endocrine and immune dysfunction, mood disorders, tolerance, addiction and death. Our systematic review estimated an incidence of iatrogenic misuse or addiction of ~4% among all people prescribed an opioid. The other problem is with the lack of high quality evidence to support their effectiveness in the long-term relief of pain, as we will hear later. These concerns have prompted the International Association for the Study of Pain to issue a recent carefully-worded statement on the use of opioids in chronic pain, advising caution and close monitoring. This presentation will summarise these issues, and present evidence of the increasing use of opioids in recent years, focusing on Europe and particularly Scotland, where prescribing rates rose 65% in a 10 year period. I will present evidence of both good and potentially harmful prescribing, evidence that most prescribing is "appropriate" in that it is associated with severe chronic pain, and despite this, that a very large proportion of people with chronic pain are not prescribed any opioid. Opioids may still have a role in chronic non-malignant pain, but the goals of their use need to be increased function and improved quality of life, and we need careful selection of patients and evaluation of outcomes.

Disclosure of Interest: B. Smith Grant/research support from: Scottish Government, Chief Scientist Office

DOI: 10.1136/annrheumdis-2018-eular.7668

SP0074 ARE ALL OPIOIDS THE SAME?

C. Stein. *Anesthesiology and Intensive Care Medicine, Charité – Freie Universität Berlin, Berlin, Germany*

Indiscriminate activation of opioid receptors provides pain relief but also severe central and intestinal side effects such as respiratory depression, sedation, addiction, nausea and constipation. Novel strategies to avoid adverse effects include the design of "biased agonists" and of environment-sensitive ligands. Exploiting pathological (rather than physiological) conformation dynamics of opioid receptor-ligand interactions might yield ligands without adverse actions. By computer simulations at low pH, a hallmark of injured tissue, we designed an agonist that, due to its low pKa, selectively activates peripheral mu-opioid receptors in injured/inflamed tissue, i.e. at the source of pain generation. Unlike conventional opioids, this agonist showed pH-sensitive binding, G-protein subunit dissociation, and cAMP inhibition *in vitro*. It produced injury-restricted analgesia in rats with different types of inflammatory pain without exhibiting respiratory depression, sedation, constipation or addiction potential.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7740

THURSDAY, 14 JUNE 2018

What is lupus – syndrome or different entities?_____

SP0075 AUTOANTIBODIES – NOT ALWAYS WHAT THEY SEEM

P.L. Meroni. *Immunorheumatology Research Laboratory, IRCCS Istituto Auxologico Italiano, 20095 Cusano Milanino, Milan, Italy*

Autoantibodies (autoAbs) are the most popular and used biomarkers for systemic rheumatic diseases (SRD). AutoAbs are becoming more and more important for: i) classification (including identification of disease subtypes), ii) diagnosis, iii) prognosis, iv) monitoring activity/organ-tissue damages as well as v) response to therapy. Moreover, autoAbs have been recently used as inclusion criteria in clinical trials and their presence is a formal requisite for prescribing some new drugs. The advent of new techniques, as well as the increasing number of autoimmune diagnostic laboratories, raise the issues of assay variability and reproducibility. In addition, the new techniques need to be validated versus the standard ones in order to determine and possibly improve the correct interpretation of their results. Harmonisation of the assays for autoAbs is becoming increasingly urgent and the availability of suitable reference material for calibration and quality control is emerging as a valuable tool for increasing assay reliability. Several international committees are joining their efforts in order to improve harmonisation and at the same time to avoid misdiagnosis, unnecessary repetition of tests and ultimately to optimise patient care and costs. On the other hand, the correct interpretation of the results depends on the technique used for detecting a given autoantibody and on its own characteristics (Meroni et al. *Nat Rev Rheumatol* 10:35–43; 2014). The best example is the screening tests for antinuclear antibodies (ANA). Indirect immunofluorescence (IF) ANA testing has been suggested to be the golden

standard technique for ANA screening by the American College Rheumatology task force in 2010 (Meroni and Schur *Ann Rheum Dis* 69:1420–2; 2010). While the sensitivity of IF ANA is high, its specificity is low as well as its post-test probability. So, the strength of a positive ANA should be evaluated in the clinical context to avoid mistakes (Mahler et al *J Immunol Res* 2014:315179 2014). In addition, the isolated ANA positivity with specific staining pattern (i.e. dense fine speckled 79 – DFS70) does not support the diagnosis of a SARD and should not be taken into consideration for both classification and inclusion criteria (Mahler et al. *Autoimmun Rev* 15:198–01; 2016). IF offered advantages in comparison with the screening solid phase assays (SPA) available at the moment of the ACR position paper; however the improvement of the solid phase assays in the last years changed the situation in a substantial way. Advantages and disadvantages of the two techniques have been reviewed and discussed by several groups and none of the two tests appears to satisfy completely our needs. However, the combination of IF and SPA that include the main nuclear (cytoplasmic) antigens diagnostic for SARD, has been reported to display higher specificity and post-test probability than the use of the single tests (Bossuyt et al *Ann Rheum Dis* 73:e10; 2014). New tests that employ a panel of autoantigens specific for a given subset of SARD (e.g. lupus-like, scleroderma, myositis, anti-phospholipid syndrome) are now available or are going to be launched soon increasing their specificity/post-test probability in a significant manner. For example, the combination of IF and SPA for ANA screening could decrease the risk of "false positive or negative" results, while the use of one screening assay and the new ANA profiles in the context of a specific clinical setting might increase the diagnostic power. In conclusion, our strategy to autoAb testing is changing and we should take advantage of the combination of the new serological tools for better understanding the meaning of a given positive result. The combination of the new tests will be pivotal for addressing the need for a *Personalised Medicine* in rheumatology.

