034–53.
4. Matthew PF, and Spencer SL. Spinal anesthesia: Post-dural puncture headache. In *Complications in Anesthesia*, 5th edn, 2007.
5. Schievink WI. Spontaneous spinal cerebrospinal fluid leaks and intracranial hypotension. *The Journal of the American Medical Association* 2006; 295(19): 2286–96.
6. Rahul A, Manish I, Meenakshi P, et al. Spontaneous intracranial hypotension. *Journal of the Association of Physicians of India* 2014; 62: 281–3.
7. Thanthulage SR. Low CSF pressure headache. Available online at slja.sljol.info/articles/10.4038/slja.v23i1.7801/
8. Schievink WI, Maya MM, and Moser FM. Treatment of spontaneous intracranial hypotension with percutaneous placement of a fibrin sealant. *Journal of Neurosurgery* 2004; 100(6): 1098–1100.
9. So Y, Park JM, Lee PM, et al. Epidural blood patch for the treatment of spontaneous and iatrogenic orthostatic headache. *Pain Physician* 2016; 19(8): E1115–22.
10. Agarwal P, Menon S, Shah R, et al. Spontaneous intracranial hypotension: Two cases including one treated with epidural blood patch. *Annals of Indian Academy of Neurology* 2009; 12(3): 179–82.
11. Renowden SA, Gregory R, Hyman N, et al. Spontaneous intracranial hypotension. *Journal of Neurology, Neurosurgery, and Psychiatry* 1995; 59: 511–5.
12. Srbljak V, Biswas S, Bhojak M, et al. High cervical blood patch via epidural catheter for treatment of spontaneous intracranial hypotension. *Journal of Observational Pain Medicine* 2017; 1: 6.
13. Wang E, and Wang D. Successful treatment of spontaneous intracranial hypotension due to prominent cervical cerebrospinal fluid leak with cervical epidural blood patch. *Pain Medicine* 2015; 16(5): 1013–8

THE BRITISH PAIN SOCIETY
EXPERTISE WHERE IT MATTERS

Pain News
2019, Vol 17(1) 50–54

SAGE

Assessing pain and drug dependence: can we get it right?

Lesley Haines *Consultant Psychiatrist*

Introduction

Drug dependence is often thought of as self-inflicted or a lifestyle choice, but the consequences of the condition are serious: mortality rates are over five times greater than the general population[1] and life expectancy is reduced by 9–17 years in opioid-users.[2] Patients often present to pain services. Assessment and care through a liaison team with competence in drug treatment or a system of multidisciplinary working is ideal but, in reality, few areas have ready access to such services.

The first of two articles is a psychiatrist's pragmatic advice on what to consider when you are unexpectedly confronted by patients with substance misuse problems in pain services. This article outlines the concerns of drug teams and pharmacological treatment of dependence, elements in the assessment of dependent patients and special considerations in this group. The subsequent article looks at difficulties in managing patients with acute and chronic pain. If you do have a consultation-liaison drug service, do not be afraid to use it, and make sure you utilise any local policies and protocols applicable to this population.

Credit: wildpixel.

I will concentrate on difficulties commonly occurring in patients who use opioids. There are many drugs which lead to physical or psychological dependence but there does not appear to be substantial cross-tolerance to the analgesic effects of opioids. People with alcohol, cannabis, benzodiazepine or stimulant use disorders should have their pain managed in the usual manner.[3]

Definitions

Dependence as described in the ICD-11[4] has the following characteristics: repeated or continuous use of the substance; a strong internal drive to use, impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences; a subjective sensation of urge or craving to use. Physiological features of dependence may also be present, including tolerance to the effects and withdrawal symptoms following cessation or reduction in use.

I imprecisely use the terms addiction and dependence interchangeably. An addict is someone who identifies as having been dependent on a drug, either in the past or currently. Not all of those who are opioid dependent identify themselves as addicts, and some addicts no longer use opioids.

Tolerance is the phenomenon whereby with repeated exposure, a progressive increase in the amount of drug administered is required to achieve the same effect. Tolerance can develop with many medications and is not synonymous with dependence.

