IRISH PAIN SOCIETY

&

NORTHERN IRISH PAIN SOCIETY

ANNUAL SCIENTIFIC MEETING 2024

Saturday 19th October 2024 O'Brien Centre for Science, UCD, Dublin

Theme: Sex and Gender Disparities in Pain

PROGRAMME





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Welcome from the President of the Irish Pain Society

Dear All,

It is my great pleasure to welcome you all to University College Dublin and to the first joint Annual Scientific Meeting (ASM) of the Irish and Northern Irish Pain Societies. I am delighted to co-host this meeting with Dr John O'Hanlon, Convenor of the Northern Irish Pain Society, for what will be momentous occasion showcasing the high-quality multidisciplinary pain research being conducted across the Island of Ireland, and a unique opportunity for, discussion, education and networking.

In line with the IASP Global Year, the theme of this year ASM is "Sex and Gender Disparities in Pain". We are now much more aware of the need to recognize the sex and gender differences that exist in pain, and how important it is to understand why such variation occurs. Our invited international and national speakers will highlight the complexity of pain and pain management, why sex and gender should be considered, and the need to take an interdisciplinary approach to how pain variation is understood and managed. We thank our speakers for their valuable contribution to the scientific programme today and look forward to hearing their latest research.

This year we have had 41 abstracts submitted for short oral and poster presentations from across all pain disciplines. I congratulate the presenters today on their outstanding research, which demonstrates the high level and quality of pain research being conducted in our universities, hospitals and community settings across the Island of Ireland. I would like to thank the Chairs of our scientific sessions and judges of the pain research prizes for your valuable contribution to the meeting.

In addition to the diverse scientific programme, the meeting also includes a diverse range of discipline specific educational meeting and workshops. I would like to thank the various groups for organising and leading on these unique interactive opportunities for learning and networking.

I would like to acknowledge the very generous support for today's meeting from our many trade exhibitors. We encourage delegates to visit their stands during the coffee and lunch breaks. In addition to hearing about their range products and services, by collecting a stamp at each exhibit booth you will be entered into a draw for a set of airpods.

A special word of thanks to my colleagues on the IPS council who have worked so hard to advance the mission of the society and in organising today's exciting meeting. It is a pleasure to work with such a dedicated group of individuals. A special word of thanks to Dr Olga Baron, local organiser of the event here at University College Dublin. Thanks also to Ms Juliana Gonzalez and Ms Nicola Knowles on their exceptional administrative support during the year and to Ms Knowles in her tremendous support with organising this meeting.

Finally, to all our delegates, I hope you enjoy the meeting.

Kind Regards,

Michelle Roche

Michelle Roche, President of the Irish Pain Society



Northern Irish Pain Society



Welcome from the Convenor of the Northern Irish Pain Society

Dear Delegate,

A very warm welcome to this year's joint Irish Pain Society and Northern Ireland Pain Society annual meeting. The Northern Ireland Pain Society (NIPS) has grown over the past 30 years from a small group of dedicated pain consultants to a multidimensional group representing all clinicians working in pain management in Northern Ireland. Education and learning is key to advancing the practice of pain management and so we welcome this opportunity to enhance our knowledge with our colleagues and friends in the Irish Pain Society.

John O'Hanlon

Convenor Northern Irish Pain Society

Saturday 19th October 2024 University College Dublin

Theme: Sex and Gender Disparities in Pain

Scientific Programme

| 8.30-9.00am | Registration & Coffee |
|-----------------|-----------------------------------------------------------------------------------------------|
| | Trade exhibition and Posters |
| 9.00-9.10am | Welcome by Dr. Michelle Roche & Dr. John O'Hanlon. IPS and NIPS Presidents |
| | · · · · · · · · · · · · · · · · · · · |
| Session 1 | Chairperson: Dr. Brona Fullen (University College Dublin) |
| 9.10 – 9.50am | Physiotherapy |
| | Prof. Cormac Ryan (Professor of Clinical Rehabilitation at Teesside University, UK) |
| | Flippin pain – a public health approach to persistent pain: implementation, impact, and plans |
| | for the future |
| 9.50-10.30am | Nursing |
| | Dr. Rianne van Boekal (University Lecturer and Care Manager Radboud Expertise Center |
| | Pain and Palliative Medicine, Radboud University medical center, Netherlands) |
| | Preventing chronic postsurgical pain and persistent opioid use from a nursing perspective |
| 10.30-10.50am | Public Health |
| | Prof. Mark Tully (Professor of Public Health at Ulster University, Belfast, UK) |
| 10 F0 11 1Fam | Coffee breek |
| 10.50-11.15am | Collee Dreak |
| | |
| Session 2 | Chairperson: Dr. Hugh Gallagher (St Vincent's University Hospital) |
| 11.15-11.35am | Pain Medicine |
| | Dr. Lori Lindsay (Consultant in Pain Management and Anaesthesia, Belfast Health and Social |
| | Care Trust, Belfast, UK) |
| | It's a man's man's world |
| 11.35-12.00pm | Pain Medicine |
| | Dr. David Moore (Consultant in Pain Management, Beaumont Hospital, Dublin Ireland) |
| | The Future of Pain Management in Ireland: Designing a Model of Care |
| 12.00-12.20pm | Panel discussion and Q&A |
| | |
| Session 3 | Chairperson: Prof. David Finn (University of Galway) |
| 12.20-13.00pm | Short Oral Presentations – hosted by Irish Pain Research Network |
| | |
| 13.00 - 14.00pm | Lunch |
| | Trade exhibition and Poster presentations |

| Session 4 | Chairperson: Dr Jason | Brookes (Belfast Health | Care Trust) | |
|-----------------|--------------------------------------------------------------------------------|-----------------------------|----------------------------|-------------------------|
| 14.00 – 14.40pm | Basic Science | | | |
| | Prof. Esther Berrocoso (Professor of Pharmacology, University of Cadiz, Spain) | | | |
| | Noradrenaline in neuro | opathic pain and comorbi | d affective disorders: a d | double-edged sword |
| 14.40-15.20pm | Psychology | | | |
| | Prof. Edmund Keogh (F | Professor of Psychology, L | University of Bath, UK) | |
| | Sex, Gender and Pain: Challenges and Solutions | | | |
| 15.20-15.35pm | Translational Research | | | |
| | Dr. David Gibson (Senio | or Lecturer, Ulster Univers | sity, Derry, UK) | |
| | Personalised prescribin | ng to improve pain medica | ation outcomes | |
| 15.35-16.00pm | Coffee break | | | |
| | Trade exhibition and Poster presentations | | | |
| | | | | |
| Session 5 | Educational Meeting a | and Workshops | | |
| 16.00-17.00pm | Room 1 | Room 2 | Room 3 | Room 4 |
| | Irish Pain Nurses | Irish Pain | Irish Pain | Basic Science of |
| | Education Meeting | Physiotherapy Group | Psychologist Group | Pain |
| | | Education Meeting | Education meeting | Education |
| | | | | Meeting |
| | Room 5 Workshops: Pa | ain Medicine Procedures | 1 | |
| | 1. Neuromodulat | tion (Dr David Moore) | | |
| | 2. Radio-frequen | cy Lesioning of Facet Join | t (Dr Andrew Purcell) | |
| | Ultrasound-gu | ided PRP of Knee joint (D | r Tadhg Lynch) | |
| | | | | |
| Session 6 | Chairperson: Dr Joann | e O'Brien (Beaumont Ho | spital) | |
| 17:00-17.10pm | Dr. Shelagh Wright (Ch | nartered Psychologist; Auto | genic Trainer; Retired RN; | RM) |
| | SAGE with IASP project on Pain Management in Nursing practice | | | |
| 17:10pm | Prize-giving | | | |
| | Closing Remarks Dr. Michelle Roche (University of Galway and IPS President) | | | |
| | - | • | • | |

8 CPD points confirmed with CAI CPD points awarded by NMBI (pending) For further details, please go to <u>www.irishpainsociety.ie;</u> email: info@irishpainsociety.ie



Irish Pain Society Council 2024

| Name | Role |
|-------------------------|-------------------------------------------------------|
| Dr Michelle Roche | President |
| Dr Tagh Lynch | Honorary Treasurer |
| Dr Patrick Finan | Honorary Secretary |
| Anna Marie Kiernan | IPS Rep on the Societal Impact of Pain (SIP) Platform |
| Prof David Finn | IPS rep on EFIC Council |
| Dr Siobhan Mahony | Communications Officer |
| Dr John Browne | Council Member |
| Mary Patricia Molyneaux | Council Member |
| Alex Kelly | Council Member |
| Dr Camillus Power | Council Member |
| Dr Cormac Mullins | Council Member |
| Dr Olga Baron | Council Member |
| Prof Kieran O'Sullivan | Council Member |
| Dr Joanne O'Brien | Council Member |
| Prof Brian McGuire | Council Member |



Northern Irish Pain Society

Dr John O'Hanlon

Convenor of the Northern Irish Pain Society

Meeting Information

Event Venue

The ASM will take place in the George Moore Auditorium in the O'Brien Centre for Science building on the UCD Campus

Registration

When you arrive to O'Brien Centre for Science, you can sign in and collect your name badge from the registration desk. Onsite registration will be available for those that have not preregistered

Travel

If you are travelling from the city centre, you can check the best bus routes and times here: https://www.transportforireland.ie/plan-a-journey/

Parking

If you are driving to the event, you can avail of free parking on the UCD campus. On the site map attached, you will see N2 (closest to O'Reilly Hall) and N1 (overflow) which we recommend you use.

Please park only in the white car parking spaces. The yellow car spaces are UCD's VIP spaces, and these are Pay & Display.

Catering

Tea & coffee and lunch will be served in the poster area and restaurant at the times stated in the Scientific Programme.

Mobile Phones

Please remember to keep mobile phones switched off or on silent during sessions

WIFI

Wifi is available to all delegates on UCD wireless, no password required

Poster Presentations

Posters may be viewed at any time over the course of the meeting. Authors whose work has been accepted for a poster are expected to be available at their posters at the poster presentation times where poster judging will take place.

Pain Research Prizes

Clinical and Non-Clinical Pain Research Medals will be awarded for the best posters at the meeting.

There will be a medal for the Best Short Oral Presentation.

The Dr Hugh Raftery NCHD Prize will be given for best poster by a non-consultant hospital doctor.

Trade Exhibition

The trade exhibition is an important part of the meeting and we encourage all participants to visit the various trade stands. As an additional incentive, delegates will receive a stamp at each trade stand which will enable them to enter a competition for a set of Airpods kindly sponsored by Rockford Healthcare

Evaluation Forms

In order to identify sessions and topics that have been of particular interest, all participants are asked to complete a digital evaluation form. The link for this can be found around the location with QR code link.

Continuing Education and Professional Development

8 CPD points and NMBI CPD points are awarded on reciept of a completed evaluation form.

Certificate of Attendance

Certificate of attendance are available following the ASM.

Twitter

Please feel free to tweet about the meeting throughout the day using the twitter handle **#IPS2024**

The Irish Pain Society and Northern Irish Pain Society would like to thank the following sponsors of the Annual Scientific Meeting 2024

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Grünenthal is a global leader in pain management and related diseases. As a science-based, fullyintegrated pharmaceutical company, we have a long track record of bringing innovative treatments and state-of-the-art technologies to patients worldwide.

Our purpose is to change lives for the better – and innovation is our passion. We are focusing all of our activities and efforts on working towards our vision of a world free of pain.

The company works closely with both Irish and international pain communities to deliver educational programmes as well as providing support for further pain research.

For further information about our products please visit <u>www.grunenthal.ie/en-ie/about-us/products</u> or <u>www.medicines.ie</u>









PEI helps healthcare professionals and their teams deliver a variety of potential treatment pathways, based on the individual needs of patients.

PEI is uniquely positioned to support Pain Management clinicians, as we can provide RF Ablation, Spinal Cord Stimulators and Deep Brain Stimulators to support the treatment pathways required. We currently employ 5 employees on the pain team strategically located around

the country.

PEI has multiple patient clinics across Ireland, making it very suitable for pre-procedure education and post-procedure programming. We place a core focus on customer/patient support, product expertise and education for the benefit of all involved.

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Biographies

and

Conference Abstracts

Session 1

Chairperson: Dr Brona Fullen (University College Dublin)

- **9.10-9.50am: Professor Cormac Ryan** Flippin pain a public health approach to persistent pain: Implementation, impact, and plans for the future.
- **9.50-10.30am: Dr Rianne van Boekal** Preventing chronic postsurgical pain and persistent opioid use from a nursing perspective.
- **10.30-10.50am: Prof Mark Tully** Motivating people living with chronic pain to be physically active.



Dr. Brona Fullen

Chair

Brona Fullen is an Associate Professor in the UCD School of Public Health, Physiotherapy and Sports Science, Dublin, Ireland. She holds a BSc Physiotherapy (UUJ) and PhD (UCD) degrees. Clinically, Brona specialised in the topic of pain working in Pain services at Massachusetts General Hospital, Boston, St Vincent's University Hospital and Tallaght University Hospital Dublin. In UCD she teaches in the area of pain science to both undergraduate and postgraduate students. She is

a founder and co-Director of the UCD Centre for Translational Pain Research. Brona's research currently focuses on leveraging technology to reduce the impact of pain. This includes using 2D (on-line rehabilitation programmes) and 3D (virtual reality) technologies to address conditions including chronic musculoskeletal pain and neuropathic pain following spinal cord injury. She has supervised MSc and PhD students to completion in these areas and presented at national and international meetings.

Brona is a past President of the Irish Pain Society, and from 2020-2023 served as President of the European Pain Federation EFIC - the first female and physiotherapist to hold this position



Professor Cormac Ryan

Flippin pain – a public health approach to persistent pain: Implementation, impact, and plans for the future

Dr Cormac Ryan is a physiotherapist by training and Professor of Clinical Rehabilitation at Teesside University. He is a community Pain Champion for the Flippin Pain Campaign and was the St. Saran's and St. Joseph's Secondary School Ferbane, Junior player of the year in 1995. His main area of research is pain education for patients, professionals, and the public.

Overview of talk

How the question of gender and pain is something that the public are interested in. As such, it provides a great angle to engage the public on the topic of pain on their own terms e.g. there is a myth that women have higher pain thresholds and the example of childbirth is often cited. Of course, the literature tells a different story showing that it is the other way around – "Men have higher thresholds". We think it is the other way around because men complain more.



pain services.

