Welcome Message from the ISR President Prof Geraldine McCarthy

Dear Guests, Colleagues and Friends,

It gives me great pleasure to welcome you to the 2023 Irish Society for Rheumatology Annual Meeting at Killiney Castle Hotel. The society continues to go from strength to strength as exemplified by the number of attendees at our meetings this year. It is a great opportunity to get together, stay up to date with our specialty and to have fun as well. Our team at the Mater Hospital had the pleasure of putting this program together and I would particularly like to thank Dr John Stack for all his thought and effort in organizing the meeting. I am grateful also to our session chairs, abstract reviewers and judges for the Bernard Connor award.

On Thursday, the meeting will start with 6 podium presentations from the authors of the most highly rated abstracts, both clinical and basic science. This session will be followed by Professor Ed Roddy who will discuss the cardiovascular benefits of colchicine, likely to give us additional comfort as we use this drug with increasing frequency. Then, we will have a presentation from the winner of the Bernard Connor award. After lunch, Dr Conor Hearty will talk about pain management control followed by Professor Peter Nash which will give a state of the art review of psoriatic arthritis. Finally, an Abbvie Symposium on rheumatoid arthritis will feature guest speaker Professor Andrew Ostor.

On Friday, we look forward to short presentations from the authors of the top rated posters. Then, Dr Caoilfhionn Connolly will share her knowledge about myositis, following her time at John Hopkins University. Professor Paul Emery then will inform us about potential ways of preventing rheumatoid arthritis which will be complemented by the subsequent talk by Professor Anne Barton regarding factors affecting the treatment of rheumatoid arthritis and psoriatic arthritis. During this session also, we will have a presentation from the recipient of the Young Investigator Award. The program overall offers a broad variety of topics and will be of interest to all attendees.

Last year, we changed the focus of the Bernard Connor award by inviting NCHDs to apply for it. The intention was to attract more interest in Rheumatology as a specialty from medicine graduates early in their training. I am delighted to report that we have had a surge of applications this year which is very encouraging.

I would like to offer special thanks to Michael Dineen and Marie Caston who have yet again worked extremely hard to make this meeting a success.

I am especially grateful to our colleagues in the Pharmaceutical Industry for the continued support of ISR and its members.

Finally, my sincere thanks to the members of ISR board for all their continued support in 2023. Please enjoy the meeting,

Professor Geraldine McCarthy
President ISR

ISR Autumn Meeting
21-22 September 2023
Programme

Thursday, 21 September 2023

09.00-09.50 **CAG Meeting – Chaired by Professor David Kane**

09.55-10.00 **Opening Address – Professor Geraldine McCarthy,** President, ISR

10.00-11.00 **Oral Presentations by 6** (3 Clinical + 3 Scientific)

11.00-11.30 **Tea/Coffee, Meet the Industry**

11.30-12.15 **Professor Edward Roddy,** Consultant Rheumatologist, School of Medicine, Keele University, UK
"Cardiovascular effects of colchicine: new benefits of an old drug?"

12.15-12.35 **Bernard Connor Award**

12.35-14.00 **Lunch and meet the industry.**

14.00-14.45 **Dr Conor Hearty**, Consultant In Anaesthesia
Pain Management. MMUH
"Essentials of Pain Medicine"

14.45-15.30 **Professor Peter Nash,** Consultant Rheumatologist, Queensland, Australia
"Psoriatic arthritis – what's topical and what's the future?"

15.30-16.00 **Tea /Coffee and meet the Industr**y.

16.00-17.00 **AbbVie Symposium:** ***"The EVEREST Challenge: Peak Ambition in Advancing the Standards of Care in RA" with Consultant Rheumatologists:***
Dr Grainne Murphy, Cork University Hospital
Dr Carmel Silke, Our Lady's Hospital, Manorhamilton and guest speaker Associate
Professor Andrew Östör, Malvern, Victoria, Australia.
Chaired by **Dr Carl Orr,** St. Vincent's University Hospital, Dublin.

17.00- 17.30 **ISR AGM**

19.30 **Drinks Reception followed by Dinner and Lifetime Achievement Award presentation to Professor Douglas Veale.**

Friday, 22 September 2023

09.00-10.10 **Top Premier Posters**

10.10-10.55 **Dr Caoilfhionn Connolly**, Rheumatologist, Galway Clinic
"Myositis Matters: Present Challenges and Future Avenues"

10.55.-11.25 **Tea/Coffee, Meet the Industry**

11.25-12.10 **Professor Paul Emery**, Versus Arthritis Professor of Rheumatology, University of Leeds
"Prevention in RA"

12.10-12.30 **Young Investigator Award**

12.30-13.15 **Professor Anne Barton,** Professor of Rheumatology.
Consultant Rheumatologist Manchester University Foundation Trust. UK
"Factors affecting the treatment of RA and Psoriatic Arthritis".

13.15-13.30 **Prize Giving and Close**

Biographical Sketches

Speakers

Professor Edward Roddy
Consultant Rheumatologist
Haywood Hospital,
Midlands Partnership NHS
Foundation Trust, Stoke-on-Trent, UK

Edward Roddy is Professor of Rheumatology at Keele University and Consultant Rheumatologist at the Haywood Hospital, Midlands Partnership NHS Foundation Trust in Stoke-on-Trent, UK. After qualifying in medicine from the University of Nottingham in 1997, he undertook training in general medicine and rheumatology in the East Midlands and Western Australia. His doctoral thesis concerned the epidemiology of gout in primary care, in particular the association between gout and osteoarthritis. He has strong clinical and research interests in crystal arthropathies, particularly gout, and leads epidemiological studies and clinical trials in primary care, having published over 200 publications. He co-authored 2006 EULAR recommendations for the diagnosis and management of gout and led the 2017 update of the British Society for Rheumatology (BSR) gout management guideline. He has been a clinical advisor to NICE technology appraisals of new therapies for gout and was topic advisor on the 2022 NICE gout guideline. He leads the British Society for Rheumatology Crystal Arthritis Special Interest Group.

Dr Conor Hearty
Consultant In Anaesthesia
Pain Management. MMUH

Education & Experience
Dr Conor Hearty obtained his undergraduate degree from UCD in 2001. He subsequently completed his anaesthesia training in Ireland in 2011 following a short career in General Medicine in 2002. During his anaesthesia training he developed a sub-specialty interest in pain medicine which led to an interventional fellowship at St James' Hospital in 2008. He was appointed as a consultant in anaesthesia and pain medicine at the Mater Misericordiae University Hospital and Cappagh National Orthopaedic in 2012, after completing a further Pain Fellowship at the Royal Adelaide Hospital in South Australia in 2011. He was involved in the development of techniques for cancer pain management and is a regular contributor to acute pain practice. Dr. Hearty completed the Australian and New Zealand College of Anaesthetists (ANZCA) Pain Faculty Examinations in 2011.
Clinical Research & Professional Memberships
Since his appointment at the Mater Misericordiae University Hospital he has championed the ACT (acceptance and commitment therapy) pain management programme and is currently involved in ongoing research in this arena. Dr. Hearty is an examiner with the Faculty of Pain Medicine for the Pain Management Diploma. He is a member of the World Institute of Pain, the International Association for the Study of Pain (IASP) and a Fellow of Interventional Pain Practice (FIPP). He is Honorary Secretary of the Faculty of Pain Medicine of the College of Anaesthetists, a group that seeks to promote pain medicine as a specialty nationally and internationally.

Professor Peter Nash
Consultant Rheumatologist
Griffith University, Queensland

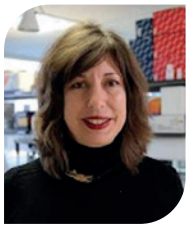
Peter Nash is Professor in the School of Medicine at Griffith University, Queensland, and Director of the Rheumatology Research Unit (RRU). He currently Chairs the ASMPOC, has Chaired the Professional Affairs Committee, the Therapeutics Committee, and the NHMRC musculoskeletal panels, and served on the Scientific Advisory Committee of the Australian Rheumatology Association. and the Therapeutics Committee of the Australia and New Zealand Bone and Mineral Society. He is a founding member of GRAPPA and served on the International Steering Committee (GRAPPA) for a number of years. He is on the editorial board of Journal of Rheumatology, Annals of the Rheumatic Diseases and RMD Open.
Prof. Nash and his group at RRU have been involved in the pivotal registration clinical trials for all modern targeted biologic and osteoporosis therapies. He has published >230 peer-reviewed papers, 6 book chapters, and has been recognized 2021 and 2022 as Australian rheumatology leader for citations in the top 20 rheumatology journals over past 5 years. Special interests:metabolic bone disease and novel therapeutics.

Dr Caoilfhionn Marie Connolly
Rheumatologist, Galway Clinic

Positions and Scientific Appointments
2009-2014 Bachelor of Medicine, of Surgery and of Obstetrics, National University of Ireland, Galway.
2014-2015 Medicine and Surgery internship, Saolta University Health Care Group, Ireland
2015-2016 Masters in Clinical Research, National University of Ireland, Galway.
2016-2017 Multiple myeloma research fellow, Blood Cancer Network, Ireland.
2017-2020 Internal medicine residency, Department of Medicine, Johns Hopkins University Baltimore
2020-2022 Post-Doctoral Fellow, Clinical Rheumatology Fellowship, Division of Rheumatology,
Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.
2022-2023 Post-Doctoral Fellow, Advanced Myositis Fellowship, Division of Rheumatology,
Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.
2023-present Rheumatologist, Galway Clinic.
Dr Connolly has been selected for numerous honours. Dr. Connolly has a special interest in inflammatory muscle diseases, having completed advanced subspeciality training at the Johns Hopkins Myositis Center. She is a current member of the American College of Rheumatology Committee on Research and the International Myositis Assessment and Clinical Studies Group.

Professor Paul Emery
Versus Arthritis UK Professor of Rheumatology
NIHR Leeds Biomedical Research Centre
Leeds Teaching Hospitals NHS Trust
Leeds Institute of Rheumatic and Musculoskeletal Medicine
University of Leeds

Prof Emery trained at Cambridge, Guy's and Brompton. Head of Rheumatology at Walter & Eliza Hall Institute and Consultant at the Royal Melbourne Hospital 1985. University of Birmingham Senior Lecturer 1987. Since 1995 he has been Versus Arthritis UK (formerly ARC) Professor of Rheumatology in Leeds, and Director of the Leeds NIHR Biomedical Research Centre 2009-2022.
Prof Emery was President of EULAR 2009-2011, inaugural chair of FOREUM Executive. He is an ACR Master, an NIHR Senior Investigator from 2008. Recipient of the Roche Biennial Award for Clinical Rheumatology; the Rheumatology Hospital Doctor of the Year award 1999; and EULAR prize 2002 for outstanding contribution to rheumatology research. In 2012 awarded the Carol Nachman Prize, in 2018 received an OBE. In 2020 received the Meritorious Service Award from EULAR and became Fellow of the Learned Society of Wales in 2021.
He has a special interest in the factors leading to persistent inflammation, in particular the immunopathogenesis and immunotherapy of rheumatoid arthritis, SpA, psoriatic disease and connective tissue diseases. He is currently focusing on the prevention of autoimmune diseases with national programmes identifying patients in the pre-clinical phase. He has published >1250 peer-reviewed articles and has an h-index of >180.



Professor Anne Barton
Professor of Rheumatology
University of Manchester

Anne Barton is a Professor of Rheumatology and Centre Lead for the Centre for Musculoskeletal Research at The University of Manchester; she is also an honorary Consultant Rheumatologist at Manchester University Foundation Trust.
She joined the University following the award of an MRC Clinical Training Fellowship (1998-2001) and a subsequent Wellcome Trust Advanced Fellowship (2003-2007). She was promoted to full Professor in 2010. Since 2016, she has been Director of the Centre for Musculoskeletal Research at The University, a EULAR Centre of Excellence. She leads the Versus Arthritis Centre for Genetics and Genomics and is Director of the Musculoskeletal theme of the NIHR Manchester BRC.
Her current research focusses on precision medicine; specifically, investigating the factors that influence treatment response to drugs in patients with rheumatoid and psoriatic arthritis. The work involves genetic, transcriptomic and epigenetic studies to predict response but also incorporates work with colleagues in psychology to explore issues surrounding patient-centred factors, such as adherence. She co-leads (with Prof Pitzalis, QMUL) the MRC-Arthritis Research UK jointly funded stratified medicine initiative in RA (Maximising Therapeutic utility in RA (MATURA)). She also leads work in psoriatic arthritis (PsA) aimed at identifying genetic factors that differentiate it from psoriasis in order to develop screening of psoriasis patients to identify those at highest risk of developing PsA. She is an NIHR Senior Clinical Investigator.

ISR Board members

Professor Geraldine McCarthy
President
Consultant Rheumatologist
Mater Misericordiae University Hospital Dublin and Full Clinical Professor of Medicine University College Dublin

Geraldine McCarthy graduated in Medicine from NUI. She received her Fellowship in Rheumatology at the Medical College of Wisconsin. Her research has focused on the biological effects of calcium-containing crystals in degenerative joint disease as well as in atherosclerosis and breast cancer. Promoted to Associate Professor of Medicine at the Medical College of Wisconsin in 1996 where she remained until her return to Dublin.
Prof McCarthy was appointed Consultant in Rheumatology at the MMUH and Cappagh National Orthopedic Hospital Dublin in 1999 where she continues to run a busy clinical practice. She teaches as part of the University College Dublin Faculty of Medicine where she was the first clinician to be appointed Full Clinical Professor of Medicine through the Clinical Pathways in 2009.
Geraldine has current international collaborations in the UK, USA, Europe, Australia, New Zealand and Canada, particularly in relation to calcium crystal deposition diseases as well as gout. She continues her involvement in bench research related to the pathogenesis of basic calcium phosphate crystal–induced joint disease and participates in and contributes to numerous international collaborations related to gout. Other research interests include platelet activation in inflammatory arthritis and its role in enhanced cardiovascular risk. She also participates in collaborative studies of the pathogenesis of giant cell arteritis and HIV-associated bone pathology.
Author of over 130 publications, including original manuscripts, editorials, reviews and book chapters and has spoken at many national and international meetings. She has been winner of several research and teaching awards and has mentored many medicine and science graduates in clinical practice and in research.

Dr Claire Sheehy
Honorary Secretary
Consultant Rheumatologist
University Hospital Waterford

Dr Claire Sheehy is a Consultant Rheumatologist in University Hospital Waterford. A graduate of Trinity College Dublin, she completed the higher specialist training in rheumatology and general medicine, and was awarded an MD for work exploring the role of anti TNF therapy in

early rheumatoid arthritis. She undertook a fellowship in connective tissue disease and vasculitis between Norfolk and Norwich University Hospital, and Addenbrookes Hospital. She took up her post in 2012; her current clinical interests include early inflammatory arthritis and connective tissue disease.

Dr Shawn Chavrimootoo
Honorary Treasurer
Consultant Rheumatologist,
Our Lady's Hospital,
Navan, Co Meath.

Shawn Chavrimootoo is a Consultant Rheumatologist at Our Lady's Hospital, Navan, Co. Meath. He graduated in Medicine from RCSI, Dublin in 2002 and developed an interest in Rheumatology during his Senior House Officer years in Connolly Hospital, Blanchardstown. Following this, he completed higher specialist training in Cork University Hospital, Kerry General Hospital, Connolly Hospital and St Vincent's University Hospital in Dublin. He was appointed to his Consultant Rheumatologist post in 2013 when he joined Dr Ramakrishnan at Our Lady's Hospital, Navan, from where they currently provide a regional Rheumatology service for the North East of Ireland. His clinical interests include osteoporosis as well as gout, inflammatory arthritis, spondyloarthritis, connective tissue disease and vasculitis.

Dr Nicola Ambrose
Consultant Rheumatologist,
Blackrock Clinic, Co Dublin

Dr Nicola Ambrose is a graduate of Trinity College Dublin. She completed her specialist training in rheumatology and general internal medicine in Ireland, before obtaining an Arthritis Research UK (ARUK) fellowship to undertake a PhD at Imperial College London, studying inflammation in Behçet's Syndrome. She then obtained a Richard Steeven Fellowship from the HSE to undertake a Clinical Fellowship at the ARUK Adolescent Rheumatology Centre of Excellence at University College London Hospital (UCLH). She stayed at UCLH as an Adolescent and Adult consultant rheumatologist, and was the Clinical Lead for Adolescent Rheumatology. Special interests: Adolescent and Young Adult Rheumatology including JIA; Behçet's Syndrome; SLE and dermatomyositis; Gout Osteoporosis and fracture secondary prevention; Inflammatory arthritis. She has published 23 peer review papers as well as 6 book chapters.

Dr Elizabeth Ball
Consultant Rheumatologist
Musgrave Park Hospital/
Belfast City Hospital

Dr Liz Ball is a graduate of Queen's University Belfast and was appointed as a Consultant Rheumatologist at Musgrave Park Hospital/ Belfast City Hospital in 2014. She is also an Honorary Lecturer at Queen's University Belfast. She has a special interest in autoimmune disease and lupus and was awarded an MD entitled 'A study of hand arthritis in Systemic Lupus Erythematosus from a Clinical, Imaging and Cytokine Perspective' from Queen's University in 2013. She is involved in postgraduate medical education and holds a Training Programme Director role within the Northern Ireland Deanery and is currently completing a Masters in Clinical Education. She is a musculoskeletal ultrasound tutor and regularly teaches regionally and nationally.

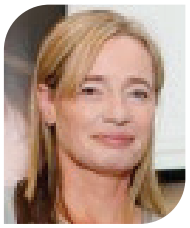
Dr Andrew Cairns
Consultant Rheumatologist,
Musgrave Park Hospital, Belfast

Dr Andrew Cairns graduated in Medicine from Queen's University Belfast in 1995. He completed specialist training in Belfast and also at the Rheumatic Diseases Unit in Edinburgh. He was awarded an MD by thesis entitled "Leucocyte surface receptor expression of relevance to apoptotic cell clearance in systemic lupus erythematosus" from Queen's University Belfast in 2001, and an MSc in Sport and Exercise Medicine from the University of Ulster in 2008. He is a Consultant Rheumatologist at Musgrave Park Hospital Belfast where he was appointed in 2004, and also provides rheumatology clinics at Belfast City Hospital. He is a Fellow of the Royal Colleges of Physicians of Ireland, London and Edinburgh. He has published in a wide range of rheumatic diseases and is an enthusiastic proponent of musculoskeletal ultrasound.

Dr Michele Doran
Consultant Rheumatologist and General Physician, St James's Hospital Dublin

Dr. Michele Doran has been working as a Consultant Rheumatologist and General Physician at St. James's Hospital, Dublin since 2003. She graduated in Medicine from UCD in 1993, and completed her clinical training in General medicine and Rheumatology in Dublin and Bath, UK. She undertook a 2 year Research Fellowship at Mayo Clinic, Rochester, USA, where she completed an MD degree with research relating to the Epidemiology of Rheumatoid Arthritis. During this time she completed a Master's Degree in Biomedical Sciences, Clinical Research, in the Mayo Clinic Graduate School. She was involved with the establishment of and is on the steering committee for the Rheumatoid Arthritis Biologics Registry of Ireland (RABRI).

Professor Ursula Fearon
Head of Molecular Rheumatology,
School of Medicine,
Trinity Biomedical Sciences Institute,
Trinity College Dublin.



Professor Ursula Fearon is head of Molecular Rheumatology, School of Medicine, Trinity Biomedical Sciences Institute, Trinity College Dublin. Professor Fearon's research is a bench-to-beside translational approach, focusing on understanding the underlying mechanisms that drive disease pathogenesis; her team specifically examine components of joint inflammation at a cellular and molecular level to dissect out the signalling and gene pathways that are involved in the pathogenesis of inflammatory arthritis and rheumatic diseases. She has established strong

collaborative research networks across Europe, USA and Singapore. Professor Fearon, has been awarded significant research funding from Arthritis-Ireland, Health Research Board, Science Foundation Ireland, IRCSET, European-ASPIRE, JU Innovative Medicines Initiative (IMI) and Maeve Binchy Funding for Arthritis Research, in addition to industry collaborative partnerships. She has published extensively in high impact peer-reviewed journals, and her research has been awarded several National/International awards.

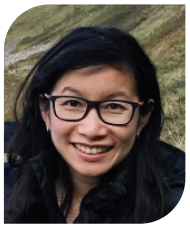
Professor David Kane
National Lead for Rheumatology
HSE Clinical Programme
Consultant Rheumatologist,
Tallaght University Hospital, Dublin

Prof David Kane attended medical school at Trinity College, Dublin, Ireland and was conferred MB BCh BAO BA in 1991, PhD in 2002 and FRCPI in 2006. He has trained in rheumatology with Prof. Barry Bresnihan and Prof. Oliver FitzGerald at St. Vincent's University Hospital, Dublin, Ireland and with Prof Roger Sturrock, Prof Iain McInnes and Dr Peter Balint at Glasgow Royal Infirmary, Glasgow, United Kingdom. He was appointed as Senior Lecturer in Rheumatology at the University of Newcastle (2003-2005) and is currently working as Consultant Rheumatologist at the Adelaide and Meath Hospital and Clinical Professor in Rheumatology at Trinity College Dublin. His special interests are musculoskeletal ultrasound, spondyloarthopathy and synovial inflammation. He is a member of the European Working Party on Musculoskeletal Ultrasound and the OMERACT special interest group on musculoskeletal ultrasound, previous organiser of the BSR Musculoskeletal Ultrasound course and is Faculty member of the EULAR Musculoskeletal ultrasound course. He has served as a Board member of the Irish Osteoporosis Society, as President and Treasurer of the Irish Society for Rheumatology and is currently a Board member of Arthritis Ireland.

Dr Emma Jane MacDermott
Consultant Paediatric Rheumatologist,
CHI Crumlin

Emma Jane MacDermott, is a Consultant Paediatric Rheumatologist in CHI Crumlin where she joined the team in 2012 and has helped oversee the ongoing growth and development of the paediatric rheumatology department into a dynamic national service, now including a growing research and education component. With a special interest in education she enjoys working with patients, parents and medical providers to raise the profile and understanding of rheumatologic disease. She works with the national advocacy groups continuing to raise the profile for Irish paediatric rheumatology patients. Areas of interest include Juvenile arthritis, Paediatric Lupus and autoinflammatory disease.
A graduate of University of Dublin, Trinity College Medical School she pursued her post graduate training in paediatrics, becoming a member of the Royal College of Physicians in 2001. She subsequently moved to New York, where she completed a fellowship in Paediatric Rheumatology, from Weill Cornell Medical School, working at Hospital for Special Surgery and the Cornell Campus of New York Presbyterian Hospital as Assistant Attending in Paediatric Rheumatology at Hospital for Special Surgery and Assistant Professor of Paediatrics at Weill Cornell Medical School until her return to Ireland in 2012.
Emma is a member of the Royal College of Physicians of Ireland, the American College of Rheumatology, the Irish Rheumatology Society, the British Society of Adolescent and Pediatric rheumatology.

Dr Wan Lin Ng
SpR Rep on ISR Board



Dr Wan Lin Ng is a medical graduate from the Royal College of Surgeons in Ireland (RCSI). She has completed her basic specialist training in Ireland and is currently in the higher specialist training programme in Rheumatology. She is a recipient of the StAR MD scholarship from RCSI and the ISR Rheumatology Patient Initiative Fund. With a keen passion in teaching and education, Dr Ng was previously an affiliate tutor with University of Limerick and RCSI. Her clinical interests include connective tissue disease related interstitial lung disease and musculoskeletal ultrasound.

Professor Barry O'Shea
Consultant Rheumatologist,
St James's Hospital, Dublin

Barry O'Shea is a Consultant Rheumatologist in St James's Hospital, and a Clinical Associate Professor in the School of Medicine in Trinity College Dublin. He took up his position in St James's in 2010. During his specialist training in Rheumatology he worked in St Vincent's Hospital, Waterford Regional Hospital, St James's Hospital and the Mater Hospital. He was the inaugural recipient of the Irish Society for Rheumatology / Wyeth Travelling Fellowship award. This facilitated the completion of his training in the University of Toronto and Toronto Western Hospital, Canada. He went on to undertake a Research Fellowship in Toronto with Dr Robert Inman with a focus on patients with Ankylosing Spondylitis and Psoriatic Arthritis. He has presented at the American College of Rheumatology Annual Meeting on this work. He is an active member of ASAS (Assessment of SpondyloArthritis international Society), an international group of experts in the field of Ankylosing Spondylitis. He is a co-founder and principal investigator of ASRI – the Ankylosing Spondylitis Registry of Ireland, a national database of patients with AS from across Ireland. He is the Clinical Lead for Rheumatology in St James's Hospital. In 2022 he was appointed the National Speciality Director (NSD) for Rheumatology training in the Royal College of Physicians of Ireland.

Dr John Ryan
Consultant Rheumatologist,
Cork University Hospital, Cork

Dr John Ryan is a graduate of the Royal College of Surgeons in Ireland, he completed his higher medical training in rheumatology and general internal medicine in Ireland. He undertook a fellowship at the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) in Bethesda, Maryland. During this time he undertook translational research into disordered innate immunity manifesting as recurrent fever syndromes. He joined Dr Sinead Harney in the Rheumatology service at Cork University Hospital in 2010. The Rheumatology department has since expanded to include Dr Grainne Murphy. In July 2017 he took up the post of National Specialty Director for Rheumatology.

Dr Bryan Whelan
Consultant Rheumatologist
Our Lady's Hospital, Manorhmailton,
Co Leitrim

Dr Bryan Whelan is a Consultant Rheumatologist in Our Lady's Hospital in Manorhmailton, Co Leitrim and an Honourary Senior Lecturer in Medicine in NUIG. He qualified from UCD in 2000 and completed BST in the Mater Hospital in Dublin. He completed SpR training in Rheumatology in CUH, the Mater Hospital and University College London. He has an MD and Masters Sports and Exercise Medicine from UCC and an MSc in Epidemiology from the London School of Hygiene and Tropical Medicine. He is currently a board member of Arthritis Ireland, the SUH Research and Education Foundation, a member of the Academic Committee of the FSEM and a member of the Advisory Committee for Human Medicines Clinical Trials Subcommittee of the HPRA. His current research interests include muscle disease, exercise in rheumatology and osteoarthritis.

Dr Maria Wray
Consultant Rheumatologist
Antrim Hospital, Northern Ireland.

Dr Maria Wray is a consultant rheumatologist in Antrim Hospital, Northern Ireland. She graduated from Queens University Belfast in 2000 and began rheumatology training in Northern Ireland. She then undertook long term specialty doctor roles in rheumatology firstly in Musgrave Park Hospital and then the South East Health Trust where she developed particular expertise in musculoskeletal and vascular ultrasound. She was awarded specialist registration in rheumatology and joined the team in Antrim hospital in the Northern Trust as a consultant in 2018. Her specialist interests include PMR/GCA and "fast track" diagnostic imaging.

Photo Gallery

Dr Aubrey Bell profiling Dr Allister Taggart's Lifetime Achievement Award

Photo Gallery

Dr Allister Taggart Lifetime Achievement Award Recipient

Prof Geraldine McCarthy presenting Dr Taggart with a Lifetime Achievement Award

Photo Gallery

Mrs Sandra Taggart

Dr Aubrey Bell, Mrs Sandra Taggart, Mrs Rosie Bell, Dr Allister Taggart and Prof Geraldine McCarthy

Photo Gallery

Mrs Sandra and Dr Allister Taggart

Dr Allister Taggart with his Lifetime Achievement Award

Photo Gallery

Dr Barry O'Shea and Dr Michelle Doran speakers at the ISR Spring Meeting, 2023.

Dr Natasha Jordan, Speaker at the ISR Spring Meeting, 2023.

Mrs Rosie Bell

ISR Meeting Autumn, 2023 Sponsors

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Mater Misericordiae University Hospital Dublin
and Full Clinical Professor of Medicine
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Dr Michele Doran
Consultant Rheumatologist and General Physician
St. James's Hospital, Dublin

Professor Ursula Fearon
Head of Molecular Rheumatology,
School of Medicine,
Trinity Biomedical Sciences Institute,
Trinity College Dublin.

Professor David Kane
National Lead for Rheumatology
HSE Clinical Programme
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Dr Bryan Whelan
Consultant Rheumatologist
Our Lady's Hospital, Manorhmailton, Co Leitrim

Dr Maria Wray
Consultant Rheumatologist
Antrim Hospital, Northern Ireland

Message from Michael Dineen

Dear Friends,

As I write this, we are just over two weeks to our Autumn meeting in Fitzpatrick Castle Hotel, Killiney looking down on the beautiful Dublin Bay. All of the indications point to a huge meeting 150 delegates already registered, 26 Trade stands, 60 abstract submissions all of good quality. Perhaps the most gratifying increase has been the renewed interest in the Bernard Connor Medal.

Two years ago, we relaunched this competition with little interest being generated which was a serious cause for concern. Following a renewed effort this year we received a whopping response from a wide range of the Rheumatology groups. The quality of this year's submissions was so good that the reviewing panel in addition to selecting an overall winner, four other submissions received letters of commendation. The winner will receive a gold medal and a prize of €250.

The conference dinner on Thursday evening is presently heading towards 150. One of the central functions here will be the presentation of a Lifetime Achievement Award to Prof Doug Veale to mark a lifetime contribution to Rheumatology and the associated field of research. People are coming from far and wide for this event which is an indication of the esteem which Doug is held in.

We have completed a trawl of our membership, quite a few have retired and have opted for Honorary membership which gives the same benefits without a membership subscription. We now have 205 full members, which will be our mailing list going forward.

At this point we also come to the end of an era. For the past four years the activities of the Society have been presided over by Professor Geraldine McCarthy. Never previously has a President reigned for four years but Covid interfered and as she was doing such a wonderful job it was unanimously agreed by the board of ISR to extend her period.

From a personal point of view Geraldine was a pleasure to work with and on behalf of the officers and board of ISR we say well done and continued success in the future.

Michael Dineen
Chief Executive ISR

ORAL PRESENTATIONS

CLINICAL PRESENTATIONS
Thursday, 21 Sept 10.00-11.00am

Abstract No.	Name	Title of Paper	Time
23A121	Dr Brona Dinneen	Insights into Axial Spondyloarthritis in the Irish Population: Demographics, Disease Activity, Comorbidities, and Treatment Patterns	10.00
23A142	Prof John Carey	Validation of A Novel Screening Tool for Osteoporosis: The DXA MAP Project	10.10
23A160	Dr Sonia Sundanum	Progression of Psoriatic Arthritis: A real-world 10-year prospective follow-up study	10.20

SCIENTIFIC PRESENTATIONS
Thursday, 21 Sept 10.00-11.00am

Abstract No.	Name	Title of Paper	Time
23A103	Dr Ben Mulhearn	Does baseline monocyte count accurately predict giant cell arteritis? Using routinely collected data to find new biomarkers of disease diagnosis	10.30
23A108	Ryan Wilson	Antibody levels Post-COVID19 Vaccination in Rheumatic Patients receiving Rituximab	10.40
23A150	Dr Daire O'Leary	Identification of a loss-of-function variant in the inflammasome protein GBP5 in an Irish Behcet's Disease family	10.50

PREMIER POSTER PRESENTATIONS
Friday, 22 September - 09.00-10.10am

Abstract No.	Name	Title of Paper	Time
23A109	Ryan Wilson	Seroconversion Rates in Rituximab-treated Rheumatic Patients Receiving COVID-19 Vaccination	9.00
23A115	Dr Megan Hanlon	In depth transcriptomic analysis of myeloid populations from health to disease in Rheumatoid Arthritis	9.06
23A117	Dr Alyssa Gilmore	Metabolic dysregulation in Rheumatoid Arthritis and Psoriatic Arthritis circulatory monocytes due to altered mitochondrial dynamics and circadian rhythm	9.12
23A120	Orla Tynan	RA and PsA synovial tissue single-cell analysis demonstrates differential fibroblast populations with distinct phenotype and functional capacity	9.18
23A125	Brianne Barker	Comparison of Inflammatory and Homeostatic Synovial Fibroblast Phenotypes within the Synovium of Patients with Rheumatoid Arthritis and Healthy Control	9.24
23A127	Dr Viviana Marzaioli	Inflammatory and metabolic serum protein as potential biomarkers of Rheumatoid Arthritis disease onset and progression	9.30
23A129	Dr Rebecca O'Farrell	Delivering Care for Pregnant Women with Rheumatic and Musculoskeletal Diseases in Ireland: Current Challenges and Practices.	9.36
23A140	Dr Anna Witkowska	Use of GCA probability score facilitates judicious use of diagnostic tests in GCA	9.42
23A145	Prof John Carey	A combination of biologic DMARD and JAK-inhibitor is a safe and effective option for patients with multidrug resistant inflammatory arthritis.	9.48
23A148	Dr Sharon Cowley	Baseline Vascular Ultrasound Of PMR Patients At Time Of Diagnosis Predict Clinical Outcomes At 3 Months.	9.54
23A151	Dr Daire O'Leary	Chronic nonbacterial osteomyelitis shares haplotype associations with psoriasis in the Irish population	10.00

CLINICAL PRESENTATIONS

23A121 (ABSTRACT 1) **CLINICAL ORAL**

Insights into Axial Spondyloarthritis in the Irish Population: Demographics, Disease Activity, Comorbidities, and Treatment Patterns.

Author(s)
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Introduction
The Ankylosing Spondylitis Registry of Ireland (ASRI) is a large observational, cross-sectional multicentre cohort study, which is ongoing. It was established in 2013, with the primary objective to measure the burden of axSpA disease in the Irish population and identify predictors of poor disease outcomes.
Aims/Background
To provide a descriptive evaluation of axial spondyloarthritis (axSpA) patients using a large national registry with 10 years of data.

Method
This is a retrospective cohort study with data obtained from ASRI which is a large observational, cross-sectional, multicentre cohort study. Included patients were over 18 years old, with a clinical diagnosis of axSpA, which fulfils either the modified New York (mNY) criteria for Ankylosing Spondylitis or the International Assessment in Spondylarthritis Society (ASAS) criteria for axSpA and have attended secondary or tertiary care in the preceding 3 years. A total of 914 patients with axSpA were enrolled between January 2013 and November 2022.