Withdrawal symptoms are a constellation of symptoms that occur when someone who is dependent on a drug ceases or reduces its use. Opioid withdrawal is characterised by intense dysphoria, craving for opioids, signs and symptoms of autonomic overactivity (anxiety, restlessness, sweating), gastrointestinal disturbances (abdominal cramps, nausea, vomiting, diarrhoea), diffuse muscle and joint pains, yawning, stuffy nose, goose flesh and pupil dilation.

Opioid substitution treatment

This is a brief review of the purpose, practicalities and concerns of opioid substitution treatment within drug treatment services. Prescribing is intended to manage rather than prevent drug use as part of a multidisciplinary biopsychosocial approach to the problem.

In managing people with a history of opioid dependence, it is important to critically assess patients' self-reports. The most useful tool in clinical medicine is the patient history, but in this arena, the patient's account needs to be viewed circumspectly. Addiction practice involves a stance of due caution and relies on structured approaches to treatment to protect patients and the community.

Addiction services are concerned with reducing risk of abuse of the prescribed medication; of diversion where medication is sold, traded or shared with others; of overdose; of erratic consumption leading to loss of tolerance and inadvertent overdose (deaths occur when drug use resumes following a period of enforced abstinence, say, in prison); of children consuming a parent's medication.

The patient's self-report is corroborated with urine drug screens, consultation with the community pharmacist and liaison with other professionals including probation services. Prescribing is strictly monitored and the opportunities for a patient collecting extra medication or presenting before the current supply should have run out are limited.

There is a hierarchy of prescribing. When initiating opioid substitution treatment, the medication is taken daily, observed by the community pharmacist ('supervised consumption'). As illicit drug use reduces and the patient stabilises, daily prescriptions are dispensed that the patient can take home for consumption at their convenience. As trust develops and urine samples show the absence of illicit drugs, less frequent collection can be tried, but it is rare for more than 1 week's supply to be dispensed.

The two most commonly prescribed opioid substitution treatments are methadone and buprenorphine. Both are long-acting preparations with few euphoric effects intended to help the patient achieve a degree of stability without having to worry about avoiding withdrawal symptoms or obtaining illicit opioids. The doses used are generally higher than those prescribed for pain relief.

Methadone is a synthetic opioid. The preferred formulation is methadone oral solution 1 mg/mL: this sticky green syrup is rarely injected. There is a methadone linctus 2 mg/5 mL available; this is seldom used in addiction services. Tablets that can be crushed and injected are not recommended. The half-life after a single oral dose is 12–18 (mean 15) hours, reflecting distribution into tissue stores, metabolic and renal clearance. With regular doses, the tissue reservoir fills, extending the half-life to 13–47 (mean 25) hours. Care is needed when initiating methadone as the drug can accumulate: doses that are tolerated on day 1 can cause toxicity by day 4. The dose required to prevent opioid withdrawal (up to 50 mg daily) is less than the optimal dose used in drug services, which aims to prevent craving for the drug and cessation of heroin use (between 60 and 120 mg daily).[5]

Buprenorphine is a semi-synthetic opioid with partial agonist activity; effects reach a plateau and further increases in dose have no effect. It has high affinity for μ-receptors displacing other opioids. If a patient is already using regular high doses of opiates or methadone, the first doses can precipitate a withdrawal syndrome: this is regularly observed in drug clinics. Doses used in opiate substitution treatment vary from 8 to 32 mg daily.

Assessment

If a patient is admitted electively, with a history of being prescribed opioid substitution treatment and a plan from the drug team, the assessment is straightforward. This is seldom the case. Admission is often urgent, out-of-hours and involves considerable distress and anxiety; the patient may conceal their opioid use or the extent of their prescription medication and may not recognise themselves as being dependent. Recognition is essential, ideally before opiate withdrawal symptoms develop. A full psychosocial assessment is rarely possible in such a pressurised environment.