Dr Rianne van Boekal

Preventing chronic postsurgical pain and persistent opioid use from a nursing perspective

Regina (Rianne) L.M. van Boekel RN, PhD is a skilled nurse, educator, epidemiologist, and researcher who earned her PhD from Radboud University, the Netherlands, in 2017. Currently serving as an assistant professor at the Department of Anesthesiology, Pain, and Palliative Medicine at Radboud University Medical Center, her research centers on acute postoperative pain management, as well as the prediction pain and

Actively engaged in various research projects, Rianne aims to bridge the gap between research and public society. Notable projects include her involvement with the Radboud research team at Lowlands 2016 and the Great National Research on the Sensitivity of Pain in The Netherlands (2017).

Additionally, Rianne holds a senior researcher position at the Lectorate Emergency and Critical Health Care of the Knowledge Centre of Sustainable Healthcare, School of Health Studies at HAN University of Applied Sciences. She initiated a two-year post-graduate program for pain nurse consultants at HAN in 2011 and remains actively involved in its development.

Rianne's commitment to advancing pain nursing is evident through her presidency of the Dutch Association of Pain Nurses from 2015 to 2021, an organization she founded in 2006. Under her leadership, she oversaw the establishment of the Pain Nursing area of expertise and domain within the Nurses' Quality Register. Furthermore, Rianne collaborated with European colleagues to develop the Core Curriculum for the European Diploma in Pain Nursing, published in 2019. She is also a registrar for the exam.

Beyond her (inter)national contributions, Rianne served as the president of the multidisciplinary Working Group tasked with preparing the quality indicator Hospital-wide Pain Management for the Healthcare Inspectorate. She also held positions as a board member of the Dutch Pain Society and the Pain Alliance in the Netherlands (P.A.I.N.). Currently, she serves as the president of the SIG Acute Pain of the International Association for the Study of Pain (IASP).



Prof Mark Tully Motivating people living with chronic pain to be physically active

Mark Tully is a Professor of Public Health at Ulster University, with 20 years of experience of evaluating public health interventions. His research focuses on addressing population levels of physical inactivity and sedentary behaviour, which are major causes of poor physical and mental wellbeing. This research includes interventions targeting older

adults, individuals living with chronic conditions and socio-economically disadvantaged communities, using a variety of methodological approaches, such as natural experiments and RCTs. He has published over 375 peer-reviewed articles and have secured over £15M in research funding as lead or co-applicant. Professor Tully was recently named in the top 2% of scientists globally in the Stanford University 2023 ratings, and the top 1% of scientists by citation in the Clarivate cross-disciplinary field for the last two years.

Session 2

Chairperson: Dr Hugh Gallagher (St Vincents Hospital, Dublin)

- 11.15-11.35am: Dr Lori Lindsay It's a man's man's world
- **11.35-12.00pm: Dr David Moore** The Future of Pain Management in Ireland: Designing a Model of Care
- 12.00-12.20pm: Panel discussion and Q&A



Dr Hugh Gallagher

Chair

Dr Gallagher graduated in medicine from UCG and completed his anaesthesiology training on the national training programme. He completed a fellowship in pain medicine at MD Anderson Cancer Center and the University of Texas Health Sciences Center, both in Houston, and subsequently had a staff position there as assistant professor. He took up a post in anaesthesiology and

pain medicine at St Columcille's and St Vincent's University Hospitals on his return. He is the current Dean of the Faculty of Pain Medicine at the College of Anaesthesiologists of Ireland. He has represented the Pain Faculty at the Societal Impact of Pain meetings at the EU. He has published on a variety of pain topics, including the use of cannabinoids and ketamine in chronic pain treatment.



Dr Lori Lindsay

It's a man's, man's world

Lori completed her undergraduate training through Queens University Belfast and continued her Postgraduate Anaesthesia and Pain Medicine training within Northern Ireland. She undertook the Northern Ireland Pain Fellowship wilst in training and post CCT she completed a further Pain Fellowship in the Walton Centre, Liverpool with emphasis on Pelvic Pain management and Neuromodulation. She is currently working as a

Consultant in Pain Medicine and Anaesthesia in the Belfast City Hospital, Northern Ireland. Lori has a passion for equality concerning access to Woman's Health Services and the requirement to enhance these services to meet the needs of this population. She is the Medical Lead for the Pain Management arm of the Regional Mesh Centre (Belfast Specialist Mesh Pelvic Pain Service) and the Abdomino-pelvic Pain Service in Belfast, Northern Ireland. She works as part of a number of interdisciplinary teams alongside Physiotherapy, Nursing, Psychology, Uro gynaecology, Gynaecology, Urology and Colorectal Surgery. She also has roles in Neuromodulation, General Pain Management and developing Specialist Rehabilitation Programmes for patients with Persistent Pain.



Dr David Moore

The Future of Pain Management in Ireland: Designing a Model of Care

Dr David Moore is a Consultant in Anaesthesiology and Pain Medicine in Beaumont Hospital Dublin. He also works in the Bons Secours Hospital in Dublin. He is Clinical Lead for the pain service in Beaumont Hospital which is the largest multidisciplinary pain service in the country. He is lead

examiner in the Faculty of Pain Medicine. He works closely with the HSEs Sláintecare Integration Innovation team to pilot new ways of managing persistent pain in the community and is leading the development of a national model of care for pain service delivery in Ireland.

Dr Moore is skilled in managing a wide variety of persistent pain syndromes including spinal neck and back pain, widespread pain or fibromyalgia, radicular pain (sciatica) and runs a national intrathecal therapy service for spasticity management and has a special interest in facial and pelvic pain syndromes.

Session 3

Chairperson: Prof. David Finn, University of Galway

12.20-13.00pm: Short Oral Presentations hosted by Irish Pain Research Network

Prof David Finn

Chair



David Finn is Established Professor and Head of Pharmacology and Therapeutics, Principal Investigator and Founding Co-Director of the Centre for Pain Research at University of Galway, Ireland. Professor Finn's research focuses on the affective and cognitive dimensions of pain, stress-pain interactions, and neuroinflammatory processes, with an emphasis on the endogenous cannabinoid system. He is Past-President of the International Cannabinoid Research Society (ICRS) and of the Irish Pain Society. He has been a member of the Presidential Task Forces for Cannabis, Cannabinoids and Chronic Pain of both the International Association for the Study of Pain (IASP) and the European Pain Federation (EFIC), and leader of the Basic Science Work

Package for the IASP Task Force. He is a member of the EFIC Working Groups for Translational Pain Research and Pain Research Strategy, the IASP Task Force for Use of Animals in Pain Research, a member of the Scientific Programme Committees for the IASP 2026 and 2024 World Pain Congresses, NeuPSIG 2025, EFIC 2022, and a member of EFIC Council. Professor Finn is a member of the Editorial Boards of multiple international scientific journals including *Pain, Journal of Psychopharmacology, Frontiers in Neuropharmacology, Frontiers in Pain Research, and the Scandinavian Journal of Pain.* He has published over 190 peer-reviewed journal papers and book chapters and frequently lectures at international conferences.

Short Oral Presentations

| Presenting | | Abstract |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Author | Abstract Title | Page |
| Ann Marie Kiernan | A COMPARISON OF PATIENT RELATED OUTCOME MEASURES WITH AND WITHOUT THE USE OF AUGMENTED REALITY FOR QUTENZA RELATED PROCEDURAL PAIN | 61 |
| Annamaria Liptakova | CANNABINOID CB1 RECEPTOR INVOLVEMENT IN THE BENEFICIAL EFFECTS OF ENRICHED ENVIRONMNET IN A RAT MODEL OF NEUROPATHIC PAIN | 62 |
| Ciaran Purcell | PROTOTYPE FRAMEWORK FOR ASSESSING UPPER AND LOWER LIMB PAIN IN ATHLETES | 63 |
| Colm Kelly | CLINICAL AUDIT OF ANALGESIC EFFICACY AND ALIGNMENT OF PERIOPERATIVE ANALGESIA WITH PROSPECT GUIDELINES FOR ONCOLOGICAL BREAST SURGERY AT CORK UNIVERSITY HOSPITAL | 64 |
| Izzat Zullciflee | MOLECULAR PROFILING OF INFLAMMATION AND NOCICEPTION TAILORED TO THE SEVERITY OF DEGENERATIVE DISC DISEASE: A PRESCISION MEDICINE APPROACH | 65 |
| Julie Sugrue | SCREENING FOR AND ONWARD REFERRAL OF DEPRESSION WITH LOW BACK PAIN: A NATIONAL SURVEY OF IRISH MUSCULOSKELETAL TRIAGE PHYSIOTHERAPISTS | 66 |
| Mary Hopkins | SEXUALLY DIMORPHIC ASSOCIATIONS OF DEPRESSION AND ANXIETY IN CHRONIC LOW BACK PAIN | 67 |
| Maura McCarran | EVALUATION OF A VIRTUALLY DELIVERED INTERDISCIPLINARY CHRONIC PAIN EDUCATION PROGRAMME. | 68 |

Irish Pain Research Network (IPRN)

The Irish Pain Research Network (IPRN) is a special interest group (SIG) of the Irish Pain Society. The aim of the IPRN is to bring together all active pain researchers on the island of Ireland (North and South) for the purposes of sharing research results and ideas and facilitating cross-institutional collaboration in the area of pain research. The IPRN was launched formally by Professor Rolf Detlef-Treede, President of the International Association for the Study of Pain (IASP), at the 15th Annual Scientific Meeting of the Irish Pain Society on Saturday 26th September 2015.

The idea to establish the IPRN arose from the fact that while a number of academic institutions and hospitals in Ireland currently have a cluster or centre of pain researchers, there is currently no forum that brings all of these groupings together specifically for the purpose of discussing pain research and advancing collaborative pain research within Ireland. It was felt that the establishment of an all-inclusive research network would facilitate closer dialogue and collaboration between all active pain researchers based either in academic institutions, hospitals, other healthcare practices, or industry.

If you are active in pain research within Ireland, and not already a member of IPRN, then we would like to extend a very warm invitation to you to join. The aim is to have strong representation from every major pain research grouping across the Island. Pain researchers at any level of seniority are welcome to join, and we particularly welcome students and early-career researchers. Membership of the IPS is a requirement for those who wish to join IPRN; all registered delegates at the Annual Scientific Meeting will automatically become members of the IPS for the subsequent year and are therefore eligible to join IPRN if they wish. There is no additional fee to join IPRN.

For more information and to join the IPRN, please complete the short application Form at https://irishpainsociety.ie/iprn/

Session 4:

Chairperson: Dr Jason Brookes (Belfast Trust)

- **14.00-14.40pm: Prof. Esther Berrocoso** Noradrenaline in neuropathic pain and comorbid affective disorders: a double-edged sword.
- **14.40-15.20pm: Prof. Edmund Keogh** Sex, Gender and Pain challenges and Solutions
- 15.20-15.35pm: Dr David Gibson Personalised prescribing to improve pain medication outcomes

Dr Jason Brookes

Chair

Dr Jason Brooks is a Consultant Anaesthetist, specialising in Pain Medicine within the Belfast Trust since 2005. He undertook his Junior Anaesthetic training in the Leicester Royal Hospitals and Specialist Registrar training in London. He further completed a Doctorate (MD) looking at the spinal role of Cannabinoids at Imperial College London with Professor Andrew Rice, and subsequently completed a Chronic Pain Fellowship at the Royal National Orthopaedic Hospital (Stanmore)



Professor Esther Berrocoso

Noradrenaline in neuropathic pain and comorbid affective disorders: a double-edged sword

Prof. Esther Berrocoso received a BSc in pharmacy from the University of Seville-Spain and a PhD in pharmacology from the University of Cadiz-Spain. During this period, she carried out research at the University of the Basque Country-Spain,

University Pierre et Marie Curie of Paris-France and the pharmaceutical company Grünenthal GmbH-Germany. After defending her doctoral thesis, she moved to the University of Cambridge-UK. A Marie Curie Reintegration Grant helped her secure a postdoctoral fellowship at the University of Cadiz-Spain, where she subsequently accepted a position as associate professor and then full professor in 2020. She is currently an independent researcher with two main research interests: studying the role of the locus coeruleus brain region in pain and its comorbidity with affective disorders and designing humanized rodent models of affective disorders.



Professor Edmund Keogh

Sex, Gender and Pain: Challenges and Solutions

Ed Keogh is Professor of Psychology in the Department of Psychology, and Deputy Director of the Bath Centre for Pain Research, based at the University of Bath, United Kingdom. Ed gained his PhD in 1997 from Goldsmiths College, London,

where he explored the effect anxiety has on attention. He moved to the University of Bath in 2003 and promoted to Professor in 2017.

Ed's primary research interests center on the psychology of pain, with two core themes. The first focuses on sex, gender, and pain. He has considered the role that cognitive, emotional, and behavioral factors have in accounting for the variation men and women's pain. He explored this across different settings, often drawing on methods from experimental psychology. More recently, he has developed an interest in gender, as applied to pain, and more generally how social context and interpersonal factors shape pain. The second interest is on the role that attention has on pain, focuses on the interruptive effects of pain on attention, and biases in attention. His current interest seeks to bring these two areas together, looking on whether sex/gender differences in attention to nonverbal pain signals.

Ed has written extensively on these areas of pain, has over 100 publications, and regularly presents his work nationally and internationally. Ed is currently leading the Consortium to Research Individual, Interpersonal and Society factors in Pain (CRIISP) funded under the UKRI-Versus Arthritis Advance Pain Discovery Platform (APDP). He is currently co-chair of the IASP 2024 Global Year about Sex and Gender Disparities in Pain, and holds roles in the British Pain Society and EFIC.



Dr. David Gibson

Personalised prescribing to improve pain medication outcomes

Dr David Gibson is a Senior Lecturer and Research Group Lead of the Personalised Medicine Centre, based in the School of Medicine, at Ulster

University. He is a biochemist with 20 years of experience in arthritis and immunology translational research. Dr Gibson has 85 publications, including patents and book chapters and has held research posts in both the USA and UK. He was awarded a prestigious fellowship in 2010 by Arthritis Research UK to perform diagnostics research in the University of Colorado, Denver, USA. He holds a PhD from Queen's University Belfast, awarded in 2001 for work on drugs to reduce spread of brain cancers. His current research is focused on finding new ways to treat and monitor adult forms of arthritis. He has active research projects in pharmacogenomics to personalise prescribing for improved efficacy and safety and a Versus Arthritis funded project to develop a user-friendly blood collection device, BloodTrackR, for home-based disease activity monitoring.

The talk provides an overview pharmacogenomics potential to personalise in particular opioid prescribing, to improve treatment efficacy and reduce side effects and ADR risk.