Disclosure of Interest: P. L. Meroni Speakers bureau: Pfizer, Abbvie, INOVA Diagnostics

DOI: 10.1136/annrheumdis-2018-eular.7789

THURSDAY, 14 JUNE 2018

Genetics, epigenetics and disease: is it all in the genes?_____

SP0076 GENOMIC DISSECTION OF IMMUNE-MEDIATED DISEASE: PROGNOSIS, VASCULITIS AND EOSINOPHILS

K.G. Smith. *Department of Medicine, University of Cambridge, Cambridge, UK*

Modern medicine has developed by classifying disease into defined diagnostic categories on clinical grounds. Even within a specific clinical diagnostic category, however, the features of a disease and the clinical course it takes can vary greatly between individuals. I will examine two examples of how application of genomic technologies to patient cohorts has provided insight into disease behaviour.

1. A distinct biology underlying immune-mediated disease prognosis?

This presentation will explore transcriptome data that defines a clinically useful prognostic biomarker in IBD, but also addresses the specific immunological mechanisms driving long-term outcome many immune-mediated diseases (including SLE and ANCA-associated vasculitis (AAV)), and the genetics that underpins this. Evidence will be presented suggesting that the biology underlying long-term disease outcome, or prognosis, is distinct from that driving specific diagnosis, and represent an under-investigated but clinically relevant aspect of disease pathogenesis.

2. Patient stratification in ANCA-associated vasculitis: GWAS highlights new disease entities.

AAV has been defined using pathological criteria into granulomatosis with polyangiitis (GPA, formerly Wegener's), microscopic polyangiitis (MPA) and eosinophilic granulomatosis with polyangiitis (EGPA, or Churg-Strauss syndrome). GWAS studies performed by the European Vasculitis Genetics Consortium have revealed 4 genetically distinct syndromes within AAV – which are aligned with autoantibody specificity, and better align with clinical phenotype, patient outcome and treatment response than the traditional clinically-defined syndromes. GWAS can therefore be a tool for enhancing patient stratification, and revealing new insights into disease susceptibility and perhaps therapy.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7822

THURSDAY, 14 JUNE 2018

It's your move: promoting physical activity in people with RMD's

SP0077

NEW INSIGHTS INTO STRATEGIES TO EFFECTIVELY PROMOTE PHYSICAL ACTIVITY

K. Knittle. University of Helsinki, Helsinki, Finland

Physical activity is generally safe and beneficial for people with rheumatic diseases. Despite this, people with rheumatic diseases commonly engage in physical activity at levels which fall below common recommendations. Recent advances in behavioural science and health psychology offer healthcare professionals new tools and methods for promoting physical activity among people with rheumatic conditions. This lecture will present the most recent evidence on the interventions and behaviour change techniques that are most likely to increase motivation for physical activity, help individuals translate their motivation into action, and promote long-term maintenance of physical activity.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7777

SP0078

THE PATIENTS PERSPECTIVE ON PHYSICAL ACTIVITY AND WORK PARTICIPATION IN RMDs

K. Hamblly. School of Sport and Exercise Sciences, University of Kent, Medway, UK

Fatigue and musculoskeletal symptoms are shared features of many rheumatic and musculoskeletal diseases (RMDs) that often impact on physical activity and work participation. Physical activity is particularly important in the management and quality of life of people with RMDs. Participation in regular exercise can facilitate positive adaptations¹, but people with RMDs tend to be less physically active than the general population.^{2,3}

Two hundred and sixty-eight individuals with antiphospholipid syndrome (APS) participated in a cross-sectional online survey (85% female, mean age 47±11 years, 59% primary APS) on physical activity and exercise. It was found that 82% of participants wanted to increase the amount of physical activity and exercise that they do and 71% of participants were either motivated or very motivated to participate in physical activity and exercise. However, a range of barriers to increasing levels of physical activity and exercise were expressed as summarised in table 1.

Abstract SP0078 – Table 1. What is preventing you from increasing the amount of physical activity and exercise that you do?