Speedy drug history

Asking about prescribed medication is a standard element of a pain assessment, but supplementary questions to patients prescribed opiate or related medication are needed (see

Table 1). You will need active listening skills and an empathic, non-judgmental attitude: not easy when busy and harassed.

Table 1. Questions to ask if drug use is suspected.

Ask about dependence-inducing drugs: • Opioids • Benzodiazepines • Gabapentinoids • Over-the-counter analgesics	How long they have been prescribed? How often they are taken? How many are prescribed at a time? Whether the prescription has ever run out before the next was due Whether the prescribed dose has ever been exceeded History of overdose
When asking about alcohol, enquire about *recreational* drug use (more acceptable than illicit drugs)	Cannabis 'Party drugs' New psychoactive substances ('spice', etc.) Stimulants Heroin
If illicit drug use established:	When first used? How often? Daily use? How taken? Ever injected?
Have there ever been withdrawal symptoms?	What is the longest you have been without the drug? Did you experience anything unpleasant?
Other drug-related harms	Infections Abscesses Blood-borne viruses Involvement with criminal justice Involvement with social services

Corroborate

As soon as possible, obtain collateral information. The GP and, if relevant, the drug clinic will be aware of what has been prescribed and when. You may be able to access the Summary Care Record via the secure NHS network.

If you are anticipating prescribing opioid substitution treatment, contacting the dispensing community pharmacist is essential. They will know when the last dose was dispensed, how often a prescription is collected and whether consumption is supervised.

Urine drug screening will verify the presence of medication prescribed and the presence of unexpected substances will alert you to concealed problems. Bedside urine screens are available but consider how an instant result is going to affect immediate management. If you can wait, laboratory testing is preferable as it detects a wider range of drugs, can help understand unusual findings, and in some circumstances provide an indication of the level of consumption.

Considerations

Overlap between anxiety, pain and withdrawal

There is a massive overlap between the symptoms of pain, anxiety and drug withdrawal and each can exacerbate the others. Opiate-dependent patients harbour enormous anxieties around unplanned opiate withdrawals, which may present as aggression or provoke them to self-discharge. They may have previously self-medicated to attenuate their psychological distress and may have poorer acceptance of non-pharmacological interventions for symptom relief, increasing their appearance of being demanding and 'drug-seeking'. On the plus side, relieving symptoms in any one sphere will have a knock-on effect and improve the others.

Stigma and not being believed

Health professionals and addicts alike share the broad community fear and disapproval of addiction and the addicted lifestyle. Staff may assume that addiction is primarily a matter of character and personal responsibility. You, as a treating clinician, will have concerns about use of medication when a patient's illicit use is uncertain, anxiety about patients demanding medication for 'a buzz' and irritation if you suspect deceit. The patient may withhold information through shame or guilt, for fear of being judged or inviting unwanted interference from outside services, such as the police and social services.

Established addicts will have encountered difficulties in a variety of services. Many develop an 'addict identity', that of an individual who lives by their wits, and has difficulty trusting anyone. Internalised stigma, fear of pain and fear of withdrawal mean that addicted individuals, fearing they will be judged and not believed, are at times aggressive and demanding. Symptoms may be amplified: this is not an attempt to deceive, but an attempt to convince. Challenges may give rise to accusations of 'you think I'm lying'. They may be concerned that their pain will be under-treated, or that prescribed opioid substitution treatment will not be administered. Fear of pain and withdrawal means they may take drugs while hospitalised, adding to the mutual distrust between health professionals and addicted patients.

Hyperalgesia, tolerance, distorted perception of pain

The opioid-dependent population have three reasons for requesting higher than usual doses of analgesics: tolerance – the maintenance dose of opioid substitution treatment will not provide required analgesia; opioid hyperalgesia causing increased pain sensitivity and resistance to the analgesic effects of opioids.

Peculiarities of prescribed medication

Methadone maintenance is intended to provide ‘narcotic blockade’ such that if heroin is used, euphoriant effects are minimal. Buprenorphine is used at a level where μ-receptors are substantially occupied. Both strategies alter the effect of additional opioids prescribed for pain relief. Although in many cases the effect is more theoretical than apparent, you will encounter patients who do not respond to high analgesic doses because of receptor occupancy and in whom alternative pain-relief strategies are required.