Educational Meeting and Workshops

16.00hrs - 17.00hrs

Room 1 Irish Pain Nurses and Midwives Society

ROUNDTABLE DISCUSSION WITH Q&A

GUEST SPEAKER: RIANNE VAN BOEKEL

Room 2 Irish Pain Physiotherapy Group

• Education meeting

Room 3 Irish Pain Psychologist Group

• Education meeting

Room 4 Basic Science of Pain Meeting

• Education meeting

Room 5 Ultrasound Workshops

- Neuromodulation (Dr David Moore)
- Radio-Frequency Lesioning of Facet Joint (Dr Andrew Purcell)
- Ultrasound-guided PRP of Knee Joint (Dr Tadhg Lynch)

Session 6

Chairperson: Dr Joanne O'Brien (Beaumont Hospital)

- **17.00-17.10pm Dr Shelagh Wright** SAGE with IASP project on Pain Management in Nursing Practice
- 17.10pm Prize Giving

Dr Joanne O'Brien



Chair

Dr O'Brien Kelly is an Advanced Nurse Practitioner in the Department of Pain Management, Beaumont Hospital, working as part of their Slaintecare funded iPainCentre, an integrated community based pain service initiative. In 2018 Joanne was awarded an Irish Research Council Employment Based Scholarship, completing her PhD in 2022 in the RCSI, where she is an Honorary Clinical

Lecturer. She is a past president of the IPS, and in 2022 was the first nurse elected to the executive board of the European Pain Federation, EFIC, where she is Deputy Chair of the Advocacy Committee.



Dr Sheila Wright

Chartered Psychologist; Autogenic Trainer; Retired RN; RM.

SAGE with IASP project on Pain Management in Nursing Practice

While Shelagh Wright was working as a Lecturer in Psycho-Oncology in Dublin City University's then School of Nursing and Human Sciences, in 2010, SAGE Publishers invited Shelagh, retired Registered Nurse, Retired Midwife, Chartered Psychologist and Autogenic Trainer, to write a text book on pain. Through the cooperation of the Editors of SAGE and IASP, Shelagh grasped the opportunity to write the newly developed IASP Nursing curriculum into book format. Co-published by SAGE with IASP in January 2015, the book is the product of collaboration between the former Editor in Chief of the International Association for the Study of Pain (IASP), Professor Maria Adele Giamberardino, and her team and former Senior Commissioning Editor of SAGE, London, Alex Clabburn and his team.

This book was self-funded and is a post DCU retirement 'giving- back' project. All book royalties after taxation were donated to Nurse Winners via a competition organised through the IPS.



Amsterdam.

Colleen Cunningham

Awarded SAGE with IASP Nursing Education Bursary to attend IASP 2024 World Congress on Pain.

I would like to thank the Irish Pain Society and Dr Shelagh Wright, for awarding me with the Sage Nurse Education Award bursary, to attend the IASP Conference in

My impression overall was one of awe, in view of the extensive research being completed worldwide in Pain. As this was my first time at an International Conference, I had no idea what to expect, and spent the week rushing from room to room to gain as much knowledge as possible.

I managed to take extensive notes, which I have disseminated to my colleagues in Pain, but presentations that I found extremely interesting were;

Helene Langevin, who in discussing the transition from Acute to Chronic Pain, mentioned 'The Pain Resolution' area of pain, which was not a term I was familiar with, and which will hopefully (as is her advice), be researched more in the future.

Marie Oslo's research, on examining Mu-opioids and reward behaviour, found that opioid naive patients unlikely to feel better after IV Opioid, are x2times better if they had opioids before, and x4 better with prolonged use.

There was multiple discussions regarding Central Sensitisation, with not a whole lot of agreement on what it was. Rolf-Detlef Treede spoke about research being published this year, which aimed to investigate is there an experimental difference in central sensitisation between men and women. Result: Women showed larger area of secondary hyperalgesia than men. Other factors that may influence area of hyperalgesia were also discussed here, namely the autonomic nervous system and the modulation of parasympathetic activity. Advice was that more research is required around if changing the parasympathetic activity influences Central Sensitisation.

Eva Kosek's presentation was on the concept of nocicplastic pain. Here I learned that, shockingly, 25% of patients with OA also go on to develop Fibromyalgia. The clinical criteria and grading of nocicplastic pain tables displayed will be extremely helpful in assessing pain. The importance of education was also emphasised, in seeing Pain as a disease rather than a symptom. We were reminded that Nocicplastic pain is not a reliable warning sign of actual tissue damage, this helps avoid unnecessary fear around movement/activity.

Mario Loggia spoke about his research in Neuroinflammation, and if it has a role in human chronic pain. His research focuses on The Translocator Protein (TSPO), which is a neuroinflammation marker. Envisions and hopes for the future include identifying a specific neuromodulator. Currently testing if TSPO PET signals can be treated, no results yet. This also raises the question if TSPO PET Signal can predict response to treatment. A large study in the works was mentioned involving Knee Arthroplasty, which looks promising.

Finally, Julius Lab spoke about TRP channels which was beneficial for neuropathic pain and the various therapeutic possibilities were touched upon.

This level of academic learning would not have been available to me, had it not been for this bursary, so thank you again, it was certainly a once in a lifetime opportunity.

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MEDICINES OPTIMISATION CLINIC AT THE ULSTER HOSPITAL DUNDONALD.

<u>Dr Alexandra Greene¹</u>, Dr Michael Stafford², Dr Neville McMullan³, SN Leah Jamison⁴.

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- 4. Band 6 Staff Nurse in Chronic Pain services, Ulster Hospital Dundonald, UK.

Introduction

In April 2022 a new service within the Ulster Hospital chronic pain services was established to support patients to reduce doses of opioid and gabapentinoid medications. After an initial in-person assessment, an individualised medication weaning plan was established. Support via telephone calls at 4 and 8 weeks were offered, followed by an in-person review at 12 weeks. If further dose reduction was required, this process was repeated.

Aim of the investigation:

To assess reduction of medication measured by oral morphine equivalent daily dose [OMEDD] in patients attending the service between April 2022 and June 2024.

Methods

Qualitative and quantitative data was collected about all patients who had been referred and seen at the Medicines Optimisation Clinic [MOC] between April 2022 and May 2024 using paper and computerised hospital records and the Electronic Care Record.

Results

30 patients were seen at least once in the MOC between April 2022 and May 2024. The average OMEDD on referral was 191mg. Patients had an average reduction in OMEDD of 95mg or 47% of initial dose.

Discussion

Long term opioid treatment has been linked with adverse effects including respiratory depression, tolerance, addiction, endocrine and immunological adverse effects [1,2,3]. When combined with gabapentinoids the risk of fatal respiratory depression is significantly elevated [4]. This audit demonstrates the establishment of a service to support patients to reduce their doses of opioid and gabapentinoid medications has significantly reduced the average OMEDD. Qualitative data shows that many patient's pain levels are unchanged and they feel better in themselves on reduced doses

Ethics: N/A Acknowledgements: N/A Disclosures: N/A

Key Words: Long term opioid therapy, opioid reduction, gabapentinoid reduction, medicines optimisation.

THE IMPACT OF DYSMENORRHEA ON BURNOUT AND QUALITY OF LIFE IN IRELAND

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Introduction

Menstrual pain is a condition affecting 84% of menstruators. A subset of people experience Dysmenorrhea, a chronic condition characterised by pain before and / or during menstruation (Grandi et al., 2012). Dysmenorrhea is associated with fatigue, pelvic pain and presenteeism (Nguyen et al., 2015; Nnoaham et al., 2019). Secondary dysmenorrhea is pain caused by an underlying condition. Primary dysmenorrhea is pain without an underlying condition. Despite its prevalence, there is limited research on the association between Dysmenorrhea and quality of life outcomes, particularly in the Irish population.

Aim of the investigation

This study aims to understand the relationship between dysmenorrhea, occupational burnout and healthrelated quality of life (HRQL) of menstruators in Ireland, and whether the type of dysmenorrhea impacts HRQL.

Methods

A quantitative correlational and cross-sectional analysis was carried out. 82 participants, between ages 20 and 40 (M=32.13), completed an online questionnaire comprising measures of severity of dysmenorrhea, burnout and HRQL.

Results: HRQL was lower amongst those with secondary dysmenorrhea than primary dysmenorrhea. Severity of Dysmenorrhea was a predictor of worse physical, social, and psychological aspects of HRQL. Dysmenorrhea did not predict burnout.

Conclusion

This study demonstrated that severity of dysmenorrhea contributes to HRQL. HRQL outcomes may be worse for those with secondary dysmenorrhea. They have more severe pain then those with primary dysmenorrhea, which may contribute to their reduced HRQL. Further research is needed to understand this relationship. Longitudinal and qualitative research would support greater understanding of the psychological impacts of the menstrual cycle and secondary dysmenorrhea.

Ethics: This Study received ethical approval from the DBS College Human Research Ethics Committee.

Acknowledgements: NA

Disclosures: NA **Key Words**: Dysmenorrhea, Burnout, HRQOL, Menstruation

JUST BAD LUCK? AN UNUSUAL CASE OF SUCCESSIVE EPIDURAL HAEMATOMAS

<u>Avril McCarthy</u>, Fergal Dineen, Frances O'Driscoll, John Brown South Infirmary Victoria Hospital, Cork

Introduction:

A 71-year-old female presented to our pain clinic for an elective epidural steroid injection for lower back pain. She had stopped her rivaroxaban, prescribed for a history of recurrent DVT, 72hrs prior and had undergone several epidurals previously without issue. The day following the procedure, she developed worsening lower back pain and bilateral sciatica. MRI revealed an epidural haematoma spanning L2-L4. She was immediately transferred to a tertiary hospital and underwent multilevel decompression with L2-L4 laminectomy. 1 hour post-operatively, she developed severe back pain, paraplegia and sensory disturbance. She was brought immediately to MRI, which demonstrated another epidural haematoma from L2 to L5. This led to a repeat evacuation of haematoma in theatre. Epidural haematoma post neuraxial anaesthesia is thankfully exceptionally rare. Incidence is approximately 1 in 190,000 epidurals (1). Post spinal surgery the incidence is higher at approximately 1 in 450 (2). MRI is the goldstandard investigation (3) and was performed swiftly on both occasions. Direct oral anticoagulants were introduced into clinical practice in the 2010s and are prescribed widely for treatment or prevention of thrombosis. In this case, rivaroxaban was stopped 72 hours prior, following both ASRA and AoA guidelines. (4). The studies that guided these recommendations failed to take into account elderly, co-morbid patients, in whom the therapeutic effect of these medications may last longer. (5,6) The chance of two epidural haematomas occurring in quick succession is just over 1 in a million. In this context it is hard to believe that these events were caused by the cumulative minor risk factors - age, hypertension alone. The combination of these risk factors and the use of rivaroxaban likely increased the risk of epidural haematoma development

ADVANCED NURSE PRACTITIONER AND CLINICAL NURSE SPECIALIST LED INITIATIVE OF CLINICAL VALIDATION CALLS, THE IMPACT OF WAITING TIMES IN A CHRONIC PAIN CLINIC

<u>Caroline Mitchell,</u> Mairead Finn, Dr David O Gorman, Dr Chrisen Maharaj, Pain Service, Galway University Hospital

Introduction

With almost 15,000 patients currently waiting for their first Outpatient (OPD) appointment with a chronic pain service in Ireland (HSE waiting times accessed 12.9.24, HSE website) it is critical that clinical capacity in our pain clinics are maximised.

It is common practice that patients are referred to numerous specialities within healthcare by the referring General Practitioner or healthcare provider in the hope of the patient been seen quicker in one service than another.

Aim

In March 2022 referrals to the pain service backdated to April 2015. With waiting 7 year on the waiting lists, patients' circumstances may have changed, many have been seen by other specialities and some may have had surgery for their referring complaint but continue to answer validation letters requesting to stay on a waiting list not knowing what list they are often on.

With this in mind and national waiting list times, we had a meeting with our waiting list manager to look at ways of optimising our clinics and reducing our waiting lists. ANP's and CNS's working within the service are best placed for clinical validation.

Clinical Validation was explored with 4 strands of outcomes.

- Patients were discharged from our service,
- Patients would be seen in our pain clinics or
- Patients were sent out to a private hospital under National Treatment Purchase Fund (NTPF) under the pain clinic consultants for see and treat and then return to the treating consultant in the public service after their see and treat.
- Patients were booked straight for blocks if they were already under a plan of care with another consultant. (Some may have gone as self-pay to consultants due to the long waiting list).

In April 2022 we started our first ACP calls, patients were sent letters and text messages regarding a virtual call in relation to their pain service referral. We do validation calls on all patients coming for OPD first time consultations unless palliative care patients.

Results

In April 2022 we started our first ACP calls, patients were sent letters and text messages regarding a virtual call in relation to their pain service referral. We do validation calls on all patients coming for OPD first time consultations unless palliative care patients.

To date we have done 18 ACP call days. In total 1700 patients received a validation call, 505 patients were discharged (29%). This would have taken 101 clinics or 1.5 years' worth of clinics. Currently due to this process, our OPD waiting list is 11 months.

ATTENUATION OF INCISIONAL WOUND-RELATED PAIN BEHAVIOUR FOLLOWING MORPHINE ADMINISTRATION AND ENDOCANNABINOID SYSTEM MODULATION IN MALE RATS

<u>Catherine R Healy 1,2,3,4</u>, Maria C Redmond 1,2,3,4, Mary Hopkins 1,2,3, Georgina Gethin 4,5,6, Abhay Pandit ⁴, David P. Finn 1,2,3,4 1.

Pharmacology and Therapeutics, School of Medicine, University of Galway, 2. Galway Neuroscience Centre, University of Galway, 3. Centre for Pain Research, University of Galway, 4. CÚRAM, SFI Research Centre for Medical Devices, University of Galway, 5. School of Nursing and Midwifery, University of Galway, 6. Alliance for Research and Innovation in Wounds, University of Galway

Introduction

There is no well-validated preclinical model to study incisional wound related pain. The endocannabinoid system (ECS) is involved in wound healing and pain modulation, and represents a viable therapeutic target. Morphine attenuates pain related behaviour in a variety of pain models.

Aims

The aims of the experiments were to investigate the effects of 1) morphine administration (3 mg/kg s.c.) or 2) inhibitors of the endocannabinoid-catabolising enzymes FAAH (URB597, 1mg/kg i.p.) and MGL (MJN110, 5 mg/kg i.p.) on pain related behaviour following dorsum incision. Methods: 36 male Sprague-Dawley rats (6-8 weeks, 180-200g on arrival) were used in each experiment. A 1.2 cm incision was made on the dorsum of incision rats under isoflurane anaesthesia. Mechanical withdrawal thresholds were assessed at baseline, post-surgical day (PSD)1, PSD4, prior to drug administration (PSD 7 or 8) and 1 hour post-drug on PSD 8 via Von Frey test. Rats were euthanised 80 minutes post morphine or 90 minutes post-URB597 or MJN110.