Results
Demographic details were available for 912 patients included at the time of analysis. Table 1 shows general characteristics of the ASRI cohort.
The study revealed a median age of 44 years, with 75.1% being male. Most participants (76.1%) were diagnosed with radiographic axSpA based on mNY criteria, and 84.9% were HLA-B27 positive. The median age at symptom onset and diagnosis was 25 and 34 years, respectively. Extra musculoskeletal manifestations were prevalent, including uveitis (34.4%) and peripheral arthritis (30.9%). Comorbidities associated with cardiovascular disease were commonly observed, with many participants classified as clinically obese (29%). Lifestyle factors revealed a high rate of smoking (28.4%) and alcohol consumption (72%). Most participants (86.1%) received therapy, primarily bDMARDs (59.7%) and NSAIDs (51.1%). Anti-TNF therapies were prominent (58.2%) within the bDMARDs category.

Conclusions
This study highlights the importance of early diagnosis and intervention in axSpA. The findings emphasize the significance of addressing lifestyle factors and utilizing biologic therapies in improving patient outcomes. These findings contribute to a deeper understanding of axSpA and can guide healthcare professionals in optimizing care for affected individuals. Further research is needed to enhance long-term health and quality of life for those living with axSpA.

Figure

Table 2.1: General characteristics of the ASRI cohort.

Demographics and disease characterisation	Included n	Median (IQR) or n(%)	Range
Gender (male %)	912	75.1	--
Age, median (IQR)	912	44 (36 - 55)	18 - 85
Age at AxSpA symptom onset, median (IQR)	906	25 (19 - 33)	7 - 78
Age at diagnosis, median (IQR)	906	34 (26 - 42)	9 - 80
Delay to diagnosis in years, median (IQR)	906	6 (2 - 11)	0 - 52
Disease duration in years, median (IQR)	912	16 (9 - 27)	0 - 57
ASAS criteria for AxSpA, n (%)	912	912 (100)	--
mNY criteria for AS, n (%)	912	694 (76.1)	--
HLA-B27 positive, n (%)	863	733 (84.9)	--
Clinical measures of disease activity and severity			
BASDAI score, median (IQR)	912	3.7 (1.9 - 5.8)	0.0 - 10.0
BASMI score, median (IQR)	912	3.6 (2.4 - 5.6)	0.4 - 9.0
BASFI score, median (IQR)	912	3.2 (1.3 - 5.6)	0.0 - 10.0
AsQoL score, median (IQR)	912	5.0 (1.0 - 11.0)	0.0 - 18.0
HAQ-s score, median (IQR)	912	0.4 (0.0 - 0.8)	0.0 - 3.0
Peripheral manifestations			
Dactylitis, n (%)	897	60 (6.7)	--
Enthesitis, n (%)	894	161 (18.0)	--
Peripheral arthritis, n (%)	894	276 (30.9)	--
Extra-musculoskeletal manifestations (EMMs)			
Uveitis, n (%)	895	308 (34.4)	--
Psoriasis, n (%)	895	150 (16.8)	--
IBD1, n (%)	897	96 (10.7)	--
Comorbidities			
Overweight2, n (%)	885	595 (67.2)	--
Obese3, n (%)	885	257 (29.0)	--
Central obesity4, n (%)	912	528 (57.9)	--
Hyperlipidaemia, n (%)	905	143 (15.8)	--
Hypertension, n (%)	905	196 (21.7)	--
Ischaemic heart disease, n (%)	905	34 (3.8)	--
Cerebrovascular disease, n (%)	905	15 (1.7)	--
Diabetes mellitus (type I or II), n (%)	905	46 (5.1)	--
Osteoporosis, n (%)	905	46 (5.1)	--
Depression, n (%)	905	94 (10.4)	--
Lifestyle			
Current smoker, n (%)	912	259 (28.4)	--
Current consumer of alcohol, n (%)	912	657 (72.0)	--
Gainful employment5, n (%)	743	531 (71.5)	--
Current therapies			
Anti-TNF, n (%)	912	531 (58.2)	--
IL-17 pathway inhibitor, n (%)	912	14 (1.5)	--
Methotrexate, n (%)	903	48 (5.3)	--
Sulfasalazine, n (%)	903	33 (3.7)	--
NSAID, n (%)	903	461 (51.1)	--
Multiple therapies, n (%)	912	275 (30.2)	--
No current therapy, n (%)	912	127 (13.9)	--

1 Defined as ulcerative colitis or Crohn's disease.
2 BMI >=25Kg/m2, including patients categorised as obese.
3 BMI >=30Kg/m2.
4 Waist circumference >94cm in males or >85cm in females
5 Data excludes retirees, students and homemakers

23A142 (ABSTRACT 2) **CLINICAL ORAL**

Validation of A Novel Screening Tool for Osteoporosis: The DXA MAP Project

Author(s)
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Introduction
Osteoporosis is one of the most prevalent non-communicable diseases worldwide today whose clinical manifestation – fractures – are associated with significant morbidity, mortality and economic

costs. A recent European report suggests Ireland has one of the highest illness burdens related to this disease, but one of the lowest investments and no national strategy. An application to the National Screening Advisory Committee (N.S.A.C.) for screening postmenopausal women in Ireland was rejected in 2022. We have previously validated the Osteoporosis Self-assessment Test-index (OSTi) to identify healthy Irish men and women with osteoporosis, but an audit of more than 2,000 DXA referrals since our publication shows none included the OSTi, while almost 15% had no justification for a scan. The DXA MAP (Management Application Process) Project is a Health Research Board funded initiative to develop novel ways to improve DXA resource use.

Aims/Background

In this study we evaluated the performance of the DXA MAP tool and compared it to the OSTi tool among 'healthy' Irish adults referred for a DXA scan in the West of Ireland.

Method

Cross-sectional study of patients referred for a DXA scan in West of Ireland. Collection and analyses of data for this study was approved by Institutions Ethics Committees. We used various combinations of age, gender, height and weight using logistic regression and deep learning methods to derive a best fit model to identify those with a DXA diagnosis of 'osteoporosis' (T-score ≤-2.5) at the femoral neck. We used total hip BMD to perform sensitivity analyses.

Results

Our study includes 36,321 individuals, of whom 6,729 (18.5%) white adults aged ≥20 years had a hip DXA but no prior fractures or other clinical risk factors for osteoporosis or fracture. These subjects were randomly subdivided into a derivation cohort (70%) and validation cohort (30%). The mean age of both groups was 61.5 years (SD: 13) the majority of whom (>87%) were female. Mean femoral neck T-score was -1.0 and mean OSTi was -1.9. In univariate analyses age and weight were the most important predictors of osteoporotic BMD. Multivariate analyses showed the combination of all 4 variables was marginally better than OSTi in the derivation cohort (Femoral Neck AUC: 0.852 Vs 0.879) and validation cohort (0.841 Vs 0.860). Results of deep learning were similar to logistic regression (0.855). In sensitivity analyses similar results were found for the total hip both in univariate, multivariate and machine learning analyses, and both the derivation and validation cohorts. Derivation cohort OSTi: 0.861 Vs DXA MAP: 0.869; Validation OSTi: 0.854 Vs 0.866.

Conclusions

The DXA MAP Project represents a novel approach to identify Irish adults most likely to benefit from a screening DXA test for osteoporosis. These results can support a national programme to optimise DXA resources, but require validation among other populations.

23A160 (ABSTRACT 3) **CLINICAL ORAL**

Progression of Psoriatic Arthritis: A real-world 10-year prospective follow-up study

Author(s)

Sonia Sundanum, Hannah Darcy, Phil Gallagher, Francis Young, Eamonn Molloy, Carl Orr, Ursula Fearon, Douglas Veale

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Introduction

While PsA was previously considered a mild disease, it has been clearly shown that it can significantly impact a patient's QoL and disability. This is often a result of structural damage. Our department previously studied a real-world PsA cohort that underwent detailed and rigorous characterisation. (Haroon et al., 2017) In the present study, we studied the original cohort after 10 years to evaluate the progression of joint involvement and changes in clinical characteristics. This is the first study prospectively evaluating PsA joint disease progression in an Irish cohort.

Aims/Background

1. Assess the progression of radiographic peripheral joint damage after 10 years.
2. Assess the evolution in clinical and laboratory characteristics after 10 years.
3. Identify factors that may predict the progression of radiographic structural damage.

Method

The original cohort, which consisted of 283 PsA patients attending the rheumatology clinic in SVUH, was recruited at baseline between 2011-2012. Clinical details were recorded at baseline, and plain X-rays of hands, feet and SIJs were performed.

All patients still attending our department were invited to participate in this prospective follow-up study, and recruitment took place in 2022. Detailed clinical assessment was conducted, and repeat hand and feet x-rays were taken.

Results

94 patients consented to participate in the follow-up study. Progression in psoriatic erosive changes was seen in 22/94 (23.4%). This consisted of progression in 15/94 with baseline erosive damage and 7/94 with non-erosive PsA at baseline who developed the formation of erosions at follow-up. New psoriatic arthritis mutilans (PAM) changes were noted in 4 patients at follow-up (12 PAM cases at baseline vs 16 at follow-up).

On multivariate analysis, prognostic factors associated with radiographic progression included high levels of baseline CRP, baseline erosions and a longer time from diagnosis to initiation of bDMARD.

Conclusions

Radiographic progression is seen in PsA, even in patients with longstanding disease. Despite advanced therapies' availability, clinicians must maintain vigilance for progressive damage in patients, even those with established disease. This study highlights clinical factors associated with radiographic progression.

(We acknowledge the work carried out by M.Haroon et al. regarding the baseline cohort who were followed in this study)

Figure

No. of patients followed-up, *n*	94
Male, no (%)	41 (43.6%)
Age at follow-up in years, mean (SD)	60.5 (± 9.4)
Duration of PsA disease in years	25.8 (13-54)
Duration of PsO disease in years	36.2 (15-68)
No. of deaths, *n*	21
Male, no (%)	14 (66.7%)
Age at death in years	73.5 (55-92)
Causes of death	
Cardiovascular disease, *n*	7
Malignancy, *n*	6
Infection, *n*	5
Unknown, *n*	3

Table 1. Demographic data at follow-up and mortality *
*Except where indicated otherwise, values are median (range).

Medications	Baseline PsA (N = 94)	10 Year Review PsA (N = 94)
csDMARD		
Total, n (%)	48 (51.1)	33 (35.1)
Methotrexate, n (%)	36 (38.3)	25 (26.6)
Sulphasalazine, n (%)	11 (11.7)	7 (7.4)
Leflunomide, n (%)	1 (1.1)	1 (1.1)
bDMARD		
Total, n (%)	61 (64.9)	74 (78.7)
TNFi, n (%)	59 (62.8)	61 (64.9)
IL12,23i, n (%)	1 (1.1)	-
IL1i, n (%)	1 (1.1)	-
IL17i, n (%)	-	12 (12.8)
IL23i, n (%)	-	-
CTLA4i, n (%)	-	1 (1.1)
tsDMARD		
JAKi	-	2 (2.1)
csDMARD + b/tsDMARD	24 (25.5)	20 (21.3)

Table 2. Medications at baseline and follow-up

Figure

	Univariate	Multivariate	
Clinical variable	*p*	OR (95% CI) for radiographic progression	*p*
CRP at baseline	0.002	1.94 (1.16 – 3.24)	**0.011**
Erosions at baseline	0.01	17.3 (4.11 – 267.9)	**0.041**
Time to commencing bDMARD	0.04	1.87 (1.08 – 3.25)	**0.026**
PASI at baseline	0.18	0.15 (0.03 – 0.73)	**0.019**
PsO disease duration	0.18	0.51 (0.30 – 0.87)	**0.014**
Time from PsO to PsA development	0.11	2.09 (1.15 – 3.80)	**0.016**
BMI	0.004	-	NS
Time to PsA diagnosis	0.002	-	NS
Delayed diagnosis of > 6 months	0.002	-	NS
ESR at baseline	0.025	-	NS
Dactylitis	0.02	-	NS
Oligoarthritis	0.19	-	NS
HAQ at baseline	0.01	-	NS
Age	0.64	-	NS
Secondary school education	0.98	-	NS

Table 3. Multivariate analysis of associations of different clinical variables with radiographic progression at 10-year follow-up
OR = odds ratio, CI = confidence interval

SCIENTIFIC PRESENTATIONS

23A103 (ABSTRACT 4) **SCIENTIFIC ORAL**

Does baseline monocyte count accurately predict giant cell arteritis? Using routinely collected data to find new biomarkers of disease diagnosis,

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Introduction
Giant cell arteritis is a large vessel vasculitis which left untreated will lead to vision loss in 60% of patients. Prompt diagnosis is therefore of utmost importance but relies on inadequate techniques.
Biopsy is the gold standard but will only be positive in 33% of GCA patients. Some patients will have a negative ultrasound but still deemed to have GCA based on the clinical course.
In a previous study, factors associated with biopsy-proven GCA were evaluated to explore how routine tests help guide diagnosis This work found that baseline monocyte count had an excellent diagnostic accuracy compared to classical inflammatory markers and clinical parameters (area under the curve (AUC) 0.81, 95% confidence interval (CI) 0.67-0.95, p=0.0034). Although novel, this finding involved a small number of patients and requires further investigation.

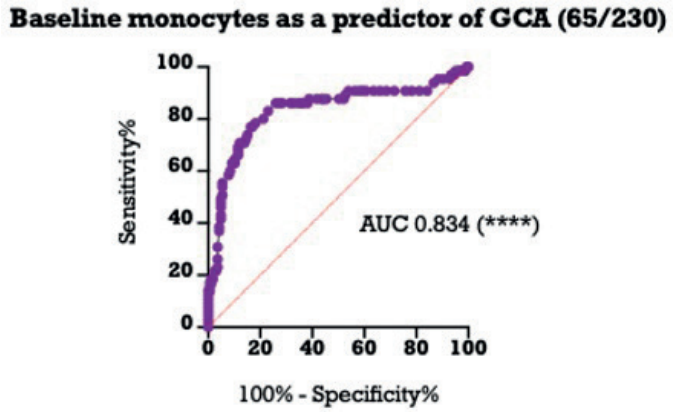
Aims/Background
Aims: Repeat the study in a cohort of over 500 suspected GCA cases. Investigate blood biomarkers, particularly monocytes, and compare sensitivity, specificity and likelihood ratios.

Method
Data was collected from patients between 01/2020 and 09/2021. A positive diagnosis of GCA was determined by clinical features, inflammatory markers, imaging, and confirmation by a rheumatologist at 6 month. Sensitivity, specificity and ROC analysis were calculated for each biomarker measured.

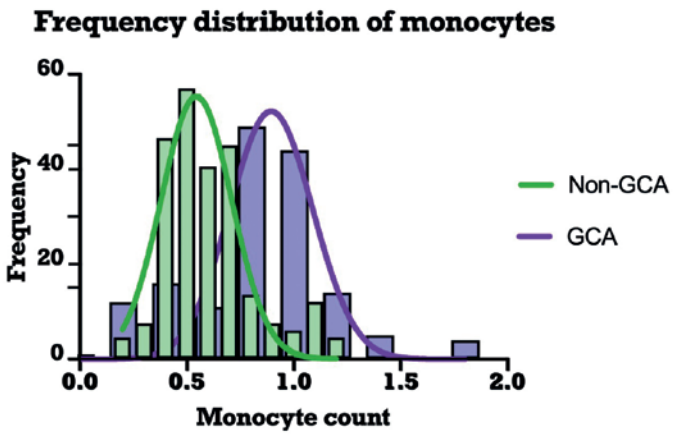
Results
To date, 301 referrals were made to the GCA clinic over the period audited. 109/301 (36%) were diagnosed with GCA, of which 98/109 (90%) had imaging studies and 62/98 (67%) had a positive test. 55/301 referrals had already started glucocorticoids before baseline blood monitoring. ROC analysis found monocyte count was predictive of GCA (AUC 0.83, 95%CI 0.77-0.90, p95% and a positive likelihood ratio (LR) of 10 for a diagnosis of GCA in this cohort. However, monocytes were heavily influenced by glucocorticoids and after ≥1 dose there was a drop in sensitivity of 20%.

Conclusions
We have again identified monocytes as a potential biomarker of GCA. However, they appear to be highly sensitive to glucocorticoids and their use as a biomarker may be limited to glucocorticoid-naïve patients. A prospective research study is currently in progress to validate these findings.

Figure



Figure



23A108 (ABSTRCT 5) **SCIENTIFIC ORAL**

Antibody levels Post-COVID19 Vaccination in Rheumatic Patients receiving Rituximab

Author(s)
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Introduction
Rituximab (RTX) is effective in treating a range of rheumatological conditions via its interaction with the CD20 surface marker leading to B-cells depletion and antibody development inhibition. This however also results in increased infection risk and impairment of vaccine responses.

Aims/Background
To assess the effects of RTX on antibody response among rheumatic patients receiving COVID-19 vaccination.

Method
A prospective cohort study was conducted on RTX-treated inflammatory rheumatic disease patients at UL Hospitals Group, Limerick who were fully vaccinated with the COVID-19 vaccine (≥2 doses of vaccination; total of 2-5 vaccinations). Samples were analyzed using the Elecsys Anti-SARS-CoV-2 immunoassay for in vitro qualitative detection of IgG antibodies to SARS-COV-2. Samples were screened for quantitative detection of anti-SARS-COV-2 nucleocapsid antigen (for previous COVID-19 infection) and anti-SARS-COV-2 spike protein to screen for immune response to the vaccine. Samples were taken ≥14 days after their latest vaccination. Control group consisted of patients on anti-TNFs (8 patients) and tocilizumab (TOC; 3 patients) receiving vaccination within 1-6 months of infusions or injections.

Results
A total of 49 patients were included in the study (38 on RTX; 8 on anti-TNFs; 3 on TOC). Indications for scheduled RTX infusions included RA (13/38), SLE (6/38), Sjogren's (6/38), systemic sclerosis (2/38), dermatomyositis (2/38), other connective tissue diseases (2/38), vasculitis (2/38) and others (5/38). A 9-fold reduction in antibody level was noted in RTX group (2146 U/mL vs 237 U/mL). Patients receiving their vaccination within the 6 months (including between 3-6 months) following their RTX had significantly lower antibody levels than the patients receiving vaccination >6 months post RTX. 19.6% of patients were positive for the COVID-19 virus (presence of anti-SARS-CoV-2 nucleocapsid antigen-antibody).

Conclusions
Total antibody levels detected in RTX group was much lower than the anti-TNF or TOC group (including in the 3-6 months group), potentially leaving them at higher risk of severe complications including fatality if infected with the COVID19 virus. It may be beneficial to prolong the RTX infusion intervals to >6 months when possible before receiving their booster vaccination.

23A150 (ABSTRACT 6) **SCIENTIFIC ORAL**

Identification of a loss-of-function variant in the inflammasome protein GBP5 in an Irish Behcet's Disease family

Author(s)
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Department(s)/Institutions
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Introduction
Monogenic Bechet's Disease (BD)-like conditions are increasing recognised and predominantly involve loss-of-function mutations in TNFAIP3. We recently reported a loss-of-function mutation in RELA in a 3 generation Irish family, several other multicase families with mutations in this RELA have now been reported and it has been recognised as a distinct Mendelian condition (OMIM #618287).

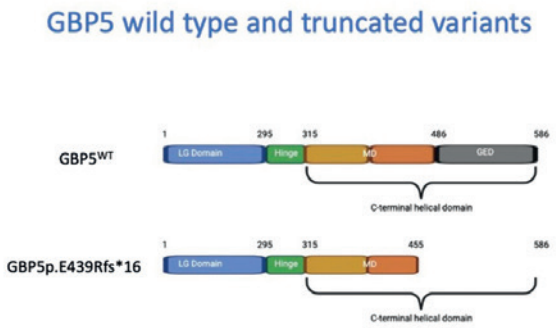
Aims/Background
To identify the genetic basis of an Irish family with BD without major functional variants in RELA or TNFAIP3.

Method
Whole exome sequencing of all protein coding genes was performed to identified major structural variants in affected family members. A variant frequency <0.001 was used. Variant Call Format files are generated by alignment to the reference human genome. Variant prioritisation was performed using SnpEff (http://pcingola.github.io/SnpEff/) to identify loss of function variants.

Results
A CT deletion in the coding region of guanylate binding protein 5 GBP5 (p.E439Rfs*16) involving a disruption of the reading frame with premature stop codon and protein truncation (wild type GDP 586 amino acids v truncation 455 amino acids) was present in affected family members (Figure). GBP5 is a regulator of the inflammasome, a sensory complex regulating the innate immune response to the presence of infection or tissue damage. Notably genetic inhibition of GBP5 has been shown to reduce the inflammatory activities of rheumatoid synovial fibroblasts (doi.org/10.1002/art.41611).

Conclusions
Our results suggests that GBP5 to be a third gene contributing to familial forms of BD. We are currently obtaining PBMCs from family members and will determine whether GBP5 expression is altered by the mutation and its effects on inflammatory cytokine production (IL-1 and IL-18).

Figure



PREMIER POSTER PRESENTATIONS

23A109 (ABSTRACT 7) **PREMIER POSTER 1**

Seroconversion Rates in Rituximab-treated Rheumatic Patients Receiving COVID-19 Vaccination

Author(s)
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Introduction
COVID-19 has increased the mortality rates among rheumatic patients mainly of those immunocompromised or with underlying comorbidities. During the COVID-19 vaccine development, patients on immunomodulatory drugs such as rituximab (RTX) were excluded from the trials due to their "high risk" categorisation.

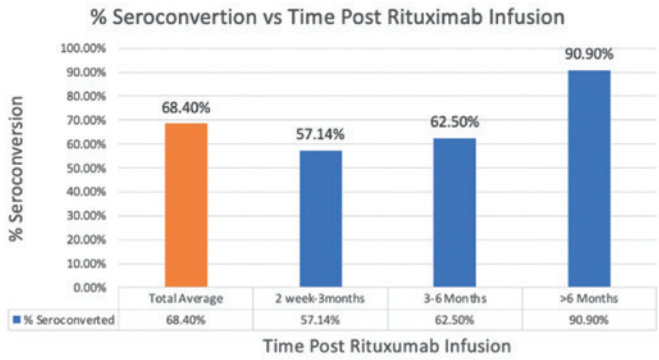
Aims/Background
Assess the seroconversion rate of RTX-treated rheumatic patients on the COVID-19 vaccine.

Method
An observational cohort study on adult patients with various established inflammatory rheumatic diseases at UL Hospitals Group, Limerick receiving ≥2 COVID-19 vaccination and on scheduled RTX infusion (received ≥1 dose). Patients were stratified based on time post-immunization (6 months post-vaccination). Samples (taken ≥14 days after latest vaccination) were analyzed using the Elecsys anti-SARS-CoV-2 immunoassay for in vitro qualitative detection of IgG antibodies to SARS-COV-2, and screened for quantitative detection of anti-SARS-COV-2 nucleocapsid antigen (for previous COVID-19 infection) and anti-SARS-COV-2 spike protein (for immune response to the vaccine). Control group included patients on anti-TNF and tocilizumab (TOC). Seroconversion in response to the SARs-COV-2 is determined at >0.80 U/mL based on the manufacturer's guidelines.

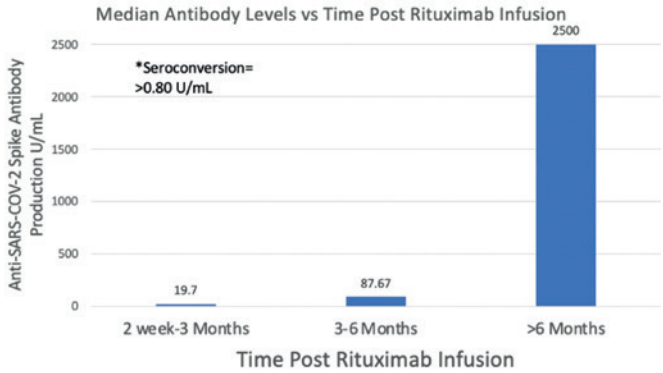
Results
49 patients were included (38 on RTX, 8 anti-TNFs, 3 TOC). Seroconversion rates were higher in the 1-3-month (75%) and 3-6-month (77%) RTX time lines; however, rates at 1 and 6 months were equal (60%) indicating antibody waning over this time period may not be significant in affecting seroconversion rates (levels remained ≥0.80 U/mL threshold). Whilst average seroconversion for the entire RTX cohort is 68.4%, highest rates were seen in patients with 6-month gap (90.9%). Lowest rates were seen in patients receiving immunisation in the 2 week-3 months following RTX (57.14%), while 3-6 months group showed slight improvement (62.5%). Patient population receiving anti-TNFs and TOC showed a 100% seroconversion rate.

Conclusions
Our data shows that a third of RTX patients treated didn't achieve seroconversion following immunization against SARS-COV-2 while highest rates were seen in patients who had a 6-month gap. This data suggests benefit for delaying RTX infusion greater than the standard 6-month interval in suitable patients, prior to vaccination, to allow patients to reach adequate seroconversion against COVID-19 before reinitiating treatment.

Figure



Figure



23A115 (ABSTRACT 8) **PREMIER POSTER 2**

In depth transcriptomic analysis of myeloid populations from health to disease in Rheumatoid Arthritis

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Introduction
In this study we performed an in-depth investigation into the myeloid cellular landscape in the synovium of Rheumatoid Arthritis (RA) patients, 'individuals-at-risk' of RA (IAR) and healthy controls.

Aims/Background
To characterize and examine the largely unexplored nature and contribution of synovial-tissue macrophage subsets in the pathogenesis of RA.

Method
Single-cell synovial tissue suspensions from RA (n=41), IAR (n=5) patients and healthy controls (n=11) were obtained through keyhole arthroscopy. Synovial tissue macrophage subsets were examined by advanced multiparameter flow cytometric analysis, single-cell and bulk RNA-sequencing, metabolic and functional assays.

Results
Flow-cytometric analysis demonstrated for the first time, the presence of a CD40-expressing CD206+CD163+ macrophage population dominating the inflamed RA synovium, associated with disease-activity and treatment response. In depth RNAseq and metabolic analysis demonstrated that this macrophage population is transcriptionally distinct, displays unique inflammatory, and tissue-resident gene signatures and has a stable bioenergetic profile. Single cell transcriptomic profiling of synovial-tissue cells from RA patients and healthy individuals was also performed to give a unique myeloid atlas from health to disease. scRNAseq profiling of 67908 RA and healthy synovial-tissue cells identified nine transcriptionally distinct macrophage clusters, further classified into four subpopulations; TREM2high, TREM2low, FOLR2high, IL-1Bhigh. Two clusters: IL-1B+CCL20+ and SPP1+MT2A+ were identified as pro-inflammatory macrophage populations. Interestingly both these clusters are enriched in RA compared to healthy synovial tissue, display heightened CD40 gene expression, are capable of shaping stromal cell responses, and importantly are enriched pre-disease onset in IAR. Functionally, RA synovial tissue myeloid cells are potent producers of pro-inflammatory mediators (reversed by CD40-signalling inhibition), significantly correlate with disease activity and treatment response and are capable of inducing an invasive phenotype in healthy synovial-fibroblasts. Crucially, inflammatory myeloid signatures present in active RA synovium identified in phenotypic and single cell transcriptomic analysis, are an early phenomenon, occurring prior to clinical manifestation of disease in individuals 'at-risk' of RA (positive for ACPA) while inflammatory macrophage subsets identified in scRNAseq are also enriched early in disease.

Conclusions
Combined, these findings identify the presence of early pathogenic myeloid signatures that shape the RA joint microenvironment and represents a unique opportunity for early diagnosis and therapeutic intervention.

23A117 (ABSTRACT 9) **PREMIER POSTER 3**

Metabolic dysregulation in Rheumatoid Arthritis and Psoriatic Arthritis circulatory monocytes due to altered mitochondrial dynamics and circadian rhythm

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Department(s)/Institutions
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Introduction
RA and PsA share many features, but are distinct in clinical presentation and molecular profile.

Aims/Background
As monocytes are crucial innate effector cells, we investigate the metabolic reprogramming of circulating monocytes in RA and PsA, and altered expression of genes involved in circadian rhythm and mitochondrial dynamics in regulating this response.

Method
PBMCs and CD14+ monocytes were isolated from RA and PsA patients. Frequency of monocyte subsets and immune/metabolism markers (PDL-1, HIF1a, pS6, Glut1 and pAKT) were assessed by flow cytometry. Metabolic analysis was performed on basal and LPS stimulated monocytes by RT-PCR, Seahorse-XFe-technology and mitotracker assays. In parallel, genes involved in circadian rhythm (BMAL1, PER1, PER2) and mitochondrial fission and fusion (DRP1, MFN1) and related effectors (RORα and NFIL3) were assessed by RT-PCR.

Results
Baseline ECAR following LPS stimulation was induced, with minimal effect on OCR, resulting in a significant shift of RA and PsA monocytes towards glycolysis ($p< 0.05$). Max respiratory capacity and ATP synthesis was also significantly reduced ($p< 0.05$). Differential expression of PDL-1, pS6 and HIF1α was shown, with inverse expression observed between classical and intermediate sub-populations. LPS modulated key metabolic genes HIF1α ($p< 0.001$) and NDufB5 ($p< 0.05$), an effect more prominent in RA monocytes. Supporting mitochondrial dysfunction in RA, LPS stimulation induced mitochondrial fission regulator DRP1 in RA ($p< 0.0001$), but not PsA. LPS inhibited circadian rhythm genes BMAL1($p< 0.05$) and PER1 ($p< 0.001$) in RA and PsA, with reduction in PER2 in PsA only ($p< 0.05$). Downstream effectors RORα and NFIL3 were increased with LPS in RA, with no effect on PsA monocytes.

Conclusions
RA and PsA CD14+ monocytes display a shift towards a glycolytic phenotype. Metabolic/immune markers are differentially expressed between RA and PsA, with inverse expression in classical vs intermediate monocytes. Altered regulation of genes involved in circadian rhythm are more pronounced in RA compared to PsA monocytes. This was paralleled by altered mitochondrial dynamics, with significant induction of mitochondrial fission regulator DRP1 in RA. Taken together, this data, supports differential metabolic dysregulation and activation of RA and PsA monocytes, effects that may involve changes in the cellular clock, inducing monocyte pathogenic mechanisms.

23A120 (ABSTRACT 10) **PREMIER POSTER 4**

RA and PsA synovial tissue single-cell analysis demonstrates differential fibroblast populations with distinct phenotype and functional capacity

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Introduction
Recent studies have identified synovial fibroblast (FLS) subsets with distinct pro-inflammatory roles in RA. However, there's a scarcity of data regarding FLS contribution to PsA pathogenesis and overall lack of unifying nomenclature.

Aims/Background
To identify the phenotypic and functional characteristics that define distinct FLS populations and function in RA vs PsA, with implication for disease pathogenesis and therapy.

Method
Single cell (Sc) RNAseq was performed on RA/PsA FLS from intact synovial biopsies and FLS populations were defined by advanced bioinformatic analysis. Subsequently, multiparametric flow analysis (22 markers) was performed on RA/PsA patient biopsies to examine FLS phenotype/function. Further characterization of RA versus PsA FLS was conducted ex-vivo through quantification of matrix metalloproteinases using MSD multiplex-assays/RT-PCR, whilst metabolism was assessed by Seahorse-XFe-technology. Flow analysis of key FLS activation/functional markers was performed on RA/PsA FLS (passages 0-3), defining phenotypic alterations once removed from the joint microenvironment.

Results
ScRNAseq analysis demonstrated 11 distinct FLS populations in RA and PsA, with differential frequency of clusters observed - THY1+ FLS dominant in RA vs THY1- FLS dominant in PsA. Flow analysis of PDPN+ FLS demonstrated increases in HLADR+, YAP+, Cad11+, and pS6+ FLS in RA (all $p<0.05$), whilst PsA FLS demonstrated increases in CD55 expression ($p=0.0079$). Further flow analysis identified 6 FLS populations that matched to 6 main populations in the scRNAseq. Comparison of disease states showed patients with RA displayed enrichment in THY1+CD34+CD55-FAP+ and THY1+CD34+CD55-FAP+ FLS ($p=0.0401$), while patients with PsA displayed enrichment in THY1+CD34-CD55+FAP+ ($p=0.04$) and THY1-CD34-CD55+FAP+ FLS ($p=0.0007$). Cad11 and YAP were significantly higher in RA subpopulations, compared to increased metabolic markers in PsA subpopulations by flow. Single-cell analysis of these populations demonstrated immune/inflammatory responses in RA dominant populations in contrast to matrix degrading/metabolic markers in PsA populations. Expanded RA and PsA FLS (P0) confirmed differences in matrix degrading/metabolic pathways, matching the single-cell/flow analysis. While P0 FLS maintained similar phenotypic profiles to ex vivo FLS, once expanded to P3, FLS lost specific phenotypic characteristics.

Conclusions
Distinct FLS populations with unique functional properties were identified in RA and PsA. However, once removed from the joint microenvironment, FLS subset stability appears transient with convergence towards common phenotypes.

23A125 (ABSTRACT 11) **PREMIER POSTER 5**

Comparison of Inflammatory and Homeostatic Synovial Fibroblast Phenotypes within the Synovium of Patients with Rheumatoid Arthritis and Healthy Control

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Introduction
Recent literature has identified different synovial fibroblast (FLS) populations within RA synovium with distinct inflammatory profiles. Despite current advances in classifying heterogeneity of FLS subsets, understanding of the FLS landscape in healthy synovial tissue is limited.

Aims/Background
We aim to identify homeostatic vs pro-inflammatory FLS signatures in synovial tissue biopsies obtained from healthy controls (HC) and RA patients and identify conversion triggers and activated signalling pathways.

Method
Single cell (Sc) RNAseq was performed on FLS derived from intact synovial biopsies from 5 HC and 4 RA. Multiparametric flow cytometric analysis (22 markers) was performed on digested synovial biopsies from HC subjects and RA patients (further stratified between ACPA+/-) to identify FLS subsets and characterize functional phenotypes.