Addicts who are abstinent may be prescribed the opiate antagonist naltrexone to reduce the temptations of illicit heroin use. It is also used in the prevention of relapse in patients who are alcohol dependent. Such patients will be impervious to opioids prescribed for acute pain until the blockade has worn off: 48–72 hours. For oral naltrexone, the amount and timing of the last dose needs to be established: if large amounts of opioids have been given (perhaps inadvertently) to overcome the blockade, toxicity may develop as receptors become free and the opioids start to have an effect.

Naltrexone implants and depot preparations are not licenced in the United Kingdom but are available ‘off-label’ through private clinics. Patients using long-acting preparations will not have the option of ceasing naltrexone use to allow effective opiate analgesia: alternative methods of pain relief will be required. Naloxone can be co-prescribed with buprenorphine as Suboxone: sublingual naloxone will not be absorbed, but if the tablets are crushed and injected the intravenous naloxone precipitates withdrawal. Patients taking Suboxone correctly will not experience receptor blockade from naloxone.

Drug interactions

Drug interactions can lead to problems when treating co-existent physical conditions. For example, carbamazepine and rifampicin can both reduce the blood levels of methadone or buprenorphine, leading to withdrawal symptoms if the ‘usual’ dose of opioid substitution treatment is administered. Be prepared to consult a pharmacist if patients develop unexpected withdrawal symptoms.

General principles

Opioid substitution treatment is not an effective analgesic. It should not be used to treat pain: patients will require analgesia in addition to their long-term medication and have the same needs as everyone else for pharmacological and other interventions to address their pain.

If a patient has used short-acting opiates, they develop withdrawal within a few hours. Withdrawal from opioid substitution treatment may take over 24 hours to become apparent.

Do not use benzodiazepines as a substitute for opioid prescribing. The patient may welcome them as a means of reducing anxiety, but they will not prevent withdrawal and sedation may complicate the assessment of toxicity.

Managing this population of patients requires a constant balancing act. Adequate assessment before prescribing is weighed against rapid stabilisation to reduce pain and prevent withdrawal. Underprescribing leads to opioid withdrawal and inadequate analgesia, generating demands for more drugs and potential conflict; contrasted with overprescribing causing opioid toxicity in patients with uncertain tolerance. Pain services excel at support with affirmation of the patient’s experience and fears; addiction services lean towards structure with behavioural rules, limit setting, monitoring and external corroboration of self-report; equilibrium lies somewhere between. Understanding the reasons for conflict and demands contrasts with setting firm limits on inappropriate behaviour. Maintaining the balances takes time and needs frequent review.

Priorities and situations change frequently in those with opioid dependence and you need to re-assess, reflect on your observations and be prepared to renegotiate. Use the drug services for advice and reassurance; use the multidisciplinary team, in particular pharmacists, for expertise re drug interactions; look for explanations if conscious levels unexpectedly fluctuate. There will be other professionals involved, including the criminal justice services: make sure that you are not inadvertently breaching confidentiality when liaising with those outside the health services; consent from the patient is needed, but in my experience is rarely refused.

Management

The best way to manage the conflicting requirements is to negotiate clearly defined goals. These are used in assessment, development of a treatment plan, close monitoring and reviewing of treatment as needed. Individualised care plans developed in this way stand a greater chance of success, but do not lend themselves to massive randomised double-blind controlled trials: one of the reasons for the paucity of ‘gold-standard’ research in this area. The second article will address the management of acute and chronic pain in this group.

Further reading

The British Pain Society, The Royal College of Psychiatrists, The Royal College of General Practitioners and The Advisory Council on the Misuse of Drugs (2007). *Pain and Substance Misuse: Improving the Patient Experience.* London. The British Pain Society.

National Addiction Centre (2013). *The Management of Pain in People with a Past or Current History of Addiction*. London. Action on Addiction.