Results

There was robust primary and secondary mechanical hypersensitivity following dorsum incision. Morphine significantly attenuated incision-related hypersensitivity at 1 hour post-administration. MJN110 significantly attenuated primary mechanical hypersensitivity at 1 hour post-administration. MJN110 or URB597 administration significantly attenuated secondary mechanical hypersensitivity in the ipsilateral and contralateral paws at 1 hour post-administration, and elevated endocannabinoid levels in the CNS. Conclusions: The rat dorsum incision model of wound-related pain is sensitive to mu opioid receptor agonism and elevation of endocannabinoids. These results provide a basis for further investigation into the ECS as a novel target for incision-related pain.

Ethical Approval: The experimental procedures were approved by the Animal Care and Research Ethics committee, University of Galway. The experiments were completed under licence from the Health Products Regulatory Authority in the Republic of Ireland, in accordance with the EU Directive 2010/63. The study was designed in accordance to the ARRIVE guidelines.

Acknowledgements: Funding provided by the Irish Research Council Postgraduate Scholarship, Hardiman Research Scholarship, Science Foundation Ireland and B. Braun Hospicare and co-funded under the European Regional Development Fund under Grant Number 13/RC/2073-P2

Disclosures: none to declare

Key words: wound-related pain, morphine, URB597, MJN110, endocannabinoids

SUPPORTING CHILDREN AND YOUNG PEOPLE WITH CHRONIC PAIN IN SCHOOL SETTINGS: A SCOPING REVIEW

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Introduction

Chronic pain affects up to one in five school-aged children and significantly impacts their school related functioning. Many children and adolescents with ongoing pain miss significant amounts of school and fall behind in their academic schoolwork. Peer relationships and mental wellbeing can also be affected. Aim of the investigation: The aim of this scoping review was to map the literature related to supporting students with chronic pain within the school setting and to identify any gaps in the research.

Methods

A scoping review of the literature was conducted in July 2024 using eight databases and grey literature across educational, psychological and medical fields.

Results: The search yielded 19,764 papers after duplicates were removed and 29 papers met the inclusion criteria for the review. A weight of evidence was applied to the published studies, and most were of medium quality. Eight themes on providing school support for children and adolescents with chronic pain were identified from a synthesis of retrieved data.

Discussion

Themes that emerged included optimising communication channels, providing academic supports, pain knowledge and training, managing school attendance, providing psychological support, school personnel support, peer relationships and adoption of a healthy lifestyle. Challenges to providing these supports are outlined as there is a lack of guidance on implementation for school personnel. Limitations of the review along with gaps in the research were further identified.

Ethics: n/a

Acknowledgements: The primary author is funded by the Irish Health Service Executive, Community

Health Organisation 3 to complete a Professional Doctorate in Educational and Child Psychology.

Disclosures: n/a

Key Words: chronic pain, children, adolescents, school support

FENTANYL PRESCRIBING IN PACU FOR ACUTE PAIN

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Introduction

The Faculty of Pain Medicine of the Royal College of Anaesthetists recommends immediate acting opioids as the analgesia of choice in the immediate post-operative period. This decreases the risk of respiratory impairment and long-term opioid use compared to longer acting agents (1). Fentanyl is a potent, rapidly acting opioid analgesic commonly prescribed for the treatment of post-operative acute pain (2).

Aims

We aim to investigate the frequency of fentanyl prescribing in patients in PACU in GUH to assess whether it's being utilised and to what extent.

Methods

Data were collected from PACU for three consecutive days of adult patients undergoing a general anaesthetic for elective surgery. The number of patients for whom fentanyl was prescribed, and the percentage of these that received fentanyl was assessed. The dose and quantity of doses were also accounted for.

Results

33 out of 50 patients were prescribed fentanyl in PACU. 15 (45%) of those prescribed fentanyl in PACU received it. It was prescribed in 25 microgram increments with a maximum of 100 micrograms. Three patients were given one dose, three were given two doses, two received three doses and seven patients received four doses.

Discussion

While GUH follows the Royal College of Anaesthetists recommendations for analgesia for acute postoperative pain in most cases, there is scope for improvement in this regard. There is also scope for further audit cycles to investigate the incidence of side effects from fentanyl in PACU (3,4), and whether the high prescription rate is due to inadequate intra-operative analgesia.

Key words: Fentanyl, analgesia, PACU

INTERDISCIPLINARY CHRONIC PAIN REHABILITATION IN NORTHERN IRELAND: INITIAL PHYSICAL OUTCOMES THROUGH ONE YEAR

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Introduction

Interdisciplinary pain rehabilitation is a gold standard of care that has a strong evidence base, particularly for those with long-standing and disabling chronic pain. There has never been such a programme on the island of Ireland.

Aim of the investigation

The interdisciplinary team at the Belfast Centre for Pain Rehabilitation developed a 15-day treatment intervention provided over 3-weeks. The programme construct concentrates on the model of Acceptance and Commitment Therapy with a focus on facilitating willingness to have pain in the service of improved engagement in meaningful activity. This study investigated the short and long-term changes of participants' physical performance between May 2022–September 2024.

Methods

Participants undertook a physical assessment of 1-minute sit-stand (STS), 1-minute step-ups (SUPs) and 2-minute walk test (2MWT) on treatment day one and 15, and at 3- and 12-month follow-up.

Results

64 participants were treated across twelve treatment programmes. Treatment dropout was rare (11%, n = 7), with most (89%, n = 57) completing treatment and providing post-treatment data. Physical performance increased significantly at treatment conclusion for all outcomes. Follow-up attendance was high, 3-month (93%) and 12-month (80%). At 1-year, physical performance increased on average by 56%, 44%, and 23% for STS, SUPs and 2MWT respectively.

Discussion

To our knowledge, there has never been a similar programme available on this island. These findings demonstrate the long-term beneficial impacts of a 3-week rehabilitation programme on the physical capabilities for patients with complex chronic pain. High participant satisfaction was recorded on day 15 and 12-month follow-up.

Ethics: No Acknowledgements: None

Disclosures: None

Key Words: Interdisciplinary Pain Rehabilitation, Physical outcomes, chronic pain

GETTING BACK TO LIFE WHEN CHRONIC PAIN IS IN THE WAY: FEASABILITY AND ACCEPTABILITY OF AN ACT-INFOMRED, INTERDISCIPLINARY PAEDIATRIC REHABILITATION PROGRAMME

<u>Clodagh O'Sullivan</u>*¹, Nicola Lyden*¹, Norma O'Keeffe *¹, Rory Maguire *^{1,2}, Ger Murray *¹, Kevin Vowles *³

¹Children's Health Ireland; ²Belfast health and Social Care Trust, ³Queens University, Belfast, UK

Introduction

Intensive interdisciplinary rehabilitations programmes (IIRP) are well established and researched in adult chronic pain services. In the paediatric context, there has been a move to establish similar evidencedbased programmes. Given their proven clinical and cost effectiveness, these programmes are now considered the treatment of choice. Despite awareness that children and adolescents need access to IIRP's, availability is limited. Internationally, there is small but growing number of such programmes. In response to the need to provide the most effective intervention for young people most debilitated by chronic pain in Ireland, an IIRP has been developed. The programme is underpinned by Acceptance and Commitment Therapy (ACT). Feasibility and acceptability of this intervention will inform future service delivery.

Aim of the investigation:

This project aimed to assess the feasibility and acceptability of a two-week ACT-informed IIRP in the National Paediatric Complex Pain Service.

Methods:

Three young people, and respective parents, completed qualitative feedback forms on completion of the programme. Routine clinical data was collected using standardised measures.

Results:

Thematic analysis will be used to identify themes associated with feasibility and accessibility, from the perspective of young people and parents. Non-parametric analysis of clinical outcome data will be completed. Data collection will be completed mid-September 2024.

Discussion:

The findings of the pilot study will be used to inform future intervention planning for those requiring high intensity IIRP within the Irish context.

Acknowledgements:

This work is in part funded by Children's Health Foundation (GAP23-106).

Disclosures:

None declared.

Key Words:

Paediatric Chronic Pain, ACT; Intensive Interdisciplinary Rehabilitation

ROBOTIC ASSISTED GAIT TRAINING FOR SPINAL CORD INJURY NEUROPATHIC PAIN: A SYSTEMATIC REVIEW

<u>Conor White¹</u>, Samantha Klus¹, Wing Hai Ho¹, Lily Barrett¹, Orlaith Doherty¹, Olive Lennon¹ 1. School of Public Health, Physiotherapy and Sports Science, University College Dublin, Dublin, Ireland

Introduction

Neuropathic pain (NP) can be a debilitating consequence of spinal cord injury. Robotic-assisted gait training (RAGT) is an effective rehabilitation tool, but emerging evidence suggests it may prove an effective treatment for NP post-SCI.

Aim of the investigation

This systematic review aims to synthesise the available evidence examining RAGT for pain reduction post-SCI, focusing on NP.

Methods

Six databases were searched from inception to July 9th, 2024, using search strings addressing: SCI and RAGT. No date or study type restrictions applied. Studies with SCI populations, delivering RAGT and measuring pain outcomes were included. Meta-analyses were conducted for pain intensity, pain interference (PI) and health-related quality of life (HRQoL) outcomes. Certainty of evidence (COE) was assessed using GRADE criteria.

Results

31 studies (n=542) (6 RCTs) met eligibility criteria. No RCT mandated pain as an inclusion criterion. Meta-analysis of 6 RCTs (n=174) identified no effect for RAGT over other interventions for outcomes of overall pain intensity (SMD=0.03 [-0.40, 0.46]; p=0.90), non-specified pain-type intensity (SMD=0.08 [-0.39, 0.55]; p=0.74) and in one RCT reporting NP intensity (SMD=-0.46 [-1.61, 0.70]; p=0.44). Meta-analysis identified no difference between RAGT and comparators for outcomes of HRQoL (3 RCTs (n=69): SMD=0.15 [-0.33, 0.62]; p=0.54) and PI (2 RCTs (n=53): SMD=-0.1 [-0.64, 0.44]; p=0.71). Very-low COE for pain intensity & PI and low COE for HRQoL were assigned.

Discussion

Very limited studies and inconclusive evidence supports RAGT for the reduction of NP post-SCI. Future RCTs of RAGT that recruit patients with moderate-to-severe NP at baseline are required.

Acknowledgements

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Disclosures: N/A.

Key Words:

Spinal Cord Injury, Neuropathic Pain, Robotic Assisted Gait Training, Exoskeleton, Neurorehabilitation

AUDIT: ASSESSING THE EFFECTIVENESS OF PATIENT INFORMATION LEAFLET DISTRIBUTION FOLLOWING PERIPHERAL NERVE BLOCK IN A LEVEL 4 IRISH HOSPITAL

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Introduction

The provision of peripheral nerve block patient information leaflets (PIL) is essential for patients' understanding of the procedure and post-procedural care.⁽¹⁾

Aim of Investigation

This audit evaluates the efficacy of the current practice of post-operative provision of these leaflets at University Hospital Galway.

Method

Thirty-eight patients who had peripheral nerve blocks were surveyed on whether they had received information leaflets, recall of verbal information, and preferences for information delivery. Leaflet provision by clinicians administering the blocks was confirmed by checking for carbon copy duplicates in the departmental PIL booklet.

Results

- 21% (8/38) of patients had an information leaflet
- 13% had no Documentation in PIL carbonless copy booklet
- All patients recalled verbal information
- All patients wanted an information leaflet
- 94% of patients had access to email

Conclusion

The audit results demonstrate a significant gap between the hospital's intended delivery of information leaflets and actual delivery to patients. The discrepancy between those leaflets documented in the departmental PIL booklet and patients who received leaflets following their surgery indicates lapses in the distribution process in the post-operative period. Despite high recall of verbal information, all patients expressed a preference for written or electronic materials. This has led to a change in our practice whereby we email patients their information leaflets in addition to providing a hard copy. This implementation has resulted in higher percentage of patients who received an information leaflet.

Key words: Nerve-Block, Information Leaflet, Quality Improvement, Patient Ou

NURSE-LED MEDICATION EDUCATION: A KEY APPROACH TO MITIGATING OPIOID RISKS AND IMPROVING PAIN MANAGEMENT OUTCOMES

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Introduction

The increasing reliance on opioids for pain management has raised significant concerns regarding dependence, overdose, and elevated mortality rates (Haegerich et al., 2019). Nurse-led education has emerged as a crucial intervention to mitigate these risks by enhancing patient understanding and promoting safer pain management practices.

Aim of Investigation

This study aims to evaluate the effectiveness of nurse-led educational programmes in reducing the risks and burdens associated with opioidbased treatments. Specifically, it investigates how such programmes influence patient adherence to safer medication practices, opioid consumption, and overall pain management strategies.

Methods

The study employed a longitudinal assessment approach. A nurse conducted evaluations of patients' medication history both before and after the educational programme. Patients were also required to document visits to their general practitioners (GPs), hospitals, and pain management teams for one year prior to and one year following the programme. The educational intervention focused on multimodal pain management, addressing the issue of self-medication with overthe-counter products, including codeine-based medications. By educating patients about the risks associated with opioids and over-the-counter medications, and providing information on alternative pain management strategies, patients were empowered to make informed decisions regarding their treatment.

Results

The findings indicate that nurse-led educational interventions significantly enhance patient outcomes. Patients receiving nurse-led education demonstrated improved adherence to medication protocols, reduced opioid dependence, and better management of pain through alternative therapies and lifestyle changes (Raftery et al., 2011). Additionally, these programmes were associated with decreased opioid-related complications and lower healthcare costs (Haegerich et al., 2019; Murnion, 2018).

Discussion

Nurse-led education effectively addresses the challenges of opioid management by fostering patient engagement and optimising pain management strategies. These programmes not only reduce opioid reliance but also contribute to a decrease in healthcare utilisation.

Ethics

The study adheres to ethical guidelines for research involving patient data and ensures confidentiality and informed consent.

Acknowledgement

We acknowledge the support provided by Sligo University Hospital, & PMEP Colleagues Patrick Finan & Patrick Gilmartin.

Disclosures: The authors have no conflicts of interest to disclose.

