

# Sports medicine in the Netherlands – focus and collaboration bring success

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The summer of 2024 was dominated by spectacular sporting events, first and foremost by the Paris Olympic and Paralympic Games. The Netherlands achieved a credible sixth place in the medal ranking of nations in the Olympic Games and a fourth place in the Paralympic Games. How does a small country (18 million inhabitants) achieve such success? The answer may be focus and collaboration.

The Netherlands Olympic Committee has been focusing for at least 30 years on supporting those athletes who have a good chance of reaching the finals and preferably winning a medal at the highest international level. Tough choices are not avoided. If an athlete cannot meet the performance requirements, support is no longer provided. A multidisciplinary group of experts is placed around an individual athlete or team, all of whom must collaborate in support of the athletes and contribute to optimise performance. Sports medicine physicians are an integral part of the support teams, managing and preventing injuries and (legally!) facilitating improved performance. Sports medical education is an important component of the support programme. Athletes learn to register their own injuries and illnesses so that they gain insight into which circumstances contribute to overload and injury.

In the Netherlands, para-athletes can access the same support as their non-impaired colleagues. A report by the Dutch Sports Council, an independent advisory body that focuses on highlighting the significance of sports and exercise for society, has made an important contribution to further improve the supporting facilities for para-athletes. The name of the 2022 report is ‘Equal and inclusive, advice on the further development of Paralympic sports’.<sup>1</sup> The national government has adopted the recommendations contained

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in this report.<sup>2</sup> In practice this means, among other things, that para-athletes have access to the same expert guidance and that they are actively recruited to contribute to the development of the special sports equipment needed across para sports.

Exercise medicine in the Netherlands has found the same formula for success: focus and collaboration. Very recently, a large subsidy was awarded by the Dutch government for a project that should close the gap between medicine and exercise service providers. A patient who is advised by a doctor to start exercising should be able to follow an ‘exercise journey’ without interruptions, from supervised exercise in the medical clinic to independent exercise in a sports or exercise group in a residential environment. Under the leadership of Professor Hans Zwerver, sports and exercise medicine physician, the focus of the project will be on improving the collaboration of all providers of sports and exercise, including healthcare providers. The opinion of patients will be explicitly asked to achieve ‘social innovation’. This means a lasting change in society. The project will start in two large cities (Amsterdam and The Hague) and two rural regions (Drenthe and Zeeland). Attention will also be paid to both primary and secondary prevention of health problems. Major focus areas are school education about the

value of sports and exercise for life-long health, and the importance of ‘prehabilitation’—undergoing a medical procedure as fit as possible—for improved post-surgery rehabilitation.

We are therefore delighted to present several articles in this issue spanning two themes: (1) The para-athlete and (2) exercise medicine.

## THE PARA-ATHLETE

In an editorial, Tweedy *et al* advocate the use of the ‘single case experimental design’ (SCED), particularly in populations that are under-represented (bjsports-2024-108587). They underpin their arguments by focusing on athletes with cerebral palsy (CP) participating at the Paralympic Games in Paris. CP athletes are a heterogeneous group with multidimensional disorders, including comorbidities, and therefore traditional scientific study designs (eg, randomised controlled trials or cohort studies) are often not possible for these athletes. In the opinion of the authors, SCEDs may provide a rigorous and effective means of enhancing research evidence in paralympic sports and exercise medicine in complex athlete populations.

Pheasy *et al* provide a very instructive infographic about the three key benefits of abdominal binding in spinal cord injury athletes participating in wheelchair rugby, which include improvements in cardiorespiratory function, wheelchair speed and agility and trunk stability (bjsports-2024-108485). However, the authors also emphasise potential drawbacks and the role of monitoring potential side effects by sports and exercise physicians.

In people with reduced bone mineral density (BMD) exercise has been shown to exert beneficial effects. People with traumatic lower limb amputations also suffer from reduced BMD, particularly of the hip, but the effect of exercise interventions in this population has not been evaluated. Consequently, Behan *et al* present a Delphi study with input from 13 experts from six countries to develop recommendations on this topic (bjsports-2024-108721). The expert panel achieved consensus on nine items related to exercise prescription to minimise hip BMD loss in athletes after traumatic lower limb amputation.

## EXERCISE MEDICINE

Reporting on original research Fridolfson *et al* deepen our understanding of the complex relationship between physical activity and cardiorespiratory fitness and

health. Their recommendations for the Swedish participants, age group 50–64 years old, are clear: in clinical settings prescribing physical activity of sufficient intensity to improve cardiorespiratory fitness is important to reap the health benefits (bjsports-2023-107451).

Feder *et al* completed a systematic review and meta-analysis on the effect of reducing sedentary time with physical activity on cognitive and brain health. They conclude that the current state of the evidence is that interrupting prolonged sitting with multiple bouts of physical activity acutely improved cognitive function. There is insufficient evidence on the chronic effects of reallocating sitting time with physical activity (bjsports-2024-108444).

Two systematic reviews discuss high-intensity interval training (HIIT) and health for a specific clinical population. HIIT typically involves repeated bouts of relatively intense exercise, above moderate intensity, interspersed with periods of rest of lower intensity exercise for recovery. Chun Poon *et al* find that for adults with metabolic syndrome HIIT causes significant improvements in clinically relevant cardiometabolic health parameters. Even low-volume HIIT, characterised as less than 15 min, three times a week, 12 weeks, is a viable alternative to traditional forms of aerobic exercise (bjsports-2024-108481). Mahdaviyani *et al* discuss adherence to HIIT in patients with cancer. They describe several factors

that improve adherence, such as supervision, short duration and timing pretreatment and post-treatment. They conclude that HIIT programmes may need to be targeted to specific subpopulations to ensure that all patients with cancer reap the benefits of physical activity (bjsports-2024-108163).

Finally, in an editorial, Gates *et al* describe the need to embed physical activity knowledge and competencies in the undergraduate curricula of future healthcare professionals. The change in medical education is frustratingly slow. They describe a project among 5 European medical schools that has shown that change in the curriculum is possible, and a step-by-step implementation toolkit has been developed (bjsports-2024-108607).

### COME AND SEE US

The annual scientific meeting of the Dutch Sports Medicine Association (VSG), to be held on 28 and 29 November 2024 in Vianen, is indeed a collaboration that brings into focus several presentations on both the para-athlete and exercise medicine. We hope you enjoy this issue which is decorated with a proud 'orange' para-athlete on the cover. May the articles in it encourage both collaboration and a focus on exercise for health!

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