Clinical Guidelines on Drug Misuse and Dependence Update 2017 Independent Expert Working Group (2017). *Drug Misuse and Dependence. UK Guidelines on Clinical Management*. London. Department of Health.

Royal College of Anaesthetists Faculty of Pain Medicine. Opioids Aware: A resource for patients and healthcare professionals to support prescribing of opioid medicines for pain. [online] https://www.rcoa.ac.uk/faculty-of-pain-medicine/opioids-aware

Dr Haines has been a general adult psychiatrist since 1995, working in hospitals, outpatient departments and drug clinics. She has developed an interest in pain through encountering patients with unexplained (or 'yet to be explained') medical symptoms and trying to manage an ageing cohort of heroin users. She left full-time NHS practice in 2009 to pursue a portfolio career.

Website: www.shrinkwork.co.uk

References

1. Pierce M, Bird S, Hickman M, et al. National record linkage study of mortality for a large cohort of opioid users ascertained by drug treatment or criminal justice sources in England, 2005–2009. *Drug and Alcohol Dependence* 2015; 146: 17–23.
2. Chesney E1, Goodwin GM, and Fazel S. Risks of all-cause and suicide mortality in mental disorders: A meta-review. *World Psychiatry* 2014; 13(2): 153–60.
3. Schug SA, Palmer GM, Scott DA, et al. APM: SE working group of the Australian and New Zealand College of anaesthetists and Faculty of pain medicine. In *Acute Pain Management: Scientific Evidence*, 4th edn. Melbourne, VIC, Australia: ANZCA & FPM. Available online at http://fpm.anzca.edu.au/documents/apmse4_2015_final
4. 6C43.2 Opioid dependence. In: World Health Organization (ed.) *ICD-11. International Classification of Diseases for Mortality and Morbidity Statistics*, 11th rev. Available online at https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f1120716949 (accessed 9 August 2018).
5. Dole VP, Nyswander M, and Kreek MJ. Narcotic blockade. *Archives of Internal Medicine* 1966; 118(4): 304–9.

Follow the Society on twitter

Please follow the Society on twitter **@BritishPainSoc**
We will be sharing relevant information and updates from the Society.

A pained life: the balancing act

Pain News
2019, Vol 17(1) 55
© The British Pain Society 2019
SAGE

Carol Levy

A life in pain is a balancing act. Image, in the public domain.[1]

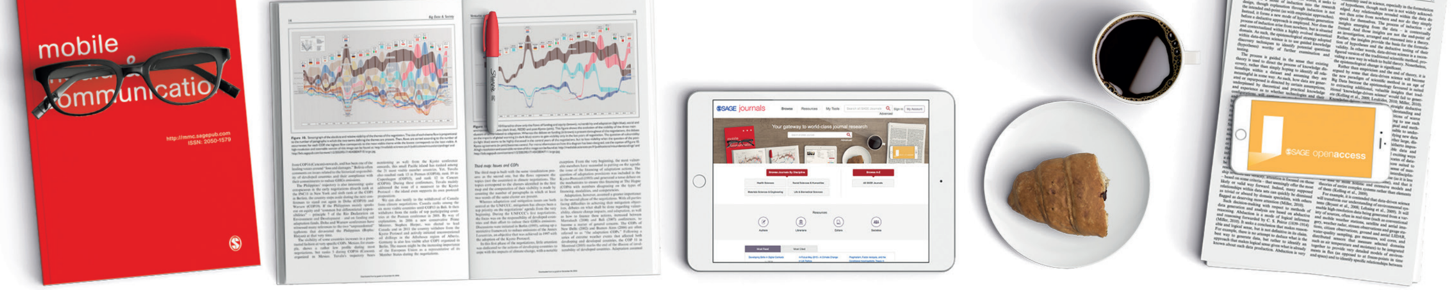
It is time for a renewal for my pain meds but I have a number of pills left.