Keywords; Nurse-led education, Opioid dependency reduction, Multimodal pain management

METHODOLOGICAL APPROACHES FOR THE STUDY OF SEX AND GENDER AS VARIABLES IN CLINICAL AND HUMAN PAIN RESEARCH: RESULTS FROM THE PAINDIFF SURVEY

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Introduction

Sex and gender are key contributors to health and disease, and the number of studies investigating sex and/or gender differences in pain and analgesia have profoundly increased in recent years. In order to maximize progress in this area, it is essential that the pain community adopt consistent research approaches. This survey aimed to identify current practice in, and opinions on, best practice for the study of sex and gender as variables in clinical and human pain research.

Methods

An international group of pain research experts, early career researchers and patient advocates, the PAINDIFF Network, developed a survey to examine current practices in, and opinions on, the study of sex and gender as variables in clinical and human pain research (43 questions). The survey was distributed to pain researchers via EFIC, IASP and institutional and personal networks of PAINDIFF members.

Results

There were 323 respondents to the survey. Most researchers (66%) carry out their human/clinical research in more than one sex and more than one gender. Over 80% of respondents always ask about the sex of their participants in their studies but there is variable practice in asking about gender. Respondents do not routinely consider sex-specific variables such as hormones. The data suggest that there is no standard practice for consideration of sex differences when calculating sample size requirements, and gender is not usually considered. A majority of respondents sometimes or always consider sex in the interpretation and presentation of their data but do not routinely analyse for sex differences. Gender difference is generally not considered in analysis or data presentation.

Discussion: This survey has identified the current practices in, and opinions on, the study of sex and gender in clinical and human pain research and will enable the development of consensus recommendations, a research road map, and identification of priority areas for further investigation.

Acknowledgements: This work is funded by ERA-NET NEURON and Health Research Board Ireland grant (ERA NET NEURON-NG-2022-2).

Disclosures: None

Key Words: Pain, Survey, Sex Differences, Gender Differences, Consensus Recommendations.

METHODOLOGICAL APPROACHES AND OPINIONS FOR THE STUDY OF SEX AS A VARIABLE IN PAIN RESEARCH: RESULTS FROM THE PAINDIFF PRECLINICAL SURVEY

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Introduction

There are an increasing number of studies investigating sex differences in pain and analgesia in preclinical pain research. However, inconsistencies and a lack of reproducibility between and across laboratories, may be due to the lack of consensus on the most appropriate methodological approaches for conducting such studies. This survey aimed to identify current practice and opinions for the study of sex as a biological variable in preclinical pain research.

Methods

An international group of pain research experts, early career researchers and patient advocates, the PAINDIFF Network, developed a survey to examine current practices in, and opinions on, the study of sex as a biological variable in preclinical pain research (38 questions). The survey was distributed to pain researchers internationally via EFIC, IASP and institutional and personal networks of PAINDIFF members.

Results

There were 190 respondents to the preclinical PAINDIFF survey. Over 80% of respondents always or sometimes carry out preclinical pain-related research in both sexes, however only 40% use both sexes in the majority of their research. Varied approaches are employed in the design of behavioural and non-behavioural studies using both sexes. Over 55% of respondents behaviourally test each sex separately/sequentially. The majority of respondents rarely or never analyse for oestrous cycle, citing varied reasons. The majority of respondents sometimes or always consider sex differences when calculating sample size and undertake disaggregated analysis. A majority of respondents sometimes or always report sex disaggregated data.

Discussion: The outcomes of this survey have identified the current practices in, and opinions on, the study of sex as a biological variable in preclinical pain research and will inform the development of consensus recommendations for the field.

Acknowledgements: This work is funded by ERA-NET NEURON and Health Research Board Ireland grant (ERA NET NEURON-NG-2022-2).

Disclosures: None declared.

Key Words: Pain, Survey, Sex Differences, Gender Differences, Consensus Recommendations.

USE OF PO/IV ANALGESIA IN THE 24 HOURS POST-BLOCK IN ORTHOPAEDIC PATIENTS WHO RECEIVED REGIONAL BLOCKS IN GUH.

Francisca de Sousa¹, Eabha Walsh¹, Nabiha Zainab Ali¹, Darragh Enright¹

Introduction

Effective management of postoperative pain is critical for recovery, particularly following major orthopedic surgeries. Currently used guidelines on analgesia post single shot regional block at Galway University Hospital, in the Anesthesiology department, recommend regular paracetamol ±NSAIDs post all blocks. Specific guidelines for initiating opiate analgesia are: 2 hours for Lignocaine 2% with adrenaline, 4 hours for Ropivacaine alone, and 9-12 hours for Ropivacaine plus Clonidine/Dexamethasone.

Aim of the investigation

This audit evaluates the compliance of prescription and administration of postoperative analgesia in orthopedic surgery patients 24h post block.

Methods

An audit tool was constructed using the local guidelines. Data was retrieved retrospectively from 68 patients who underwent orthopedic surgery between 1st January 2024 and 30th June 2024. Key variables analyzed include: percentage of patients who were prescribed Paracetamol (Regular vs PRN) and NSAIDs (Regular vs PRN), percentage of patients administered opiates (before, within or after the recommended time frame) and type of opiate prescribed.

Results

95.6% of patients received paracetamol, mostly prescribed regularly (96.9%), and 87.7% were administered it.

51.5% were prescribed NSAIDs, with 71.4% regularly and 74.6% administered.

77.94% received opiates within 24 hours, but 29.4% were administered before the recommended time frame. Only 4.4% received opiates within the recommended timeframe, with 44.12% receiving them after the recommended time.

Oxycodone immediate release was the most common opiate prescribed (57.35%).

Discussion

While paracetamol compliance was high, opiate administration often did not adhere to recommended timings. Improvements in adherence to guidelines and clinician education, along with a structured postblock analgesia pathway, could enhance patient outcomes and satisfaction. Ethics: This audit was approved by the Clinical Audit Committee at Galway University Hospital

Acknowledgements: NA

Disclosures: Nothing to disclose

Key words: Single shot regional block, opiates, analgesia, multi-modal analgesia

REDUCED MECHANICAL HYPERSENSITIVITY IN A PRECLINIAL MODEL OF AUTISM IS ACCOMPANIED BY REDUCED C-FOS ACTIVATION IN DISCRETE BRAIN REGIONS

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Introduction

Up to 95% of individuals with autism spectrum disorders (ASD) exhibit sensory abnormalities, including altered pain responding. Ongoing chronic pain in ASD individuals is associated with diminished neural responses, which may underlie the altered pain responding in this population.

Aim of the investigation

This study aimed to investigate nociceptive responding in the presence and absence of an inflammatory stimulus, and associated changes in neuronal activation in the brain and spinal cord, in the rat valproic acid (VPA) model of ASD.

Methods

Male adolescent rats, prenatally exposed to saline or VPA (500mg/kg) received intraplantar complete Freund's adjuvant (CFA) and mechanical withdrawal thresholds were assessed before, and 7 days after CFA. Immunohistochemistry was used to identify cFOS protein expression in the brain and spinal cord and quantified by Qpath software. Data were analysed using one way ANOVA in GraphPad Prism.

Results

VPA-exposed rats exhibited significantly reduced mechanical hypersensitivity 7 days post-CFA when compared to saline-treated counterparts. There was a decrease in cFOS expression in the ipsilateral lateral periaqueductal grey, rostral ventromedial medulla, thalamus (zona incerta, posterior nucleus, paraventricular nucleus, and ventral posterior nucleus), and amygdala (central and basolateral nuclei) of VPA- compared with saline-exposed rats post CFA. No differences in *cFOS* expression were detected in the spinal cord, prefrontal cortex, somatosensory cortex (S1HL), motor cortex or hippocampus between the groups.

Discussion

These data suggest that reduced mechanical hypersensitivity in the VPA model of autism is associated with reduced neuronal activity in discrete brain regions. These findings support the contention that central pain processing is altered in ASD and may account for changes in pain perception and expression.

Ethics: This study was approved by Animal Care and Research Ethics Committee at the University of Galway and the Health Products Regulatory Authority.

Acknowledgements: Supported by the Chinese Scholarship Council (to HS), Galway Neuroscience Centre Summer Research Scholarship (to IV), the Undergraduate Research Opportunities Programme (to AD), the Hardiman Postgraduate Scholarship (to RH) and College of Medicine, Nursing and Health Sciences, University of Galway.

Disclosures: NA

Key Words: Pain, *cFOS*, VPA, CFA inflammatory pain.

INNOVATIVE PATHWAYS IN PAIN RELIEF: SUSTAINED DELIVERY OF A TRPV1 AGONIST

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Introduction

Osteoarthritis affects over 500 million globally, causing joint deterioration, swelling, pain and impacting quality of life. Current treatments provide short-term relief with significant side effects, and safer, more effective pain treatments are needed. Transient receptor potential vanilloid 1 (TRPV1) is a channel present in sensory neurons implicated in nociception. High doses of TRPV1 agonist induce desensitization, lead to axonal degeneration and long-term pain relief. Repeated application of low doses may induce a similar effect without side effects.

Aim of the investigation

This study investigates the efficacy of a biopolymer with sustained release of a TRPV1 agonist in vitro, aiming to induce axonal terminal ablation for long-term pain relief.

Methods

The release kinetics of a TRPV1 agonist from in-house synthesised prototypes and desensitization experiments were assessed using Automated Patch-Clamp in TRPV1-expressing cells. Axonal ablation was studied in primary rat dorsal root ganglia (DRG) using immunohistochemistry.

Results

Kinetic release analysis reveals a sustained release of a TRPV1 agonist, exhibiting initial rapid release and subsequent stabilization. The solvent pH, temperature and presence of synovial fluid notably influence the kinetic profile. Desensitisation of TRPV1 is concentration-dependent. Slower-release profiles were associated with slower desensitisation responses compared to the faster-release prototypes. Findings from rat DRG demonstrate a marked increase in TRPV1-positive ablated axons that is both agonist concentration- and time-dependent.

Discussion

The synthesized prototypes exhibit an initial rapid release phase followed by stabilization, suggesting their potential utility for desensitisation and sustained pain relief. Preliminary experiments on rat DRG cells reveal a significant increase in TRPV1-positive axons showing ablation in response to TRPV1 activation, confirming the potential for axonal ablation in chronic pain management. These findings highlight the opportunity for further investigation of the controlled release of TRPV1 agonists and long-term pain relief.

Ethics: Ethics approval was not required for this study Acknowledgements: This work is funded by Horizon EIC Grant: ARTRIGEL Project (number 101058000)

Disclosures: None **Key Words**: TRPV1, Osteoarthritis, Axonal ablation

THE USE OF RECTAL DICLOFENAC FOR POSTOP LOWER SEGMENT CAESAREAN SECTION PAIN: AN AUDIT EXAMINING COMPLIANCE, COMPLICATIONS AND EFFICACY

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Objective: To investigate the efficacy, side effects and prescribing adherence associated with the use of Diclofenac analgesia for pain relief in women undergoing Lower Segment Caesarean Section. Caesarean section pain is associated with moderate to severe post-operative pain which can influence post-operative recovery and patient satisfaction as well as breast-feeding success and mother-child bonding

Methods: We conducted a cross-sectional convenience sample questionnaire of patient's day 1 post-op lower segment caesarean section (LSCS) and thus were eligible for FAST-TRACK analgesia. MUH Clinical Research Ethics Committee granted ethical approval and data was analysed using excel. The data was collected in the month of January 2024 on the Maternity ward.

Results: 43 participants, with a mean age of 34.5, were recruited: with 32 participants prescribed as per FAST-TRACK. Non-adherence to prescribed post-op analgesia was reported in 11 participants. A median pain score of 1 (0-10) and median pain satisfaction of 'very satisfied' (satisfied – very satisfied) was reported.

Conclusion: Mayo University Hospital has achieved significant standardisation in post-operative pain management. Anaesthetists have initiated evidenced based management strategies improving outcomes. Our data suggests the practice of a multimodal approach to post-operative analgesia and that the use of Diclofenac 100mg PR/ PO 50mg in conjunction with paracetamol (Oxynorm if required) provides effective postoperative analgesia.

Keywords: Diclofenac, analgesia, caesarean section, pain score.

AUDITING COMPLIANCE WITH REGIONAL ANAESTHESIA ALERT BRACELETS IN THEATRE AND DELIVERY SUITE IN THE COOMBE WOMEN AND INFANT UNIVERSITY HOSPITAL

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Introduction

Central nerve blocks (CNB) as commonly used for anaesthesia and analgesia in maternity hospitals. Current guidelines suggest monitoring the patient's ability to straight-leg-raise at four hours post spinal anaesthetic to allow for early identification of complications. Guidelines also suggest that women should be informed of the likely timescale to expect resolution of their neuraxial blocks. Both of these recommendations can be adhered to by the use of Regional Anaesthesia Alert Bracelets (RAAB). The use of RAAB was introduced in The Coombe in 2022 to address the lack of a standardised system to monitor for complications of CNB. It was the first programme of its kind in Ireland.

Aims

This was the first audit to investigate compliance with RAAB within The Coombe following their introduction in 2022.

Methods

Data was collected by interview and chart review concurrently during the patient's admission. We collected data for two cohorts where n=50: Those who delivered vaginally with epidural analgesia and those who had a caesarean section under CNB.

Results

Compliance with RAAB placement following CNB for caesarean sections found to be 90% Lack of compliance with RAAB placement following epidural analgesia for labour with only 2% of patients receiving RAAB.

Conclusions

The Anaesthetic department is largely compliant with the placement of RAAB following CNB for caesarean sections, however further efforts are needed to improve compliance following epidurals. A local guidance document outlining the role of the RAAB will be produced following audit results being discussed at departmental safety and quality meeting.

Ethical Approval: Approved by AQuA Group (Audit and Quality in The Coombe Hospital)

Acknowledgements: N/A

Disclosures: Nil disclosures to be made

key words: Epidural, Maternity, Analgesia, Labour

THE LIVED EXPERIENCE OF PAIN SERVICES: A COMPARISON OF SERVICE USERS AND SERVICE PROVIDERS EXPERIENCE OF IRISH HEALTH SERVICES.

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Introduction

A supportive healthcare experience implementing a biopsychosocial approach can empower a person with chronic pain to make informed decisions and engage in self-management behaviours. Despite the positive influence of supportive healthcare on psychological and physical health, little is known about the presence of healthcare support in healthcare settings with under resourced chronic pain services.

Aim of Investigation

To explore the lived experience of service users and service providers participating in Irish healthcare services specifically focusing on autonomy support and self-management behaviours.

Methods

Semi-structured interviews were conducted on a) service users (n=7) self-reporting a diagnosis of chronic pain (pain >3 months) and clinical interactions with >3 healthcare professionals and b) service providers (n=5), healthcare professionals with >3 years' experience in clinical healthcare settings. Interview transcripts were analysed using interpretative phenomenological analysis.