Results
ScRNAseq identified 14 FLS clusters which broadly aligned to 4 main subsets: CD55+THY1(CD90)-FAP+, CD55-THY1+FAP+, CD55+THY1+FAP+, and CD55-THY1-FAP+. Subsequent analysis showed clusters generally fall into lining/sublining layer, immunoregulatory, and regulatory/homeostatic functional FLS subsets. Six clusters showed higher frequency in RA synovium and eight had higher frequencies in HC. Interestingly, two clusters sharing lining layer markers are immunoregulatory demonstrating enrichment of HLA-DR genes and chronic inflammatory response genes (IL7R, IL32, TGFB1). Of the homeostatic/regulatory subsets, two were enriched with transcription factors (TF), specifically those in the AP-1 TF family and mRNA splicing/ lipid homeostasis genes, while the two other clusters showed enrichment of genes involved in metabolic regulation and angiogenic function.
Flow cytometric analysis showed significantly higher frequencies of CD45-CD146-CD31-PDPN+ FLS in RA synovium compared to HC synovium. PDPN+ populations, both lining and sublining (based on the markers of the 4 main populations observed in the ScRNAseq) displayed higher frequency in RA synovium compared to HC. When stratified for ACPA positivity, an increased frequency in sublining FLS population was demonstrated in ACPA+ RA compared to ACPA-. In contrast, ACPA- RA had higher frequency of lining layer FLS.

Conclusions
Identification of differential FLS subsets and their associated function in the RA vs HC synovium will better facilitate understanding of their contribution to disease pathogenesis in RA. Furthermore, by stratifying RA patients between ACPA+ and ACPA- we can understand differences of these disease states and tailor therapeutics.

23A127 (ABSTRACT 12) **PREMIER POSTER 6**

Inflammatory and metabolic serum protein as potential biomarkers of Rheumatoid Arthritis disease onset and progression

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Introduction
Rheumatoid arthritis (RA) is a systemic auto-immune disease of unknown aetiology that leads to systemic inflammation and synovial joint destruction. Specific serum proteins have been shown to precede disease development and therefore have great potential as disease biomarkers.

Aims/Background
The aim of this study is to evaluate inflammatory, metabolic and vascular biomarkers in RA disease and in individual-at-risk (IAR) to identify selective serum biomarkers for prediction studies.

Method
Blood was collected from healthy controls (HC=15), IAR (n=43), RA (n=57) and PsA (n=31) patients and centrifuged for 5 minutes at 1800 rpm to collect serum. Serums were stored at -80C. Serum level of vascular (CRP, sICAM, sVCAM, SAA), MMPs (1,3 and 9) and metabolic markers (C-Peptide, GIP-(active), GLP-1-(active), Glucagon, Insulin, Leptin, PP) were measured by multiplex analysis by MSD assay (Meso Scale Diagnostics, USA) according to the manufacturer's protocol.

Results
Results: Serum level of CRP, SAA and sICAM-1 and sVCAM-1, MMPs and metabolic markers were all significantly increased in RA patients when compared to HC, with a reduction observed in MMP9, thus strongly suggesting a dysregulation in the inflammatory and metabolic features of the disease. Stratification between RA seropositive and seronegative patients highlighted that these modulations were more prominent in RA+ patients. Interestingly, selective markers, including CRP, SAA, MMP9, GLP1, GIP and Insulin, preceded disease onset and followed a stepwise increase (RA>IAR>HC), with CRP, SAA and Insulin, further increased in IAR individual which converted to RA.
Remarkably, these features were specific for RA, as all the markers were found unchanged in PsA patients.
Receiver operating characteristic curve (ROC) confirmed that the markers upregulation observed in RA had a significant sensitivity and specificity, affirming their validity as disease biomarkers. Overlapping ROC curves for MMPs, GLP, GIP and Glucagon were observed for IAR and RA patients, indicating that these markers can be potential disease predictors in serum.

Conclusions
These data suggest that RA patients have an enhanced vascular inflammation and metabolic dysfunction, preceding disease onset and not evident in PsA. Selective markers can be used for inflammatory arthritis patients' stratification and as biomarkers for onset and progression of RA.

23A129 (ABSTRACT 13) **PREMIER POSTER 7**

Delivering Care for Pregnant Women with Rheumatic and Musculoskeletal Diseases in Ireland: Current Challenges and Practices.

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Introduction
Rheumatic disease frequently affects women of childbearing age. Women with pre-existing rheumatic disease who are planning a pregnancy or develop these conditions during pregnancy often require specialist input from maternal-foetal medicine and Rheumatology.

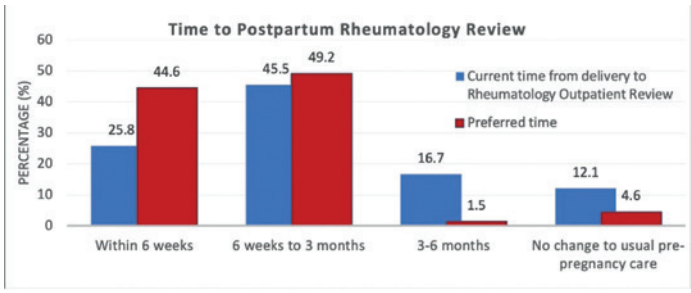
Aims/Background
The aim of this study is to establish current practices regarding the management and monitoring of women with RMD (Rheumatic and Musculoskeletal disease) in Ireland and to identify current challenges.

Method
In March 2023, a 17-question anonymised online survey was distributed using a well-recognised electronic survey tool to Rheumatology consultants, Registrars, Clinical Nurse Specialists (CNS), advanced nurse practitioners (ANP) and Allied health professionals. The survey collected data focusing on current delivery of care in place for pregnant women with RMD in Irish rheumatology units. SPSS was used for statistical analysis.

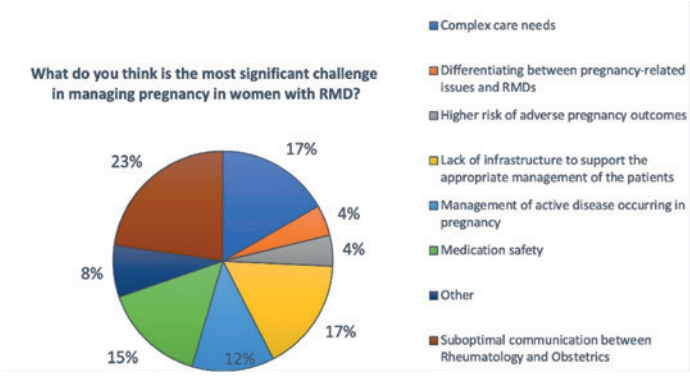
Results
The response rate was 69 %: 82% (n=54) female, 29% (n=19) Consultant Rheumatologists, 18% (n=12) Registrars, 27% (n=18) CNS, 20% (n=13) ANPs. Significant variability exists across clinical sites for pregnancy care delivery in RMD, with combined rheumatology/obstetric clinics occurring in only 18% of units. In 56% (n=37) of hospitals, there is no named Obstetrician for managing complex RMD patients during pregnancy.
The majority 49% (n=32) of respondents wished to review patients between 6 weeks and 3 months post-delivery and 46% (n=30) of centres reported offering clinical reviews in this period at present (Figure1). Challenges identified in delivering desired care included suboptimal communication between Rheumatologists and Obstetricians (23 %, n=15), complex care needs of patients (17 %, n=11), suboptimal infrastructure (17 %, n=11) (Figure 2). Common barriers to implementing a dedicated clinic included lack of clinical space (62 %, n=41), insufficient staffing (46 %, n=30) and maternity hospital not co-located with main hospital (50%, n=33).

Conclusions
Significant variation in the delivery of care for pregnant women with RMD is identified in this survey. The delivery of care to patients with RMD may be limited by deficiencies in our current healthcare setting. The development of a national framework for management and monitoring of women with RMD during their pregnancy would unify care, promoting optimisation of maternal health, control of disease and neonatal outcomes.

Figure



Figure



23A140 (ABSTRACT 14) **PREMIER POSTER 8**

Use of GCA probability score facilitates judicious use of diagnostic tests in GCA

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Introduction
Giant cell arteritis (GCA) is a challenging clinical diagnosis. It is associated with a variety of symptoms that can be typically seen in other conditions, such as migraines or TMJ pathologies. This can result in high volume of referrals with a range of non-specific presentations, leading to increased pressure on limited hospital resources.
A pretest probability score has been developed to risk-stratify GCA referred patients into low, intermediate and high risk groups. [1] When used in the appropriate clinical setting, it can safely exclude low probability GCA referrals from the diagnostic pathway.

Aims/Background
GCA probability score (GCAPS) was introduced in June 2022 in MMUH. Referred patients who fell into the low-risk category group did not receive any further clinical workup for GCA.

Here, we want to establish whether the introduction of the GCAPS has resulted in a reduction of vascular ultrasounds ordered in MMUH without an increase of adverse effects.

Method
This was a retrospective audit. We reviewed all patients (n=178) who underwent temporal artery ultrasound (TAU) and temporal artery biopsy (TAB) at MMUH between May 2021 and June 2023. We collected the following data:
- date of TAU
- date of TAB
- result of TAB/ TAU
- final clinical diagnosis

We calculated the total numbers, sensitivities and specificities of TAU and TAB before and after the introduction of GCAPS.

Results
Total number of TAU between May 2021 and May 2022 (before the introduction of GCAPS) = 110. Sensitivity: 63% Specificity: 92% (Table 1). Total number of TAU between June 2022 and June 2023 = 68. Sensitivity:64%, Specificity: 94% (Table 2).
Total number of TAB between May 2021 and May 2022 = 19. Sensitivity: 45% Specificity: 86%
Total number of TAB between June 2022 and June 2023 = 20. Sensitivity: 57% Specificity: 100%

Conclusions
Introduction of GCAPS resulted in a 62% reduction of total TAU orders in MMUH, with no adverse events such as blindness reported. This led to safe exclusion of low probability GCA referrals, reduction of unnecessary tests and improvement in diagnostic utility of the vascular ultrasound in our hospital. Number of TAB increased slightly after the introduction of GCAPS.

Figure

	Clinical Diagnosis GCA +ve	Clinical Diagnosis GCA –ve	
TAU +ve	9	3	Total Test +ve 12
TAU –ve	5	51	Total Test –ve 56
	Total GCA 14	Total Not GCA 54	Total 68

Table 2. TAU results between 06/22-06/23

Figure

	Clinical Diagnosis GCA +ve	Clinical Diagnosis GCA –ve	
TAU +ve	12	7	Total Test +ve 19
TAU –ve	7	84	Total Test –ve 91
	Total GCA 19	Total Not GCA 91	Total 110

Table 1. TAU results between 05/21-05/22

23A145 (ABSTRACT15) PREMIER POSTER 9

A combination of biologic DMARD and JAK-inhibitor is a safe and effective option for patients with multidrug resistant inflammatory arthritis.

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Introduction
Treatment of inflammatory arthritis has greatly improved in recent times following development and approval of efficacious biologic and non-biologic medication. Enhancements are still needed, particularly for those with severe multi-drug resistant disease (MDRIA). Combination biologic and JAK-inhibitor (BJRx) therapy was identified as an area requiring further research by EULAR in their 2022 Guidelines.

Aims/Background
To review the efficacy and safety of combination BJRx at our centre over the past 6 years.

Method
Retrospective cohort of patients managed at our institution between 2017 and 2023.

Results
81 patients (<1% of our clinic) were prescribed a combination of BJRx for MDRIA after failing combinations of biologic and conventional synthetic DMARD therapy. Subjects mean age is 59 years (range: 25-87) including 56 women. 46 have rheumatoid arthritis (RA) and 34 Spondyloarthritis (28 psoriatic, 4 ankylosing spondylitis, 2 enteropathic). 4 (1 RA) did not commence BJRx, while 19 stopped due to adverse events: 10, lack of efficacy: 7 and noncompliance: 2. 19 experienced 1 or more adverse events, predominantly mild infections or gastrointestinal symptoms. 1 patient with severe RA lung disease died from COVID. 75% who commenced BJRx remain on therapy and are satisfied with their current treatment.

Conclusions
Combination biologic and JAK-inhibitor DMARD therapy appears safe and effective for patients with multidrug resistant inflammatory arthritis. Large prospective studies are needed.

Figure

Table 1. Main Characteristics of Study Cohort

Feature	Rheumatoid Arthritis	Spondyloarthritis
Number (%)	46 (57)	34 (43)
Female (%)	34 (72)	22 (65)
Mean Age in years (Range)	65 (33 - 87)	52 (25 - 81)
Mean disease duration in years (Range)	15 (1 – 43)	13 (4 – 29)
Number of Prior Non Biologic DMARDs	3 (1 – 6)	2 (0 – 7)
Number of Prior Biologic DMARDs	3 (0 – 8)	3 (0 – 8)
Mean duration of BJRx in months (range) #	24 (1 – 72)	19 (1 – 55)
EULAR Good or very good BJRx response (%) #	38 (81)	25 (80)

23A148 (ABSTRACT 16) PREMIER POSTER 10

Baseline Vascular Ultrasound Of PMR Patients At Time Of Diagnosis Predict Clinical Outcomes At 3 Months.

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Introduction
It has been reported that up to a quarter of patients with polymyalgia rheumatica (PMR) have subclinical giant cell arteritis (GCA). It is currently uncertain if this finding at diagnosis may predict clinical outcomes in PMR.

Aims/Background
To assess patients with PMR at baseline and 3 months to determine if the presence of subclinical GCA at time of diagnosis impacts the clinical course.

Method
65 newly diagnosed PMR patients who met a clinical diagnosis for PMR were examined with ultrasound of their temporal and axillary arteries at time of diagnosis. US of all 6 branches of the superficial temporal arteries and both axillary arteries was performed using a GE P9 device. Sonographic abnormalities considered indicative of vasculitis in the temporal arteries included the halo sign and non-compressible arteries with a thickened intima-media complex.

Results
65 patients with a clinical diagnosis of PMR and 48 patients with a diagnosis of GCA were included in the study. 89% of the PMR patients met the 2012 ACR/EULAR PMR classification criteria. All 48 GCA patients met the 2022 ACR/EULAR GCA classification criteria. 20.3% of patients with PMR had evidence of subclinical GCA on ultrasound of their temporal and axillary vessels.
The mean initial prednisolone dose initiated for PMR was 17.2mg, while those with subclinical GCA in PMR were started on a mean of 20.4mg prednisolone and those with GCA were on average started on 45.5mg of prednisolone. The mean cumulative corticosteroid dose at 3 months was 1336.8mg ± 404.3mg for PMR, 2051.5mg ± 840.7mg for subclinical GCA in PMR and 2411.3 ± 424.6 in GCA. PMR with subclinical GCA had significantly more cumulative corticosteroids than those with pure PMR (p=0.0069).
Patients with subclinical GCA in PMR were more likely to experience a relapse, with 36.6% having a minor relapse, compared to 14.8% of PMR and 6% of GCA.

Conclusions
The presence of subclinical GCA in PMR at baseline predicts increased cumulative steroid dose at three months compared with PMR alone. Patients with subclinical GCA in PMR are also more likely to have a clinical relapse in the first three months of treatment.

Baseline Characteristics	PMR (54)	PMR with subclinical GCA (11)	GCA (48)
Age (mean and range)	71.2 (51-89)	68.2 (53-78)	72.8 (56-92)
Female	32	3	17
Male	22	8	33
Mean baseline ESR (mm/hr)	41	51	57
Mean baseline CRP (mg/l)	38	36	53
Mean initial steroid dose (mg)	17.2	20.4	45.5
3 month outcomes			
Mean cumulative steroid at 3 months (mg) + SD	1336.8 ± 404.3	2051.5 ± 840.7	2411.3 ± 424.6
% of patients with relapse at 3 months	14.8%	36.6%	6%

23A151 (ABSTRACT 17) PREMIER POSTER 11

Chronic nonbacterial osteomyelitis shares haplotype associations with psoriasis in the Irish population

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Introduction
Chronic nonbacterial osteomyelitis (CNO) is a rare autoinflammatory disease predominantly affecting children. It is frequently associated with psoriasis and inflammatory arthritis. We recently reported an association between HLA-B*27 and CNO in a large European cohort supporting the clinical association with enthesitis-related arthritis. In the Irish population, psoriasis and psoriatic arthritis are most commonly associated with HLA-B*57-C*06 haplotype while psoriasis without arthritis is associated with HLA-B*37-C*06. Psoriasis and psoriatic arthritis are both associated with HLA-B*27-C*01 and HLA-B*27-C*02 haplotypes when individuals carrying the HLA-C*06 allele are excluded.

Aims/Background
To establish whether there is an association between CNO and HLA risk haplotypes for psoriasis or psoriatic arthritis in the Irish population.

Method
Whole exome sequencing (WES) was performed on samples from 52 children with CNO. HLA-HD (https://www.genome.med.kyoto-u.ac.jp/HLA-HD/) was used to predict HLA class I and II. Easy-HLA (https://hla.univ-nantes.fr/index.php) predicted HLA haplotypes from HLA-HD results using the HLA-2-Haplo module.

Results
HLA-B*37-C*06 and HLA-B*27-C*02 haplotypes were statistically significantly associated with CNO compared to the control population with adjusted p-values of 0.032 and 0.008 respectively. Results are shown in Table 4. The HLA-B*57-C*06 and HLA-B*27-C*01 haplotypes were not associated with CNO. There was no statistically significant difference between the frequency of psoriasis in the participants who carry the HLA-B*37-C*06 haplotype and those who do not carry it.

Conclusions
The association between CNO and known psoriasis-associated HLA-B*37-C*06 haplotypes and HLA-B*27-C*02 seen here supports the established clinical association seen between these two diseases. It further supports the concept of CNO as a disease which falls into the same spectrum as the seronegative spondyloarthropathies. Although the HLA-B*37-C*06 haplotype is not more strongly associated with CNO patients who have co-morbid psoriasis in this cohort, the median age of the cohort at last follow up needs to be considered. Over 65% of cases of psoriasis first present in adulthood whereas CNO is a predominantly childhood-onset disease. Therefore, longer term follow-up will be required to determine if those with the HLA-B*37-C*06 haplotype evolve over time into a phenotypically distinct subgroup who develop psoriasis in adulthood.

POSTER PRESENTATIONS

23A101 (ABSTRACT 18) REGULAR POSTER 12

Assessment of the Management of Cardiovascular Risk Factors using QRISK3 in the Gout Patient Cohort, a Quality Improvement Study.

Author(s)
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Introduction
Gout is a well established independent risk factor for the development of Cardiovascular disease. A recent draft change in NICE guidance regarding a reduced threshold for initiation of Lipid lowering therapy (LLT)(QRISK3 score<10%) for patients who may have their cardiovascular disease burden underestimated, prompted this study.

Aims/Background
To assess the identification and management of Cardiovascular disease using QRISK3 in patients with a diagnosis of gout.
Hypotheses prior to results: cardiovascular risk is underestimated in the Gout patient cohort for many reasons. Particularly, despite QRISK3 recognising Inflammatory conditions as risk factors, Gout fails to appear, therein pertaining a proclivity for under recognition.

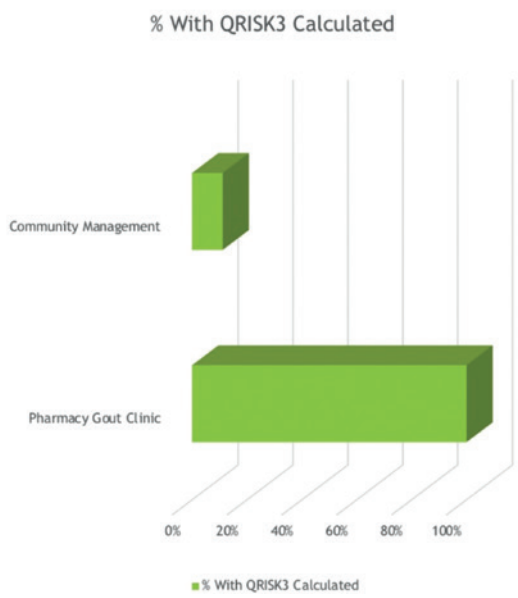
Method
24 patients with crystal confirmed gout were included in this retrospective comparative study. Primary study group composed of 12 patients under care of their outpatient Rheumatology team. Control group consisted of 12 patients routinely attending pharmacy led gout clinic for treatment targeted urate lowering therapy(ULT), QRISK3 calculation and associated cardiovascular risk factor management. A pro forma was drawn up to assess standards. Data was extrapolated from outpatient clinic letters from Northern Ireland Electronic care record and collated using Microsoft Excel. The standards were based on NICE guidance for Cardiovascular disease risk assessment and reduction. Gold standard: Rheumatology physicians would calculate QRISK3 in 100% of cases and provide recommendation to patient/GP re lifestyle modifications/LLT initiation.

Results
100% of those attending Pharmacy led gout clinic had QRISK3 score calculated and documented along with recommendation for appropriate action. Compared to 11.1% attending routine Rheumatology outpatient appointment. Of the Pharmacy gout patients 41.6% went on to initiate LLT. In the control group the primary reason for LLT not being initiated was failure of QRISK3 to be calculated.

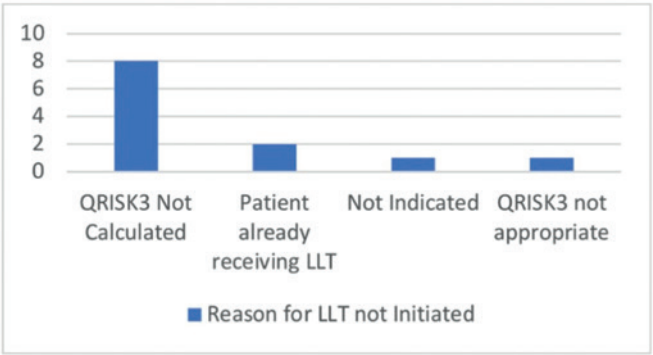
Conclusions
Standards for QRISK3 score calculation and management in the primary study group were not met. Recommendations and future aims:
- Highlight importance of QRISK3 score calculation and management
- Consult QRISK3 for inclusion of Gout as part of QRISK3 (Correspondence awaited)
- Consult MDCALC re inclusion of QRISK3 in the MDCALC application: Currently under patent from University of

Nottingham - awaiting correspondence re patent release
- Completion of further two PDSA cycles and complete the QIP Loop.

Figure



Figure



23A102 (ABSTRACT 19) **REGULAR POSTER 13**

Review of the referral process for IV Zoledronic Acid in the treatment of Osteoporosis

Author(s)
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Introduction
As per NICE, more than one in three women and one in five men will sustain one or more osteoporotic fractures within their lifetime (1). Risk factors include long term use of medications such as corticosteroid, which can be commonly used in Rheumatology.

Aims/Background
To develop a referral protocol to the Ulster Hospital Medical Day Case Unit (MDCU) for IV Zoledronic Acid to minimise waiting times and ensure appointments were issued only when patients were suitable.

Method
Review of patients who were already attending MDCU yearly for three years, to ensure suitability to attend. Review of new referrals for IV Zoledronic Acid. This involved development of a protocol to ensure patients were assessed for contra-indications and blood results prior to their appointment. If patients were found to be Vitamin D deficient, they were commenced on a replacement regimen prior to repeat blood test in 6 weeks. Patients who were deemed unsuitable were referred to the osteoporosis clinic for consideration of an alternative treatment. Due to significant waiting lists and a delay in reporting DEXA scans during COVID-19, patients were often unsure why they had been referred for treatment thus we developed a patient information letter, which was send to all patient prior to their appointment. This also provided a telephone number for further advice or if patients wished not to proceed.

Results
Prior to implementation, approximately 50% of appointments for were cancelled due to unsuitability in a 3-month period. Following implementation, within the next month, 80% of appointments were attended, however 20% were cancelled as patients refused treatment. We then implemented a patient information leaflet, which allowed patients to make contact ahead of their appointment. Following this, 100% of booked appointments for Zoledronic Acid were attended over a one-month period.

Conclusions
A review of the referral process for IV Zoledronic Acid showed a significant proportion of patients were unsuitable for treatment at the time of their appointment. By implementing a new referral protocol, followed by a patient information letter, we have significantly improved our appointment attendance. This has improved patients waiting times for treatment and allowed better utilisation of our department.

23A104 (ABSTRACT 20) **REGULAR POSTER 14**

Auditing our gout treat to target clinic to check our compliance with the international recommendations

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Introduction
Gout is the most common form of inflammatory arthritis.While the etiology of gout is well-understood and there are effective and inexpensive medications, gaps in quality of care persist.The international specialty society guidelines recommend treat-to-target strategies with use of urate-lowering therapy (ULT).Despite these recommendations,over the past 2 decades there has been no increase in ULT utilization.Adherence to ULT remains poor

Aims/Background
Retrospective study undertaken to evaluate our treat-to-target clinic in cohort of patients attended our rheumatology clinic in the period from January to June 2022 in a teaching hospital

Method
38 consecutive charts were evaluated.Their age and risk factors and whether or not they reached their target and over how long were documented where available.A simple statistical analysis was performed

Results
32 men and 6 women were included in the study.Mean age is 63 years(range 33-83 years old).Tophi were present in 37%and absent in63% of our cohort.BMI was recorded in76% all of them had high BMI. 33patients of our cohort were educated about gout, while in only 5 patients there was no documentation of education.63% were advised on how to treat flare-ups while there is no documentation in 37% of the patient.Diet and life style advice was given to 26 patient but not documented in the rest of the cohort.More than a quarter of our patients reached their target SUA in 6 months or less ,while 11 patients got to it in 7-12months and 16 patients have not reached their target yet.Finally 19 patients were discharged back to their GP for annual follow-up of SUA.

Conclusions
We have noted that our treat-to-target clinic does achieve more than 50% in many domains including education of the patients about gout, about life style and diet, and also in the monthly SUA level follow up as well as in giving our patients information on how to treat gout flare-ups.Almost 80% of our cohort have high BMI. Specific attention should be focussed on identifying this abnormality, hence risks including cardiovascular complications can be mitigated.42% of our cohort have not managed to be discharged back to GP as they failed to reach their target SUA.

23A105 (ABSTRACT 21) **REGULAR POSTER 15**

A Clinical Audit of Adolescent Patients in the Rheumatology Department in St. James Hospital, Dublin in Relation to the Transition Clinic

Author(s)
Prabhsimar Tuli and Aislinn Cosgrave, Primary investigators Dr. Natasha Jordan, Dr. Nicola Ambrose.

Department(s)/Institutions
Trinity College Dublin

Introduction
This paper is an audit of the first 20 patients that have been seen by the Adolescent Rheumatology
Transition Clinic at St. James Hospital, Dublin, Ireland, which was established in November 2022. Patients are referred from CHI Crumlin, CHI Temple Street and their GPs when they turn older than 16 to continue the line of care, or if a rheumatic diagnosis is suspected in a new adolescent patient.

Aims/Background
This paper aims to describe the rheumatic conditions of the adolescent patients and creates a case as to why additional resources are required for this clinic as there is currently a shortage in the number of consultants, specialist nurses and physiotherapists to treat these patients.

Method
An excel sheet was compiled with the parameters that were discussed with the primary investigators.

Results
The most common diagnosis amongst the cohort was JIA (30%, n=6). X-rays were required in 30% (n=6) to diagnose the conditions, with 50% (n=10) requiring antibody testing. For treatment, Methotrexate was given to 30% (n=6), while Adalimunab was given to 25% (n=5) of patients. A multi-disciplinary approach is required in treatment as it often includes a pharmacological approach in addition to physiotherapy. Physiotherapy was required in 65% (n=13) of patients.

Conclusions
More accessibility to radiology and genetic testing is required to ensure a prompt diagnosis. In addition to physiotherapy, occupational therapy and psychology would also be beneficial in treatment.

23A106 (ABSTRACT 22) **REGULAR POSTER 16**

A Literature Review of Paediatric-to-Adult Models of Transition with a Focus on Rheumatology

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Department(s)/Institutions
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Introduction
Keywords: Transition Model, Rheumatology, Chronic Conditions, Adolescents
This paper was written with the aim of investigating the variation of transition models that are in use to assist adolescents with chronic conditions to transition from paediatric hospitals to adult hospitals. Planned transition has been proven to have many benefits including improvement in a patient's health related quality of life, increased ability of patients to advocate for themselves, increased knowledge of their disease, more independence in relation to medication and hospital appointments and a knowledge of where to go for help when it is needed to name but a few.

Aims/Background
Unfortunately, transition is often handled very poorly. As such, there is great interest in how to best improve health outcomes for young patients. Forming a proper model of transition is becoming increasingly important as the number of children with chronic conditions is increasing globally through the years.

Method
This review was carried out using several databases. The information included was obtained through an interview with a paediatric rheumatology nurse and an extensive research of the literature available and it looks at the efficacy of the different models available for transition.

Results
It contains a detailed description of the workbook currently in use for transition from Rheumatology in Our Lady's Children's Hospital Crumlin. This focuses on various aspects of the child's life to ensure they are fully prepared for the transition. It also describes the main models of transition in use at present. These include a multidisciplinary transition clinic and a transition programme that is lead by a transition coordinator. There are many common features in both models, for example, parental participation, transition-readiness interventions, peer support, educational interventions and after-hours care.

Conclusions
At present, there is limited evidence to prove that either one of these models is better than the other. Regardless, it can de deduced that both models have a positive impact on the patient and their health and wellbeing with evidence proving worse health care outcomes in young children and adolescents who did not have an appropriate transition. There are many limitations to providing an effective transition to patients including the cost and time required.

23A107 (ABSTRACT 23) **REGULAR POSTER 17**

Janus Kinase inhibitors: Impact of warnings

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Introduction
Janus Kinases are intracellular tyrosine kinases involved the intracellular inflammatory cascade. Their licensed use includes chronic inflammatory disorders such as Rheumatoid and Psoriatic arthritis.

Aims/Background
Following warnings from trials including ORAL Surveillance, drug companies as guided by the FDA and EMA have amended risk minimisation measures. This includes avoidance, unless not suitable alternative in patients with smoking history, cardiovascular or malignancy risk factors and those aged over 65. Monitoring was also advised given increased incidence of malignancy and cardiovascular events in patients on these drugs.

Method
At the time of auditing, 145 patients attending BHSCT Rheumatology Department taking JAK inhibitors were assessed to determine the appropriateness of these drugs, incidence of adverse outcomes and whether adequate monitoring was taking place.

Results
Analysis showed that JAK inhibitors were an attractive first biologic option given the oral administration route. 13 patients were current smokers and 21 had had a previous Cardiovascular or cerebrovascular event prior to starting treatment. Almost 2/3 of these patients had 2+ cardiovascular risk factors. Four patients had cardiovascular events while on treatment. No increased incidence of malignancy was found to date in this patient cohort. 58 patients inadequate monitoring despite additional measures to address this from a previous audit, (although marginally improved from previous audit)

Conclusions
Since initial use of JAK inhibitors, additional risks have been highlighted. The need for ongoing patient discussion about risks should take place, especially as patient demographics can change over time. The requirement for drug safety monitoring needs highlighted to patients and potential cessation of drug with nonattendance implemented. New processes now implemented within the department.
In our patient cohort, there was not a significant increase in adverse events. This may change with more prolonged drug duration use.

23A110 (ABSTRACT 24) **REGULAR POSTER 18**

In patients with inflammatory arthritis, Android/Gynoid ratio is more helpful in identifying cardiovascular co-morbidities than the other total body composition measurements.

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Introduction
A higher risk of cardiovascular disease (CVD) is linked to rheumatoid arthritis (RA). Changes in total body composition associated with rheumatoid arthritis (RA) may serve as CVD predictors.

Aims/Background
This study reviewed CVD risks including BMI, smoking status, cholesterol, HDL, LDL, diabetes, hypertension and IHD in newly diagnosed rheumatoid arthritis patients. The aim was to see if there was a correlation in newly diagnosed Rheumatoid arthritis patients and cardiovascular risks with total body composition including total fat mass (g), total lean mass (g), total fat percentage (%), total lean percentage (%) and Android/Gynoid (A/G) ratio.

Method
A retrospective study on early inflammatory arthritis patient dataset and a corresponding total body composition dataset of the same group of patients attending the Northwest Rheumatology unit (NWRU). We included 295 patients with the majority being females 172, aged between 18-88 years. Cardiovascular disease risk data were linked to total body composition results from DXA scan. All statistical analyses were performed using SPSS.

Results
Of this group of inflammatory arthritis patients, 220 had RA, 26 had psoriatic arthritis and 15 had undifferentiated inflammatory arthritis. Inflammatory arthritis patients with hypertension have higher A/G ratio than those who don't have hypertension (p=0.017). An increased A/G ratio (p=0.017), but not BMI (p>0.05) in inflammatory arthritis patients was associated with hypertension. Both A/G ratio and BMI were significant (p0.05) but this may be due to limitations of the study including sample size and retrospective nature.

Conclusions
Total body composition measurements can predict cardiovascular risks in patients with inflammatory arthritis. Moreover, A/G ratio has the advantage over BMI in identifying some of these CVD risks. Further work needs to be done looking at impact of treatments on these risks in the future.

Figure

Table 1 – Android/Gynoid ratio and Hypertension (HTN)/ Diabetes.

DEXA variable	HTN	Mean (SD)	Mean Diff.	95% CI of Mean Diff.	t-value	p-value (2-tailed)	Cohen's D
A/G ratio	Yes No	1.15 (0.23) 1.08 (0.22)	0.069	0.12 to 0.13	2.39	**0.017**	0.317
DEXA variable	**Diabetes**	**Mean (SD)**	**Mean Diff.**	**95% CI of Mean Diff.**	**t-value**	**p-value (2-tailed)**	**Cohen's D**
A/G ratio	Yes No	1.17 (0.21) 1.09 (0.22)	0.0865	0.004 to 0.168	2.07	**0.039**	0.394

Figure

Table 2 – BMI categories and Hypertension (HTN)/ Diabetes.