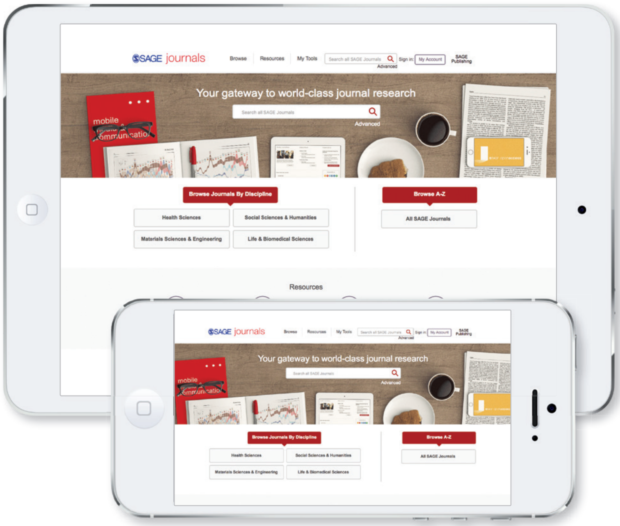
I was excited for a few seconds.
Maybe the pain has been better so I need fewer pills!
And then I thought about it a little bit more.
It is not because the pain has lessened.
I realized I have stopped doing a lot of what I used to do.
It was not the pain that had backed off.
It was a reduction in my willingness to do things that trigger pain.
I had been working on a line of greeting cards that I both wrote and illustrated.
I had also created a doll and made pins of the character that had her jogging, playing the trumpet, skating and more.
I had hoped to learn to sew and bring the doll to market.
Looking back, I realized I stopped working on all of it a few months after my brain implant stopped working.
I had not realized it had been helping reduce the pain.
I still had the eye usage and movement pain that caused me to be unable to do any consistent eye work for more then 15–20 minutes – before the severe and often unrelenting pain started.
Apparently, the stimulator had reduced the anaesthesia dolorosa (phantom pain) in the left side of my face.
And now that it had failed, the weight of small plastic glasses or the use of facial muscles (tight as a result of facial paralysis) set off pain again.
I had moved from my house to a small apartment. Well heck, that is why I am not doing things.
No room to do my crafts and art.
That made sense, except I had stopped before I sold the house, when I had an entire room devoted solely to my art and crafts work.
So what stops me?
The pain, of course. But it is also the fear of pain.
The thought occurs: I need to work on the doll, the cards, even this column, and immediately the next thought comes: But then it will set off the pain, or make it worse if it is already in play?
It is a game of balance and juggling.
Do I give up on the things that make me happy, give me a sense of accomplishment and purpose, because the pain will be bad, even unrelentingly bad?
Or do I give up?
Lately my choice has been the latter, maybe not consciously, but a choice nevertheless.
At what point and how do we make the choices balance out?
I wish I knew.
I only know that right now, for me, the pain is doing the choosing for me.
It is a decision most of have to make at some point.
Can we master the pain or does pain become the master of us?
Maybe, as long as we do not make it a permanent decision, it is okay now and then to give in to the pain and the fear.
Maybe it is a healthy way of taking care of ourselves.
Not a capitulation, but a short-term concession.
And that is not always such a terrible thing.

Carol Jay Levy has lived with trigeminal neuralgia for over 30 years. She is the author of 'A Pained Life, A Chronic Pain Journey'. Carol is the moderator of the Facebook support group 'Women in Pain Awareness'. Her blog 'The Pained Life' can be found at http://apainedlife.blogspot.com. First published by and kind permission of the Editor of the Pain News Network https://www.painnewsnetwork.org/overview and https://www.painnewsnetwork.org/stories/2015/5/4/a-pained-life-the-balancing-act.

Reference

1. Thonet G, Image. Available at: https://commons.wikimedia.org/wiki/File:Thonet_chair_balance.jpg (accessed 25 January 2019).




SAGE journals
Browse
Resources
My Tools
Your gateway to world-class journal research
Browse Journals By Discipline
Health Sciences
Social Sciences & Humanities
Materials Sciences & Engineering
Life & Biomedical Sciences
Browse A-Z
All SAGE Journals
Resources