Results

Analyses generated four themes: 'Biomedical model leads care'; 'lost in a system'; 'l need support' and 'the long road to self-management'. Participants described regular experiences of pain invalidation and biomedical approaches to pain management that affected autonomy development. Long waitlists, absent multidisciplinary services, appointment times and a lack of educational resources all impacted self-management skill development.

Conclusions

Service users and service providers desire access to multidisciplinary services that support a biopsychosocial model of care. Healthcare professionals cannot deliver what service users expect due to macro, meso and micro level factors. Future research is needed to explore practical solutions to deliver pain services that optimise the development of self-management skills where existing infrastructure and limited resources impact service delivery. **Ethical Approval:** DCUREC/2023/039

Acknowledgements: We recognise and thank all participants who volunteered their time to contribute to this study.

Disclosures: NA

Key words: lived experience, self-management, autonomy support

OPTIMISING TRIAL METHODS IN CLINICAL TRIALS IN COMPLEX REGIONAL PAIN SYNDROME (CRPS) (OPTIMETH-CRPS): DEVELOPING A METHODOLOGICAL FRAMEWORK.

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Introduction

Complex regional pain syndrome (CRPS) is a rare, painful and disabling condition. Systematic reviews and overviews have identified a critical lack of high quality evidence to support many interventions for CRPS. There is an urgent need to find solutions to the methodological challenges of undertaking clinical trials in CRPS.

Aim of the investigation

The aim of this project was to develop a methodological framework to optimise the design, conduct and dissemination of clinical trials for CRPS.

Methods

The methodological framework was developed using an 'Experience and expertise' approach. An international group of experts with specialist knowledge of the lived experience of CRPS, CRPS-related research, clinical trials, evidence synthesis and rare disease research methods and biostatistics developed the framework. A iterative process of i) online and face-to-face meetings, ii) reviewing and approving meeting notes detailing the group's discussions and iii) revising draft manuscripts was used to develop and finalise the framework.

Results

Nine strategies for optimising CRPS trials were developed, including: optimising i) the trial team and public and patient involvement, ii) research questions, iii) trial management, iv) trial design, v) trial

sample, vi) intervention and comparison groups, vii) trial outcomes, viii) data analysis, and xi) openness, transparency and reporting.

Discussion

This methodological framework may inform and optimise the design, conduct and dissemination of future clinical trials of interventions for CRPS in the hope that the quality of the evidence upon which clinical decisions and guidelines for the management of CRPS are based may improve.

Ethics: Ethical approval was not required.

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SB is a consultant for Akigai.

SD has received research grants from the European Commission and travel bursaries from the European Commission and National Institutes of Health. In addition, he works as a consultant to the pharmaceutical industry.

NOC is a member of the Cochrane Central Editorial Board. Between 2020 and 2023 Neil was Coordinating Editor of the Cochrane Pain, Palliative and Supportive Care group, whose activities were funded by an infrastructure grant from the UK National Institute of Health and Care Research (NIHR). He currently holds a networking grant from the ERA-NET Neuron Co-fund. VAF, FB, EC, MF, SG, R-DH, CI, DJK, FK, CM, SN have no conflicts of interest.

Key Words: Min of 3 keywords to be included. CRPS, trial methods, methodological framework

NOCICEPTIVE WITHDRAWAL REFLEX AND ENDOCANNABINOID SYSTEM STATUS AS PREDICTORS OF LOW BACK PAIN OUTCOMES

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Introduction

Acute low back pain (LBP) is a widespread and debilitating health problem affecting millions worldwide. While its course is generally favourable, a considerable proportion (~30%) of patients develop chronic LBP. Predicting the transition from acute to chronic LBP pain remains a challenge, with traditional approaches such as quantitative sensory testing (QST) yielding inconsistent results. An alternative neurophysiological measure is the nociceptive withdrawal reflex (NWR), involving an involuntary muscle contraction from a noxious stimulus. Additionally, investigating the endocannabinoid system (ECS), which has a role in modulating pain, may also uncover other novel biomarkers.

Aim of Investigation

We aim to investigate the potential use of the NWR and ECS as biomarkers for LBP outcomes, including chronicity.

Methods

We plan to recruit acute (n=80) and chronic (n=30) LBP patients. Patients will complete questionnaires on demographic and psychosocial factors, receive electrical stimulation and have their trunk muscle activity recorded using electromyography (EMG), as well as provide a saliva and hair sample for measuring endocannabinoid levels and gene expression. We will follow up acute patients after 6 months on the condition of their LBP.

Significance

Unlike QST, which relies on subjective pain reports, the NWR provides a more objective assessment of the spinal nociceptive pathways' responsiveness to pain. Furthermore, equipment needed for testing the NWR is already presently found in clinics for performing nerve conduction (NCS) or EMG studies. Early identification of individuals at risk of developing chronic LBP will be crucial for implementing targeted interventions that can prevent or minimise its progression.

Ethical approval: Provisional approval has been granted by the University of Galway Research Ethics Committee (2024.05.019) and Galway University Hospitals Clinical Research Ethics Committee (C.A. 3243).

Acknowledgements: Science Foundation Ireland (SFI) – Grant Number 13/RC/2073_P2 and cofunded by the European Union (EU) Grant Agreement No. 101081457

Keywords: lower back, chronic pain, EMG, withdrawal reflex, functional electrical stimulation, endocannabinoid, human

A SCOPING REVIEW OF FRAMEWORKS EVALUATING DIGITAL HEALTH APPLICATIONS

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Introduction

Despite rapid technological advances, the application of digital health and virtual reality (VR) applications in healthcare appears to be progressing slowly. This scoping review is part of the Scale-Up4Rehab (SU4R) project, which aims to create a virtual rehabilitation clinic hosting high-quality digital health interventions.

Aim of the investigation

To identify existing high-quality digital health evaluation frameworks and from these, extract criteria to inform a new set of guidelines for assessing applications to be hosted on the SU4R platform.

Methods

A search strategy that included relevant keywords encompassing the domains of interest; digital health, evaluation frameworks and digital health applications was created between January 2007 and December 2023, across seven medical and computer science databases. Data from each study were extracted by a team of four reviewers using a customized data extraction tool; results were analysed narratively.

Results

The review identified 18 frameworks from 11 countries, incorporating 779 framework criteria. The criteria were grouped into 19 categories, with the largest proportion of identified criteria grouped into the categories 'Data Security and Privacy' and 'Validation'.

Conclusions

The criteria extracted from the reviewed frameworks will contribute to the creation of a comprehensive evaluation framework. This new evaluation framework will form part of the approval process for the SU4R Virtual Rehabilitation Clinic. This will facilitate a rigorous selection process for the digital health and VR applications to be hosted on the virtual clinic.

Ethical approval: Ethical approval was not required for this scoping review.

Acknowledgements: This work is funded through the Interreg north-west Europe project 'Scaling-up virtual rehabilitation in the NWE-region-Scale-Up4Rehab', approved and funded by the European Commission, [NWE0100082]. Disclosures: None

Keywords: Virtual reality, Digital Health, Evaluation Frameworks, Scoping Review

VIRTUAL REALITY AS AN EDUCATIONAL TOOL IN THE TREATMENT OF CHRONIC PAIN: PROTOCOL FOR A FEASIBILITY STUDY

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Introduction

Chronic pain significantly impacts quality of life and requires comprehensive management strategies. Traditional pain education programs are beneficial but often require significant and prolonged patient engagement. Virtual reality (VR) offers a novel approach by creating immersive environments that may enhance the effectiveness of pain education. This protocol outlines a feasibility study to investigate the use of a Virtual Reality Pain Education Program (VRPEP) for people living with chronic pain (PwCP).

Aim of the investigation

The primary aim will be to evaluate the feasibility of delivering a VRPEP for PwCP. The secondary aim will be to explore the pre-to-post-test changes in outcome measures relating to pain self-efficacy and fear avoidance behaviours as proof of concept for a future larger scale investigation.

Methods

This study will be conducted as a single-arm feasibility study using a pre-test post-test design. 50 PwCP will engage in a 6-week VRPEP, focusing on the neurophysiology of pain, pain modulation techniques, cognitive-behavioural strategies and guided virtual exercises.

Results

Primary outcome measures will include the feasibility, acceptability and safety of the VRPEP, including recruitment, retention, intervention adherence and attrition rates. Secondary outcomes will include efficacy measures relating to changes in pain intensity, quality of life and physical, emotional and cognitive functioning.

Conclusions

Results will establish the feasibility, acceptability and safety of a VRPEP in the treatment of chronic pain, informing a future randomised control trial.

Ethical approval: Ethics will be sought from University College Dublin's Human Research Ethics Board and ethics boards of relevant clinical sites.

Acknowledgements: This work is funded through the Interreg north-west Europe project 'Scaling-up virtual rehabilitation in the NWE-region-Scale-Up4Rehab', approved and funded by the European Commission [NWE0100082]. **Disclosures:** None.

Keywords: Virtual Reality, Chronic Pain, Pain Education, Feasibility Study, Protocol

MODELS AND THEORIES OF GRIEF AND CHRONIC PAIN: A BeHEMoth-framed SCOPING REVIEW

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Introduction

Living with chronic pain may precipitate a cascade of 'bio-psycho-social'¹, even spiritual-existential losses². While grief theory may provide insight into similar health conditions^{3,4}, the extent to which the experience of living with chronic pain has been studied through the lens of "grief"^{1,2,5} is unclear.

Aim of the investigation

We aim to examine the existing literature for evidence of grief in the context of living with chronic pain, to determine the scope of coverage of this concept. Within the larger research project, this will elucidate whether grief theory might promote a better understanding of the experience of living with chronic pain.

Methods

A PRISMA-guided⁶ systematic scoping review,⁷ designed to search PsycInfo, Embase, Medline and CINAHL, was framed using BeHEMoTh⁸. Behaviour of interest(Be), grief, was defined as a response to major loss, considered in health context(H) chronic pain (≥3 months), excluding(E) acute pain (<3 months) or terminal diagnosis, examining models/theories(MoTh) pertaining to loss & grief.

Results

Having identified 8252 records, screened 282 full-texts, and chosen 26 articles for inclusion, we investigate how loss and grief have been understood in the chronic pain context. By mapping, reporting and discussing varying definitions and interpretations, we query how thoroughly the potential explanatory power of grief theory has been studied, distinguishing between implicit and explicit framing.

Discussion

By identifying existing grief theory-informed approaches to therapeutic psychological chronic pain care, we clarify gaps in the existing research. Findings will help determine research questions for subsequent qualitative and quantitative studies, seeking to better represent experiences and address losses of those living with chronic pain.

Ethics: A scoping review requires no ethical approval.

Acknowledgements: N/A

Disclosures: N/A

Key Words: Grief, Chronic pain, Grief Theory, Scoping Review, BeHEMoTh, Lived Experience, Patientled research

SEXUALLY DIMORPHIC ASSOCIATIONS OF DEPRESSION AND ANXIETY IN CHRONIC LOW BACK PAIN

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Introduction

Chronic low-back-pain (CLBP) is a major unmet clinical need with significant socioeconomic impact, and a large contributor to disability. Comorbid anxiety and depression (A&D) are highly prevalent in those experiencing CLBP.

Aim of Investigation

We investigated clinical measures of A&D in a CLBP cohort, compared to a healthy-controls (HC). Further, we assess these A&D in relation to pain-severity in the CLBP-participants.

Methods

25 CLBP-participants (52% female; mean age ±SEM: 46±3.8 years) and 27 HCs (48% female; 40±2.1 years) were recruited. All participants were administered Patient Health Questionnaire-9 (PHQ-9) and State-Trait Anxiety Inventory (STAI-S/T). CLBP completed the Short-form McGill Pain Questionnaire-2 (SF-MPQ-2). Overall present pain intensity (PPI) of participants' LBP on day of study visit was taken.

Results

CLBP-participants scored higher on PHQ-9 than HCs. CLBP-participants scored higher on STAI-State and STAI-Trait scores than HCs. No significant sex-differences were found in PHQ-9 or either STAI. SF-MPQ-2, PPI or sub-domains did not show sex-differences. PHQ-9 was positively-correlated with higher SF-MPQ-2 Affective Pain Sub-Domain(APSD) in the CLBP-participants. In male CLBPparticipants only STAI-State correlated negatively with SF-MPQ-2 APSD. Female CLBP-participants had PHQ-9 scores positively-associated with higher PPI SF-MPQ-2.

Conclusions

This study found higher prevalences of A&D in a CLBP population compared to HCs. In CLBP-participants, affective pain correlated to depression. Sexually-dimorphic associations were found between affective-pain scores and state-anxiety, and between pain-intensity and depressive mood. Further analyses will address fatigue, fear of pain, pain-catastrophising and cannabis use, QSTpain measures in both groups, and circulating endocannabinoid levels.

Ethical Approval: Participants were recruited and consented to procedures approved by the University of Galway and Galway University Hospital Research Ethics Committees.

Acknowledgements: Funded by the Irish Research Council Postgraduate Scholarship (GOIPG/2020/1496). The authors wish to thank the HRB Clinical Research Facility Galway.

Disclosures: Authors have nothing to disclose.

Key Words: Low-back pain, Anxiety and Depression, Sex-differences

INVESTIGATION OF THE ENDOCANNABINOID SYSTEM AND PAIN-RELATED GUT MICROBIOTA IN VISCERAL ABDOMINAL PAIN AND ASSOCIATED NEGATIVE AFFECT: CLINICAL PROJECT PROTOCOL

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Introduction

Visceral abdominal pain is a debilitating symptom of both irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD), and is associated with increased anxiety, depression, fatigue, and reduced quality of life (QoL). Altered endocannabinoid system (ECS) tone and disturbed gut microbiota may contribute to heightened visceral sensitivity.

Aim of the investigation

This project, consisting of two studies, aims to unravel the relationships between the ECS, pain-related gut microbiota, pain sensitivity and severity, and negative affect in patients with IBS and IBD, versus healthy controls.

Methods

For the longitudinal cross-sectional study, 60 patients with IBS, 60 patients with IBD and 60 age- and sexmatched healthy controls, will undergo three study visits, each involving: (1) blood, saliva, stool and hair sampling, (2) thermal quantitative sensory testing, temporal summation, offset analgesia, and conditioned pain modulation assessment, and (3) questionnaires assessing pain, negative affect, fatigue and QoL. For the cross-sectional biopsy study, 14 patients with ulcerative colitis, 14 patients with Crohn's disease, and 14 age- and sex-matched healthy controls undergoing endoscopy will complete: (1) blood, saliva, hair and colon biopsy sampling, and (2) questionnaires as previously described.