	HTN		Diabetes	
BMI category/p-value	**Yes**	**No**	**Yes**	**No**
Normal	18 (20.5%)	70 (79.5%)	6 (6.8%)	82 (93.2%)
Overweight	28 (26.4%)	78 (73.6%)	6 (5.7%)	100 (94.3%)
Obese	31 (33%)	63 (67%)	17 (17.9%)	78 (82.1%)
P-value	**0.118**		**0.004**	

ISR Bernard Connor Medal Winner

Dr Lenin Patrick Ekpotu
MB, Bch, BAO (NUI, RCSI), LRCP &SI, PGDip HPE
2nd Year BST Trainee Beaumont Hospital

Lenin Patrick Ekpotu is a graduate of RCSI and currently in his 2nd year of the BST training in Beaumont Hospital.

It's an incredible honour being named the 2023 recipient of the prestigious Bernard Connor Medal and I look forward to interacting and connecting with everyone.

IL-17 and Scleroderma Pathogenesis: What do we really know? – A case report

ABSTRACT
Scleroderma (SSc) is a rare multi-organ connective tissue disorder characterised by diffuse deposition of excess collagen and dispersed fibrosis[1]. Its aetiology is multifaceted and not well understood. Multiple factors such as genetics, drugs, immunological and environmental influences are sited to be involved in its pathogenesis[1]. High levels of pro-inflammatory cytokines such as interleukin 17 (IL-17) are seen in patients with SSc and it is strongly postulated these elevated levels contribute to its pathogenesis[2]. However, what questions on the role of IL-17 in the pathogenesis of SSc arise, when a patient being treated with an anti-IL-17 agent still goes on to develop this debilitating condition. This case report outlines an atypical presentation of SSc in a patient treated with Secukinimab (IL-17 inhibitor) for Psoriatic arthritis (PsA).

CASE
A 55 year old male army veteran with longstanding psoriatic arthritis (PsA) (diagnosed 10 years prior based on small and large joint synovitis with widespread cutaneous psoriasis) presented to clinic complaining of a discrepancy in his forearm diameters. His PsA had been difficult to control with recurrent dactilyitis and synovitis. Previous therapies included diclofenac, sulfasalazine, methotrexate, apremilast and secukinumab at the time of presentation.

He had previously undergone multiple connective tissue screens over the course of his disease, including antinuclear antibodies (ANA) and extractable nuclear antibodies (ENA) which were negative on repeated testing.

He underwent an MRI left arm (Fig 1) and elbow (Fig 2) which showed evidence of subcutaneous oedema of unknown aetiology and an incomplete tear to biceps tendon, which at the time was deemed the possible explanation for symptoms.

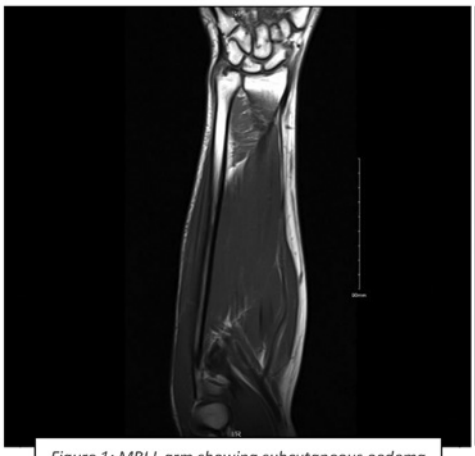

Figure 1: MRI L arm showing subcutaneous oedema

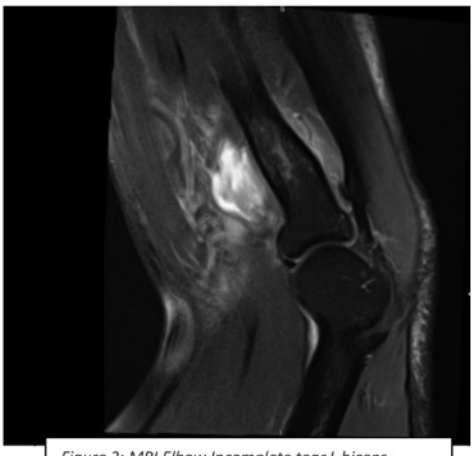

Figure 2: MRI Elbow Incomplete tear L biceps tendon

He re-presented to clinic after 9 months on Secukinumab, with worsening of unilateral left arm symptoms, although his PsA was deemed to be in complete remission. He described increased skin tightening and numbness, dry skin, cold hands, recurrent splinter haemorrhages and aphthous ulcerations (Fig 3/Fig 4). On examination dry and tight skin noted with heaped cuticles and multiple cuticular haemorrhages bilaterally, worse on the left with a tendon friction rub (Fig 4). Autoimmune screen repeated and this time was strongly positive for antibodies to Scl-70 (which were previously negative on many occasions). A diagnosis was made of scleroderma based on his skin tightening, abnormal nail folds, tendon friction rub and positive Scl-70 antibody.

Secukinimab was discontinued and mycophenolate mofetil was commenced. Pulmonary function tests were normal, as was CT thorax and transthoracic echocardiogram.

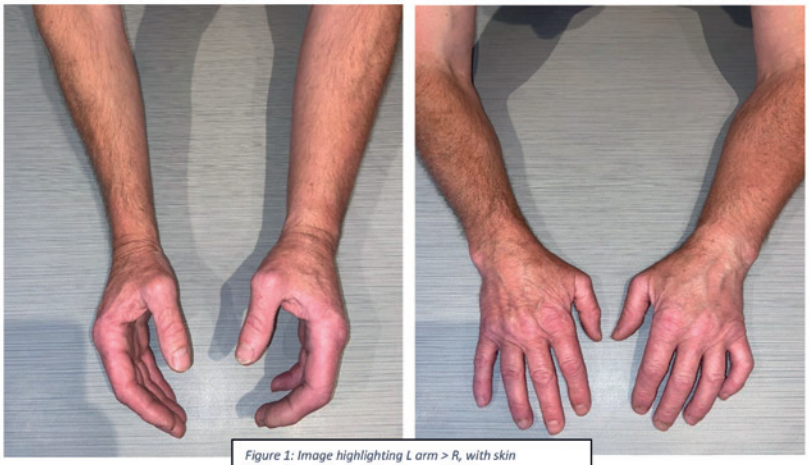

Figure 1: Image highlighting L arm > R, with skin tightening, pallor and dryness over hands

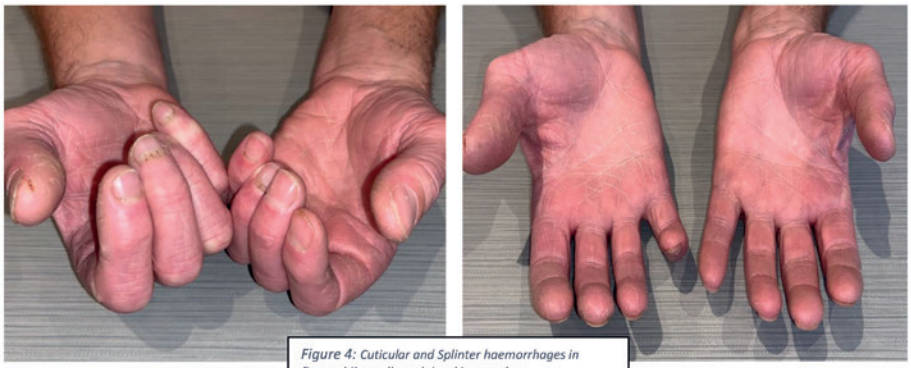

Figure 4: Cuticular and Splinter haemorrhages in fingers bilaterally and dry skin on palms

DISCUSSION

Systemic sclerosis is a rare, chronic autoimmune mediated disease affecting the skin and many other organs. The estimated prevalence is 30–120 cases per million[1]. Its pathophysiology is complex and involves an intricate interplay between vasculature, immune cells and fibroblasts[2]. There is an early swelling of the endothelial cells, followed by a lympho-histiocytic inflammatory infiltrate and later, dense deposition of extracellular matrix with activated myofibroblasts and homogenized collagen bundles[2]. The cells responsible for the development of scleroderma in its acute and chronic phases include members of the innate and adaptive immune system, with vascular, fibrogenic and pro-inflammatory factors at play. However, it remains unclear which cells are most promising targets for therapeutic intervention, and the prognosis remains poor for many.

In contrast PsA is relatively common with an estimated prevalence of 1 to 2 per 1000 [3]. The pathogenesis of PsA is also complex and multifaceted. It involves an interplay between genes, environment and the activation of the innate and adaptive immune system, particularly with the involvement of cytokines (IL-23/IL-17, TNF-alpha). This has led to the development of efficacious therapeutic targets, such as Secukinumab (IL-17/23 inhibitor) which this patient was taking. Upon PubMed search (keywords: Scleroderma AND psoriatic arthritis), the coexistence of scleroderma and psoriatic arthritis has been described in 4 patients [4]. These cases did not comment on the timing of antibody development and none of the patients discussed were being treated with biologic therapies. This highpoints a further unique finding in this case, in that following many years of negative antibody screening, the development of antibodies to Scl-70 post-dated the development of clinical scleroderma. Further searches on PubMed (keywords: Secukinumab AND scleroderma), revealed a single case of drug induced scleroderma in a patient taking Secukinumab. In this case there were no specific antibodies identified and the cutaneous signs were also limited to the forearms[5].

IL-17 has been postulated by some to be involved in scleroderma pathogenesis, in addition to IL-6, and TGFB, amongst others [2]. High levels of this cytokine are noted to be present in serum and at sites of fibrosis, interacting with fibroblasts and promoting collagen synthesis and fibrosis [2]. We can only assume in our case that this was not a causative inflammatory pathway, but perhaps the blockade of this pathway rather led to our patients atypical presentation, with unilateral forearm tightening developing prior to Raynaud's and periungal changes.

CONCLUSION

The pathogenesis of scleroderma is poorly understood. This rare case grants us insights into the culpable cytokines, their complex interplay and highlights the need to review new signs and symptoms with an open mind in patients with a known rheumatic disease.

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Conflict of Interest: No Conflict of Interest.
Many thanks to our patient, images and clinical story shared with his permission.

REFERENCES

1. Calderon, L.M. and J.E. Pope, Scleroderma epidemiology update. Curr Opin Rheumatol, 2021. 33(2): p. 122-127.
2. Wei, L., D. Abraham, and V. Ong, The Yin and Yang of IL-17 in Systemic Sclerosis. Frontiers in Immunology, 2022. 13.
3. Madland, T.M., et al., Prevalence, disease manifestations, and treatment of psoriatic arthritis in Western Norway. J Rheumatol, 2005. 32(10): p. 1918-22.
4. Bellissimo, S., et al., [Association of systemic sclerosis and psoriatic arthritis: a case report]. Reumatismo, 2001. 53(3): p. 232-234.
5. Elias, N., et al., Secukinumab-induced scleroderma: a case report. Rheumatology (Oxford), 2021. 60(3): p. e99-e100.

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Join the EVEREST Challenge in Rheumatoid Arthritis

Pursuing a primary target of clinical remission based on shared decision making between patients and rheumatologists is an established, evidence-based approach in Rheumatoid Arthritis (RA). This is also an integral part of the international recommendations for treatment of this chronic debilitating condition.[1,2]

However, real-world attainment of remission in RA remains suboptimal. [3,4] Remission is associated with a reduction (19-52%) in direct medical costs e.g. less hospitalisation (in & out patient visits, less exams / tests required etc.), 37–75% savings in indirect costs (e.g. less workdays lost), as well as improved quality of life for the patient.[8] Thus, the benefits of achieving remission are apparent for patients and caregivers alike.

A multi-country study has established that a treatment change was planned for just half of all patients with poorly controlled RA[5]. Data at the Irish Society of Rheumatology (ISR) meeting in 2022 suggested a similar picture in terms of rheumatology practice in Ireland. This study showed that just over one-quarter of RA patients had achieved remission.[4] Of those still experiencing moderate/high disease activity, only approximately one-third had a documented plan to change or add disease modifying treatment(s). Other international data is available indicating substantial gaps exist between the agreement and application of treat-to-target (T2T) amongst healthcare professionals (HCPs).[6]

Given the T2T challenges and barriers encountered by rheumatologists both internationally and in Ireland, the biopharmaceutical company AbbVie has undertaken an initiative under the guidance of global thought leaders, that aims to generate better understanding of barriers and identify potential solutions.

Project EVEREST (**E**le**V**at**E** care in **R**h**E**umatoid arthriti**S** with **T**reat-to-target) involved the creation of an international steering committee chaired by Professor Maya Buch, Professor of Rheumatology and Director of Experimental Medicine at the Centre for Musculoskeletal Research, University of Manchester. The global steering committee also includes Prof Andrew Ostor from Australia, Prof Laure Gossec from France, Dr Ennio Favalli from Italy, Prof Ricardo Xavier from Brazil and Dr Louis Bessette from Canada.

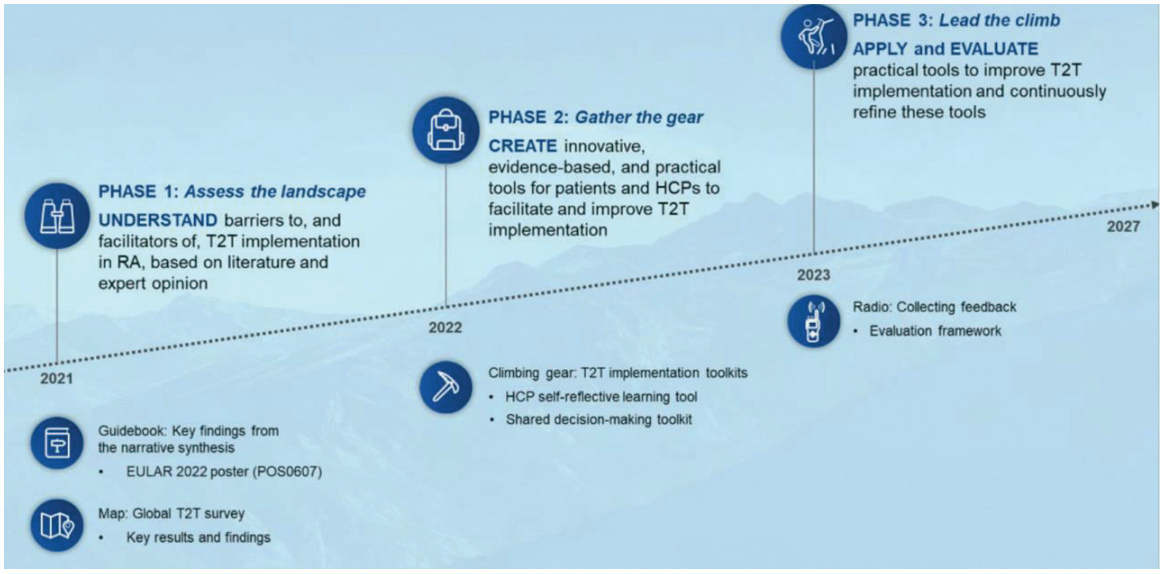
Together, they initially reviewed the literature and local expert clinical experience to better understand barriers and potential solutions to treating-to-target. Working independently of project supporters AbbVie, and supported by a research team, they conducted a Clinical Quality Programme assessment that integrated insights from published literature with expert medical opinion to produce evidence-based recommendations on how treat-to-target implementation might be improved in RA. A report synthesising key insights was compiled and its content was also presented as a poster (POS0607) at the EULAR 2022 congress in Copenhagen.[7] The global steering committee has been further expanded as part of Phase 2 and 3 of the EVEREST project to welcome input from 7 additional rheumatology experts from across the globe.

Phase 2 of the project involved the global committee leveraging these insights to help create innovative, evidence-based, and practical tools for patients and healthcare practitioners (HCPs) with the potential to facilitate and improve treat-to-target implementation. These include a shared decision-making toolkit aligning patient understanding and decision-making with HCP expectations. The committee also supported the creation of a self-reflective learning tool for rheumatology HCPs, in addition to other supports.

The final phase of the global project involves the local steering committees in individual countries assessing the tools and supporting local outcome improvement plans. Rheumatology stakeholders at national level include the Irish group chaired by Dr Donnacha O'Gradaigh, Consultant Rheumatologist at University Hospital Waterford. The Irish committee also includes consultant rheumatologists Dr Richard Conway of St James' Hospital, Dublin, Professor Sinead Harney of Cork University Hospital, Dr Carmel Silke of Our Lady's Hospital, Manorhamilton, Dr Carl Orr of St Vincent's University Hospital, and Rheumatology Advanced Nurse Practitioner, Noreen Harrington of Our Lady's Hospital in Manorhamilton.

The aim of EVEREST – domestically and internationally – is to better facilitate RA patients to reach their full potential for remission by equipping the healthcare teams with practical tools to deliver improved outcomes using a robust implementation, science-based approach.

Climbing Mount Everest was the metaphor chosen to inspire the global rheumatology community to join with AbbVie & the steering committees on this challenging, but rewarding, journey. The initiative has, to date, completed two of the three key phases illustrated in the graphic below.



The quest to bring knowledge to action continues. If you are interested in learning more about Phase 3 of the global EVEREST movement, come and join representatives of the Irish & international committees at the ISR Autumn Meeting on Thursday 21st September 2023 at the AbbVie-sponsored symposium from 4.00-5.00pm.

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Refs:
1. Smolen JS, et al. Ann Rheum Dis 2023;82 (1): 3-18;
2. Smolen JS, et al. Ann Rheum Dis 2016;75:3–15;
3. Yu Z, et al. Arthritis Care Res 2018;70:801–6;
4. Murphy et al, Poster (22A156) ISR Autumn Meeting, Belfast, 2022.
5. Taylor PC, et al. Patient Prefer. Adherence 2021;15:359–73;
6. Gvozdenović E, et al. RMD Open 2016;2:e000221;
7. Gossec L, et al. POS0607 IMPROVING TREAT-TO-TARGET IMPLEMENTATION IN RHEUMATOID ARTHRITIS: A SYSTEMATIC LITERATURE REVIEW OF BARRIERS, FACILITATORS, AND INTERVENTIONS. Annals of the Rheumatic Diseases 2022;81:572.
8. Ostor et al, et al. Value of Remission in patients with Rheumatoid Arthritis: A Targeted Review. Adv Ther. 2022 Jan;39(1):75-93.

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Young Investigator Award

Miss Serena Foo

Serena Foo completed her PhD in Molecular Rheumatology at TCD with Prof. Ursula Fearon in August 2023. Her main focus was working on arthritis in children with Down syndrome - a severely underreported and underdiagnosed childhood rheumatic disease. During her time there, she researched the aggressive properties of fibroblasts as well as the immune cell landscape in Down syndrome-associated arthritis. Serena is a keen SciComm enthusiast looking to make science communication more accessible.

The aggressive synovial fibroblast phenotype in Down Syndrome Associated Arthritis is driven by increased T cell polyfunctionality and cytokine synergy

Author(s)
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Department(s)/Institutions
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Introduction
Down syndrome associated arthritis (DA) is an aggressive, erosive form of arthritis that occurs 20 times more frequently in children with Down syndrome (DS) than juvenile idiopathic arthritis (JIA). Little is known of the immunological mechanisms that drive this disease.

Aims/Background
The aim of this study was to characterize T cell polyfunctionality and examine the effect of T-cell derived cytokines on primary DA synovial fibroblast (DA-FLS) function.

Method
PBMC were isolated from children with DS, DA, JIA, and HCs and T cell polyfunctionality and chemokine receptor expression was analysed by flow cytometry. DA-FLS were stimulated with TNF-α, IL-17a and IFN-γ alone and in combination. Chemokine and adhesion molecule cell surface expression were quantified by flow cytometry. Gene and protein expression of proinflammatory and metabolic mediators were quantified by ELISA and RT-PCR. Furthermore, real time metabolic activity was assessed by Seahorse XFe96 Analyser. Finally, DA-FLS were pre-primed for 24 hrs and subsequently stimulated with cytokines for a further 24 hrs and DA-FLS function assessed.

Results
Higher CD8+ T cell frequency and reduced CD4+ T cell frequency was observed in DA compared to other groups. An enrichment of polyfunctional T cells which simultaneously produced TNF-α, IFN-γ and IL17a was also demonstrated in DA,. Differential expression of chemokine receptors was also demonstrated. IL-17a and IFN-γ potentiated the effects of TNF-α on IL-6, MCP-1 and RANTES secretion in DA FLS compared to cytokine stimulation alone. Additionally, IFN-γ potentiated the effects of TNF-α on CXCR3, CXCR4 and ICAM-1 expression. Cytokine synergy shifted the metabolic profile of DA-FLS to a highly energetic glycolytic phenotype, in addition to significantly inducing gene expression of key glycolytic mediators. Finally, priming DA-FLS with IFNγ for 24hr further potentiated DA FLS activation and invasive function in response to TNF-α compared to non-primed cells.

Conclusions
DA is characterized by increased polyfunctional T cell responses compared to JIA. Furthermore TNF-α, IL-17a and IFN-γ synergistically interact to enhance the aggressive phenotype of DA-FLS an effect associated with an increased glycolytic flux. These data have implications for combination therapy or manipulation of metabolic pathways for the treatment of this aggressive form of Inflammatory arthritis in children with DS.

23A111 (ABSTRACT 25) **REGULAR POSTER 19**

Associations between DXA variables and cardiovascular risk factors in an early inflammatory arthritis cohort.

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Introduction
Patients with inflammatory arthritis have higher incidence of cardiovascular disease (CVD). Early establishment of cardiovascular risk could be clinically beneficial to these patients. Dual energy X-ray absorptiometry (DXA) scans are commonly used in patients with arthritis to assess fracture risk, being accessible, inexpensive, and minimally invasive with low-dose radiation.

Aims/Background
To investigate any associations between DXA scan results and CVD risk factors in an early inflammatory arthritis cohort.

Method
We conducted a retrospective study on a cohort of 304 patients with newly diagnosed inflammatory arthritis.
CVD risk factors examined included smoking status, BMI, hypertension, established ischaemic heart disease (IHD), diabetes and cholesterol, HDL, and LDL levels. Health Assessment Questionnaire Disability Index (HAQ-DI) and Clinical Disease Activity Index (CDAI) scores were also examined.
DXA data included BMD and T-Scores from neck of femur (NoF), total femur (TF) and lumbar spine (LS). The lower BMD/T-Score of right and left side was recorded for NoF and TF. LS data was recorded from two to four vertebrae from the range of L1-L4.
Statistical significance was calculated using a 95% confidence interval.

Results
183 (60.2%) participants were female and 121 (39.8%) were male. Age ranged from 18-88 years, with a mean (SD) of 54.3 (14.4).
Patients with hypertension had significantly lower BMD and T-Scores at NoF (Table 1). There were weak negative correlations between HAQ-DI and BMD/T-Scores at both NoF and TF, meaning those with worse functional ability had lower BMD/T-Scores at these sites (Table 2).
Participants with a BMI of <25 had lower BMD and T-Scores at NoF, TF and LS compared to those with a BMI of ≥25 (Table 3).
Patients with diabetes had significantly higher BMD and T-Scores at TF (p=0.009,t=2.648) and LS (p=0.049,t=1.975). There was a weak positive correlation between LDL levels and NoF BMD (p=0.022,r= 0.188), and LDL and NoF T-score (p=0.025,r= 0.185).
No significant relationships were found between DXA variables and smoking, IHD, Cholesterol, HDL or CDAI.

Conclusions
This study highlights several relationships between DXA variables and CVD risk factors. Further investigation is recommended to establish the clinical application of these relationships and whether DXA could assist in identifying those with increased CVD risk.

Table 1 – T-test – Hypertension vs DXA

DEXA variable	Hypertension	Mean (SD)	Mean Diff.	95% CI	t-value	p-value (2-tailed)	Cohen's D
Neck of Femur BMD	Yes No	0.90 (0.15) 0.94 (0.14)	-0.04	-0.07 to -0.004	-2.186	**0.030**	-0.278
Neck of Femur T-Score	Yes No	-0.96 (1.11) -0.60 (1.09)	-0.36	-0.63 to -0.09	-2.581	**0.010**	-0.329

Table 2 – Correlation between HAQ-DI and DXA

DEXA variable	Mean (SD)	Pearson's R	p-value
Neck BMD	0.93 (0.15)	-0.149	**0.011**
Neck T-Score	-0.71 (1.10)	-0.167	**0.004**
Total Femur BMD	0.99 (0.16)	-0.120	**0.040**
Total Femur T-Score	-0.34 (1.25)	-0.123	**0.035**

Table 3 – T-test – BMI vs DXA

DEXA variable	BMI Group	Mean (SD)	Mean Diff.	95% CI of Mean Diff.	t-value	p-value (2-tailed)	Cohen's D
Neck of Femur BMD	Under 25 25 and over	0.89 (0.14) 0.95 (0.15)	-0.62	-0.10 to -0.03	-3.478	**0.001**	0.145
Neck of Femur T-Score	Under 25 25 and over	-0.99 (1.03) -0.57 (1.11)	-0.42	-0.69 to -0.16	-3.131	**0.002**	1.09
Total Femur BMD	Under 25 25 and over	0.92 (0.16) 1.02 (0.15)	-0.09	-0.13 to – 0.05	-4.715	**<0.001**	0.157
Total Femur T-Score	Under 25 25 and over	-0.82 (1.24) -0.13 (1.20)	-0.69	-0.99 to -0.40	-4.628	**<0.001**	1.21
Spine BMD	Under 25 25 and over	1.11 (0.17) 1.12 (0.20)	-0.08	-0.12 to -0.03	-3.201	**0.02**	0.192
Spine T-Score	Under 25 25 and over	-0.63 (1.41) -0.02 (1.65)	-0.61	-1.00 to -0.23	-3.171	**0.02**	1.572

23A112 (ABSTRACT 26) **REGULAR POSTER 20**

An Investigation of outcomes of reduced Rituximab dosing in patients with Rheumatoid Arthritis in Tallaght University Hospital

Author(s)
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Introduction
Rituximab is an effective drug in treating Rheumatoid Arthritis but does result in significant immunosuppression particularly increasing the risk of severe COVID pneumonitis

Aims/Background
Cognisant of the impact of COVID in patients on Rituximab we established a dosing proforma for RA patients on Rituximab in 2021 to reduce total dosage and dosing interval to minimise adverse events and avoid excess immunosuppression

Method
For the year 2022 we obtained data regarding B cell monitoring, clinical assessment of disease activity in OPD visits, the number of patients who had a successful treatment de-escalation (dose and/or frequency reduction), n(%)experiencing a flare after de-escalation and n(%) of those requiring a treatment re-escalation.

Results
25 patients with RA were identified as being treated with at Rituximab in this period. Of those 25, 32% (n= 8) stopped Rituximab, 6 due to adverse events, 1 due to death (not related to Rituximab) and 1 due to death (related to Rituximab). 58% (n=10) of patients had a treatment de-escalation in either dosage or frequency according to the proforma. 0% of these patients had a documented flare following dose de-escalation nor did they require treatment escalation. 42% remained on the same dose and there were no dose escalations. Dosing interval; For the patients who remained on Rituximab at the end of 2022, 30% (n=5) were dosed at 1g once there was evidence of B cell recovery, 47% (n=8) were dosed at 1g every 6 months and the remaining 23% (n=4) were dosed at 2g every 6 months

Conclusions
Our investigation supports reduction of Rituximab dose and frequency of dosing. None of the patients who underwent de-escalation of

treatment had a confirmed RA flare or required treatment escalation. On the basis of this data we will extend our amended protocol for 2023 to all patients on Rituximab to minimise adverse events and excess immunosuppression. To avoid additional strain on the outpatient service requirement of patients to attend every 2 months for blood monitoring we adjusted the lowest dose of Rituximab for the 2023 proforma to 500mg every 6 months.

23A113 (ABSTRACT 27) **REGULAR POSTER 21**

Intravenous Zolendronic Acid Practices: Need for Standardization.

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Introduction
Intravenous Zoledronic acid is increasingly prescribed for osteoporosis amongst the elderly and comorbid population in rheumatology. It is important to correct hypocalcemia and vitamin D deficiency before treatment is initiated .IV Zoledronate is contraindicated in GFR less than 35ml/min.

Aims/Background
Presently we have no formal protocol for pre-infusion laboratory tests or dental assessment prior to bisphosphonate infusion.
This work was undertaken to evaluate our current practices with a view to implementing a standardized protocol for patients getting IV zolendronic acid in rheumatology.
Patients in the past 12 months who attended the rheumatology infusion room for IV Zolendronic acid were evaluated retrospectively.

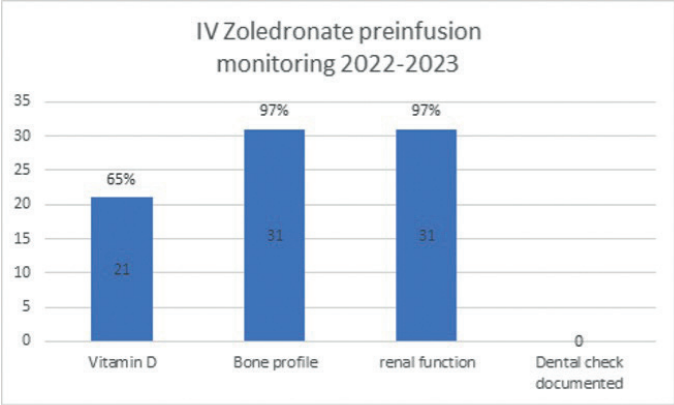
Method
Rheumatology infusion unit records were reviewed to identify all the patients who have attended for iv zoledronate infusion from Jan 2022 to March 2023 .
Frequency of measurement of Vitamin D, bone profile and renal function was extracted from laboratory system and findings were audited against NOGG recommendations. Data was collected included
• Date of iv Zoledronate infusion
• Pre infusion testing of vitamin D, bone profile and renal function
• Adherence to NOGG guidelines

Results
Thirty-two patients received iv Zoledronate; 20 females. Twenty-one patients (65%) had vitamin-D checked pre-infusion, 31 /32(97%) had a Bone profile including Calcium levels. Renal profile was done in 31(97%). A post infusion follow up renal profile was not performed in 10 patients.
Low vitamin D was found in 2 patients pre-infusion, and was replete in the remainder. A dental check-up within last 6 months was not documented for any of patient.

Conclusions
There is a significant variation in pre-infusion practices for patients treated with IV zolendronic acid. This work has triggered the introduction of a pre-infusion protocol to ensure bone parameters and vitamin D are optimised and patients are informed of the need for a dental check.
An initiation and follow up check list will be created and PDSA cycles will be carried out to improve monitoring.

REFERENCE:
1:Section 6: Pharmacological treatment options (2021) NOGG. Available at: https://www.nogg.org.uk/full-guideline/section-6-pharmacological-treatment-options (Accessed: 26 July 2023).

Figure



23A116 (ABSTRACT 28) **REGULAR POSTER 22**

Endothelial Cell Function Is Influenced By Synovial Fibroblasts and Soluble Mediators From The Inflamed Joint Microenvironment

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EULAR Centre for Arthritis and Rheumatic Diseases, St Vincent University Hospital, University College Dublin

Introduction
While common pathogenic mechanisms exist between PsA and RA, distinct vascular morphology has been observed, with PsA displaying a tortuous, dilated, irregular shaped morphology compared to a straight regular branching pattern observed in RA.
Aims/Background
The aim of this study is to examine the effect of the PsA and RA joint microenvironment on endothelial cell function.

Method
PsA and RA patients underwent key-hole joint arthroscopy and synovial biopsies were obtained. PsA and RA synovial fibroblasts (FLS) were isolated and grown to passage 1-5. PsA and RA FLS supernatants were harvested and referred to as conditioned media (CM). Endothelial cells (EC) were cocultured with PsA/RA FLS or CM, and pro-inflammatory mediators were quantified by ELISA, real-time PCR, and flow cytometry.

Results
PsA CM induced Ang-2, ICAM-1, MMP-2, and MMP-3 expression in EC, with only MMP-2 increasing in response to RA CM. Both PsA CM and RA CM decreased VCAM-1 expression. Co-culture of PsA/RA FLS with EC increased the expression of IL-6 and MMP-3, with only RA FLS increasing the expression of MCP-1 and VCAM-1. Either co-culture of PsA/RA FLS or CM with EC induced the frequency and/or MFI of key chemokine receptors CXCR3 and CXCR4 on EC, an effect that was more pronounced for CM vs FLS co-culture, particularly for PsA CM. Both PsA/RA FLS or PsA/RA CM decreased the frequency of CXCR5, however induced CXCR5 MFI. Only co-culture with PsA FLS and RA FLS induced the expression of ICAM-1, with no effect observed for PsA or RA CM. In contrast, the effect of coculture on FLS led to a reduction in the expression of ICAM-1 on both PsA and RA FLS, with increased expression of VCAM observed for PsA FLS. No effect was observed for chemokine receptor expression on either PsA or RA FLS when co-cultured with EC.

Conclusions
PsA and RA FLS/CM induce angiogenic, chemokine and adhesion molecule expression on EC, with differential effects for some mediators observed in response to PsA vs RA joint microenvironments. Furthermore, differences were observed between EC-FLS vs EC-CM co-cultures, suggesting cell-cell contact and soluble mediators both influence the EC pathogenic phenotype.

23A118 (ABSTRACT 29) **REGULAR POSTER 23**

Audit/Quality improvement project on ophthalmology surveillance of patients prescribed Hydroxychloroquine within the Department of Rheumatology in Tallaght University Hospital 2022-2023

Author(s)
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Department(s)/Institutions
Tallaght University Hospital

Introduction
Hydroxychloroquine is prescribed regularly in common rheumatological conditions like systemic lupus erythematosus and rheumatoid arthritis. It is also prescribed in mixed connective tissue disease, systemic sclerosis and primary sjogren's.
There are well described ophthalmological complications associated with its prescription.
All patients on Hydroxychloroquine are at risk of retinal damage but the following are at higher risk of ocular damage:
Higher daily doses(>5mg/kg)
Duration > 5 years
Higher serum concentrations
Kidney impairment
Low body weight
Pre-existing macular disease
Concurrent tamoxifen use.
GOLD STANDARD
Royal College of Ophthalmologists guidelines(2020) make a recommendation that all patients prescribed hydroxychloroquine for >5 years should have formal ophthalmological examination.
However those with risk factors should be considered for annual reviews from the date of commencement of treatment.

