**Healthy ageing and the role of prosthetics and orthotics personnel**

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Prostheses (artificial limbs) and orthoses (braces and splints) are externally applied devices used to assist people with physical impairments to improve their functioning and increase their potential to live healthy, productive, independent, dignified lives (WHO, 2017).

Prosthetic and orthotic services positively influence healthy ageing, providing those in need and referred to those services, with individualised prostheses or orthoses to enable them to achieve their potential to participate in society.

Prosthetists and orthotists are AHPs who combine a unique set of skills that combine knowledge in bioengineering, material science and assistive technology with underlying clinical reasoning to care for the ageing population. Prosthetists and orthotists are committed to supporting healthy ageing within the population by “creating the environments and opportunities that enable people to be and do what they value throughout their lives” (WHO, 2020).

**Prosthetics**

Prosthetists are integral to the provision of amputee rehabilitation (British Society of Rehabilitation Medicine (2018). The holistic care of a patient with lower limb loss, maximizing mobility through the effective prosthetic care does correlate with greater quality of life and general satisfaction (Wurdeman et al 2017).

Effective prosthetic care will enable patients to achieve maximum functional independence, considering the patient’s pre-amputation lifestyle, their expectations and limitations (British Society of Rehabilitation Medicine, 2018).

Applying modern technology can result in significant benefits to the ageing, including microprocessors are now routinely used in prosthetic componentry (artificial knee and ankle joints) to reduce injurious falls (Campbell et al, 2020). As well as the functional status improvements inf the quality of life for users of microprocessor knees have been reported (Thibaut et al 2022).

**Orthotics**

Orthoses help improve quality of life by reducing pain, keeping people mobile and independent and preventing more invasive and expensive interventions like surgery, amputation, or the need for social care (NHS England 2015).

Orthotists support people affected by a wide range of health conditions associated with ageing and leading to mobility impairment. These include diabetes, stroke, orthopaedic & neuromuscular conditions; so that significant health, quality of life and economic benefits for over 1.2 million NHS patients are achieved annually (Hutton J, Hurry M, 2009).

Following a stroke, orthotists are key members of the community rehabilitation team that can act early to reduce the long-term disability, risk of falls and accelerate the rehabilitation process. (Clarke and Forster, 2015). Early orthotic intervention is recommended to optimise outcomes. (Bowers et al 2007). Best practice guidelines have been provided (Health Improvement Scotland 2007).

Diabetes is a feature of our ageing population. Patients are referred to an orthotist for the provision of therapeutic footwear to effectively offload high-risk foot regions and prevent ulceration (Ahmed et al 2020).

Patients are also referred to orthotists with wide range of degenerative conditions which are alleviated by bracing, with evidence to demonstrate improvements in pain, instability, and quality of life (Steadman et al 2016).

It is recognised that the demand for Orthotists is likely to rise in line with increases in the ageing population and rising prevalence of obesity, diabetes, cardiovascular and peripheral vascular diseases (Health Education England 2017).

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**Note** NHS England has recognised that there are many obstacles that prevent optimising orthotic care within the NHS <https://www.england.nhs.uk/wp-content/uploads/2015/11/orthcs-rep-attach-1.pdf>

As illustrated by the UK data for 2019, the prevalence of amputation is strongly correlated with ageing. This is in many cases due to vascular complications, which are often secondary to Type 2 Diabetes.

**Source** Institute for Health Metrics and Evaluation (2023) Amputation prevalent cases rate. Rehabilitation needs estimator. University of Washington. Available from <https://vizhub.healthdata.org/rehabilitation/>

**Graphics**

Amputation prevalence rate

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