

Precision management of chronic pain and fatigue in the post-pandemic workplace

Faculty:

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Topics covered: precision pain management, epigenetics & lifestyle in relation to chronic pain & fatigue, pain phenotyping

Learning objectives:

- 1) Applying the global move towards precision medicine to chronic pain and fatigue in the post-pandemic workplace to steer clinical decision-making and aid in more effective treatment planning.
- 2) Discussing lifestyle factors as perpetuating factors to be considered by clinicians for managing chronic pain and fatigue in the post-pandemic workplace.
- 3) Learning to phenotype patients with chronic pain into nociceptive, neuropathic, nociplastic, or mixed-type pain and adapt multimodal treatment programs accordingly.
- 4) Understanding the passive potential clinical epigenetics offers to precision management for patients with chronic pain and fatigue in the post-pandemic workplace.

A lifestyle approach to provide precision management to chronic pain and fatigue in the post-pandemic workplace – Jo Nijs

Chronic pain is the most prevalent disease worldwide, leading to substantial disability and enormous socioeconomic burden¹. Amongst long-term conditions, it is responsible for the highest number of years lived with disability^{2,3} and is the most expensive cause of work-related disability^{4,5}. Thus, chronic pain can be regarded as a non-communicable disease with a large impact on public health. Lifestyle factors such as physical (in)activity, sedentary behaviour, stress, poor sleep, unhealthy diet and smoking are associated with chronic pain severity and sustainment⁶⁻¹⁰. This applies to all age categories, i.e. chronic pain across the lifespan. Yet current treatment options often do not, or only partly address the many lifestyle factors associated with chronic pain, or attempt to address them in a standard format rather than providing an individually tailored multimodal lifestyle intervention^{6,11,12}. Therefore, this symposium addresses this lacuna by teaching clinicians to address various lifestyle factors concomitantly into an individually-tailored multimodal lifestyle intervention for people having chronic pain. Such a lifestyle approach is lots of fun for clinicians, especially when to succeed in engaging their patients in the treatment programme¹³. This should lead to a higher clinical impact and subsequently decrease chronic pain's psychological and socio-economic burden in the Western world.

Precision Management Precision Management of Post-COVID Pain: An Evidence and Clinical-Based Approach - César Fernández-de-las-Peñas

Pain after a SARS-CoV-2 acute infection (post-COVID pain) is becoming a new healthcare emergency but remains underestimated and most likely undertreated due to a lack of recognition of the phenomenon. Evidence supporting any particular treatment approach for managing post-COVID pain is lacking. Large variability in the patient response to any pain treatment is clinically observed, which has led to calls for a personalised, tailored approach to treating patients with chronic pain (i.e., "precision pain medicine"). Applying the global move towards precision medicine to post-COVID pain could help guide clinical decision-making and aid in more effective treatment planning. The current paper discusses potential factors to be considered by clinicians for managing post-COVID pain ranging from identification of the pain phenotype to genetic considerations. The ability of clinicians to phenotype patients with post-COVID pain into nociceptive, neuropathic, nociplastic, or mixed-type could be a first step to better planification of multimodal treatment programs. Additionally, consideration of other factors, such as female sex, previous comorbidities, and treatments received at the acute phase of the infection for specific onset-associated COVID-19 symptoms or emotional disturbances, should also be implemented into the treatment. Accordingly, with consideration of these factors, management of post-COVID pain will include a multimodal treatment, always adapted to each patient, including both pharmacological and non-pharmacological approaches targeting emotional and cognitive aspects (i.e. psychological and/or coping strategies), central sensitization-associated mechanisms (i.e., pain neuroscience education), exercise programs, as well as lifestyle interventions (e.g., nutritional support and sleep management).

Linking Life-Style Factors to Complex Pain & Fatigue States: How Epigenetics May Improve Precision Medicine – Jolien Hendrix

The field of epigenetics has gained increasing attention in recent decades. From molecular biology and genetics to clinical medicine and epidemiology, several disciplines have embraced epigenetics as a new paradigm crucial for advancing our scientific knowledge. Clinical sciences have only recently started considering those mechanisms, but the field is exponentially increasing. In this symposium, we discuss how epigenetics can be relevant to advance precision medicine for patients with chronic pain and fatigue in the post-pandemic workplace. More specifically, we will focus on the epigenetics of pain/fatigue¹⁴⁻¹⁶ and physical activity and stress intolerance, two related issues of cardinal importance. We translate early findings from the exciting new area of epigenetics of pain/fatigue, stress, and physical activity^{17,18}. Epigenetic markers will possibly be used to assess and target, with our treatments, the underlying mechanisms to tailor as much as possible our intervention to every single individual. In addition, epigenetics can measure the biological effects of therapeutic strategies that are widely used, such as physical activity, exercise, and stress management interventions.