Results

The results of this project will characterise the intersection between pain, the ECS, and gut microbiota in patients with IBS and IBD.

Ethics: Approved by the University of Galway (2023.11.011) and Galway University Hospital Research Ethics Committees (C.A. 3151).

Acknowledgements: Funded by the University of Galway Hardiman Research Scholarship, and the IRC GOIPG Research Scholarship (GOIPG/2024/4981).

Key Words: Visceral Pain, Endocannabinoid System, Gut Microbiota

WAIT LIST VALIDATION & AUDIT OF A TRANSDIAGNOSTIC PAIN MANAGEMENT PILOT INTERVENTION FOR OLD AGED

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Introduction

Old aged pain patients on long waiting lists and those disrupted historically by the Covid pandemic, are particularly vulnerable to developing Pain Disability due to age, co-morbidities and increasing biopsychosocial frailty according to the British Pain Society (BPS, 2022). Timely intervening with Pain Management can buffer the disabling and quality of life challenges facing old aged with chronic pain. Given the range of related mental health difficulties including depression and anxiety, transdiagnostic group therapy is potentially an effective clinical model to mitigate these difficulties (Davila et al, 2020).

Objective

Identification and assessment of old aged pain patients' needs, and piloting an appropriate Psychologyled pain intervention to meet those needs.

Method

Audit tool constructed and wait-list validation carried out of previously assessed patients by Psychology and awaiting intervention. A transdiagnostic brief modular intervention designed and delivered by Psychology for old aged.

Results

Twenty-nine old, aged patients were identified (N=29). Pain intensity, distress & interference ratings yielded concerning high scores. Descriptive statistics employed. Male: Female ratio was 1:5 (17%: 83%); Age range 65-89 years (mean age 66 years); Majority multi-sited muscle-skeletal pain located; minority neuropathic and cancer pain. Fatigue, pain and loneliness core qualitative issues. Transdiagnostic group evaluations yielded high satisfaction ratings (100%) and QOL improvements.

Conclusions

Pilot study indicated waitlist validation, audit and brief Psychology interventions are useful in addressing bespoke needs of old aged pain patients.

Ethical Approval: SVUH Audit Committee.

ANTINOCICEPTIVE EFFECTS OF NOVEL CAPSAICIN-BASED INJECTABLE HYDROGELS IN A RAT MODEL OF OSTEOARTHRITIS PAIN

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Introduction

Osteoarthritis (OA) is a prevalent condition characterised by pain originating from joint structures and involving central neurological mechanisms^{1,2}. OA pain arises from a complex interplay of nociceptive and neuropathic mechanisms^{3,4}, posing challenges for effective pharmacological treatments. Despite the different aetiologies, a common phenomenon is hyperinnervation of joint structures by TRPV1-positive nociceptive nerve terminals^{5–7}.

Aims of Investigation

We examined the effects of novel high-dose capsaicin-based hydrogels, inducing a prolonged functional nerve block, on nociceptive behaviour in the monosodium iodoacetate (MIA)-induced OA model.

Methods

Female Sprague-Dawley rats 8-9 weeks old (n=4-6/group) received an intra-articular (i.a.) injection of MIA (2mg/50µL)⁸ or saline into the left knee joint (Day 0) under brief isoflurane anaesthesia. On Day 18, treatments (vehicle, free capsaicin, or capsaicin-based hydrogels) were administered intra-articularly. Weight-bearing asymmetry and hind paw mechanical hypersensitivity were evaluated for 10 weeks post-treatment.

Results

MIA rats showed weight-bearing asymmetry and increased ipsilateral mechanical hypersensitivity from Day 7 post-MIA, compared to controls. Free capsaicin (10µg) decreased weight-bearing asymmetry for 14 days post-treatment. Capsaicin-based hydrogels (50µg) did not increase spontaneous nociceptive behaviour post-injection compared to vehicle or free capsaicin, but did exhibit antinociceptive profiles dependent on capsaicin release kinetics. Two of the tested prototypes reduced weight-bearing asymmetry up to 28 days post-treatment. In addition, the prototype with the slower release profile reduced mechanical hypersensitivity.

Conclusions

These results suggest a sustained antinociceptive effect of the novel capsaicin-based hydrogels, and possible effectiveness on secondary hypersensitivity, representing a potential innovative long-lasting pain-relieving treatment for OA.

Acknowledgements: ERC funding Arth-Alleve: Disruptive Therapies for the long-term relief of Osteoarthritis Pain, Grant ID: 101045226. The authors sincerely thank Dr Barry McDermott for advice on experimental design.

Disclosures: MF: employed by Relevium Medical; DF, MH, and AL: Shares in Relevium Medical; AL: Inventor on the Relevium Patent; RI, CL, SC, and LQ: none.

Key words: Osteoarthritis pain, chronic pain, TRPV1, capsaicin

A RETROSPECTIVE STUDY ON A MODEL 3 HOSPITAL'S COMPLIANCE WITH AAGBI GUIDELINES FOR HIP FRACTURES

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Introduction

Most hip fractures occur in the over 65 population who are also 3-4 times more likely to die within oneyear post-surgery than the general population. The association of anaesthetists of Great Britain and Ireland's (AAGBI) recently updated their guidelines for hip Fracture in 2020

Aim of the investigation

This study examines Mayo University Hospital's (MUH) compliance with the AAGBI guidelines for the management of hip fractures and compares MUH's patient recovery to national standards.

Methods

We collected data on 100 patients who had surgery for hip fractures in MUH between December 2023 to August 2024. This data includes patient's age, gender, place of residence, time to surgery, nerve block prior to surgery, blood loss, time to remobilisation, time to reablement, length of stay (LOS) and discharge destination.

Results

67.7% of patients' surgeries occur within 36 hours from admission in ED. The median patient mobilised on day 1 post-surgery and was reenabled 2 days post-op. 46.8% of patients were given nerve blocks in ED and 44.9% were given nerve blocks before surgery. The mean LOS for a patient with a hip fracture at MUH is 14.8 days.

Discussion

MUH meet the AAGBI's targets for length of stay (LOS). However, there are areas in which MUH can improve as not all patients undergo surgery within 36 hours of admission, are given nerve blocks in ED/ operating room or hit major recovery milestones in time.

Ethics: Approval for this audit was obtained from the Research and Ethics committee at Mayo University Hospital

Acknowledgements: Research was self-funded

Disclosures: No conflicts of interest to declare

Key Words: Mayo University Hospital, AAGBI guidelines, Hip fracture, neck of femur fracture, recovery, peri-operative care

EVOLUTIONARY CONSERVED ROLE OF SEROTONIN IN MODULATING MECHANISMS IMPORTANT FOR PAIN IN FLIES

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Pain, though an unpleasing experience, has evolutionary benefits, however, when unresolved and chronic becomes a detriment. In fact, among the 4 leading causes of years lost to disability, 3 are chronic pain conditions (among which are musculoskeletal disorders)¹, with estimated prevalence ranging from 11% to 40%². Despite high socioeconomic burden³, the mechanisms underlying hypersensitivity development in chronic pain symptoms, such as in osteoarthritis (OA), remain not fully understood⁴. Some of the effective treatments include antidepressants, such as SSRIs⁵, whose underlying mechanisms of action, given our current limited understanding, likely involve pain modulation via descending serotonergic pathways⁶. Possible reasons for this limitation include the lack of easily accessible animal models to study severity limit procedures associated with pain. A promising emerging animal for the study of pain mechanisms is the *Drosophila melanogaster* (fruit fly)⁷, however, it is still unclear whether the descending modulatory serotonergic (5HT) projections have a conserved role in modulating nociception (sensory basis for pain perception) in insects.

Consequently, to confirm 5HT's role in nociception in *Drosophila*, we used the UAS/Gal4 system to inhibit or stimulate 5HT-specific neurons in flies and tested how this affected their nocifensive heatevoked escape behaviours. Additionally, we treated leg-injured flies with SSRIs to assess whether inhibiting the reuptake of 5HT would attenuate or exacerbate nociceptive hypersensitivity. Our data shows that interrupting 5HT signalling; by overexpressing 5HT-reuptake transporter or by blocking 5HT release via synaptic vesicles (ShibireTS) evokes increased nocifensive behaviour, suggestive of a hypersensitive phenotype. Moreover, complete inhibition of serotonergic neuronal excitability through hyperpolarisation (Kir2.1) prevents any response to noxious thermal heat (heat-insensitivity). Additionally, while not statistically significant, a trend was observed in leg-injured flies treated with 6 mM escitalopram towards increased hypersensitivity.

Together, our data highlights that 5HT likely plays an important role in modulating nociception in the *Drosophila*, encouraging further experimental dissection of associated mechanisms.

DEVELOPMENT OF VIRTUAL REALITY CASE SCENARIOS FOR PAIN SCIENCE CLINICAL REASONING EDUCATION: THE VR-PAIN STUDY

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Introduction

Pain is the main reason people attend physiotherapy. A structured approach to learning is essential to enhance physiotherapy students' development of clinical reasoning skills in pain management.

Aim of Investigation

The VR-Pain project aims to support students' clinical reasoning skills through the development of virtual reality (VR) clinical reasoning applications for acute and chronic pain assessment and management.

Methods

To obtain feedback on the chronic low back pain VR application, a pilot session was conducted with Stage 4 physiotherapy students at University College Dublin. Qualitative feedback (semi-structured round-table discussions) and quantitative feedback using questionnaires [Student Satisfaction and Self-Confidence in Learning Scale (SLSC), Simulation Design Scale (SDS), Physical therapist's self-efficacy scale for clinical reasoning (PTSE) and Igroup Presence Questionnaire (IPQ)] were utilised.

Results

Thirty students participated. Most students found the scenarios realistic and provided positive feedback. Students also believed the scenarios to be of good educational value. Suggestions for improvement included presentational issues , providing more tutors feedback and the option to repeat questions. In the SLSC, 91.1% (n=24) of students reported high overall satisfaction with the simulation. With the PTSE scale, 79.3% (n=21) expressed confidence in key aspects of clinical reasoning and decision-making in physiotherapy practice in the VR environment.

Conclusions

The session provided extensive feedback to finalise the VR applications. The cases will then be integrated into teaching to support the development of student physiotherapists clinical reasoning skills in a safe environment, ultimately aiming to enhance patient care.

Ethical Approval:

Ethics was sought from University College Dublin's Human Research Ethics Board.

Acknowledgements: This work was funded by the Erasmus+ Programme Key Action, [220 2022-1-IE02-KA220-HED-00008762].

Disclosures: None

Keywords: Virtual Reality, Pain Education, Clinical Reasoning, Pain Science

EFFICACY OF INTRATHECAL MORPHINE FOR PAIN MANAGEMENT FOR TOTAL ABDOMINAL HYSTERECTOMY

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Introduction

Abdominal hysterectomy is a common procedure linked to significant postoperative pain, making effective pain management essential for recovery and patient satisfaction. Traditional regimens often rely on systemic opioids, which can have side effects and provide inadequate relief. Intrathecal morphine (ITM) offers a targeted analgesic alternative that may reduce systemic opioid use and side effects. This study evaluates the effectiveness, safety, and patient outcomes of ITM in abdominal hysterectomy.

Aim of Investigation

The aim of this study is to compare pain scores, adverse side effects and length of hospital stay of patients receiving up to 300 mcg of ITM v post operative IV morphine via PCA pump, undergoing an open abdominal hysterectomy.

Methods

A randomised retrospective audit of 20 patients that underwent TAH in 2023 under GA was conducted. These patients received PCA Morphine as part of a multi modal analgesic regime. A prospective audit commenced in January 2024 examining 20 patients that received low dose (<300mcg) intrathecal spinal morphine (ITM) plus general anaesthesia (GA). These patients received prn oral oxycodone as part of a multi modal analgesic regime post operatively.

Pain scores, nausea& vomiting, pruritus, respiratory depression and hospital length of stay (HLOS) were recorded and compared up to 48 hours at increments of PACU, 4 hours, 12 hours 24 hours and 48 hours.

Data was collected from patients' anaesthetic charts, pain chart and NEWS charts.

Results

Intrathecal morphine and GA compared with GA and post-operative systemic opioids via PCA had lower pain and nausea & vomiting scores in the first 24 hours. Hypotension and pruritus was more significant in the ITM group and HLOS was not affected.

Conclusions

Low dose ITM is efficacious as part of the perioperative pain management in TAH.

Ethical Approval. N/A Acknowledgements: N/A Disclosures: N/A Key words: Total Abdominal Hysterectomy, Intrathecal Morphine, Analgesia

Short Oral Presentation Abstracts

Abstract 1

A COMPARISON OF PATIENT RELATED OUTCOME MEASURES WITH AND WITHOUT THE USE OF AUGMENTED REALITY FOR QUTENZA RELATED PROCEDURAL PAIN

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Introduction

Digital reality is transforming hospital experiences by offering patients immersive environments that can reduce stress, alleviate pain, and enhance overall well-being during treatment and recovery.

Aim of the investigation

To investigate pain experiences of patients receiving Qutenza therapy and the potential analgesic enhancement with the use of Augmented Reality (AR) intra treatment.

Methods

Data was collected on pain intensity, pain interference (PI) and quality of life (QoL) scores for 100 consecutive Qutenza application appointments and from the successive follow up appointment 2 weeks afterwards. Analysis was performed to identify the impact of the use of Augmented Reality on patient reported outcomes (n=48) when compared to appointments where it was not utilised (n=52)

Results

Gamified AR resulted in a reduction on the numerical rating scale by 48.22% between pre and posttreatment scores. There was a 34.4% increase on the NRS from pre-treatment to therapy completion without AR. There was a mean reduction by 41.97% in PI scores from pre-treatment to 2-week post therapy for those who used AR in comparison to 47.19% for those who did not. QoL scores improved by 66.36% from pre-treatment to 2-week post treatment follow up for those who did not utilise AR in comparison to 71.43% improvement for those who did.

Discussion

Augmented reality is a means of alternative analgesic enhancement for Qutenza related procedural pain. On 2 week follow up, there was minimal difference between subgroups measurement tool results with a significant improvement in PI and QoL measures in both subgroups with the use of Qutenza for localised peripheral neuropathic pain.

Ethics: N/A but audit approval received from Director of Nursing

Acknowledgements: AR related equipment was purchased from NMPDU Innovation Funding.

Disclosures: Nil

Key Words: Augmented-Reality, Qutenza, Procedural pain

CANNABINOID CB1 RECEPTOR INVOLVEMENT IN THE BENEFICIAL EFFECTS OF ENRICHED ENVIRONMENT IN A RAT MODEL OF NEUROPATHIC PAIN

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Introduction

Preclinical studies indicate that an enriched environment (EE) may alleviate pain and related conditions, though the mechanisms remain unclear¹. The endocannabinoid system is crucial in regulating nociception and pain².

