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Non-communicable chronic diseases commonly follow a social gradient, whereby greater prevalence and incidence are observed in socially disadvantaged populations; musculoskeletal disorders including osteoporosis and sarcopenia are no exception. In many countries, the embedding of digital health technologies (DHTs) into health care is now seen as a priority to help educate, organise and support people to manage their health. Therefore, healthcare systems are increasingly more reliant on a patient's ability to navigate the digital world. Despite this, little research has been conducted into why some communities are less able, or less likely, to successfully engage with DHTs. This presentation will begin by summarising the emerging evidence-base regarding associations between social disadvantage and modifiable risk factors for osteoporosis and sarcopenia, including the presentation of new findings concerning associations between individual (and area-level) social disadvantage and bone health, muscle mass, strength, and physical function. The current evidence regarding the role in which social determinants of health (e.g. social adversity, social isolation and exclusion, rurality, health literacy) are known to influence engagement with DHTs in older adults will be discussed, particularly barriers to access and uptake of DHTs from the perspectives of disadvantaged population groups (e.g. culturally and linguistically diverse populations). Finally, recommendations for improving the potential of DHTs to be more acceptable, accessible, and sustainable to socially disadvantaged populations will be presented. In an era of ageing populations, preventive efforts need to account for social as well as objective clinical factors; these data offer much potential to reduce the already existing inequalities within our healthcare system.

NSS23
PHYSICAL ACTIVITY AND EXERCISE FOR THE PREVENTION OF DEMENTIA

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A rapidly growing literature strongly indicates that physical exercise may attenuate cognitive impairment and reduce dementia risk. Overall, some recent systematic reviews and meta-analyses based on observational cohort studies suggest that higher physical activity level was associated with a lower risk of dementia. These epidemiological findings were also supported by brain cognitive networks studied with functional magnetic resonance imaging display improved connectivity after 6–12 months of physical exercise. Animal studies show that physical exercise facilitates neuroplasticity through several biomechanisms, with improved learning outcomes. Moreover, endocrinological factors are important since the induction of brain neurotrophic factors by exercise has been confirmed in several animal studies. Indirect evidence is available for this process in humans. Finally, besides a brain neuroprotective effect, physical exercise may also attenuate cognitive issues via mitigation of cerebrovascular risk, e.g., reducing the contribution of small vessel disease to dementia indicating an important role of physical exercise and activity as an important preventive strategy for cognitive disorders.

NSS24
IMPORTANCE OF PHYSICAL ACTIVITY AND EXERCISE IN MILD COGNITIVE IMPAIRMENT

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Mild cognitive impairment (MCI) is seen by some authors as an early window for treatment for delaying dementia. Conflicting epidemiological evidence supports the idea that MCI could be considered a potential risk factor for dementia, since it is estimated that the rate of conversion to dementia in the MCI population is equal to 10–15% per year compared to 1–2% in people without MCI. Physical inactivity and sedentary behavior seem to have independent risk factors for the transition from MCI to dementia, even if their role are still debated. Therefore, physical exercise may delay the onset of dementia in people already affected by MCI. Overall, it is largely known that physical activity improves overall health and reduces the risk of negative health outcomes and may be effective in improving cognition, independent functioning, and psychological health in people affected by MCI.

NSS25
PHYSICAL ACTIVITY AND EXERCISE IN MILD COGNITIVE IMPAIRMENT AND DEMENTIA: GUIDELINES FROM EUROPEAN SOCIETIES

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Dementia and mild cognitive impairment (MCI) are of critical importance in older people since these conditions are associated with several unfavorable outcomes. Definitive treatments for these conditions are not still available: therefore, the interest in non-pharmacological approaches, such as physical exercise and activity, is growing. The evidence regarding the role of physical activity/exercise in dementia and MCI was investigated by several systematic reviews, but still European guidelines are missing. With this work, involving several European scientific and patients' societies, we will present indications regarding the use of physical activity and exercise for the prevention and treatment of dementia and MCI. In this project, lasted more than one year and actively involving ESCEO members, we used the GRADE approach for increasing the transparency of our findings and for giving solid recommendations based on the literature and on experts' opinion.

NSS26
STRENGTH TRAINING ALTERS LPS-INDUCED IMMUNE RESPONSES IN PERIPHERAL MONONUCLEAR BLOOD CELLS OF OLDER PERSONS

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