Aims/Background
1. To assess if patients prescribed with hydroxychloroquine are documented as being referred for ophthalmological screening
2. Assess if there is documentation of consideration of risk factors for enhanced surveillance prior to referral for ophthalmological assessment.

Method
The following data were collected:
Demographic data, duration of therapy, documented ophthalmology referral, consideration of risk factors which merit tighter surveillance, indication for hydroxychloroquine therapy

Results
Twenty patients ranging in age from 21-84 years, mean age 42 years, of whom 75% were female were reviewed. The duration of therapy ranged from 1-8 years, median duration was 3.4 years. Of these, only 25% had a documented referral for retinal screening but such a referral was not applicable in a further 40% as they had only been on the medication for <5 years.
The indication for prescription were SLE(50%), Mixed Connective Tissue Disease/scleroderma/sjogrens(40%) and RA(10%). The medication dosage was 400mg daily in 80% of patients, 600mg daily in 15% and 200mg daily in 15%. The dose was appropriate for body weight(<5mg/kg) in 80% of patients.

Conclusions
While it is acknowledged that this survey has the limitations of being retrospective and based purely on review of case records and clinic letters, suboptimal documentation of referral of patients prescribed hydroxychloroquine is noted. Moreover, there is poor documentation of consideration of known risk factors which merit enhanced ophthalmological surveillance.
A mechanism to improve referral rates and the quality of decision-making around identifying those requiring enhanced surveillance should be introduced.

23A119 (ABSTRACT 30) **REGULAR POSTER 24**

Perceptions and attitudes toward rheumatology among medical undergraduates

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Introduction
Rheumatological conditions are becoming more recognized globally; therefore, medical undergraduates should be equipped with necessary knowledge and skills upon qualifying to safely and effectively manage these patients.

Aims/Background
To explore final year undergraduates' perception and attitude toward exposure to rheumatology training and their confidence in the field with or without dedicated teaching sessions from experienced consultant rheumatologist. The standard is adequate teaching/clinical exposure to the specialty so to be confident/capable in dealing with these patients upon graduating.

Method
Two surveys were performed prior to students' scheduled lectures where all students were invited to participate. The questionnaire consisted of seven close-ended and one open-ended questions. An experienced consultant rheumatologist was invited to have two teaching sessions (interactive case series followed by discussion and a practical approach for clinical exam session) after the initial survey. Descriptive statistics and thematic analysis were performed.

Results
55 students (19 males;36 females) responded to the initial survey (IS) and 53 students (20 males;33 females) to the post-training survey (PS). In the IS, a significant proportion perceived rheumatology as average/boring (76.4%), mostly due to 1) lack of exposure (69.1%) 2), complexity of the field (21.8%) and limited teaching sessions (20%). Majority (81.8%) were able to name ≥5 non-mechanical rheumatological conditions with a quarter giving ten correct conditions (25.5% gave 10/10; 10.9%(9/10); 7.3% (8/10); 14.5%(7/10); 10.9%(6/10); 12.7(5/10). It was divided when asked if they have learned rheumatology sufficiently (40% agreed/54.5% disagreed/5.5% unsure). 94.5% felt they had inadequate contact with patients and 90.9% felt unconfident to have rheumatology cases in final exam. 82% wouldn't consider rheumatology for postgraduate training. In PS, 79.2% felt rheumatology teaching was top notch/excellent and satisfied them, mainly due to 1) excellent/interesting/fun and interactive delivery approach (41.5%) and 2) better clarity in disease understanding (28.3%). 92.4% were able to name ≥5 conditions with more than half being able to give ten conditions (56.6% gave 10/10; 16.9% 9/10).

Conclusions
Current awareness is encouraging, but areas for improvement exist especially to sufficient clinical exposure, teaching amount and delivery methods. Insufficient training is a driving factor for undergraduates not considering rheumatology for postgraduate specialization. Innovative approaches involving rheumatology consultants should be considered.

23A122 (ABSTRACT 31) **REGULAR POSTER 25**

Introduction of an algorithm for Rituximab patients in a regional rheumatology centre in Ireland- a quality improvement project

Author(s)
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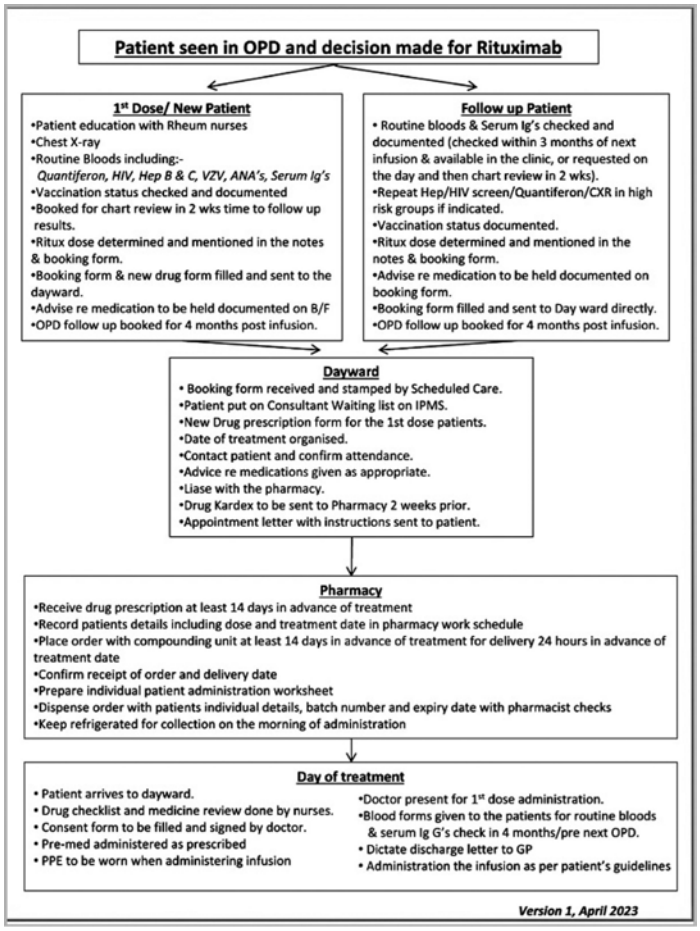
Introduction
: The use of intravenous rituximab for the treatment of a variety of rheumatological conditions can be associated with challenges related to screening bloods, drug dispensing, monitoring of serum immunoglobulins (IgGs) post infusion and arranging follow-up for the patients. To help alleviate some of these logistic challenges, we developed a Rituximab prescribing pathway/protocol in a regional rheumatology centre in Ireland.

Aims/Background
To create an effective algorithm for Rituximab prescribing in our department, which will outline all the important steps from patient evaluation and treatment decision to receiving the drug in the day ward.

Method
Standard: The BSR guidelines on the use of rituximab in RA in 2011, recommend screening for risk factors for hepatitis B and C infection and chest X-rays in all patients before going on to rituximab. Apart from routine laboratory tests, Immunoglobulin levels should be checked before commencing rituximab in RA, as well as 4–6 months after infusions and before any re-treatment. Any patient considered for rituximab therapy should receive all indicated vaccines (hepatitis B for at-risk population, pneumococcus, tetanus toxoid every 10 years, influenza annually) before treatment.
We met all the relevant stake holders, i.e, doctors, nurses, pharmacists to highlight the problem and discussed potential solutions.

Results
We formulated an algorithm for these patients, which outlined all the necessary screening investigations, vaccination status checking, IgGs monitoring, pharmacy's and nurse specialists role and appropriate follow-up advice for all the patients.

Conclusions
The development of clinical pathways and algorithms can enhance efficiency and maximize clinical quality in healthcare.
Figur



23A123 (ABSTRACT 32) **REGULAR POSTER 26**

Assessment of bone health in lupus patients – a clinical audit

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Introduction
Systemic Lupus Erythematosus (SLE) is a chronic multisystem autoimmune condition which is associated with significant morbidity and mortality. Recent studies demonstrate an increased incidence of osteoporosis and peripheral and vertebral fractures in patients with SLE, the aetiology of which is multifactorial. Despite this, bone health is often one of the most forgotten comorbidity in clinical practice.

Aims/Background
This clinical audit was undertaken to evaluate the current clinical practice of assessing Vitamin D and calcium intake in lupus patients attending the Rheumatology clinic in a regional rheumatology centre in Ireland.
Standard : 2018 BSR guidelines for management of SLE recommend annual assessment of Vit D and calcium levels and screening for Osteoporosis as appropriate.
European League Against Rheumatism (EULAR) recommendations for monitoring patients with systemic lupus erythematosus 2009 include annual assessment of all SLE patients for adequate calcium and vitamin D intake .

Method
It was a retrospective audit. All the lupus patients attending the Rheumatology clinic from January 2022 to September 2022 were included. The clinic letters were extracted for the demographic and clinical data. The online laboratory system was accessed to check if vitamin D and calcium levels in these patients were checked in the preceding year.

Results
Total 60 patients were studied. 88% (n55) were females and 11%(n7) were males. Mean age was 52.45 years. Only 11% patients were on long term steroids and 85%patients were on hydroxychloroquine. 28%(n17) patients had their vit D levels and 68%(n41) patients had their calcium level checked in the last one year. Total 30%(n18) patients were on regular calcium and vit D supplements. In only 2 clinic letters, the clinician had mentioned regarding the estimated intake of calcium and vit D.

Conclusions
Our audit demonstrates suboptimal management of bone health in SLE patients and highlights the need for adherence to the available guidelines in order to improve the quality of life of these patients and prevent major fractures.

23A124 (ABSTRACT 33) **REGULAR POSTER 27**

A clinical audit of current practice of BMD testing in Lupus patients in a regional rheumatology clinic in Ireland

Author(s)
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Department(s)/Institutions
Rheumatology Department, Our Lady's Hospital Navan

Introduction
Osteoporosis is a significant comorbidity in lupus patients. Untreated osteoporosis leads to peripheral and vertebral fractures . The clinical consequence and economic burden of osteoporotic fractures is huge. The importance of adequate monitoring and treating osteoporosis in this patient cohort cannot be emphasized enough.

Aims/Background
The international society of clinical densitometry(ISCD)in 2019 recommends bone densitometry testing (BMD) in all women ages 65 and older and men aged 70 years and older. For post-menopausal women younger than age 65, and men younger than 70 years, a bone density test is indicated if they have risk factors for low bone mass.

Method
All male lupus patients aged more than 70 years and post-menopausal female patients (aged 45 or more), attending the clinic from January 2022 to September 2022 were retrospectively audited. Clinical data and demographics were extracted from the clinic letters. The hospital radiology system was used to access the DXA scan requests and their results in the last two years.

Results
Total 32 patients were studied. This included 96% (n31) females and 12.5%(n1) male. Mean age was 61.8 years. Only 12.5%(n4) patients had a DXA scan performed in the last 2 years, 40.6% (n13) had had it performed in the last 10 years whereas 46%(n15) patients never had a DXA scan done. Out of the 4 patients who had the DXA scan in the last 2 years, 2 patients had confirmed osteoporosis and were on bisphosphonates, calcium and Vit D supplements. 2 patients had normal DXA scan. Out of the other 13 patients, 6 had normal DXA scan, 6 had osteopenia with low FRAX scores. 4 of them were on vit D and calcium supplements. 1 patient has osteopenia with VF and was on denosumab.

Conclusions
Bone health management in lupus patients is often forgotten. We observed suboptimal screening and management of osteoporosis in our patient cohort and recommend strict adherence to the guidelines in screening, treating and preventing osteoporosis in these patients.

23A126 (ABSTRACT 34) **REGULAR POSTER 28**

An audit of current practice of screening for secondary causes of Osteoporosis in a Regional Rheumatology clinic

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Introduction
Osteoporosis is the most common metabolic bone disease and a global health problem. Untreated osteoporosis can lead to recurrent fractures, often resulting in disability and premature death. Up to 40% of individuals with osteoporosis will have secondary causes; exclusion of which is important. The enormous personal and economic burden of fractures can be reduced with effective screening, exclusion and treatment of underlying causes.

Aims/Background
Bone Health and Osteoporosis Foundation (BHOF), 2022 clinical guide recommends ruling out secondary causes of bone loss, osteoporosis, and/ or fractures. Table 1 shows the recommended list of investigations to consider where clinically indicated .The National Osteoporosis Guidelines Group United kingdom (NOGG) in 2021 also recommended that patients with osteoporosis and/or a fragility fracture should be investigated for underlying causes.
Aims and objectives: We aimed to audit the current practice of investigating patients for secondary causes of osteoporosis in a regional Rheumatology centre.

Method
It was a retrospective audit. All the patients who had a DXA scan done from Sep 2021 to Feb 2022 and had confirmed diagnosis of osteoporosis / clinical osteoporosis /osteopenia with high FRAX score were included. The hospital laboratory system and the clinic letters were checked to investigate if patients had secondary workup for osteoporosis done.

Results
: Total 50 patients were included. 24/50(48%) patients had confirmed Osteoporosis on the DXA scan. 20 (84.9%) of them were females and 4(16.6%) were males. Mean age was 74 years. 9(37.5%) patients had vertebral fractures on lateral morphometry. 26/50 (52%) patients had osteopenia with high FRAX score. 24(92%) were females and 2(7.6%) were males. Mean age was 67.5 years. The results of screening for secondary osteoporosis, are tabulated below (table 2).

Conclusions
This audit has highlighted suboptimal screening for secondary causes, specially in osteopenia group . It has prompted a shift towards active screening of common secondary risk factors for osteoporosis in our outpatient cohort. We aim to re-audit the practice after 1 year of proposing these recommendations.

Figure

Diagnostic studies for exclusion of secondary causes of osteoporosis

Blood or serum

- Complete blood count (CBC)
- Albumin
- Chemistry levels (albumin-adjusted calcium, renal function, phosphorus, and magnesium)
- Liver function tests
- 25(OH) vitamin D
- Parathyroid hormone (PTH)
- Total testosterone and gonadotropin (men aged 50–69 years)

Consider in select patients

- Serum protein electrophoresis (SPEP), serum immunofixation, serum free kappa and lambda light chains
- Thyroid-stimulating hormone (TSH) +/− free T_4
- Tissue transglutaminase antibodies (and IgA levels)
- Iron and ferritin levels
- Homocysteine (to evaluate for homocystinuria)
- Prolactin level
- Tryptase
- Biochemical markers of bone turnover

Urine

- 24-h urinary calcium and creatinine

Consider in select patients

- Urinary protein electrophoresis (UPEP)
- Urinary free cortisol level (or salivary cortisol)
- Urinary histamine

Figure

Workup	Osteoporosis group (n24)	Osteopenia with high FRAX score group (n26)
Routine bloods (FBC,U&Es,LFTs,Bone profile,albumin)	24 (100%)	26 (100%)
TFTs	24 (100%)	26 (100%)
Celiac screen	14 (58%)	05 (19.2%)
Vit D	21 (87.5%)	16 (61%)
PTH	02 (8.3%)	01 (3.8%)
SPEP (In select patients)	14 (58%)	06 (23%)
FSH/LH/TESTOSTERONE	0	0
IRON STUDIES (In select patients)	22 (91.6%)	17 (65%)

23A128 (ABSTRACT 35) **REGULAR POSTER 29**

Inflammatory CD1c+ CD163+ Dendritic Cells (DC3) are enriched in the inflamed joint and contribute to Rheumatoid Arthritis pathology

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Introduction
DCs distinguish proteins that are either self (i.e., from our own tissues) or non-self (bacteria/viruses) and therefore act as "gatekeepers" of the immune system. RA develops when our immune system incorrectly attacks healthy cells in the joints. Given that DCs are "gatekeepers" of this process, it is highly likely that they play a role in the initiation of this disease. A recent study identified a novel subset of DCs, known as DC3 which are more inflammatory than other DC subsets. However, to date it is entirely unknown if DC3 contribute to synovial inflammation in RA.

Aims/Background
To examine the phenotype, function, frequency and metabolism of DC3 within the periphery and site of inflammation of RA patients.

Method
Peripheral blood mononuclear cells (PBMC) and synovial fluid mononuclear cells (SFMC) were isolated from RA patients using density gradient centrifugation. Cells were stained with a panel of multicolor flow cytometry antibodies to assess cell frequency, activation, maturation and metabolism. Samples were processed on the Cytek Aurora and analyzed using FlowJo software.

Results
While circulating DC3 have previously been identified in SLE in which their frequency correlated with disease activity, it remains unclear what role if any DC3 may have in RA development. Firstly, we identified an enrichment in the frequency of DC3 within the peripheral blood of RA patients compared to healthy controls paralleled with higher levels of CD80, CD40 and PD-L1 – all indicative of increased DC maturation and activation in the periphery. Furthermore, we identified a significant enrichment of DC3 in RA synovial fluid compared to peripheral blood. Synovial DC3 display significantly higher levels of CD80 and CD40, suggestive that these inflammatory DC are strategically placed to reactivate synovial T cells. Importantly DCs utilize a variety of metabolic pathways to generate energy to support their immune function. We identified that synovial DC3 significantly upregulate the expression of GLUT-1 and CD36,– suggestive that both carbohydrate and fatty acid metabolism may support the long-term survival and function of DC3 in the RA joint.

Conclusions
DC3 are enriched in RA and may present a new therapeutic target for suppressing synovial inflammation.

Figure

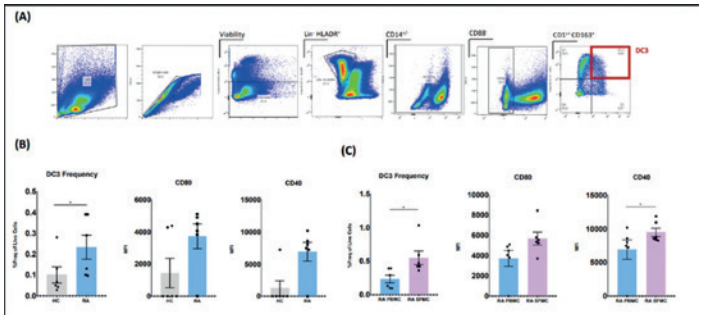

Figure 1: (A) Representative gating strategy to identify inflammatory DC3 within peripheral blood and synovial fluid. **(B)** Frequency of DC3 and expression of costimulatory markers in Healthy Control and RA peripheral blood. **(C)** Frequency of DC3 and expression of costimulatory markers RA peripheral blood compared to RA synovial fluid.

23A130 (ABSTRACT 36) **REGULAR POSTER 30**

The Impact of Inflammatory Arthritis (IA) on Employment Patterns; A longitudinal study.

Author(s)
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Department(s)/Institutions
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Introduction
We conducted a longitudinal study looking at retrospective data on patients attending an Early Inflammatory Arthritis Clinic (EIAC), in a single centre in the West of Ireland over 6 months in 2023. Our patient cohort has a mean age of 51 years (20-84 years). Our study aims to investigate variation in employment hours among these patients, across a specified timeframe.

Aims/Background
The objective of our study is to evaluate the effect of IA on employment patterns.

Method
160 patients were seen in the EIAC over 6 months. Inclusion criteria were patients with a diagnosis of IA either Rheumatoid arthritis, Psoriatic arthritis or Undifferentiated inflammatory arthritis, leaving a cohort of 49 patients. To study employment trends, every 3 months, patients were asked how many hours they worked per week and in what type of employment. Employment type was categorised based on the "International Standard of Occupations Classification (ISCO-08)"

Results
49 patients were included, 7 of which are missing data on employment. 21 patients were in paid employment, 10 of which were working < 20 hours a week and 11 patients working > 20 hours a week. 21 patients were not in paid employment, 4 of which were retired. Between baseline and 3 months, 0 patients increased their employment hours from 0 to < 20 hours per week and 1 patient increased their hours from 0 to > 20 hours per week. Between baseline and 6 months, 1 patient increased their working hours from < 20 hours to > 20 hours per week.

Conclusions
The Central Statistics Office reports a national average employment rate of 73.6% in the first quarter of 2023. Using the same working age population of 16-64 years, our cohort reveals a notably lower employment rate of 52.9%. This figure emphasises the importance of further research and interventions in this area to promote employment amongst those with IA. With extended time on this project, we anticipate our study will show trends of increased uptake of employment hours coinciding with disease remission and thus leading to a lower incremental cost-effectiveness ratio (ICER).

223A132 (ABSTRACT 37) **REGULAR POSTER 31**

The Early Inflammatory Arthritis Clinic; a multidisciplinary approach to early intervention and waiting list reduction in Inflammatory Arthritis patients.

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Introduction
The multidisciplinary Early Inflammatory Arthritis Clinic (EIAC) was established to address a waiting list backlog with funding support from the National Treatment Purchase Fund. The aim of the clinic is to identify and treat inflammatory arthritis (IA) in the early stages of disease, thus obtaining a better prognosis for patients through earlier intervention. Each patient has regular appointments at specified intervals and each case is approached as a multidisciplinary team involving Physiotherapy, Occupational Therapy, Podiatry and Nursing staff. We have established a database which documents key indicators of disease progression throughout a treatment course, enabling assessment of patient outcomes and response to interventions.

Aims/Background
To assess the number of patients diagnosed with IA and record indicators of disease progression.

Method
Patients were triaged by a Rheumatology Consultant to the EIAC as urgent, soon or routine. They were seen in EIAC according to the triage category in a ratio of 3:1:1. Inclusion criteria is patients with a diagnosis of IA, either Rheumatoid arthritis (RA), Psoriatic arthritis (PsA) or Undifferentiated inflammatory arthritis (UIA). Parameters of disease activity were recorded every 3 months.

Results
Of 160 patients seen in the EIAC over 6 months, approximately 1 in 3 (49 patients) patients had a diagnosis of IA. 22 patients had RA, an equal number with PsA and the remaining 5 had UIA. Within this subset, 19 were Rheumatoid Factor positive, 16 were anti-CCP positive and 14 were double antibody positive (missing data on 4 patients). 8 patients (20%) had erosive disease (missing data on 9 patients).

Conclusions
The success of the EIAC is seen in the substantial reduction in the waiting list. Within just 6 months of commencement, the backlog has reduced from over 2 years to less than 9 months. The number of patients diagnosed with IA is lower than expected. As the waiting time for access to the EIAC is reduced, we expect an increase in the percentage of patients diagnosed with IA as part of this pathway. In the future, our preliminary findings will expand to follow each patient's progress and provide statistical data for further analysis and research.

23A133 (ABSTRACT 38) **REGULAR POSTER 32**

Monocytes from inflammatory arthritis patients exhibit hyper-inflammatory features and are primed to differentiate into terminal cells.

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Introduction
Inflammatory arthritis (IA) includes rheumatoid arthritis (RA) and psoriatic arthritis (PsA), which are chronic systemic autoimmune diseases. They share similar clinical manifestations, however there are immunological and molecular differences, possibly accounting for variations in response to therapies as well as disease outcome. Monocytes have a key role in RA and PsA pathogenesis, where pathotype differences in monocytes' activation, differentiation to DC, and function have been discovered, both in the circulation and at the site of inflammation.

Aims/Background
The aim of this study is to evaluate differential monocyte activation and priming in RA vs PsA, and their ability to differentiate into DCs, macrophages, and osteoclasts.

Method
PBMC were isolated from healthy controls (HC), RA and PsA patients. CD14+ monocytes were isolated by magnetic sorting and differentiated using specific cytokines: M-CSF (50ng/mL-7days) for monocyte-derived-macrophage (Mo-MAC); RANKL+M-CSF (50ng/mL-15days) for monocyte-derived-osteoclast (Mo-OC); GM-CSF (70ng/mL) +IL4 (50ng/mL-7days) for monocyte-derived-DC (Mo-DC). Mo-DC were further differentiated with RANKL+M-CSF (50ng/mL-21 days) into the novel osteoclast-derived-dendritic-cell (DC-OC). Mo-DC and Mo-MAC differentiations were evaluated by flow cytometry (markers CD209 and CD64 respectively), while Mo-OC and DC-OC differentiation was evaluated by TRAP staining and qPCR using markers of osteoclastogenesis.

Results
No differences were observed for the frequency of the 3 monocyte subsets in HC vs RA/PsA, however key differences in activation markers and chemokine receptors were observed, including an increase in CD40 in RA/PsA vs HC, CX3CR1 and CCR7 in RA>PsA>HC and CD80 PsA>RA>HC. In addition, an increase in receptors involved in differentiation was observed in RA/PsA vs HC, specifically IL4R, RANK, MCSFR, and a significant increase in GMCSFR in the nonclassical subset, suggesting monocytes from patients are primed to differentiate. In line with this, preliminary data on Mo-DC and Mo-MAC analysis, suggests an increased Mo-DC and Mo-MAC differentiation of RA/PsA vs HC monocytes (increase in CD209 and CD64 respectively), with a decrease in GMCSFR, IL4R and MCSFR. TRAP staining on Mo-OC and DC-OC resulted in an increased number of osteoclast formation and multinucleated cells in PsA/RA vs HC.

Conclusions
Altogether, these data suggest the monocytes from RA and PsA patients are hyper-inflammatory and primed to selectively differentiate into terminal cells.

23A134 (ABSTRACT 39) **REGULAR POSTER 33**

The Role of Immunological Memory in Synovial Inflammation in Rheumatoid Arthritis

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Introduction
Lifelong protective immunity to new infections requires a sufficient number of diverse naïve T cells, that are ready to expand and differentiate when faced with antigenic challenge. Furthermore, the generation of memory T cells is essential for the continued protection against re-emerging infections. Tissue resident memory T cells (TRM) are a memory subset that reside in tissues providing immediate immune protection but can also drive recurrent local tissue inflammation. Given that joint swelling arising from RA tends to flare in the same previously affected joints, and involvement of a formerly unaffected joint is rare, we hypothesis that local tissue memory may mediate disease flare.

Aims/Background
To identify the role of naïve and memory T cells in RA disease pathology.

Method
Peripheral blood mononuclear cells (PBMC) and synovial fluid mononuclear cells (SFMC) were isolated from RA patients using density gradient centrifugation. Cells were stained with a panel of multicolour flow cytometry antibodies, processed on the Cytek Aurora and analysed using FlowJo software.

Results
RA patients have significantly lower levels of circulating naïve CD8+ T cells compared to healthy controls (HC). Upon examination of RA synovial fluid, >90% of synovial T cells have effector/memory phenotypes however, a small but distinct population of naïve T cells are present. Interestingly, following antigen stimulation, naïve synovial T cells demonstrated heightened inflammatory cytokine responses as demonstrated by significantly higher levels of IFNγ, GMCSF, TNFα and IL-2 compared to peripheral naïve T cells. This is suggestive that naïve synovial T cells are primed by inflammatory mediators within the joint microenvironment to support enhanced T cell activation and differentiation. Furthermore we identified a distinct population of TRM within the RA joint that are significantly enriched compared to the periphery with heightened expression of IFNγ. Importantly, synovial TRM appear to be more proinflammatory than any memory T cell subsets as demonstrated by increased expression of IFNγ, TNFα, GM-CSF, PD-1. These data suggest that naïve antigen inexperienced T cells are primed for activation in the RA joint, while TRM T cells upon reactivation elicit tissue-specific inflammation.

Conclusions
Activation and subsequent reactivation signals in the RA joint drive proinflammatory naïve and TRM cell effector functions.

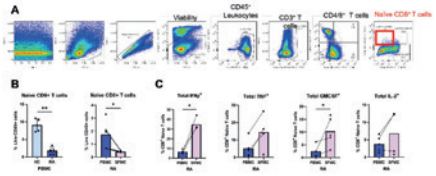

Figure 1. (A) Representative gating strategy for the identification of CD8+ naive T cells in peripheral blood and synovial fluid. (B) Frequencies of CD8+ naive T cells between Healthy Control blood, RA blood and RA fluid. (C) Production of inflammatory markers IFNγ, TNFα, GM-CSF and IL-2 by CD8+ naïve T cells in RA blood and fluid stimulated with PMA and Ionomycin in the presence of the golgi blocker, Brefeldin A.

23A135 (ABSTRACT 40) REGULAR POSTER 34

Peptidylglycine alpha-amidating Monooxygenase as a regulator of tissue damage in Rheumatoid Arthritis Synovial Fibroblasts

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Introduction
The minor C allele variant of rs26232 SNP, located within the first intron of the MACIR gene, is associated with both risk and severity of rheumatoid arthritis (RA). However, rs26232 genotype is not associated with either quantitative or qualitative differences in MACIR mRNA, suggesting that the genetic association is primarily related to another gene.

Aims/Background
This work aims to determine the biological basis of the association of rs26232 with RA.

Method
Gene expression was determined using qPCR. Gene knock-down was achieved using siRNA technology. Invasiveness was determined using Matrigel-coated Boyden transwell chambers and migration was assayed using the scratch-assay. Proliferation was quantified using BrdU ELISA and Caspase 3/7 levels were used to measure apoptosis. Transcriptome sequencing was carried out by Qiagen and differential expression evaluated using EdgeR.

Results
Analysis of eQTL databases (GTEx portal and Open Targets Genetics) reveal rs26232 is an expression quantitative trait loci (eQTL) for peptidylglycine alpha-amidating monooxygenase (PAM), a bifunctional enzyme which carries out amidation. Single cell RNAseq of RA synovial tissue revealed PAM expression to be restricted to RASFs, being highest in the tissue damaging F4 subtype. siRNA inhibition of PAM expression resulted in increased RASF proliferation (+36.97%; p=0.001) and invasion (+18.02%; p=0.022), and decreased apoptosis (-23.73%; p=0.0003). Treatment of RASFs with the amidation inhibiting drug 4-phenyl-3-butenoic acid (PBA) resulted in a similar rise in invasion (+42.63, p=0.027), indicating that the phenotypes observed are due to decreased amidation. Fluorescent microscopy demonstrated that PAM is localised to the golgi apparatus of RASFs. Western blot analysis showed an increase of PAM protein under hypoxic conditions (3% O2) at 4h (+87.29&, p=0.0434), 12h (+44.47%, p=0.019) and 24h (+27.85%, p=0.046). Transcriptomic analysis of siRNA treated RASFs revealed 24 genes significantly differentially expressed; notably PRG4 (Lubricin), which acts as a joint lubricant and regulates cell growth, was reduced in siPAM treated cells (Log fold-change -1.4; FDR p-value= 0.042).

Conclusions
Our data reveals that PAM modulates tissue destruction mediated by RASFs and demonstrate that lower levels increase damage via reduced levels of amidation. Our ongoing work will concentrate on identifying the relevant target or targets of amidation in RASFs.

23A136 (ABSTRACT 41) REGULAR POSTER 35

Incidental Vertebral Fractures on Computerised Tomography (CT) imaging-a missed opportunity

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Introduction
Vertebral fractures are the most common type of osteoporotic fracture. The impact of fractures includes utilisation of healthcare resources with the number of bed days increased by over 40% in the past 10 years. Additionally, fractures negatively impact patient's quality of life due to physical and psychological consequences.

Aims/Background
To determine the prevalence of vertebral fractures on CT imaging. To establish the rates of documentation of these fractures in patient's medical notes. To evaluate osteoporosis management in patients with documented vertebral fractures.

Method
A retrospective observational study in patients who had undergone CT imaging (CT Thorax, CT Thorax, Abdomen Pelvis, CT-AP, CT PA and CT KUB) as an inpatient from May 2022-October 2022 was conducted. Men and women of 50 years and older were included. Any scan that was for cancer staging or that did not report on bone windows were excluded.

Results
194 scans reviewed. 25 scans identified a fracture (12.9%). 18 Female patients, 7 male patients. The average age of patients was 79.8 years (range 69-96 years)
Only 9 patients had the reported fracture documented in medical notes. 6 of these patients had a history of osteoporosis with 5 of these 6 patients on appropriate treatment. 1 patient commenced on Vitamin D supplementation, 1 patient reviewed by orthopaedics with remaining 2 patients reviewed by rheumatology and started on appropriate treatment. The patient who was commenced on Vitamin D represented to hospital 7 months later with back pain and was noted to have further fracture.
16 patients therefore did not have the reported fracture documented in medical notes. 5 of these patients had known osteoporosis but only 3 out of these 5 were on appropriate treatment. Furthermore 6 patients in this group had a fracture reported on previous imaging with an average of 2 previous hospital admissions.

Conclusions
64% fractures were not documented in medical notes with 80% of these not on treatment. Of the fractures that were documented 20% were not started on appropriate treatment. These findings highlight a missed opportunity by general medical teams to identify osteoporosis and commence appropriate treatment.

Figure

Baseline Patient Demographics		
Gender	Male n=7	Female n=18
Average Age	79.8 years	Range 69-96 years
Hx osteoporosis	44% known osteoporosis	27% not on treatment

23A137 (ABSTRACT 42) **REGULAR POSTER 36**

Rheumatoid Arthritis Monocytes and Monocyte-Derived Macrophages Display Heightened Inflammatory Responses, Reduced Endocytic Capacity and Distinct TET Expression compared to Psoriatic Arthritis

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Introduction
RA and PsA share various pathogenic features, while also displaying significant differences at the clinical, cellular, and molecular levels.

Aims/Background
To investigate the inflammatory capacity of RA and PsA monocytes and monocyte-derived macrophages (MO-MACs), in addition to other effector functions.

Method
CD14+ monocytes from RA and PsA peripheral blood mononuclear cells (PBMCs) were isolated and assessed following ex vivo LPS stimulation.. MO-MACs were generated via 7-day stimulation with M-CSF (50ng/mL) and polarised to M1 and M2. Inflammatory responses (IL-6, IL-1b, TNF-a, CXCL9-11, SLAMF1-7) were assessed by RT-PCR. Frequency of monocyte subsets and expression of activation (CD40) and macrophage signature markers (CD64, CD163, CD206, SLAMF-7) were assessed by flow cytometry. Endocytosis assays were performed on monocytes and MO-MACs. Demethylation gene expression (TET1-3) was assessed by RT-PCR. Finally, monocytes were cultured with a methylation inhibitor (RG108) and activator (budesonide), and inflammatory cytokine expression assessed.

