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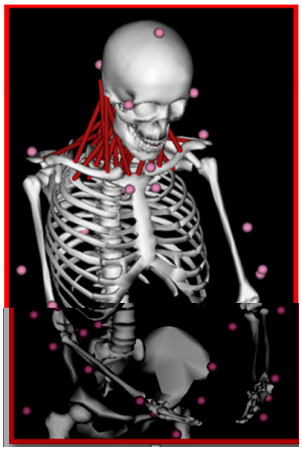
Supporting Patients through Education & Research

Lay Summary - Ankylosing Spondylitis and Work: a biomechanics approach to inform self-management programme - Dr Dario Cazzola

Ankylosing spondylitis (AS) affects various areas of life, and in particular work. The incidence of work absenteeism and job loss can be very high in AS patients, with more than 50% suffering work instability. This is mainly due to the mismatch between AS patients' functional abilities, which are hampered by decreased mobility, fatigue and pain, and the demands of their job.

Currently AS is assessed and monitored by using patient-reported outcomes, which are qualitative measures that do not provide an objective assessment of spinal function, and can be biased by other factors, such as pain and other diseases. Therefore, there are no well-accepted objective outcome measures for AS, and no assessment tools to measure AS disability in the workplace.



This project will create a novel measure of disease in ankylosing spondylitis, which is capable of profiling the physical load experienced by early-stage AS patients during office-based tasks with great accuracy. The key goal of this research is to objectively assess spinal load and muscle fatigability during office-based tasks in order to inform the creation of future self-management programmes. A secondary goal will be the evaluation of patient-reported outcomes effectiveness as AS assessment tool.
This approach will use wearable sensors technology and cutting-edge computer simulations (see picture on the left-hand side), and experimental tests will be carried out in hospital settings (RNHRD).

The proposed research will improve AS people's awareness of the risk related to specific office-based tasks, and allow them to take control of their lives, achieving greater work stability and optimising their health and wellbeing. Also, the research outcomes will inform the creation of future self-assessment programmes, and the design of workstation for AS people. This is particularly important for early-stage AS patients as they could slow down the progress of the disease by avoiding high-risk activities.

From a clinical perspective, the new assessment tool will improve the assessment and monitoring of the disease by employing a personalised-medicine approach, and provide the foundation of future home-monitoring systems based on wearable sensors technology.