Energy Levels	Exhaustion, tiredness, no energy after work, ADLs draining, 'payback', fatigue, mentally and physically exhausted, stressful job
Symptoms	Pain, aching, flare, muscle spasms, headaches, migraines, stiffness
Strength, balance and mobility	Bad falls, jelly legs, legs dead weight, balance, dizziness, giddiness, loss of control, mobility, light headed, lack of strength
Fitness	Level of fitness poor, lack of stamina/endurance, overweight, deconditioned
Psychological	Anxiety, depression, worry about side effects, stressful, scary, uncertain what can do, not sure if safe, no willpower, no motivation, no confidence, laziness, worry about negative effect on work
Environment	Resources, membership cost, travel costs
Time	Lack of time, work, carer, dependents, family demands, life too hectic, busy life, have to balance activities, do enough already

From a patient perspective, managing home and work priorities to get things done without compromising health is a tricky task! Self-management is an important skill for anyone with an RMD, but it is a challenging skill to learn as RMDs are often unpredictable and the art of listening to your body takes time and experience. Having the flexibility to adjust the cumulative load and stressors placed on your body and mind in response to your current health status is crucial. Exercise interventions need to be personalised and, importantly, be flexible so that they can be easily adjusted to reflect the health uncertainties and disruptions associated with many RMDs. These adjustments can be made to a variety of parameters including scheduling, type of exercise, volume, frequency, intensity or duration all of which need guidance for the patient. Flexibility can also be incorporated into work participation through changes to work tasks, location, start/finish times, breaks and working from home. In many countries, it is now a legal right to request flexible working and employers have legal obligations to provide reasonable adjustments for individuals with health conditions such as RMDs.

In our APS study, two-thirds of people said that they had not been given any advice regarding participation in physical activity and exercise and of those who

had received advice only 30% thought they had received adequate advice. The latest BMJ Best Practice for APS recommends in patient instructions "exercise regularly".⁽⁴⁾ However, evidence from our study suggests that people are uncertain as what physical activity they can or should do and the specifics of exercise in terms of type, frequency, duration or intensity. People wanting to exercise looked for guidance from health care professionals as well as online, but found a lack of information regarding the types of exercise they should be doing and how to determine if they were doing too much or too strenuous exercise.

REFERENCES:

- [1] Hagen KB, Dagfinrud H, Moe RH, Osteras N, Kjekken I, Grotle M, et al. Exercise therapy for bone and muscle health: An overview of systematic reviews. *BMC Med* 2012;10:167.
- [2] van den Berg MH, de Boer IG, le Cessie S, Breedveld FC, Vliet Vlieland TP. Are patients with rheumatoid arthritis less physically active than the general population? *J Clin Rheumatol* 2007;13(4):181–6.
- [3] Mancuso CA, Perna M, Sargent AB, Salmon JE. Perceptions and measurements of physical activity in patients with systemic lupus erythematosus. *Lupus* 2011;20(3):231–42.
- [4] Breen K, Hunt BJ. Antiphospholipid syndrome. *BMJ Best Practice* 2017.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7700

SP0079

MAJOR ACHIEVEMENTS AND FUTURE CHALLENGES IN PHYSICAL ACTIVITY

M.D. Iversen, on behalf of Physical activity working group. Department of Physical Therapy, Movement and Rehabilitation Sciences, Northeastern University, Bouve College of Health Sciences, Boston, USA

Research demonstrates that physical activity and exercise yield numerous health benefits for individuals with arthritis without adversely impacting joint health. Despite these data, individuals with arthritis remain less physically active than their healthy counterparts. Over the past decade, professional organisations and researchers have synthesised these data and incorporated information on the role of physical activity in management guidelines for clinicians and patients, and developed public health campaigns to motivate individuals to become more physically active. Corporations and researchers have also created and launched new software applications to measure, monitor, and promote physical activity for persons with arthritis that are easy to use and readily accessible. This presentation will highlight the major accomplishments related to the measurement of physical activity, promotion of knowledge and self-management skills to promote physical activity at the individual and population level and discuss future challenges regarding the development of effective population-based and individualised interventions to improve physical activity engagement among individuals with arthritis.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7844

THURSDAY, 14 JUNE 2018

Data visualisation: tables and graphs for publication and presentation I

SP0080

DATA VISUALISATION: TABLES AND GRAPHS FOR PUBLICATION AND PRESENTATION

M. Boers. Epidemiology and Biostatistics; Amsterdam Rheumatology and immunology Center, VU University Medical Center, Amsterdam, Netherlands

This workshop (held both on Thursday and on Friday) is an introduction to the principles of good graph and table design as pioneered by Cleveland¹ and Tufte² and updated by Few³ so that the participant can better answer the following questions: Which of the messages in my research results requires a graph or table?

Recognising how graphs improve on simple statistics and convey much more information. Knowing when a table is better, or when to keep the data in the body text.

How can I best convey the message?

Striving for clear vision by choice of graph, scaling, discrimination of data series, minimising non-data ink, avoiding chart junk. Striving for clear understanding through a balance between data and explanation. Using order, subheadings, formatting and rules to guide your reader through your table data.

Is my graph/table truthful?

Creating a direct proportion between graph and data quantities, avoiding forms prone to misinterpretation, labels to prevent ambiguity; keeping data in context,