Results
Significant increases in LPS-induced expression of IL-6, IL-1b and CXCL9-11 (all $p<0.05$) were observed in RA vs PsA monocytes. SLAMF-1 and SLAMF-2 expression were significantly increased in LPS-induced RA and PsA monocytes, with SLAMF-4 significantly decreased (all $p<0.05$). Heightened SLAMF-7 expression was observed in RA vs PsA monocytes ($p<0.05$). The increased pro-inflammatory response of LPS-stimulated monocytes was paralleled by decreased endocytic capacity, especially for RA ($p<0.01$). RA and PsA MO-MACs retain the hyper-inflammatory phenotype of their precursor cell. Expression of IL-6, CXCL9 and CXCL11 were significantly higher in RA MO-M1 (all $p<0.05$), whereas IL-1b was higher in PsA ($p<0.05$). Heightened SLAMF-7 expression was observed for RA MO-M1 ($p<0.05$), while SLAMF-2 was significantly increased in PsA MO-M1 ($p<0.05$). Endocytic capacity was reduced in RA vs PsA MO-M0. RA PBMCs exhibited decreased classical but increased intermediate monocyte frequencies vs PsA. Expression of CD64, CD163, CD206 and SLAMF-7 were higher in all RA monocyte subsets vs PsA. Increased TET2 expression in RA monocytes ($p<0.05$) and TET3 in PsA ($p<0.05$) were observed. Budesonide decreased IL-6, IL-1b and TNF-a expression in ex vivo LPS-stimulated monocytes.

Conclusions
RA CD14+ monocytes are inherently more pro-inflammatory and activated than PsA, which is maintained following MO-MAC differentiation. The distinct inflammatory pre-programming of monocytes may also involve altered epigenetic mechanisms.

23A138 (ABSTRACT 43) **REGULAR POSTER 37**

Weight fluctuations in patients receiving intravenous tocilizumab. Assessing the impact on the post pandemic landscape.

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Introduction
Obesity is as a significant global health concern. A link between obesity and adverse clinical outcomes in rheumatic and musculoskeletal diseases disease has been acknowledged.
There is a link in both RMD's and obesity to hypertension, increased insulin resistance and accelerated atherosclerosis. The Covid-19 pandemic restricted access to healthcare for all patients. Other aspects of patient's health were also impacted. This audit looks at patient's weight during this time.

Aims/Background
We aim to carry out an audit to assess whether patients weight was negatively impacted during the Covid-19 pandemic. This timeline was between February 2020 up to and including January 2022 when the Irish Government removed most restrictions put in at the pandemics outset. We also aimed to look at the overall trends in patient's weight from initiation of IL-6 therapy to the current time.

Method
A data base of patients receiving intravenous tocilizumab was used. Patients who had therapy initiated prior to the pandemic were included. Those who were initiated on tocilizumab after February 2020 or who had therapy ceased during the pandemic were excluded.

Results
25 patients are currently receiving intravenous tocilizumab at this centre. Of those 25 patients, 5 were excluded due to either being initiated after the Covid-19 pandemic or being taken off intravenous tocilizumab during this time period. Of the 20 patients included, 13 patients/65% gained weight during the pandemic. 1 patient's weight remained the same. 9 patients lost weight during this time period. Of the 65% of patients who gained weight, only 2 went on to lose weight after the pandemic.

Conclusions
Over half of patients included in this audit have gained weight since the initiation of therapy. Of the 65% of patients who gained weight during the pandemic, only 2 have subsequently gone on to lose weight. This indicates that although the pandemic may have impacted negatively on weight, ongoing weight gain post pandemic remains a feature in patients. Advice and education around lifestyle measures to assist patients in weight reduction remains challenging in the busy outpatient rheumatology setting. However, given patient's with RMD's are already at higher risk for negative outcomes also seen with increasing weight we aim to address this moving forward through information leaflets around lifestyle medicine.

23A139 (ABSTRACT 44) **REGULAR POSTER 38**

The Real World Application of Rheumatoid Arthritis JAK Inhibitor Trials

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Department(s)/Institutions
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Introduction
JAK inhibitors are approved for use in Rheumatoid Arthritis (RA). Recent registry data and post marketing surveillance have raised concerns about their safety in the real world setting.

Aims/Background
We sought to quantify how well phase 3 clinical trials of JAK inhibitors represent a real world RA cohort.

Method
We assessed 100 consecutive patients switching or starting a biologic for RA.
We compared three separate trials of JAK inhibitors in RA -ORAL Step for tofacitinib, RA-Beyond trial for upadacitinib and RA BEAM for baricitinib to identify key inclusion and exclusion criteria. Inclusion criteria were active RA, methotrexate use and raised CRP with RA-BEAM and RA Beyond also requiring antibody positivity and/or erosions. Exclusion criteria focused on previous biologic use, infection, abnormal blood results and malignancy. We then analysed eligibility under current EMA guidelines for JAK therapies.

Results
100 patients were recruited. Mean patient age was 56yrs with 68% female. 58 were switching biologic with 42 initiating therapy. Greater than 85% of patients were ineligible to participate in any of the JAK clinical trials (Table 1).
The key reason for failing to meet inclusion criteria was normal CRP (n=43). The main reasons for exclusion across the entire cohort (without applying inclusion criteria) were previous biologic use (n= 58), infection (n=17) and malignancy history (n=9). Exploratory analysis of JAK inhibitor use in our centre revealed the median number of previous biologics used in JAK starters to be 3. Subsequent reanalysis excluding prior biologic use demonstrated a similar low number meeting eligibility in biologic naïve patients across the studies[Tofacitinib=12/42(28%), Baricitinib=6/42(14%), Updacitinib=10/42(24%)].
Applying current EMA safety guidance for JAK inhibitors revealed 45% of patients to be suitable with age > 65yrs (n=29) and smoking (n=27) being the most prevalent contraindications. 28 patients had 2 or more contraindications.

Conclusions
More than 85% of real world patients would not be eligible for recruitment to key JAK inhibitor clinical trials. The majority are not suitable for a JAK inhibitor as per EMA guidance. Eligibility criteria may excessively constrain enrolment and thus how we can generalise trial results and identify risks in a real world setting.

Figure

Table 1. Inclusion and exclusion criteria applied to JAK inhibitor studies.

N = 100	Tofacitinib	Baricitinib	Upadacitinib
No. Meeting Inclusion Criteria	57/100	38/100	51/100
No. Meeting Exclusion Criteria	44/57	31/38	40/51
Total eligible	13	7	11

23A141 (ABSTRACT 45) **REGULAR POSTER 39**

Pre-Biologic Screening in the Department of Rheumatology, St James Hospital, Dublin: Clinical Audit

This abstract has been recalled by the authors. The amended abstract will now appear in the Spring brochure 2024.

23A144 (ABSTRACT 46) **REGULAR POSTER 40**

Mini-audit: Assessment of Clinic Triage Systems Prioritising Urgent/Semi-Urgent "Early Arthritis" Rheumatology Appointments in Our Lady's Hospital Navan

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Introduction
NICE guidelines describe early inflammatory arthritis, new polyarthritis, acute monoarthritis, and suspected polymyalgia among the most concerning rheumatological symptoms/conditions, warranting evaluation within 4 weeks. The triage system currently employed at the Rheumatology Department in Our Lady's Hospital Navan (OLHN) aims to scrutinise referral letters for indications of

these acute conditions based on information provided by the referring physician, allocating appropriate patients to 'Urgent' Early Arthritis' (U-EA) clinics prioritised to be seen within 4–6 weeks, 'semi-urgent' (S-EA) clinics or routine waiting lists.

Aims/Background
The aim of this mini-audit was to determine if patients attending the Rheumatology Department at OLHN are being appropriately triaged to urgent/semi-urgent or routine clinics, and to optimise triage practises, helping identify areas of priority to ensure appropriate clinical information is captured in referral letters, facilitating efficient triage going forward.

Method
Referral letters for patients attending 15 U/S-EA clinics were reviewed to collect data relating to date of referral, results of prior investigations, and other clinically relevant information e.g., family history. Next, clinic outcomes were recorded including confirmed/working diagnoses, investigations completed/pending, and subsequent steps e.g., treatment commenced vs patient discharged. Patients were deemed to have been appropriately triaged to U/S-EA clinic if their final diagnosis was that of an inflammatory arthritis.

Results
A total of 87 patients attended 15 EA clinics analysed (Table 1). 1/3 of patients triaged for U-EA specifically were seen within the target time of 6 weeks, with more than 80% reviewed within 10 weeks. In total, 40 of all U/S-EA patients (almost 50%) were deemed to have a non-urgent osteoarthritis or other mechanical/musculoskeletal problem at presentation, with most discharged from the service after their first visit. 17 patients were diagnosed with an inflammatory arthritis or connective tissue disease, thus warranting their initial triage as non-routine.

Conclusions
Triage makes a significant difference in patient waiting times and thus time-to-diagnosis/treatment. By including the most relevant information (family history, pertinent investigation results etc.) in referral requests, patients for those whom early intervention will be most impactful i.e., those requiring prompt pharmacological intervention to prevent disease progression and possible joint destruction/other morbidity, can be more appropriately prioritised to early clinics.

Figure

Table 1: Patient Demographics / Information per Referral Letter (n = 87)

Gender	Female	*62*	**Investigations included in Referral Letter?**	Yes, normal	*24*
	Male	*25*		Yes, abnormal	*38*
Age (years)	< 20	*3*		Yes, pending	*7*
	20 – 29	*4*		No/not mentioned	*18*
	30 – 39	*14*	**Presenting Complaint per Referral Letter?**	Joint pain only	*14*
	40 – 49	*18*		(+ back pain specifically)	*(+ 5)*
	50 – 59	*17*		Joint pain + swelling or stiffness	*22*
	60 – 69	*17*		Joint pain + extra-articular	*15*
	70 – 79	*11*		Joint pain + myalgia	*5*
	> 80	*3*		Myalgia only	*5*
Location (County)	Louth	*32*		Existing Rheum. Dx	*18*
	Meath	*27*		Raynaud's phenomenon	*3*
	Cavan	*14*	**Family history in Referral Letter?**	Yes, positive	*16*
	Monaghan	*13*		Yes, negative	*19*
	Westmeath	*1*		Not mentioned	*52*
Triaged as Urgent (UEA): 28			*Triaged as Semi-Urgent (SEA): 59*		

Figure

Figure 1: **Time-to-Clinic for Patients Triaged as Urgent vs Semi-Urgent. T**

23A146 (ABSTRACT 47) **REGULAR POSTER 41**

Validation of A Novel Screening Tool in Rheumatoid Arthritis: The DXA MAP

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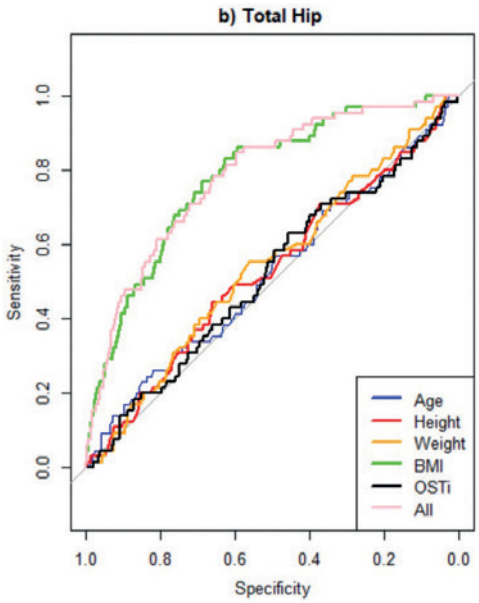
Introduction
Rheumatoid Arthritis (RA) is a chronic inflammatory disease affecting 1% of the Irish population. Osteoporotic fractures are recognised as an important morbidity in RA, and older studies suggest RA features and glucocorticoid use are important determinants of risk. RA is thus included in some osteoporosis risk algorithms such as FRAX and SCORE, but it is unclear which RA patients should undergo a screening DXA test. The Osteoporosis Self-assessment Tool-index (OSTi) combines age and weight and is widely validated. We have developed a novel algorithm using age, height, weight and gender to identify adults most likely to have a DXA diagnosis of osteoporosis.

Aims/Background
In this study we evaluated the performance of the DXA MAP tool among a RA population aged 40 years and older who had no prior fracture and were not receiving glucocorticoids.

Method
Cross-sectional study of RA patients with a prior DXA scan. Study approved by Ethics.

Results
998/1797 (56%) were included after removal of those with a prior fracture or taking glucocorticoid therapy. The remaining subjects had a mean age of 64.2 years (SD: 10.5), 75% were female, 14% were smokers, 8% had a family history of osteoporosis, mean total hip T-score was -0.6 (SD: 1.4) and 11% had an osteoporotic T-score (<-2.5). Univariate analyses show individual risk factors



performed poorly (AUC <0.6). In multivariate analyses the DXA MAP Tool outperformed the OSTi at both femoral neck (AUC: 0.684 Vs 0.551) and total hip (0.776 Vs 0.552), but was similar to BMI (figure).

Conclusions
The DXA MAP Tool is a novel approach which could help identify RA patients most likely to benefit from a screening DXA test. Further validation among other RA populations is needed.

23A147 (ABSTRACT 48) **REGULAR POSTER 42**

Clinical Phenotype Of Patients With Subclinical Giant Cell Arteritis In Polymyalgia Rheumatica.

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Introduction
It has been reported that a significant proportion of patients with polymyalgia rheumatica (PMR) have subclinical giant cell arteritis (GCA). It remains unclear if all PMR patients should have ultrasound assessment for subclinical GCA or if there are certain phenotypes of patients that are more at risk of having subclinical GCA.

Aims/Background
To assess for the prevalence of subclinical vasculitis in PMR patients using vascular ultrasound.

Method
Newly diagnosed PMR patients who met a clinical diagnosis for PMR, verified by two rheumatologists were examined with vascular ultrasound (US) of their temporal and axillary arteries. Ultrasound findings were compared to a cohort of GCA patients.

Results
91 patients with newly diagnosed PMR and 57 patients with newly diagnosed GCA were included. Of the 91 patients with PMR, 16 were identified as having subclinical GCA on ultrasound (17.5%). Males were more likely to have subclinical GCA in PMR, accounting for 75% of the subclinical GCA group (p=0.045). The mean ESR at baseline for those with subclinical GCA in PMR was higher than those with isolated PMR; 49mm/hr compared to 38mm/hr (p=0.18). The extent of involvement of the temporal and axillary arteries of the 16 patients in the subclinical GCA group was compared to a cohort of 57 GCA patients. The total halo count was similar for both subclinical GCA in PMR and classic GCA patients. However, GCA patients had higher halo scores in both temporal and axillary vessels of 13.17 and 13.28 respectively, compared to those with subclinical GCA with halo scores of 4.68 and 9.75. This suggests that patients with subclinical GCA in PMR have less vessel wall oedema than those with GCA. The subclinical GCA group had higher halo scores in the axillary arteries versus the temporal arteries, (p=0.0074) suggesting a predilection for the axillary vessels.

Conclusions
Patients with subclinical GCA had higher halo scores in the axillary arteries compared to the temporal arteries suggesting an extracranial phenotype. Male gender and a higher ESR at the time of PMR diagnosis appear to be risk markers for subclinical GCA though this requires analysis in larger cohorts of patients.

	PMR (75)	PMR with subclinical GCA (16)	GCA (47)
Age (mean and range)	69 (51-89)	70 (53-84)	74 (56-92)
Female	48	4	24
Male	27	12	33
Mean BMI	28.2	28.1	27.8
Mean ESR at baseline	38mm/hr	49mm/hr	58mm/hr
Mean CRP at baseline	29mg/l	39.9mg/l	66mg/l
Mean halo count	0	4.33	4.36
Mean temporal artery halo score	0	4.68	13.17
Mean axillary artery halo score	0	9.75	13.28

23A149 (ABSTRACT 49) **REGULAR POSTER 43**

Effect of COVID Vaccine on Systemic Rheumatic Disease

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Introduction
Vaccination against SARS-CoV-2 is crucial for patients with systemic rheumatic diseases (SRDs) who may be at increased risk of severe outcomes post-COVID-19. Sparse data suggests vaccines used for COVID -19 may be associated with SRD flares, possibly from molecular mimicry triggering immune activation or non-specific adjuvant effects. As SRD flares are associated with disease deterioration, increased flares could have serious clinical implications.

Aims/Background
We report the interim results of a survey evaluating SRD flare incidence post-SARS-CoV-2 vaccine

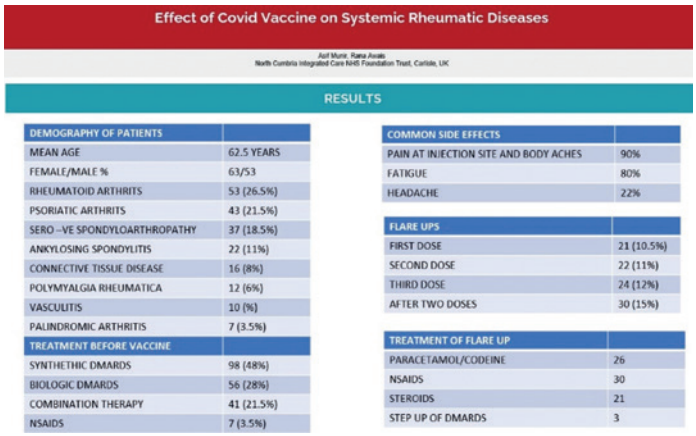
Method
We surveyed 200 patients of different age group with different Rheumatologic diseases via telephone or paper copy during their appointment in Rheumatology department at North Cumbria Integrated Care NHS Foundation Trust, from September 2021 to March 2022 who received at least one dose of Pfizer or Astra Zeneca vaccine. The results of the survey were recorded.

Results
The mean age of the patients was 62.5 years. 63% of the patients (N-126) were females. 53 (26.5 %) of these patients had Rheumatoid Arthritis (RA), 43 (21.5 %) had Psoriatic Arthritis, 37 (18.5%) had Sero-ve Spondyloarthropathy, 22 (11%) had Ankylosing Spondylitis, 16 (8 %) had CTD, 12 (6%) had PMR, 10 (5%) Vasculitis and 7 (3.5%) had Palindromic arthritis. 96 (48%) of these patients were on synthetic DMARDs, 56 (28%) on Biologic DMARDs and 41 (20.5%) were on combination. 7(3.5%) patients were on NSAIDS.
The most common adverse effects from the vaccine was pain at the site of injection and generalised body aches in 90 % of patients followed by fatigue in 80%. 22% had fever.
21 (10.5 %) patients had flare up of their existing rheumatic disease after the first dose and 22 (11%) had a flare after 2nd dose and another 24 (12%) after the 3rd dose. 30 (15%) patients had some flare up after two doses. Out of these 26 had mild flare up and improved with Paracetamol/codeine. 30 had mild to moderate flare required different NSAIDs and 21 had severe requiring a course of prednisolone. 3 of these patients required step up of DMARDS. These flares were described as typical, suggesting these symptoms were not vaccine's adverse effects being misreported as disease flares

Conclusions
Interim data from our cohort demonstrates that about 12% of patients had severe flare up, with some lasting for weeks requiring switching of DMARDs.

Recommendation:
Although SARS-CoV-2 vaccine might be associated with some flare up in SRD, but the morbidity and mortality of unvaccinated patients with SRD can be very devastating signifying the importance of the vaccine.
Further data is required for a wider cohort.

Figure


Effect of Covid Vaccine on Systemic Rheumatic Diseases

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RESULTS

DEMOGRAPHY OF PATIENTS	
MEAN AGE	62.5 YEARS
FEMALE/MALE %	63/53
RHEUMATOID ARTHRITS	53 (26.5%)
PSORIATIC ARTHRITS	43 (21.5%)
SERO –VE SPONDYLOARTHROPATHY	37 (18.5%)
ANKYLOSING SPONDYLITIS	22 (11%)
CONNECTIVE TISSUE DISEASE	16 (8%)
POLYMYALGIA RHEUMATICA	12 (6%)
VASCULITIS	10 (%)
PALINDROMIC ARTHRITIS	7 (3.5%)
TREATMENT BEFORE VACCINE	
SYNTHETHIC DMARDS	98 (48%)
BIOLOGIC DMARDS	56 (28%)
COMBINATION THERAPY	41 (21.5%)
NSAIDS	7 (3.5%)

COMMON SIDE EFFECTS	
PAIN AT INJECTION SITE AND BODY ACHES	90%
FATIGUE	80%
HEADACHE	22%

FLARE UPS	
FIRST DOSE	21 (10.5%)
SECOND DOSE	22 (11%)
THIRD DOSE	24 (12%)
AFTER TWO DOSES	30 (15%)

TREATMENT OF FLARE UP	
PARACETAMOL/CODEINE	26
NSAIDS	30
STEROIDS	21
STEP UP OF DMARDS	3

23A152 (ABSTRACT 50) **REGULAR POSTER 44**

Hip geometry and hip fractures in Rheumatoid Arthritis: Preliminary results of the DXA HIP Project

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Introduction
Rheumatoid arthritis (RA) is a chronic inflammatory systemic disease affecting 0.25% - 1% of the world's adult population (1, 2). The disease is characterised by inflammation and subsequent damage to a variety of body tissues including articular joints, bones, eyes, lungs and the cardiovascular system (1, 2). This inflammation leads to systemic bone loss and osteoporosis, sometimes exacerbated by glucocorticoid treatment, resulting in a greater propensity to fracture (3-6).
Hip fractures represent one of the commonest and most devastating illnesses in older adults, a consequence of skeletal fragility and falls. Many patients fail to recover their pre-morbid function, while between 20% and 35% of men and women die within a year of their fracture (7-10). The number of hip fractures worldwide is predicted to exceed 6 million by 2050 (11). Ireland has one of the highest rates in the world, and is predicted to have one of the greatest increases over the coming decade (7).

Aims/Background
Osteoporosis is an important comorbidity in rheumatoid arthritis (RA). Patients greater risk is related to disease severity, activity, duration, treatment and other factors. Although RA is included in some osteoporosis risk and fracture risk algorithms, this limited simply to diagnosis only, limiting validity. A disease specific tool could improve identification and benefit RA patients.

Method
The DXA HIP project is an established convenience cohort whose aim is to improve the identification of those at risk for fracture. This includes >33,000 adults ≥ 40 years, 2,045 (6.1%) with RA. In this cross-sectional study we compare DXA characteristics at the hip among RA patients with a prior hip fracture to random sample of age and gender matched RA controls in a 1:4 ratio.

Results
40 subjects (31 women) were compared to 160 RA controls, shown in the table below. Fracture patients had significantly lower BMD than controls, but in additional had smaller cross-sectional area, greater axis length, lower buckling ratios and strength index.

Conclusions
RA is an important risk factor for fracture risk which is not explained solely on the basis of BMD. Additional DXA biometrics such as hip geometry may improve the identification of those most at risk. Longitudinal studies in additional populations are needed.

Figure

Random Selection Control group in RA subjects

	Female			Male		
	Hip Fracture	No Hip Fracture	P-value	Hip Fracture	No Hip Fracture	P-value
Number (%)	31	124		9	36	
Age in years	70.07±11.08	70.027±11.03	0.982	64.32±15.37	64.39±14.78	0.707
Height in centimeters	156.43±6.75	159.35±5.61	0.014*	169.98±7.25	170.91±8.45	0.767
Weight in kilogrammes	60.46±12.58	68.98±13.99	0.002*	75.89±12.56	80.50±15.26	0.043*
BMI kg/m^2)	24.67±4.73	27.21±5.57	0.021*	26.57±5.14	27.52±4.74	0.409
Smoking (%)	2(6.5)	10 (8.1)	0.764	1(11.1)	5(13.9)	0.826
Corticosteroid therapy (%)	10(32.3)	42 (33.9)	0.865	2(22.2)	15(41.7)	0.282
Femoral Neck BMD in g/cm^2	0.713±0.110	0.817±0.157	0.001*	0.816±0.113	0.975±0.266	0.017*
Total Hip BMD in g/cm^2	0.729±0.145	0.854±0.165	0.000*	0.891±0.137	01.020±0.209	0.047*
Buckling Ratio	3.79±2.26	3.99±1.28	0.684	3.70 ±2.20	3.12±2.98	0.369
Cross-sectional Area in cm^2	116.29±22.94	129.60±26.73	0.070	140.08±27.52	179.15±28.97	0.021*
Cross-sectional moment of inertia	9754±2544	9987±2617	0.760	12834±2709	18899±9002	0.003*
Hip Axis Length in mm	108.75±4.07	106.56±8.25	0.135	127.79±8.45	120.74±7.049	0.049*
Strength Index	1.50±0.61	1.53±0.47	0.841	1.35±0.50	1.87±1.03	0.006

T-test for continuous variables and Chi square test for categorical variables

23A153 (ABSTRACT 51) **REGULAR POSTER 45**

RHEUM FOR EMPOWERMENT: Patients' Perception on Home Spirometry and Oximetry Monitoring for Connective Tissue Disease Related Interstitial Lung Disease

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Introduction
Home spirometry monitoring has been shown to be a valuable tool in monitoring disease activity in patients with idiopathic pulmonary fibrosis (IPF). Little is known about its feasibility and challenges posed for patients with connective tissues diseases related interstitial lung disease (CTD-ILD) who often face impediment due to impaired hand function and Raynaud's phenomenon, in addition to their respiratory symptoms.

Aims/Background
Herein, we explore the acceptability and feasibility of home spirometry and oximetry in this group of patients.

Method
Patients with CTD-ILD and IPF as controls were recruited from a tertiary referral center in an observational cohort study. Patients were provided a portable handheld spirometer (MIR Spirobank Smart) and a Nonin finger oximeter linked to a smartphone app, and patients were educated on its use. Spirometry and oximetry readings were collated. A survey was conducted at 6 months to assess patients' perception of home monitoring.

Results
Fourty-one patients with CTD-ILD and 51 with IPF were recruited and followed up for 6 months. The median ages were 66 and 71 years respectively. 12 of 41 patients with CTD-ILD patients experienced Raynaud's phenomenon but only 7.32% (3/41) of CTD-ILD patients required an ear oximeter for a more accurate oxygen saturation measurement. 2946 FVC and 2787 oximetry readings were recorded in the CTD-ILD cohort compared with 4984 FVC and 4778 oximetry readings in the IPF cohort. According to our survey, 16.67% (6/36) in the CTD-ILD cohort experienced difficulty using the devices due to hand problems, but none in the IPF cohort. The reported barriers to long-term remote monitoring were forgetting to use the devices, occasional cough or breathlessness. Anxiety contributed by home monitoring results was outlined in less than one-third of our patients. A majority of patients found home monitoring beneficial and insightful, and would recommend this to others.

Conclusions
Perception towards home spirometry and oximetry monitoring in our cohort was overall positive. Our findings indicated that home monitoring is acceptable and well-received in patients with CTD-ILD. Remote monitoring should be strongly considered in patients with CTD-ILD as part of standard care.

Figure

Table 1: Baseline demographics of study patients (n=92) and six-month data on home monitoring

	CTD-ILD (n=41)	IPF (n=51)
Age, years, median (IQR)	66 (58, 73)	71 (63.5, 79)
Male, n (%)	17 (41.46%)	21 (52.94%)
CTD Diagnosis:		
Rheumatoid Arthritis		
- Erosive rheumatoid arthritis	8 (19.5%)	
- Non-erosive rheumatoid arthritis	12 (29.3%)	
Systemic Sclerosis	9 (22.0%)	
Idiopathic Inflammatory Myopathies	4 (9.8%)	
Primary Sjögren's syndrome	2 (4.9%)	
Mixed Connective Tissue Disease	2 (4.9%)	
Overlap Syndrome	2 (4.9%)	
Vasculitis	1 (2.4%)	
Systemic Lupus Erythematosus	1 (2.4%)	
Non-CTD Diagnosis:		
Idiopathic Pulmonary Fibrosis		37 (72.5%)
Interstitial Pneumonia with Autoimmune Features		14 (27.5%)
Death	1 (2.44%)	1 (1.96%)
Six months of home monitoring		
Total No. of FVC readings	2946	4984
Average FVC readings per patient	72	98
Median FVC (L)	2.19	2.64
Median FVC Predicted (%)	82.12	88.54
Total No. of SpO2 readings	2787	4778
Mean SpO2 (%)	94.84	94.91

Figure

Figure 1: Patients' perception towards home spirometry and oximetry monitoring

- "I find the home monitoring app very helpful. It is reassuring to be able to objectively measure oxygen and spirometry levels. Reduces anxiety "
- " When used, both devices do provide reassurance during periods between clinic consultations. Technology, bluetooth, app - all excellent but consider mouthpiece design and correct battery positioning in oximeter "
- " It is very useful to discuss the readings at our appointments "
- " Found it reassuring to be able to monitor any changes to lung function "
- " I find it a useful way to monitor my condition "
- " I find it very helpful to know that I am being monitored on a daily basis. It helps me feel less anxious "
- " I think it is nice to be monitored as it keeps me in touch with the hospital "
- " The oximeter was great for my doctor to monitor my pulse and heart rate from the app on my phone. He knew when it went too high and could have me keep an eye on it "

23A154 (ABSTRACT 52) **REGULAR POSTER 46**

Prevalence of latent tuberculosis and complications of anti-tuberculosis therapy in an Irish rheumatology population: A retrospective chart review

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Introduction
Treatment of various rheumatological diseases involves pharmacotherapy with biological medications that supress the immune system. The use of biologics increases the risk of tuberculosis (TB) infection by 4-5 fold, as well as increasing the risk of extra-pulmonary dissemination. In Ireland, screening is typically conducted using Interferon Gamma Release Assay (IGRA) combined with a chest radiograph. Positive IGRA indicates latent tuberculosis infection (LTBI) and it is essential to treat the infection before biological medications can commence.

Aims/Background
The aim of this study is to determine the prevalence of LTBI in Irish rheumatology population undergoing pre-biologic screening. Among those diagnosed with LTBI and received treatment, to investigate the prevalence and nature of complications arising from anti-TB therapy, particularly in relation to hepatoxicity.

Method
We retrospectively identified rheumatology patients undergoing pre-biologic LTBI screening over a 10-year period (2010-2020) in Cork University Hospital. Data on complications of anti-TB therapy (determined by derangements in transaminase values defined as a value of ALT or AST above 50 UL/L) was extracted from medical charts of patients who met the inclusion criteria. Inclusion criteria include patients aged 18-85 years old, with an underlying inflammatory rheumatic disease and have a positive IGRA. A Wilcoxon signed rank test was conducted comparing median ALT and AST at baseline and within 4 months of initiation of anti-TB therapy. Statistical significance was designated at $p=<0.05$.

Results
1366 patients were screened for TB prior to initiation of biological therapy. The prevalence of LTBI in this patient cohort was 77 of 1366 (5.6%). Out of 77 patients, 29 met the inclusion criteria. All patients received the same anti-TB treatment regime.
A Wilcoxon signed rank test revealed statistically significant median increase of AST and ALT within 4 months of initiating treatment compared to baseline, $p=0.019$ and $p=0.0001$ respectively. (Figure 1 and Table 1)

Conclusions

The prevalence of LTBI in rheumatological patients undergoing pre-biologic screening in this study was slightly higher than previously conducted studies on a more general population, indicating the need for continued screening. Elevations in transaminases were the main adverse effect, which highlights the continued necessity of monitoring liver enzymes, both at baseline and at intervals during treatment.

Figure 1: Median values of transaminases at baseline vs. during antituberculosis therapy

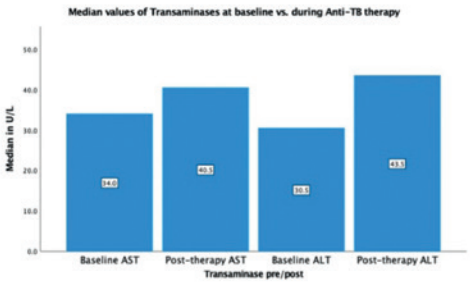

Table 1: Prevalence and breakdown of AST and ALT

	Over 50 UL/L (Abnormal)	3 X ULN
Both AST and ALT	20.7% (n=6)	3.4% (n=1)
AST only	0.0% (n=0)	0.0% (n=0)
ALT only	3.4% (n=1)	3.4% (n=1)
Total	24.1% (n=7)	6.8% (n=2)

23A156 (ABSTRACT 53) **REGULAR POSTER 47**

Pulmonary-limited Myeloperoxidase (MPO) Anti-Neutrophil Cytoplasmic Antibody (ANCA) related Interstitial Lung Disease (ILD) – a real world contrasting case series

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Introduction

The association between ILD and ANCA-associated vasculitis (AAV) has been increasingly recognised but the pathogenetic mechanisms remain unclear.

There remains a lack of evidence to support strategies for diagnosis, monitoring or treatment of these patients.

Aims/Background

A pilot rheumatology-ILD service has been running in Belfast over the last 3+ years. Previous data has indicated that approximately 33% of ILD cases presenting to this respiratory ILD service required input from rheumatology.

In this MDM setting, 25% of cases discussed over a 12 month period were in the setting of a positive ANCA test. While some are concluded to have a low-titre or false positive ANCA, and a proportion have systemic features of vasculitis thus leading to a diagnosis of microscopic polyangittis; there has been a number of cases which appear to have pulmonary-limited disease in the setting of MPO-ANCA positivity.

Method

We detail 6 cases of MPO-ANCA associated ILD occurring in the absence of any extra-pulmonary features of systemic vasculitis. The table presents all relevant demographic, clinical, laboratory and imaging data and illustrates the variation in disease presentation and course for these patients.

Results

6 patients clinical presentations are shown. Age range 46-78 years. 67% male. All presented initially to respiratory with minimal shortness of breath. ESR was normal at presentation in 2 patients, significantly elevated in the remainder. Imaging findings demonstrated UIP(2), NSIP(1) and Fibrotic NSIP(3). Several retained normal spirometry but DLCO was low in all. 2/6 (33.3%) died over the course of this short pilot - 1 had received intense immunosuppression at baseline with normalisation of immunology and symptoms for 3 years; the other had not received immunosuppression initially; but both deteriorated rapidly with HRCT progressing from fibrotic NSIP to UIP despite maximal therapy.