Aim of investigation

The aim of the present study was to evaluate the involvement of CB₁ receptors in the beneficial effects of EE on pain and anxiodepressive behaviour.

Methods

Adult male Wistar Han rats (n=8 per group) were randomly assigned to EE (PhenoWorld; PhW) or standard housing (STD2). Animals received daily intraperitoneal injections of AM251 (CB1 receptor antagonist/inverse agonist) or vehicle from the start of EE. One week later, rats underwent spared nerve injury (SNI) or sham surgery. Mechanical hypersensitivity, anxiety-like and depression-like behaviors were assessed.

Results

Animals in the PhW showed higher thresholds to innocuous mechanical stimuli, reduced anxiety-like and reduced depressive-like behaviour compared to STD2-housed rats. AM251 attenuated these beneficial effects of EE, SNI-induced mechanical hypersensitivity and anxiety-like behaviour. AM251 also reduced sweet pellet preference in the sweet drive test in PhW SNI rats and increased depressivelike behaviour in the sucrose splash and FST in PhW sham rats.

Conclusions

These findings suggest that the CB₁ receptor may contribute to the beneficial effects of EE on pain and associated negative affect.

Ethics

This study was approved by Portuguess Directorate-General for Food and Veterinary Affairs and respective local organization (DGAV023875).

Acknowledgements: This work was funded by MSCA-ITN-2020, grant No 955684. **Disclosures:** Authors have no conflict of interest to declare. **Key words:** environmental enrichment, CB₁ receptor, neuropathic pain

PROTYPE FRAMEWORK FOR ASSESSING UPPER AND LOWER LIMB PAIN IN ATHLETES

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Introduction

Athlete Pain is underreported and has a significant impact on both performance and quality of life. Athlete pain literature has embraced the biopsychosocial model with 5 domains being proposed for pain assessment; (neurophysiological, biomechanical, affective, cognitive, and socioenvironmental). Our recent scoping review and focus groups highlight key gaps in the use of affective, cognitive and socioenvironmental pain assessment tools to capture context-specific aspects

Aim of the investigation

To develop a comprehensive prototype framework for upper and lower limb pain in athletes.

Methods

A Realtime (RT) Delphi of international sports physiotherapists (>3 years' experience, working with athletes) was conducted.

The initial survey, developed by combining findings of a recent scoping review with qualitative insights from athletes and physiotherapists, contained a multidimensional, range of 82 pain assessment items. Participants rated their level of agreement to include each assessment item on a 6-point Likert scale, alongside the frequency they felt each assessment item should be used. Consensus threshold - 70% of participants voting agree or strongly agree.

41 (21F) Sports Physiotherapists took part

Pain Assessment Items achieving consensus for inclusion;

- 1) 21/29 Neurophysiological -17 always, 4 often.
- 2) 15/20 Biomechanical -6 always, 9 often.
- 3) 8/9 Affective. -6 often, 2 sometimes.

4) 3/6 Cognitive. -3 often.

5) 11/16 Socioenvironmental -8 often, 3 sometimes.

6) 8/9 Assessment aspects & considerations. -6 Always, 2 Often

A prototype framework with practical examples has been developed from these recommendations

Discussion/Conclusion

We present expert consensus-generated multidimensional athlete upper and lower limb pain assessment guidelines.

Ethics: Ethical guidelines were followed as per the Declaration of Helsinki, and permission was granted for this study by the University College Dublin Human Research Ethics Committee. (LS-22-40-Purcell-Caulfield)

Acknowledgements: This work was completed as part of a PhD which was funded by insight SFI Centre for Data Analytics. (SFI/12/RC/2289_P2).

Disclosures: The authors have no conflict of interests to declare. **Key Words**: Pain Assessment, Athlete, Biopsychosocial, Physiotherapy, Upper/Lower Limb.

CLINICAL AUDIT OF ANALGESIC EFFICACY AND ALIGNMENT OF PERIOPERATIVE ANALGESIA WITH PROSPECT GUIDELINES FOR ONCOLOGICAL BREAST SURGERY AT CORK UNIVERSITY HOSPITAL

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Introduction

Breast cancer (BC) is the most diagnosed solid cancer in women worldwide. Surgery is central to BC treatment but is associated with significant postoperative pain. The PROSPECT group advocate five recommendations regarding perioperative analgesia protocol based on evidence for optimal postoperative pain.

Aim

To evaluate the analgesic efficacy and adherence to PROSPECT guidelines of the analgesic regimens used in BC surgery at CUH. Methods: Cross-sectional study of 100 adult patients undergoing oncological breast surgery at CUH. Analgesic efficacy was determined from highest pain score within first postoperative hour.

Results

Adequate analgesia was recorded in 72% of patients, with only 31% receiving rescue analgesia in the first postoperative hour. PROSPECT adherence was consistently low for recommendations one (18%), two (0%) and four (15%), and consistently high for recommendations three (95%) and five (94%). NSAIDs were often given intraoperatively, but sparingly postoperatively. Regular opioids were frequently prescribed postoperatively. Two recommendations were followed in 70% of cases, with lower pain-scores (p= 0.005) and rescue analgesia use (p< 0.001) than cases following three recommendations. Major surgeries had lower proportions of adequate analgesia (sig.difference: 0.455, p< 0.001) and higher rescue analgesia doses (sig.difference: 6.74, 95% CI, 1.33-12.16, p= 0.018) than minor surgeries.

Conclusions

High analgesic efficacy was experienced by patients undergoing BC surgery at CUH. PROSPECT guideline adherence was consistent for most patients; discordance was limited to pre- and post-operative analgesic regimens. Surgery type was the only variable significantly associated with patient outcome. Insufficient group sizes may account for the non-significant associations found for other factors.

Ethical **Approval**: Received from CREC/CUH-QPSM. Acknowledgements: Dr Brian O'Donnell, CUH nursing staff.

Disclosures: None.

Key words: Acute Postoperative Pain, Analgesia, Breast Neoplasms.

Abbreviations: CUH: Cork University Hospital, PROSPECT Group: Procedure Specific Postoperative Pain Management Group, NSAIDs: Non-Steroidal Anti-Inflammatory Drugs, MME: CREC: Clinical Research Ethics Committee of the Cork Teaching Hospitals, QPSM: CUH Quality and Patient Safety Manager

MOLECULAR PROFILING OF INFLAMMATION, AND NOCICEPTION TAILORED TO THE SEVERITY OF DEGENERATIVE DISC DISEASE: A PRECISION MEDICINE APPROACH

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Introduction

Intervertebral disc (IVD) degeneration significantly contributes to low back pain (LBP). It is mediated by an imbalance in extracellular matrix (ECM) homeostasis and increased inflammation that can induce sensory hyperinnervation, which leads to nociception.

Aim of the investigation

We hypothesised that human degenerative IVD differentially expressed molecular markers of inflammation and nociception tailored to the severity of the degenerative disc disease (DDD) using a precision medicine approach.

Methods

A multicentre, prospective study for transcriptomic profiles on IVD tissues collected from DDD patients with LBP and healthy IVDs from idiopathic scoliosis patients undergoing spinal surgery (Merlin Park Hospital and University Hospital Galway) and body donors (Silent Mentor Program, Malaysia). To inform DDD severity, MRI images were graded using *Pfirrmann* grading, while IVD histology was assessed with Thompson grading. RNA sequencing was performed for transcriptome, bioinformatics, and marker validation through RT-qPCR.

Results:

DDD patients were sub-group, with eleven individuals for *Pfirrmann* grades IV and V. Age ranged from 40 to 70 years, increasing with DDD severity, with no gender differences. The healthy control group included adults' and adolescents' IVDs. Transcriptome analysis identified differentially expressed ECM anabolic genes (COL1A2 and COL2A1), inflammatory (IL-1 β) and pro-nociceptive (NGF and TRPV4) in degenerative IVD. We validated an increased trend of COL1A2 expression, inflammation, and nociceptive markers of NGF and TRPV4 as DDD severity increases, while COL2A1 expression was downregulated.

Discussion

These findings reveal dysregulation of ECM anabolism, increased inflammation, and nociception, providing molecular insights into IVD degeneration mechanisms tailored to DDD severity and suggesting potential therapeutic targets for treating LBP through precision medicine.

Ethics: CA-3235, CA-269 and UKM/PPI/111/8/JEP2023/378

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Disclosures: No competing interest.

Key Words: Low back pain, intervertebral disc degeneration, transcriptome, inflammation, nociception, extracellular matrix

SCREENING FOR AND ONWARD REFERRAL OF DEPRESSION WITH LOW BACK PAIN. A NATIONAL SURVEY OF IRISH MUSCUKOSKELETAL TRIAGE PHYSIOTHERAPISTS.

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Introduction

Low back pain (LBP) is associated with worse prognosis when there is concordant depression. Musculoskeletal (MSK) triage physiotherapists review much of the LBP referrals to public hospital outpatient waiting lists in Ireland. Their screening and onward referrals practices are unknown.

Aim of the investigation

To investigate current screening processes by MSK Triage physiotherapists and to 1) establish whether and how they screen for depression, 2) explore decision-making reasons, and 3) capture confidence levels.

Methods

Using a descriptive cross-sectional design, a bespoke anonymous e-survey was generated, piloted, and emailed to MSK triage physiotherapists in Ireland.

Results

Thirty-six surveys were submitted. MSK triage physiotherapists commonly encounter patients with LBP and depression, but more than one third (36%) do not ever screen for depression. Of those who didn't screen, 62% reported the reasons included not being trained, not feeling skilled, or not knowing what to do if the patient reported depression. Almost all (86%) MSK triage physiotherapists signpost people with depression back to their GP, with 67% of these reporting that this was due to a lack of pathways. Confidence in screening for depression was low in comparison to screening for red flags or yellow flags. There was some indication that a day or more of training was helpful to screening practices for depression.

Discussion

Patients with LBP are not being consistently screened for associated depression by MSK triage physiotherapists. The variations in screening practices noted may in part be due to a lack of standardised training.

Ethics: University of Limerick Ethical Approval received [2024_02_06_EHS]. **Acknowledgements:** This work received no direct funding. Julie Sugrue is the recipient of part-time Professional Doctorate Fees from the University of Limerick Hospital Group.

Disclosures: The authors have no financial interests to declare relevant to the content of this study.

Key words: Screening for depression, low back pain, musculoskeletal triage

SEXUALLY DIMORPHIC ASSOCIATIONS OF DEPRESSION AND ANXIETY IN CHRONIC LOW BACK PAIN

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Introduction

Chronic low-back-pain (CLBP) is a major unmet clinical need with significant socioeconomic impact, and a large contributor to disability. Comorbid anxiety and depression (A&D) are highly prevalent in those experiencing CLBP.

Aim of Investigation

We investigated clinical measures of A&D in a CLBP cohort, compared to a healthy-controls (HC). Further, we assess these A&D in relation to pain-severity in the CLBP-participants.

Methods

25 CLBP-participants (52% female; mean age ±SEM: 46±3.8 years) and 27 HCs (48% female; 40±2.1 years) were recruited. All participants were administered Patient Health Questionnaire-9 (PHQ-9) and State-Trait Anxiety Inventory (STAI-S/T). CLBP completed the Short-form McGill Pain Questionnaire-2 (SF-MPQ-2). Overall present pain intensity (PPI) of participants' LBP on day of study visit was taken. **Results:** CLBP-participants scored higher on PHQ-9 than HCs. CLBP-participants scored higher on STAI-State and STAI-Trait scores than HCs. No significant sex-differences were found in PHQ-9 or either STAI. SF-MPQ-2, PPI or sub-domains did not show sex-differences. PHQ-9 was positively-correlated with higher SF-MPQ-2 Affective Pain Sub-Domain(APSD) in the CLBP-participants. In male CLBP-participants only STAI-State correlated negatively with SF-MPQ-2 APSD. Female CLBP-participants had PHQ-9 scores positively-associated with higher PPI SF-MPQ-2. **Conclusions:** This study found higher prevalences of A&D in a CLBP population compared to HCs. In CLBP-participants, affective pain correlated to depression. Sexually-dimorphic associations were found between affective-pain scores and state-anxiety, and between pain-intensity and depressive mood.

Further analyses will address fatigue, fear of pain, pain-catastrophising and cannabis use, QST-pain measures in both groups, and circulating endocannabinoid levels.

Ethical Approval: Participants were recruited and consented to procedures approved by the University of Galway and Galway University Hospital Research Ethics Committees.

Acknowledgements: Funded by the Irish Research Council Postgraduate Scholarship (GOIPG/2020/1496). The authors wish to thank the HRB Clinical Research Facility Galway.

Disclosures: Authors have nothing to disclose.

Key Words: Low-back pain, Anxiety and Depression, Sex-differences

EVALUATION OF A VIRTUALLY DELIVERED INTERDISCIPLINARY CHRONIC PAIN EDUCATION PROGRAMME

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Introduction

Modern models of chronic pain care emphasise pain education early in treatment, which typically involves the provision of scientifically accurate information regarding pain neurophysiology, biopsychosocial complexity and behaviour change. Existing pain education tends to be brief and unidisciplinary, with outcomes indicating good improvement regarding pain knowledge with modest benefits on physical and psychosocial functioning.

Aim of the investigation

An interdisciplinary pain education programme, Pain Retrained, was developed. It consisted of 12 hours of content delivered over six weekly online sessions to groups of participants. This study evaluated Pain Retrained outcomes at its conclusion and three-month follow-up.

Methods: In total, 261 patients (62.1% female) enrolled in Pain Retrained with each completing measures of pain self-efficacy, depression and general functioning.

Results: A multivariate analysis of variance indicated significant improvements in pain self-efficacy and depression at post-programme and follow-up in comparison to baseline. Effect sizes were medium and small respectively. There was no significant change in general functioning.

Discussion

A standardised, interdisciplinary, online pain education programme was developed and delivered to a large sample of individuals referred to specialty pain rehabilitation. There was evidence of sustained benefit for pain self-efficacy and depression, although with small effect size for the latter. This evidence is consistent with the broader pain education literature and suggests that information provision is useful, but not by itself sufficient. Next steps will be to examine participant responding to determine if Pain Retrained is sufficient for a sub-sample and what next treatment steps are needed to maintain benefit in others.

Ethics: Ethical approval was granted by NIH and BHSCT Acknowledgements: This work is funded by a Northern Ireland Department for the Economy Research PhD studentship Disclosures: none Key Words: chronic pain, education, interdisciplinary, virtual

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