Conclusions

We present the varied presentations, clinical course and concerning outcomes for this small series of patients, highlighting the lack of clear evidence based guidance on disease classification, treatment and prognosis when MPO+ ILD occurs in the absence of other systemic manifestations of vasculitis. Further data collection, collaboration and research to build on the evidence base is warranted.

Figure

TABLE 1: DEMOGRAPHICS, DISEASE STATE, TREATMENT AND OUTCOMES OF PULMONARY LIMITED MPO-ANCA+ILD PATIENTS ATTENDING COMBINED RHEUMATOLOGY/ILD CLINIC 2021-2023

		PATIENT 1	PATIENT 2	PATIENT 3	PATIENT 4	PATIENT 5	PATIENT 6
BASELINE	AGE	46	66	78	67	78	71
	GENDER	M	F	M	F	M	M
	PRESENTATION	MM SOB MPO + ESR 60mm/hr	MM SOB MPO - ESR normal	MM SOB MPO +++ ESR 100mm/hr	MM SOB MPO++ ESR 97mm/hr	MM SOB MPO +++ ESR normal	MM SOB MPO++ ESR 67 mm/hr
	HRCT	Fibrotic NSIP	Fibrotic NSIP	UIP	NSIP	UIP	Fibrotic NSIP
	PFTs	FEV 40% FVC 30% DLCO 60%	FEV 100% FVC 100% DLCO 39%	FEV 59% FVC 57% DLCO 39%	FEV 82% FVC 87% DLCO 38%	FEV 82% FVC 89% DLCO 59%	FEV 105% FVC 137% DLCO 33%
	TREATMENT	IV CYC x 6 AZA ANCA normalised and well ESR remained 40-75mm/hr	NIL Stable over 3 years, PFTs static	Steroid MMF ANCA and ESR normalised Nintedanib (not tolerated)	Steroid AZA/MMF (not tolerated)	Steroid MMF	NIL
FOLLOW UP		@4 years • Worsening SOB • MPO +++ • ESR 115mm/hr	@3 years • Worsening SOB • MPO +++ • ESR 55mm/hr • FVC 28% • DLCO 44%	@2 years • Slow deterioration in SOB/DLCO/HRCT • Continues fortnightly f/u	@ 2 years • Stable • Continues fortnightly f/u	@ 1 year • Stable • Continues fortnightly f/u	@ 3.5 years • Stable symptoms • Mild decrease DLCO • Continues fortnightly f/u
	HRCT	Progressive UIP and ground glass	Widespread UIP				
	TREATMENT	IV steroid IV CYC Rituximab A/B and antifungal Referred for transplant	Steroid MMF Referred for transplant				
OUTCOME		DEATH at 4 years	DEATH at 3 years	MILD DETERIORATION @ 3 years	STABLE at 2 years	STABLE at 1 year	MILD DETERIORATION @ 3 years.

23A158 (ABSTRACT 54) **REGULAR POSTER 48**

An Audit of Methotrexate dose adjustment for renal impairment in rheumatological disease

Author(s)

Claudine Howard-James, Patricia Harkins, Michelle Doran.

Department(s)/Institutions

St James Hospital, Dublin. Rheumatology Department.

Introduction

Disease modifying anti-rheumatic drugs (DMARDs), including methotrexate are commonly used to control disease activity and progression in rheumatological diseases. Methotrexate requires frequent blood monitoring tests, one of which includes renal function, in order to ensure its safe use. Should an abnormality in renal function be identified, the dose of methotrexate should be adjusted accordingly, or the drug stopped altogether as appropriate.1

Aims/Background

This audit plans to evaluate adherence to guidelines for Methotrexate dose adjustment in renal impairment, based on British Society for Rheumatology guidelines.1

Method
We retrospectively identified patients attending the Rheumatology Outpatient Department at our tertiary centre who are established on Methotrexate for rheumatological disorders. An electronic chart review was carried out. Patient records were anonymised, and analysed to identify patient demographics, primary diagnosis and investigations related to Methotrexate therapy.

Results
The cohort comprised of 150 consecutive patients, 112 of which were female. The mean age at time of analysis was 65 years. 95 % (n=143) of patients had an underlying inflammatory arthropathy, 4% (n=6) had a connective tissue disease and a single patient had an underlying inflammatory myositis.
Interestingly, 10% (n=15) of patients had abnormal renal function on commencement of methotrexate, with only 8.7% (n=13) more developing a new impairment in their renal function during treatment. Of those with a new renal impairment, 38% (n=5) had their methotrexate dose adjusted accordingly.

Conclusions
Overall, the number of those developing a new renal impairment during methotrexate treatment in our patient cohort was low. However, of those that did develop new renal impairment, 62% failed to have their methotrexate dose adjusted to reflect their new renal function. This is most certainly a cause for concern, with potentially devastating consequences for patient morbidity, and indeed mortality.
Moreover, given the intensity of Methotrexate blood frequency monitoring, and the significant proportion of our patients who never developed any abnormalities, we believe further research is required to develop a more stratified blood monitoring approach for those on methotrexate therapy.

23A159 (ABSTRACT 55) **REGULAR POSTER 49**

Identification of online information aiding PPI involvement in rheumatology research

Author(s)
Divya Jose(1), Onyinye Aghamelu(1), Anthony G Wilson(1), Stacey Grealis(1), Grainne O'Leary(2), Peter Boyd(2), Diarmuid Stokes(3) and Emma R. Dorris(4)

Department(s)/Institutions
1. University College Dublin Centre for Arthritis Research, Conway Institute, University College Dublin. 2. Arthritis Ireland, Clanwilliam Square, Dublin. 3. College Liaison Librarian, College of Health & Agricultural Sciences, University College Dublin. 4. PPI Ignite Network, University College Dublin.

Introduction
Public and patient involvement (PPI) is vital to ensure that research is relevant, ethically sound, and beneficial to the community. Involving patients in the co-creation of research priorities has increased the relevance and impact of research in rheumatic and musculoskeletal disease (RMD). There is a plethora of resources available for PPI training and engagement. This study reviews PPI resources in RMD.

Aims/Background
The aim of our study is to build a dedicated resource bank of available training and resources for PPI involvement in rheumatic disease research. The project is funded under the Time 2 Research Campaign by EULAR. The core project team in place consists of Arthritis Ireland, the University College Dublin Centre for Arthritis Research, and patient research partners, with support from the PPI Ignite Network @ UCD

Method
The study was conducted during the period of January to July 2023. Initially, a scoping framework for identifying resources and training of interest was co-developed with people living with rheumatic disease. (Table). An online search strategy was developed with guidance from the UCD library using Google search and other PPI platforms. Each PPI resource was reviewed and categorized into sections in the scoping framework. The data was collated using Microsoft Excel.

Results
A total of 31 PPI resource materials were identified; 21 dealt with PPI in general. 25 (80.6%) resources were provided by civil society organizations (such as registered charities and not-for-profit organizations) and 5 (16.1%) were provided by academic organizations. 8 (25.8%) of the resources were specific to rheumatic and musculoskeletal disease (RMD), while the rest were non-disease-specific materials. All the available resources were based on research, available online and in English.

Conclusions
The study is the first part of a project to aid people with RMD to undergo training to become Patient Research Partners (PRP) and then take part in the research process. Further phases of the project will include working with patient research partners to analyze the available data and identify potential gaps in current resources in PPI learning and development in RMD.

Figure

PPI Resources category	Sector	Resource Type	Access	Location	Provider	Language	Specificity	Timeframe
PPI in RMD	Research	Slide decks	Open access	Online	Academic provider	English	Rheumatic and musculoskeletal diseases	Since 2015
PPI generally	Clinical Trial	Online Courses	Closed but free	In Person Ireland	Civil Society Organisations		non-disease specific	Unknown
PPI in Health Technology Assessments (HTA)		Conference content	Fee-based	In Person Europe	Public authorities			
PPI in clinical trials		In person courses		In Person International	Community-led			
PPI with industry**		Hybrid Courses			Consultant/For-profit Expert			
Co-design		Video series			Commercial			
Participatory Action Research		Webinars						
Understanding research		Guidebooks						
		How-to guides						
		Blogs						
		Podcasts						
		Other multimedia						

IRHPS Autumn Meeting
Thursday 21st September 2023

09:00-09:20	**Registration**
09:20:09:30	**Opening Address** **Rachel Kenny- Chairperson IRHPS**
09:30-11:00	***Working Well as a Team Member*** Keynote Speaker: **Ray Goggins** - Coreskill Training
11:00-11:30	Coffee break
11:30 – 12:15	**Join ISR programme.**
12:15-13:00	***A Multifaceted Team Approach*** **YARD team**
13:00-14:00	Lunch
14:00- 14:30	**Gold Abstract Winner (2023)**
14:30- 15:00	**Silver Abstract Winner (2023)**
15:00-15:10	Comfort Break
15:10-15:40	**Joint Gold Abstract Winner (2022)** **Sponsored by Lilly Pharmaceuticals** A Qualitative Systematic Review on Patients' with Rheumatoid Arthritis Perceptions of their Body Image, highlighting implications for clinical practice by the Rheumatology Advanced Nurse Practitioner Stephanie Naramore- Rheumatology ANP Tallaght University Hospital
15:40 – 16:00	**AGM and Prize giving.**
16:00-17:00	**Join ISR programme.**

IRHPS – ABSTRACT NO 1

Shaping the future of the National Musculoskeletal (MSK) Triage Initiative: Exploring the impact of Hybrid Model (virtual and face to face) of MSK Triage at the University of Limerick Hospital Group (ULHG)

Authors information:
Julie Sugrue, Clinical Specialist Physiotherapist, ULHG
Scott Murphy, Clinical Specialist Physiotherapist, ULHG
Mark Kingston, Clinical Specialist Physiotherapist, ULHG
Dr. Sarah Casserley-Feeney, PPL for the National MSK Triage Initiative
Mr. Finbarr Condon, Consultant Orthopaedic Surgeon, National Joint Clinical Lead for the National Clinical Programme for Trauma and Orthopaedic Clinical Programme.
Catriona O'Dwyer, Clinical Specialist Physiotherapist, ULHG
Dr. Olivia McKenna, Clinical Specialist Physiotherapist, ULHG
Dr. Sean McKenna, Clinical Specialist Physiotherapist, ULHG; Research Fellow UCPH

Background/Need:
Rheumatic and musculoskeletal diseases (RMDs) are the leading contributor of disability worldwide (de Thurah et al 2022). The National Musculoskeletal Triage Initiative, ensures patients on Orthopaedic/Rheumatology waiting lists, who are unlikely to require specialist consultant care, are triaged by Clinical Specialist Physiotherapists.
The WHO (2017) advises the development and implementation of eHealth solutions to optimise patient access. Virtual consultations (VC) were used extensively during COVID-19, but have since reverted to traditional face to face (F2F) or Hybrid (VC +/- F2F) models, with limited evaluation of these to date.

Aim:
To review the impact of a Hybrid MSK Triage model in ULHG, over a one-year period.

Methods/process:
Observational retrospective study, using descriptive statistics.

Results/Outcome:
A total of 2,373 new patient consultations, with 63.59%, (n=1509) screened and scheduled for VC and 36.41% (n=864) scheduled for F2F.
Of those scheduled for VC, 47.05% (n=710), were discharged after initial VC. Almost half (49.23%, n=743) were listed for F2F Review (RV), 2.45% (n=37) were listed for VC RV, and 1.35% were referred to Consultant (n=19). DNA rates were lower for VC (13.18%, n=199) than F2F (17.93%, n=155), with waiting times reducing from 188 weeks to 32 weeks.
Outcomes for F2F RV appointments (n=468) indicate that 56.19% (n=263) were subsequently discharged following their appointment. Combining this with discharges from VC, a discharge rate of 46.32%, (n=699) was captured for the Hybrid Model, which is marginally higher than the discharge rate of 44.79% for the traditional F2F model.

Conclusion/Reflection:
A Hybrid model for MSK Triage, was associated with a reduction in patient waiting times from 3 years to 7 months over a one-year period, with reduced DNA rates, and no negative impact on patient discharge rates.

References:
de Thurah A, Marques A, de Souza S, Crowson CS, Myasoedova E (2022). Future challenges in rheumatology - is telemedicine the solution? Ther Adv Musculoskelet Dis. Mar 17;14:1759720X221081638
World Health Organization, 2017. Global diffusion of eHealth: making universal health coverage achievable: report of the third global survey on eHealth. World Health Organization.
Ethical Approval: Results gathered for HSE internal presentation
Implications for practice:
The adoption of Hybrid MSK Triage clinics in ULHG allows for an increase in NP appointment capacity, facilitating maximum utilisation of clinical resources, and overcoming potential limitations posed by lack of physical clinical space.
This has facilitated a reduction in waiting times for MSK triage from 188 weeks to 32 weeks over a one-year period. This has also optimised the use of MSK Clinic space at Consultant clinics for more complex patients who may require consultant RV or discussion on the same day.

Biography:
Julie Sugrue is a Clinical Specialist Physiotherapist who works in MSK Triage at UHLG. She graduated from RCSI in 2004, completed her Masters of Manual Therapy, Perth in 2007, and is currently undertaking a Professional Doctorate at UL. She is a guest lecturer for RCSI undergraduate physiotherapy programme, and previously for UCD.

IRHPS ABSTRACT NO 2

A common rheumatology occupational therapy referral form: Developing uniform referral documentation to streamline referral management and support equitable access to services nationally.

Author(s):
Katie McCausland & Yvonne Codd

Department(s)/Institution(s):
Our Lady's Hospital, Navan & Trinity College Dublin

Background/Need:
The occupational therapy (OT) Rheumatic & Musculoskeletal Disorders Advisory Group (RMDAG) lead projects to standardise processes across rheumatology OT and improve service access. Established processes for national data recording and prioritisation guidelines (AOTI, 2022) have enhanced service standards. Common referral documentation was identified as the next step in supporting access to OT, to assist referring multidisciplinary colleagues to provide key information, support equitable triaging of referrals, and support national data recording.

Aim/Introduction:
To develop a common rheumatology OT referral form to gather comprehensive referral information to enhance triage and enhance established data recording.

Method/Process:
A focus group of RMDAG members discussed the needs and challenges of triaging referrals and key issues were identified. Using the prioritisation guideline (AOTI, 2022) as a template and informed by the key issues, a preliminary form was designed. This preliminary version was circulated to the wider group for feedback. Changes were incorporated to achieve consensus.

Results/Outcome:
A simple form has been designed to assist referrers, provide key information for triaging, and which is aligned with existing OT guidelines. This referral form has been shared nationally with rheumatology departments for use.

Conclusion/Reflection:
This project is aligned with the RMDAG strategy of improving

processes and quality of rheumatology OT services in Ireland. The soft copy form is editable to include local branding and can be adapted for e-referrals.

Implications for practice:
This documentation will support referrers and will assist efficient and accurate triage. It enhances established OT data recording. As the referral form clearly outlines the scope of OT it may also raise awareness within the multidisciplinary team and increase timely appropriate referrals.

References:
AOTI (2022) Rheumatic & Musculoskeletal Disorders Advisory Group: Consensus Statement on Prioritisation Guidelines for Occupational Therapy Rheumatology Services
Nationally. Publications | The Association of Occupational Therapists of Ireland (aoti.ie)

IRHPS ABSTRACT NO 3

Updating the Rheumatic and Musculoskeletal Disorders Advisory Group (RMDAG) Splinting Guidelines to deliver a clinical resource to support Occupational Therapy (OT) practice in Rheumatology.

Author(s):
Katie McCausland, Susan Somerville & Bindu Irudayaraj

Department(s)/Institution(s):
Our Lady's Hospital, Navan; Tallaght University Hospital, Dublin; University Hospital Waterford

Background/Need:
The RMDAG provides networking and support to OTs in the clinical area of rheumatology. Knowledge sharing and skills development are integral to the RMDAG to support therapists' skills levels and competence in this clinical area. A core component of rheumatology OT practice is splinting. The RMDAG identified the 2004 Splinting document as requiring review. An updated version would provide a valuable evidence-based resource to support clinical practice.

Aim/Introduction:
To review and update the existing Splinting Guidelines.

Method/Process:
An informal consensus process within the RMDAG agreed for custom-made splints and prefabricated supports to be included. Initially, work was divided amongst the committee. A core subgroup worked collaboratively to update and develop the Splinting Guidelines, developing new sections on common Rheumatology conditions requiring splinting. A peer review process was used to critically evaluate the literature, integrated with the shared knowledge of experienced RMDAG clinicians. A central platform was used to collate the project.

Results/Outcome:
The Splinting Guidelines draft was completed in early 2023 and will be available as a resource later this year.

Conclusion/Reflection:
The development process was complex and time-consuming, made more challenging as the project team were collaborating virtually, with competing clinical caseload demands. Consensus also took time with differing experience and expertise regarding splinting. However, this robust clinical resource is a worthwhile outcome which will enhance and support practice.

Implications for practice:
This updated resource has aligned research and clinical practice and will assist OTs in their practice by supporting clinical reasoning in splinting.

IRHPS ABSTRACT NO 4

An examination of an exercise and selfmanagement skills programme for children with chronic musculoskeletal pain conditions, and its effect on pain, function and strength.

Author(s):
Rachel Ruddy, Jane Simmonds, Daniel Armitage, Emma Mac Dermott, Orla Killeen

Department(s)/Institution(s):
Rheumatology department, Children's Health Ireland at Crumlin Hospital, University College London.
Background: Paediatric chronic pain is a significant health problem worldwide, and can negatively impact all aspects of quality of life in children and adolescents (World Health Organisation, 2020). A multidisciplinary approach with a biopsychosocial focus is recommended in the management of paediatric chronic pain. There is limited evidence on the optimal format of these interventions. This study examined a group multidisciplinary programme including physiotherapy and occupational therapy for children with chronic musculoskeletal pain conditions. Outcomes on pain, function and strength were investigated.

Method:
Previously collected data on 37 children and adolescents aged 8 to 16 who attended an 8 week Rheumatology group multidisciplinary programme in Children's Health Ireland at Crumlin Hospital, Dublin were utilised. Pain, function and strength were analysed at four time points using Friedman tests: two months pre-intervention, week one and eight of intervention, and three months post-intervention. Parent reported pain and association of demographic and clinical information with outcomes were also assessed.

Results/Outcome:
Changes in function at the three month follow-up were found to be clinically important (median difference -0.25) but not statistically significant ($p=0.986$). Strength scores improved significantly from pre-intervention to post-intervention ($p=0.012$), and from pre-intervention to three month follow-up ($p=0.02$). Child reported pain ($p=0.568$) and parent reported pain ($p=0.2$) were not found to significantly improve. A higher degree of hypermobility was associated with a greater improvement in function ($r2$ adjusted$=0.559$, $p=0.02$).

Conclusion/Reflection:
Implications for practice: A physiotherapy and occupational therapy group programme demonstrated potential benefits for children and adolescents with chronic pain. Further studies using larger samples and psychological input are recommended.

References:
WORLD HEALTH ORGANISATION 2020. Guidelines on the management of chronic pain in children, Geneva, World Health Organization.

Bio:
Rachel completed an MSc in Advanced Paediatric Physiotherapy from University College London Great Ormond Street in 2021. For her MSc dissertation she examined outcomes from the 'Strength and Wellness' group which is running in the Rheumatology service in CHI at Crumlin Hospital, Dublin. Rachel graduated from Trinity College Dublin in 2010, she spent time working in Singapore after graduating and Dublin in both hospital and private settings. She has worked in Crumlin since 2013 and has been specialising in Rheumatology and MSK for the last 7 years.

IRHPS ABSTRACT NO 5

Introducing an Initiative to Provide Safe and Effective Medication Management for Rheumatology Patients in a Clinic setting.

Author(s):
Marian Hayden

Department(s)/Institution(s):
Naas General Hospital

Background/Need:
Disease Modifying Anti-Rheumatic Drugs (DMARDS) require blood monitoring. Patient education and patient participation is required for this to occur. Both Irish and International studies provide details of possible adverse effects from DMARDS.

Aim/Introduction:
To Provide Safe and Effective Medication Management for Rheumatology Patients Through education for Patients and nurses

Method/Process:
HSE (2016) PPPG development cycle was utilised.
Transformational leadership style utilised, with Lewin's change theory. Informed by Hseland health's services change guide. Promoting positive and integration with current practices.
Change measured, leaflet numbers, patient and staff feedback

Results/Outcome:
Full benefit not be visible - time.
Doctor's regular use. Number of leaflets (7.3.22-29.4.22): 78 PIL's
Staff introduced: 5 nurses, 7 Doctors, 2 Clerical staff. 2 MSK physio, 1 specialist physio. Other department staff aware.
Questionnaire:4 nurses participated. PIL useful? Give to patients? 4: yes to both.
Patient survey (7.4.22-4.5.22) 13 patients surveyed. 11/13 received a PIL, 11 found it helpful

Conclusion/Reflection:
Leadership roles promote positive change, research optimises patient care
THSE PPPG development plan (2016) adjusts to introduce change initiative.
NALA and HIQA (2015): Health Literacy, PIL's: user friendly, understandable.
The PIL evidence based research: improves patient compliance, promotes independence Protected time for nurses: to promote initiatives.

Implications for practice:
PIL assists to provide safe and effective medication management
Positive feedback received from patients and staff.
PIL underpinned by evidence based practice using transformational leadership theory, Lewin's change model and the PPPG Development Cycle.
Provided opportunity for continuous professional development. Further initiatives will benefit from process going forward.
Evidence based research in practice, stepwise approach, promoting positive change.
Provided Power point for computer system, clinic and PIL staff training.

References:
Ali S., Ather A., Bond U., Dunlee E., & Regan M. (2019) Adherence by patients on Methotrexate to getting the advised regular laboratory tests done. {(19A145) ABSTRACT 36, REGULAR POSTER 28} Irish Society of Rheumatology. Autumn 2019 pg54-55.
Anger F., Wiegering A., Wagner J., Lock J., Baur J., Haug L., Schmalzing M., Geier A., Löb S. & Klein I. (2017) Toxic drug-induced liver failure during therapy of rheumatoid arthritis with tocilizumab subcutaneously: a case report; Rheumatology;56 (9) :16281629 doi:10.1093/rheumatology/kex221 Advance Access publication 1 June 2017
Fischer S.A. (2016) Transformational leadership in nursing: a concept analysis. Journal of Advanced Nursing.72 (11), 2644–2653. doi: 10.1111/jan.13049
Health Information & Quality Authority (HIQA) (2012) A Guide to the National Standards for Safer Better Healthcare. Dublin. www.hiqa.ie
HSE (2016) HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs) HSE, Dublin
HSE (2019) Quality Improvement Toolkit an Introduction. HSE. Dublin. www.qualityimprovement.ie
HSE (2020) by all, with all, for all: a strategic approach to improving quality 2020-2024.HSE. Dublin. www.qualityimprovement.ie
Kent P.D., Luthra H.S. & Michet C.J. (2004) Risk factors for methotrexate-induced abnormal laboratory monitoring results in patients with rheumatoid arthritis. The Journal of Rheumatology, 31(9)1727-1731.
Marquis B.L. & Huston C.J. (2015) Leadership Roles and Management Functions in Nursing. 8thedn. Wolter Kluwer, CA
McCarthy N. & Mongey A.B (2015) 'An Audit of Compliance with Recommended Blood Monitoring for Methotrexate Toxicity in Patients Attending the Svuh Rheumatology Department as Outpatients', IRISH JOURNAL OF MEDICAL SCIENCE, 184, 565–566,
National Adult Literacy Agency (NALA) and Health Information and Quality Authority (HIQA), (2015) Guidance for providers of health and social care services Communicating in plain English

Biography:
Marian qualified in 2000 (UK). Working in the Mater Hospital from 2000. Then Naas General Hospital in 2003. She has worked in OPD since 2010, on the rheumatology clinic (2014), joining Rheumatology as a CNM2 (Dec2021). Completed her Degree in Nursing Studies for Clinical practice (2022). Undertaking Graduate diploma in chronic illness(2022-24).

IRHPS ABSTRACT NO 6

A review of vaccination uptake among immunosuppressed patients with Rheumatoid Arthritis

Author(s):
Sarah Dawson, Dr. Catherine Hughes

Department(s)/Institution(s):
Rheumatology OPD Naas General Hospital

Background/Need:
People with rheumatoid arthritis who are being treated with immunosuppressive medications are more susceptible to vaccine preventable illness and more serious complications of infection. Compared to the general population the immunogenicity and safety of vaccines differ for the person with Immunosuppressed treated rheumatoid arthritis. For this cohort there is recommended indications and medication scheduling.

Aim/Introduction:
This is a review of patients attending an outpatient service in Naas General Hospital. It will include patients with a diagnosis of rheumatoid arthritis who are being treated with immunosuppressive medication. The tool is to evaluate vaccine uptake amongst this cohort. It will enquire if patients have had a discussion with their healthcare provider regarding their vaccine status during clinical review. Clinical reviews are documented on an electronic record keeping system- CELLMA.

Method/Process:
A designed audit tool included patients with seropositive rheumatoid arthritis in OPD clinic between Jan 2023 and March 2023. Data included vaccine uptake of influenza vaccination and Covid vaccination and subsequent boosters of this cohort in the last year. It also included weather a discussion regarding vaccines occurred during face to face review.

Results/Outcome:
The audit highlights where poor vaccine uptake is noted and the poor level of discussion at clinic reviews with patients in the rheumatology service.

Conclusion/Reflection:
The encouragement to have the discussion in clinics with the patient and vaccines.

Implications for practice:
After this audit there is a plan made to encourage the discussion with patients about the efficacy of vaccines for this cohort and make recommendations according to best practice guidelines.

References:
Costello R, Winthrop KL, Pye SR, Brown B, Dixon WG (2016) Influenza and Pneumococcal Vaccination Uptake in Patients with Rheumatoid Arthritis Treated with Immunosuppressive Therapy in the UK: A Retrospective Cohort Study Using Data from the Clinical Practice Research Datalink. PLoS ONE 11(4): e0153848. https://doi.org/10.1371/journal.pone.0153848
Curtis, J. R., Yang, S., Patkar, N. M., Chen, L., Singh, J. A., Cannon, G. W., Mikuls, T. R., Delzell, E., Saag, K. G., Safford, M. M., DuVall, S., Alexander, K., Napalkov, P., Winthrop, K. L., Burton, M. J., Kamauu, A., & Baddley, J. W. (2014). Risk of hospitalized bacterial infections associated with biologic treatment among US veterans with rheumatoid arthritis. Arthritis care & research, 66(7), 990–997. https://doi.org/10.1002/acr.22281
Doran, M. F., Crowson, C. S., Pond, G. R., O'Fallon, W. M., & Gabriel, S. E. (2002). Frequency of infection in patients with rheumatoid arthritis compared with controls: a population-based study. Arthritis and rheumatism, 46(9), 2287–2293. https://doi.org/10.1002/art.10524#
Fernandez-Martinez, S., Cortes, X., Borrás-Blasco, J., Gracia-Pérez, A., & Casterá, M. E. (2016). Effectiveness of a systematic vaccination program in patients with autoimmune inflammatory disease treated with anti-TNF alpha drugs. Expert opinion on biological therapy, 16(11), 1317–1322. https://doi.org/10.1080/14712598.2016.1218844
McCarthy, E. M., de Barra, E., Bergin, C., Cunnane, G., & Doran, M. (2011). Influenza and pneumococcal vaccination and varicella status in inflammatory arthritis patients. Irish medical journal, 104(7), 208–211.
Sandler, D. S., Ruderman, E. M., Brown, T., Lee, J. Y., Mixon, A., Liss, D. T., & Baker, D. W. (2016). Understanding vaccination rates and attitudes among patients with rheumatoid arthritis. The American journal of managed care, 22(3), 161–167.
Wellmann P, Kromer C, Siemer R, Klein S, Mohr J, Lippert U, Pinter A, Wilsmann-Theis D, Mössner R. Low Pneumococcal Vaccination among Patients with Psoriasis in Germany: Results from Vac-Pso. Vaccines (Basel). 2022 Jun 23;10(7):1005. doi: 10.3390/vaccines10071005. PMID: 35891172; PMCID: PMC9315583.

Biography
Sarah Dawson is currently working as a CNM2 in Rheumatology Outpatients Naas General Hospital since 2022. She finished general nursing degree training in 2012 with UCD and the Mater Misericordiae. She has a background in geriatrics and completed a MSc in Dementia with Trinity College Dublin.

IRHPS ABSTRACT NO 7

Development and implementation plan for a Dance Class for individuals with rheumatic and musculoskeletal disease.

Author(s):
Georgia-Rose Short, Simon Bryan, Ruth Dwyer, Aoife Nyhan, Tom O'Dwyer

Department(s)/Institution(s):
Physiotherapy Department, Our Lady's Hospice & Care Services (OLHCS)

Background/Need:
The Physiotherapy Department in OLHCS explored the benefits and practicability of implementing a Dance Class in the Rheumatic and Musculoskeletal Diseases Unit (RMDU).

Aim/Introduction:
To report the development process and implementation plan for this service development project.

Method/Process:
The project followed the 'Five Steps of Evidence Based Practice' framework (Leen et al, 2014).
1) The focused clinical question was 'Is dance an effective exercise intervention for people with rheumatic conditions'. 2) A narrative literature review was undertaken, complemented by a review of an established Dance Class. 3) These review outputs were evaluated to determine the potential benefits and applicability to the RMDU setting. 4) The development and implementation of an RMDU Dance Class was approved. 5) A service evaluation plan was prepared.

Results/Outcome:
A databases search identified 113 records, with 19 studies selected for review. These included individuals with rheumatoid arthritis, fibromyalgia, and chronic pain participating in dance-based interventions. Improvements in pain, function, and mental health were reported. The established Dance Class was deemed safe, with benefits for participants' balance and mobility, and with high participant satisfaction. Based on these results, a twice-weekly, 30-minute Dance Class was devised. Classes (completed in sitting or standing) included a warm-up, a main dance phase, a cool-down, and brief rest periods. Choreography varyingly targeted individuals' balance, cardiovascular fitness and coordination. Exercise intensity was self-selected. Participant-to-staff ratio was 4:1. Mobility status, precautions and contraindications were screened at referral.

Conclusion/Reflection:
This project developed an evidence-informed Dance Class suitable for individuals in the RMDU.

Implications for practice:
Referral to the service began in March 2023. A service evaluation will review service usage, safety, participants' experiences and outcomes.

References:
Leen, B., Bell, M. & McQuillan, P. (2014). Evidence-based practice: a practice manual. Health Service Executive (HSE). http://hdl.handle.net/10147/317326.

IRHPS ABSTRACT NO 8

Service evaluation of a Dance Class for individuals with rheumatic and musculoskeletal disease

Author(s):
Georgia-Rose Short, Tom O'Dwyer

Department(s)/Institution(s):
Physiotherapy Department, Our Lady's Hospice & Care Services (OLHCS)

Background/Need:
The Physiotherapy Department at OLHCS launched a new Dance Class service for individuals admitted to the Rheumatic and Musculoskeletal Diseases Unit (RMDU). The twice-weekly, 30-minute Dance Class was delivered as part of a multi-disciplinary intervention.

Aim/Introduction:
This summary presents the findings of an initial service evaluation (approved by the Clinical Audit Committee).

Method/Process:
Over a 14-week period, Dance Class attendees were invited to: 1) provide informed consent to participation, and 2) complete a service evaluation questionnaire. Demographic and clinical data were extracted from clinical records. The number of attendees, adverse events, and deviations from standard class operations were recorded. Descriptive statistics profiled participants' characteristics and Dance Class features. Inductive coding of responses to open-ended questions was completed, with codes grouped into categories.

Results/Outcome:
Twenty-one individuals consented to this project (18 females; median age 61 years (IQR: 14; range: 29–82)). Each attended a median of 2 (2; 1-4) dance classes. No adverse events were reported. The most common primary diagnoses were osteoarthritis (38%) and fibromyalgia (29%). All participants were independently mobile (19% with mobility aid). Respondents positively highlighted 'Class Features' (music, instructors, and dance moves), 'Fun' and 'Physical Activity' (57%, 48% and 43%, respectively). A longer duration, and a slower speed would be preferred by some (29% and 14%, respectively). The median perceived difficulty of the class was 3 (IQR: 4; scale: 0 ('Not difficult at all') – 10 ('Extremely Difficult')).

Conclusion/Reflection:
The recently introduced Dance Class was deemed safe and practicable. Respondents' experiences were largely positive.
Implications for practice:
Suggested changes will be considered for future updates to the class; clinical outcomes will be reported in future service reviews.

IRHPS ABSTRACT NO 9

Evaluation of an Occupational Therapy (OT) Rheumatology Webinar Series facilitated by the AOTI Rheumatic and Musculoskeletal Disorder Advisory Group (RMDAG) - supporting continuous professional development (CPD) and future workforce expansion

Author(s):
Jane Brownlee[1], Paula Minchin[1], Susan Somerville[2], Aoife Synnott[3], Katie McCausland[4]

Department(s)/Institution(s):
[1]Naas General Hospital, [2]Tallaght University Hospital, [3]Our Lady's Hospice and Care Services, Harold's Cross, [4]Our Lady's Hospital, Navan

Background/Need:
As the RMDAG seeks to support the expansion of the Rheumatology OT workforce nationally, there is a concurrent need to provide CPD opportunities. Effective CPD has a positive impact on a therapist's ability and confidence in the self-management approach required in this role (Nikiphorou et al, 2021).
Aim/Introduction: To implement and evaluate a Rheumatology OT education webinar series designed to maximise the knowledge and confidence of OTs working in this clinical area.

Method/Process:
The RMDAG designed and facilitated a series of four webinars on evidence-based Rheumatology OT practice. Webinars aimed to enhance awareness of the OT role, highlight resources, and increase knowledge and confidence levels. Participant feedback was gathered via live polls and an online survey after the series. Levels of awareness, knowledge and confidence were evaluated.

Results/Outcome:
Up to 70 participants attended each webinar with an average of 47 respondents in live polls. Improved levels of knowledge and confidence were observed after the series. 'Moderate/high' levels of knowledge increased from 38% to 87%, while 'moderate/high' levels of confidence rose from 43% to 78%. 'Moderate/high' levels of awareness of Rheumatology services improved from 14% to 93%. Improvements were observed pre-post each individual webinar. Subjective feedback indicated that the series was informative, accessible and relevant to practice. Of those who attended the final webinar, 74% indicated that they would consider a job in Rheumatology.

Conclusion/Reflection:
Participant feedback suggests that this CPD model can build OTs' levels of confidence and knowledge in this clinical area.

Implications for practice:
RMDAG will utilise feedback to tailor future CPD opportunities to meet the needs of OTs interested in Rheumatology, thereby supporting their role and promoting workforce expansion.

References:
Nikiphorou, E., Santos, E. J. F., Marques, A., Böhm, P., Bijlsma, J. W., Daien, C. I., Esbensen, B. A., Bosworth, A., Fragoulis, G. E., Holmes, P.,McBain, H., Metsios, G. S., Moe, R. H., Stamm, T. A., de Thurah, A.,Zabalan, C., Carmona, L., & Bosworth, A. (2021). 2021 EULAR recommendations for the implementation of self-management strategies in patients with inflammatory arthritis. Annals of the Rheumatic Diseases, 80(10), 12

IRHPS ABSTRACT NO 10

'Are we there yet?' The journey to optimal patient engagement in the Early Inflammatory Arthritis Clinic (EIAC)

Author(s):
Brid Mc Osker, Senior OT: Michelle Campbell, Senior PT: Ann Finnerty Advanced Rheumatology RN: Dr. Bernadette Lynch Consultant in Rheumatology and General Medicine

Department(s)/Institution(s):
Merlin Park Hospital, Galway University Hospitals

Background/Aim/Introduction:
The Early Inflammatory Arthritis Clinic (EIAC) was established in November 2022. A Quality Improvement (QI) project on patient education was carried out by the Occupational Therapist and Physiotherapist. The starting point began with establishing and

optimising the multidisciplinary team (MDT) and embarking on a journey towards embedding good practices in patient engagement. This study seeks to evaluate our patient engagement journey to date.

Method/Process:
A survey was developed via survey monkey seeking MDT staff opinions on how our team was working together. Results were analysed descriptively and qualitative comments were noted. Also a checklist on patient engagement from the HSE Better Together Roadmap (2023) was completed as a benchmark.

Results/Outcome:
Our QI project provided us with an agenda setting tool seeking patients' preferences and a framework for the delivery of patient education. This assesses patient readiness for change and sets priorities using a collaborative approach. Staff responding to the survey agreed that everyone's input was valued and listened to and that there is a 'we are in this together' attitude within the team. The patient engagement checklist confirmed a score of 21/40.
Conclusion/Reflection/Implications for practice:
Before starting our QI, the expectation was that it would lead to the development of a 'wardrobe' of patient education resources. As we moved through the QI process we realised that patient engagement is the cornerstone to patient education. The QI was the beginning of our journey to embed good patient engagement practices in the start-up of the EIAC MDT. Next steps: evaluate patients' experience and satisfaction of the EIAC and engage patients in the development of a booklet for the EIAC.

References:
HSE Patient Engagement Roadmap, 2023

IRHPS ABSTRACT NO 11

Are we a "real team"? Exploring the impressions of the Multidisciplinary Team (MDT) in the Early Inflammatory Arthritis Clinic (EIAC)

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Brid Mc Osker, Senior OT: Michelle Campbell, Senior PT: Ann Finnerty Advanced Rheumatology RN: Dr. Bernadette Lynch, Consultant in Rheumatology and General Medicine

Department(s)/Institution(s):
Merlin Park Hospital, Galway University Hospitals

Aim/Introduction:
The MDT for the EIAC was established in November, 2022. '"Real teams" are defined as teams whose members have shared objectives and work closely and effectively together1. This study investigates the insights of the team attending the MDT meetings.

Method/Process:
At the inaugural meeting, a nominal group thinking exercise was completed. After 8 meetings, a short 'survey monkey' was sent to the MDT with rating scales, fixed choice answers and open ended question to seek commentary. Results were analysed descriptively and qualitative comments were analysed.

Results/Outcome:
All participants agreed that the team works together effectively in meeting the objectives of the meeting, that each member's input is valued and that there is a 'we are in this together' attitude within the team. All agreed that the time and frequency of the meetings was appropriate. Positive themes that emerged were the impact the meetings had in helping team members understand one another's roles, effective leadership and the value of working together to problem solve issues for the patient. Suggested areas for improvement include alternating roles for the administration of the meetings and managing time.

Conclusion/Reflection/Implications for practice:
The meetings clarified team roles and responsibilities. Expectations were identified from the outset. Engaged staff, result in better patient experience and good teamwork results in improved patient outcomes1. Areas for improvement have been highlighted to support integrated working, enabling the implementation of the objectives of the EIAC. This study is part of a larger quality initiative to improve patient education and engagement

References:
1. HSE Patient Engagement Roadmap, 2023

IRHPS ABSTRACT NO 12

The effect of rehabilitation on Balance in Ireland's new inpatient RMDU.

Authors:
Maria McGrath, Kate Mac Namara, Michelle Fitzgerald, Catherine Slattery, Professor David Kane, Professor Ronan Mullan, Dr Diana Gheta, Dr Catherine Hughes, Elizabeth Kavanagh, David Byrne

Background:
The Rheumatology and Musculoskeletal Disease unit (RMDU), opened in Peamount Healthcare (PH) in December 2022.
Recent studies identified that approximately 50% of people with arthritis reported one or more falls in a 12-month period.
In a study by Donoghue, D. et al, 2008, a true change in balance was identified depending on the initial balance score on the Berg Balance Scale (BBS). A change of 4 points is needed to be 95% confident that true change has occurred. If patients score within 45– 56 initially, 5 points if they score within 35–44, 7 points if they score within 25–34 and, finally, 5 points if their initial score is within 0–24 on the BBS.
The aim of this service evaluation is to determine if a true change in BBS was observed in pre and post assessment scores on those attending the unit.

Methods:
The BBS was assessed within 48hours of admission onto and within 48hours of discharge off the unit.

Results:
Of those recorded 62% scored within 45-56, 19% scored within 35-44, 12.7% scored 25-34, 4% scored 0-24 on initial assessment. In the 45-56 range, a true change (4) was demonstrated in 21% of patients. In the 35-44 range, a true change (5) was demonstrated in 89% of patients. In the 25-34 range, a true change (7) was demonstrated in 66.7% of patients. In the 0-24 range, a true change (5) was demonstrated in 50% of patients.

Conclusion:
40% of patients assessed demonstrated a true change in BBS. This may reduce the risk of falling following their stay in the RMDU in PH.

IRHPS ABSTRACT NO 13

Can Nitric Oxide delivery help Achilles tendinopathy? A randomised double-blind placebo-controlled trial to investigate Topical glyceryl triNitrate (GTN) and eccentric Exercises in the treatment of midportion Achilles Tendinopathy (the NEAT trial)

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Department(s)/Institution(s):
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Background:
Achilles tendinopathy (AT) is a challenging condition to treat with the majority of patients still symptomatic one year after onset of symptoms. Glyceryl trinitrate (GTN) has been investigated in AT with conflicting results reported1,2.
Aim: To investigate if daily topical GTN over 24 weeks, combined with a 12-week eccentric exercise programme is more effective for chronic midportion Achilles tendinopathy than placebo ointment and eccentric exercise.

Method:
This was a single-site randomised double-blind placebo-controlled clinical trial. Seventy-six patients with chronic mid-portion Achilles tendinopathy were randomised to 24 weeks of daily GTN ointment or placebo ointment. Both groups received an identical 12-week eccentric exercise program. Patients were assessed at 6, 12 and 24 weeks. The primary outcome measure was the Victorian Institute of Sport Assessment–Achilles (VISA-A) questionnaire. Secondary outcomes included pain severity, lower extremity functional scale, calf function, pressure pain thresholds and ultrasound changes. Statistical analyses were performed according to intention-to-treat principles.

Results:
Mean VISA-A scores at baseline, week 6, 12 and 24 were 47.2±14.5, 67.8±15, 79±14.4 and 87.1±14 for the GTN group and 52.2±14.5, 69.8±15.9, 80.2±17.5 and 85.1±16.8 for the placebo group. Significant improvements in VISA-A scores occurred in both groups at each timepoint. The increase was not significantly different between both groups (adjusted between group difference from baseline to week 12, -1.25; 95% CI, -8.0 to 5.49; and week 24, -3.8; 95% CI, -10.6 to 3.0). There was no significant difference in any of the secondary outcome measures at 6,12 and 24 weeks.

Conclusion:
This is the first trial to investigate topical GTN ointment in tendinopathy. GTN ointment and exercise was no more effective than placebo and exercise for patients with Achilles tendinopathy.

References:
1. Paoloni et al. JBJS (2004)
2. Kane et al. AJSM (2008)

IRHPS ABSTRACT NO 14

Establishing an Occupational Therapy (OT) service within a new Rheumatic and Musculoskeletal Disease Unit (RMDU): A collaborative approach.

Author(s):
Elizabeth Kavanagh Senior Occupational Therapist, Clare Conlon Occupational Therapy Manager

Department(s)/Institution(s):
Peamount Healthcare

Background/Need:
Owing to national recruitment challenges and the small pool of OTs with rheumatology experience, a decision was made to upskill an existing member of the Peamount Healthcare OT team. This was achieved with the support and guidance of RMD OTs working in Naas General Hospital(NGH), Tallaght University Hospital(TUH) and Our Ladys' Hospice and Care Services. The service opened In December 2022 and continues to evolve.

Aim:
To successfully establish an inpatient RMD OT service within an IDT framework which aims to promote self-management of RMD.

Method/Process:
This included networking with rheumatology OT services; sharing of resources and outcome measures; shadowing and availing of training opportunities; setting up a clinical supervision structure; development of care pathways between services; development of KPI's and patient experience forms.

Results/Outcome:
Since opening, 90 patients have been admitted to the RMDU. They were assessed and treated by OT through individual and group interventions, with the aim of promoting self-management of RMD conditions in the community, and optimising independence in meaningful activities.

Conclusion/Reflection:
Reflection: Overall, patients have reported an improvement in the performance of their meaningful occupations (indicated by the COPM). 85% of the first 25 patients strongly agreed that the service helped to overcome everyday barriers.

Implications:
This collaborative approach led to the setting up an implementation of a successful OT service within the wider IDT framework. This approach could be replicated, particularly in times of recruitment difficulties.

IRHPS ABSTRACT NO 15

A proposal to develop direct access ANP led clinic for new patients presenting with likely diagnosis of Axial Spondyloarthropathy to Rheumatology MRHT

Author(s):
Eileen Shinners, Angela Camon, Dr Ausaf Mohammad, Dr Imran Ali, Dr Ibrahim Abdallah, Dr Killian O'Rourke

Department(s)/Institution(s):
Dept of Rheumatology, MRH Tullamore (MRHT)

Background:
Advanced Nurse Practitioner (ANP) posts are becoming more common within healthcare, with Rheumatology awarded a number

of posts in 2017 (Minnock and Ryan, 2018). Rheumatology ANPs provide care to specific cohorts of patients, with an expanded scope of practice, providing evidence-based care to maximise medication management, self-management and function while preventing long-term complications of rheumatic diseases.

Method:
1 ANP post was allocated to MRHT in 2017, to have a primary focus on managing patients with seropositive Rheumatoid Arthritis, therefore we are seeking to secure another ANP post to focus on patients with likely Axial Spondyloarthropathy (AxSpA).

Aim:
Develop a nurse-led service supporting AxSpA patients from diagnosis through year 1 of treatment, and demonstrate value for this patient cohort.

Process:
Patients with identified HLA B27 positivity; imaging confirming sacroiliitis/ spinal inflammatory change and/or symptoms of inflammatory back pain will attend ANP-led AxSpA clinic for assessment/ confirm their diagnosis (with consultant support). ANP care will include (as minimum) patient education, nurse prescribing (NSAID trial), pre-biologic and comorbidity screening, serial outcome measurement, physiotherapy referral, review of modifiable risks (including smoking/ alcohol/ weight, etc), and family planning discussion across 3-4 appointments in year 1.

Conclusion:
ANPs are expected to provide high quality effective to patients and demonstrate value to healthcare (Bech et al, 2020). This ANP-led clinic aims to provide more rapid access for AxSpA patients, who demonstrate high disease burden with often delayed diagnosis; and support early induction/ maintenance of remission to maximise outcome over time. The goal is to refer these patients back to the medical clinics after a year of ANP-led care with better disease knowledge/ control for annual follow up as per usual care.

References:
Bech B, Primdahl J, van Tubergen A, et al (2020) 2018 update of the EULAR recommendations for the role of the nurse in the management of chronic inflammatory arthritis. Ann Rheum Dis. 79(1):61-68. PMID: 31300458.
Minnock, P. and Ryan, A.M., 2018. FRI0729-HPR Rheumatology advanced nurse practitioners treat to target person centered care: ireland's policy framework. 77, 1812. doi: 10.1136/annrheumdis-2018-eular.4010

IRHPS ABSTRACT NO 16

Evaluation of formal introduction of comorbidity screening for patients attending Rheumatology nurse-led clinics in MRHT

Author(s):
Eileen Shinners, Angela Camon, Dr Ausaf Mohammad, Dr Imran Ali, Dr Ibrahim Abdallah, Dr Killian O'Rourke

Department(s)/Institution(s):
Dept of Rheumatology, MRH Tullamore (MRHT)

Background:
Evidence supporting the nurse's role in managing chronic inflammatory arthritis has grown exponentially since the introduction of EULAR guidelines (van Eijk-Hustings et al, 2012). Despite the improvement in morbidity/ mortality with the biologics/ Methotrexate, patients remain at risk for a number of comorbidities e.g. infection, cardiovascular events, and osteoporosis (Dougados et al, 2015).

Aim:
To capture data on personal/ family history of a number of comorbidities and associated risk behaviours for inflammatory arthritis patients attending nurse-led appointments.

Method:
Patients attending CNS clinics with chronic inflammatory arthritis were assessed using a locally agreed assessment tool between April and June 2023. Data about personal/ family history of fracture/ osteoporosis, personal/ family history of myocardial infarction, stroke, clot, hypertension, hypercholesterolaemia, and personal exercise, smoking/ alcohol intake was recorded. Personal history of COVID infection, and vaccination status for COVID/ flu and pneumonia was also captured.

Results:
Data from 67 face to face CNS review appointments assessments were available for analysis, including 34 Rheumatoid Arthritis, 19 Psoriatic Arthritis, 4 Axial Spondylo-arthropathy and 10 others. Records were examined for reporting of comorbidities as above. 5 had no data recorded on any category; most recorded categories were exercise/ smoking status and least recorded was reporting of COVID infection to date (see table below).

Conclusion:
Nurse-led care provides an ideal opportunity to discuss health promotion and support patients to minimise risk of developing comorbid conditions. Evidence supports nurse-led comorbidity screening for bone health, cardiovascular risk and vaccination status (Gossec et al 2019), as well as needs based education, and promotion of patient self-management (Bech et al, 2020).

References:
Bech B, Primdahl J, van Tubergen A, Voshaar M, Zangi HA, Barbosa L, Boström C, Boteva B, Carubbi F, Fayet F, Ferreira RJO, Hoeper K, Kocher A, Kukkurainen ML, Lion V, Minnock P, Moretti A, Ndosi M, Pavic Nikolic M, Schirmer M, Smucrova H, de la Torre-Aboki J, Waite-Jones J, van Eijk-Hustings Y. 2018 update of the EULAR recommendations for the role of the nurse in the management of chronic inflammatory arthritis. Ann Rheum Dis. 2020 Jan;79(1):61-68. doi: 10.1136/annrheumdis-2019-215458. Epub 2019 Jul 12. PMID: 31300458.
Dougados M, Soubrier M, Perrodeau E, et al (2015) Impact of a nurse-led programme on comorbidity management and impact of a patient self-assessment of disease activity on the management of rheumatoid arthritis: results of a prospective, multicentre, randomised, controlled trial (COMEDRA). Ann Rheum Dis. Sep; 74(9):1725-33. doi: 10.1136/annrheumdis-2013-204733.
Gossec L, Soubrier M, Foissac F, et al (2019) Screening for and management of comorbidities after a nurse-led program: results of a 3-year longitudinal study in 769 established rheumatoid arthritis patients
RMD Open; 5:e000914. Accessed 19/7/2023@ https://rmdopen.bmj.com/content/5/2/e000914
van Eijk-Hustings Y, van Tubergen A, Boström C, et al. (2012) EULAR recommendations for the role of the nurse in the management of chronic inflammatory arthritis. Ann Rheum Dis; 71:13–19

Table 1- Data available from records reviewed

Diagnosis	Recorded	Not recorded	No data available
Exercise	60	2	5
Smoking	60	2	5
Alcohol	57	5	5
Vaccines	52	10	5
CV events/ risk	48	14	5
Bone health	49	11	7
COVID infection	35	25	7

IRHPS ABSTRACT NO 17

Review of infusions provided to patients attending Rheumatology in MRHT

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Department(s)/Institution(s):
Dept of Rheumatology, MRH Tullamore (MRHT)

Background:
Despite increases in oral/ subcutaneous medication options to treat inflammatory arthritis, a minority of patients continue to require intravenous (IV) treatment (Heald et al, 2021). These patients typically have complex/ refractory disease, have tried alternatives, and/ or have limited treatment choices.

Aim:
Review IV therapies delivered to Rheumatology patients, and review the nursing resources needed to deliver this service.

Method:
The infusion database was reviewed, nursing time required to deliver the service was calculated and opportunities for further improvements were explored.

Results/Outcome:
In the year to 30/06/2023, 44 patients received 6 different IV therapies. 30 patients attended the Oncology/ Haematology Day unit for IV Rituximab, receiving a total of 98 infusions. 14 received the remaining 87 infusions administered in Day Hospital by the Rheumatology CNS. Pre-treatment education, blood monitoring, medication ordering, admission & prescription requests are coordinated for all patients by the Rheumatology CNS. A further 10 patients had treatment on hold for a variety of reasons during this time. Reduction in requirements for infusions were met through switching from IV Infliximab to sub-cut (Verma et al, 2021), trial of sub-cut for other biologics, switch to alternatives where appropriate.

Conclusion/ Reflection:
With limited capacity, IV infusions are administered to approx. 3% of Rheumatology patients in MRHT and used only when no other option is available. Approx 20% of CNS working week is currently required to maintain the infusion service in its current format which adds significantly to infusion related costs (Schmier et al, 2017). Additional nursing hours/ access to a dedicated infusion suite could provide a more cost-effective option to providing this service with CNS support.

References:
Verma, A.M., Patel, A., Subramanian, S. and Smith, P.J., 2021. From intravenous to subcutaneous infliximab in patients with inflammatory bowel disease: a pandemic-driven initiative. The Lancet Gastroenterology & Hepatology, 6(2), pp.88-89.
Heald, A., Bramham-Jones, S. and Davies, M., 2021. Comparing cost of intravenous infusion and subcutaneous biologics in COVID-19 pandemic care pathways for rheumatoid arthritis and inflammatory bowel disease: A brief UK stakeholder survey. International Journal of Clinical Practice, 75(9), p.e14341.
Schmier, J., Ogden, K., Nickman, N., Halpern, M.T., Cifaldi, M., Ganguli, A., Bao, Y. and Garg, V., 2017. Costs of providing infusion therapy for rheumatoid arthritis in a hospital-based infusion center setting. Clinical therapeutics, 39(8), pp.1600-1617.
Köhler, B.M., Günther, J., Kaudewitz, D. and Lorenz, H.M., 2019. Current therapeutic options in the treatment of rheumatoid arthritis. Journal of clinical medicine, 8(7), p.938.
Aggarwal, R., Charles-Schoeman, C., Schessl, J., Bata-Csörgő, Z., Dimachkie, M.M., Griger, Z., Moiseev, S., Oddis, C., Schiopu, E., Vencovský, J. and Beckmann, I., 2022. Trial of intravenous immune globulin in dermatomyositis. New England Journal of Medicine, 387(14), pp.1264-1278.

IRHPS ABSTRACT NO 18

Service innovation to introduce use of dictation software programme in the Rheumatology service in MRHT

Author(s):
Eileen Shinners, Angela Camon, Dr Ausaf Mohammad, Dr Imran Ali, Dr Ibrahim Abdallah, Dr Killian O'Rourke

Department(s)/Institution(s):
Dept of Rheumatology, MRH Tullamore

Background:
Timely communication between caregivers is essential to good quality patient care (Ajami, 2016). Availability of admin staff to support processing of patient data/ letters following outpatient review appointments continues to create challenges and barriers within the health system.

Introduction:
Traditional methods of dictation/ transcription are being replaced with innovative solutions to reduce the admin burden associated with clinical care. Following the successful pilot within another department, Tpro Dictate™ became available for use by Rheumatology staff in MRHT for clinical communication.

Process:
Each individual user requires an app downloaded typically to their phone, and user privileges granted. Patient data can be manually inputted into the app, or patient clinic lists are available on the day to add the dictation directly. Letters can be edited/ modified prior to final approval. Different letter formats are available for use depending on letter type required.

Results:
In the year to 30/06/2023, > 2700 letters were completed, including clinical letters following medical/ nursing face to face review appointments, nursing virtual review appointments, medical correspondence with GPs and other healthcare professionals and letters to patients detailing test results.

Conclusion:
Service demands necessitate implementation innovative solutions to manage workload and ensure timely, effective communication. Use of dictation software has shown benefits in radiology (Ajami, 2016), emergency care (Dela Cruz et al, 2014) and psychiatry (Fernandes et al, 2018). Tpro Dictate™ has been successfully adopted by Rheumatology staff in MRHT for clinical communication, which has facilitated a switch to electronic mailing of GP letters.

References:
Ajami, S. (2016) Use of speech-to-text technology for documentation by healthcare providers. The National medical journal of India, 29(3), p 148.
Dela Cruz, J.E., Shabosky, J.C., Albrecht, M., Clark, T.R., Milbrandt, J.C., Markwell, S.J. and Kegg, J.A. (2014) Typed versus voice recognition for data entry in electronic health records: emergency physician time use and interruptions. Western Journal of Emergency Medicine, 15(4), p 541.
Fernandes, J., Brunton, I., Strudwick, G., Banik, S. and Strauss, J. (2018) Physician experience with speech recognition software in psychiatry: usage and perspective. BMC Research Notes, 11, 1-5.

Table 1-

Team	No of users	No of letters completed	Date of 1st use	No of months using T Pro™
Dr K O'Rourke	5	1134	28/11/2022	7
Dr A Mohammad	16	1121	08/06/2022	12
Nursing	1	475	12/09/2022	9
Totals	22	2730		

IRHPS ABSTRACT NO 19

An Audit of the Productivity of a New General Rheumatology Clinic

Author(s):
Ms. Rachel Kenny [1], Ms. Sarah Dawson [2]. & Dr. Catherine Hughes [3].

Department(s)/Institution(s):
1. Naas General Hospital
2. Naas General Hospital
3. Naas General Hospital/Tallaght University Hospital/ Peamount Hospital

Background:
The rheumatology service at Naas General Hospital (NGH) has expanded in recent years. Late 2021 saw the commencement of a new consultant led, general rheumatology clinic. From 2021-2023 it was noted that although there was a significant reduction in the waiting list, clinic was finishing early with inconsistencies in the amount of patients being seen by team members. This made it difficult to forward plan and allow for additional new patient and return patient slots.

Aim/Introduction:
The aim of this review was to retrospectively capture clinic data to quantify the amount of scheduled appointments, the number of patients whom actually attended, the number of non-attenders (DNA) number of cancelled appointments and identify the percentage of new and return patients seen by each team member.

Methods:
Clinic lists of patients who attended the rheumatology clinic over a six month period between October 2023 and April 2023 were gathered via PAS scheduling system. Each patient MRN was entered into the electronic patient record (EPR) and checked which team member reviewed the patient on the clinic date. This data was collected on a spread sheet.

Results/Outcome:
3.5 hours of clinical time for each of the attending team members. It was found that all team members were under productive and should seeing twice the amount of patients being reviewed by the most productive team member.

Reflection:
1. The clinic could be overbooked by up to 20% due to the high DNA rate.
2. The ANP could potentially see more return patients with additional clerical support.
3. To effectively reduce the waiting lists, human resources need to be adequately utilised.

IRHPS ABSTRACT NO 20

Screening for Interstitial Lung Disease (ILD) in Scleroderma, what's physio got to do with it?

Author(s):
Petrina Donohue, Dr. Shawn Chavrimootoo,

Department(s)/Institution(s):
Our Lady's Hospital, Navan (OLHN), Co. Meath

Background/Need:
ILD is a complication of Scleroderma and is associated with significant morbidity & mortality. Early detection of ILD in the setting of Scleroderma is imperative as it has prognostic value and may prompt early treatment and frequent follow-up. Patients are more likely to benefit from treatment when it is initiated early in the disease, before a substantial loss of lung function has occurred. The 6MWT is a well-established assessment of exercise tolerance & exercise induced desaturation in various chronic lung diseases. As exertional gas exchange abnormalities may occur early in the course of ILD before worsening of DLCO (Diffusing Capacity of the Lungs for Carbon Monoxide) and PaO2 (Arterial oxygen pressure), the 6MWT is considered the gold standard for assessing exertional desaturation (Oishi et al 2022).

Process:
OLHN rheumatology department runs a Connective Tissue Diseases clinic once a month where Scleroderma patients (among others) are assessed, diagnosed and reviewed. It was proposed that the rheumatology physiotherapy service run a Screening 6MWT programme in conjunction with this. A Standard Operating Procedure Document and Protocol were finalised and data was collected.

Outcome:
15 clinics; 42 patients assessed between 06/2021 and 05/2023.
9 sent for High Resolution CT scans; x1 early focal Idiopathic Pulmonary Fibrosis, x1 progression of ILD, x1 extension of TB, x2 ILD, x4 NAD.
x5 patients were identified as requiring Meath Integrated Respiratory Service, x1 patient was referred to pulmonary rehabilitation, x1was referred for mobility assessment.

Implications for practice:
The 6MWT is a valid reliable test to assess exertional desaturation. It is relatively easy to carry out and may provide useful information in the screening for ILD in this population.

References:
Oishi et al 2022 (5) The 1-minute sit to stand test to detect desaturation during 6 minute walk test in interstitial lung disease. Primary Care Respiratory Medicine

IRHPS ABSTRACT NO 21

Advanced Practice Rheumatology Nursing for Patients with Gout Targets Urate, Knowledge, and Lifestyle to Enhance Chronic Disease Outcome

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Background:
Gout is the most common chronic inflammatory arthritis worldwide and the only curable. Yet, gout care remains suboptimal despite evidence of the benefits of a treat-to-target approach to normalise urate levels. The efficacy and cost effectiveness of nurse led care in this treat-to-target strategy has been well recognised.

Aim:
To implement a nurse led patient-centred treat-to-target urate lowering strategy within a holistic health promotion, secondary prevention model.
To engage, raise awareness and educate patients about:
i) the short and long-term health implications of hyperuricaemia and
ii) the merits of self-management strategies to improve their health outcome

Method:
With stakeholder agreement a nurse led gout clinic was established. The Making Every Contact Count framework was used to implement the treat-to-target approach as recommended by the EULAR (European Alliance of Associations for Rheumatology) recommendations for the management of gout. Making every contact count, grounded in a behavioural change approach, promotes brief intervention therapy to support lifestyle behaviour change to make each routine contact with patients count in terms of chronic disease healthcare. The 12-question Gout Self-Management Knowledge Questionnaire was completed at baseline, followed by a nursing educational intervention through a planned gout programme and repeated at final visit.

Results/Outcome:

Patients who attended the clinic n	102
Complete set of outcome measures n (%)	42 (41)
Mean number of visits per patient n	6
Male gender n (%)	36 (86)
Mean age years (range)	61 (29-61)
Mean disease duration years (range)	9 (1-40)
Mean time to diagnosis from symptom onset years (range)	4 (0-29)
Positive family history of gout n (%)	17 (40)
Past experience of a urate-lowering therapy n (%)	17 (40)
Mean number of flares per annum (n)	1-2 (20); 3-5 (17); >6 (5)
Patients with podagra n (%)	20 (48)
Patients with tophi n (%)	14 (33)
Median global health score mean (median) (0 - 10; 0 = best, 10 = worst)	2.2 (1.5)
Urate level µmol/L mean (median)	397 (396)

Conclusion/Reflection:
Findings demonstrated 1) normalisation of urate to target levels, 2) an improvement in patients' insight and 3) a parallel upgrading in patients reported global health score.

Implications for practice:
The results demonstrate that education and shared decision-making between advanced practice nursing and patients influences engagement and adherence with urate lowering therapies to manage their gout.

Audience viewing virtual speaker

Photo Gallery

Dr Robert Harrington receiving his award for best Clinical Case Spring 2023.

Dr Kieran Murray and Dr Alwin Sebastian

Prof Gerry Wilson and Prof Bryan Whelan

Photo Gallery

Audience View at the ISR Spring Meeting, 2023

Mr Brian Whately, Mr Simon Crouch, Mr Conor Doyle and Mr James Early - Novartis

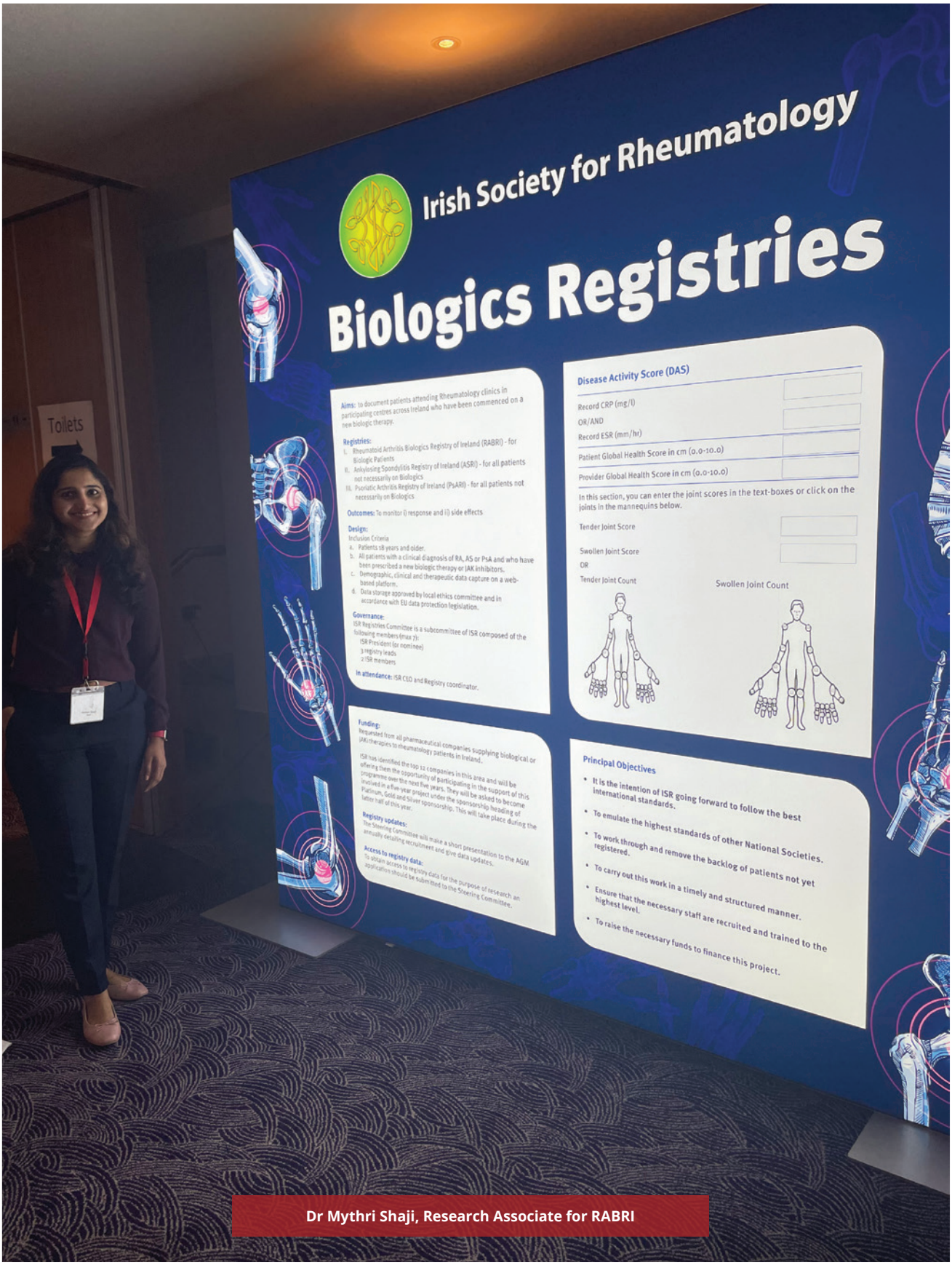
Photo Gallery

Dr Kieran Murray and Mr Padraig Cullory, Lilly Pharmaceuticals

Photo Gallery

Mr Hugh Sheehan, Mr Alessandro Lanza, Ms Laura Sheridan, Mr Eoin Murphy, Mr David McCan

Ms Caroline O'Dwyer and Ms Nicola Flynn, Accord Pharmaceuticals



Dr Mythri Shaji, Research Associate for RABRI

Photo Gallery

Ms Rachel Kenny, Ms Louise Moore, Ms Petrina Donohue

Audience View

Photos Gallery

Dr Mohamed Idris and Dr Diarmuid O'Brien

Dr Anna Witkowska and Dr Maryum Binte Yousaf

Dr Claire Sheehy and Ms Ann Marie Reilly from Athena Pharmaceuticals

Prof David Kane and Dr Catherine Hughes