Nutrition and Musculoskeletal Health

Musculoskeletal conditions are classed as non-communicable disorders, and are the most common conditions treated by physiotherapists. They remain the most common causes of physical disability and pain globally. Health-related quality of life associated with musculoskeletal conditions including back pain has been reported to be comparable to that in individuals with chronic conditions such as complicated diabetes and terminal cancer. Lifestyle practices such as smoking, diet and exercise impact musculoskeletal conditions. Diet is one of the easiest aspects of lifestyle to change in order to help recovery and prevention of musculoskeletal disorders, injury, and pain.



The relationship between musculoskeletal health and nutrition has been documented in relation to malnutrition in children, athletic performance, and in relation to age-related musculoskeletal changes. In recent years, the consequences of the Western diet are now being realized with the prevalence of non-communicable disorders—including musculoskeletal conditions. Promoters of established food pyramids have been criticized for their apparent role in contributing to the prevalence of non-communicable disorders, such as diabetes, heart disease, stroke, and cancer.

In modern society, people may eat for comfort and emotional support rather than biological needs. Typically, comfort foods tend to be high in fat, sugar and salt, and lack nutrition. Living with a chronic condition may contribute to such eating patterns and may negatively impact recovery from injury or illness.

NUTRITION & RECOVERY

Even among ‘active’ and ‘healthy’ individuals, inadequate nutrition may increase the risk of injury due to its effect on recovery. There are several mechanisms by which inadequate dietary protein intake may lead to muscle injury. Intense training causes skeletal muscle breakdown, which can be exacerbated by inadequate dietary protein. Inadequate hydration may compromise blood flow to working muscle, which may increase susceptibility to injury. Hydration influences the amount and composition of joint fluid, which helps to nourish articular cartilage.

Deficiencies in nutrients such as potassium, iron, zinc, magnesium, chromium, copper and various vitamins may increase susceptibility to injury because of the role these micronutrients play in bone and muscle metabolism.

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NUTRITION & CONNNECTIVE TISSUE

Connective tissues are the “cellular glue” that support and connect tissues and organs in the body. Connective tissue is comprised of 2 protein compounds: collagen and elastin.

Collagen is the most abundant protein in the human body and is the substance that holds the whole body together. It is found in the bones, muscles, skin and tendons, where it forms a scaffold to provide strength and structure.

Elastin is a highly elastic protein in connective tissue that allows tissues to resume their shape after stretching or contracting, such as skin and ligaments.

Collagen and elastin are easily damaged by inflammation. This can result in a number of different outcomes, ranging from skin wrinkles to auto-immune connective tissue diseases, such as rheumatoid arthritis.

Because connective tissue is what holds our bones and muscles together, it is essential for joint integrity. As a result, athletes and anyone with a physically demanding lifestyle, need to look after their connective tissue to prevent degradation, and resultant injuries and joint conditions, such as arthritis and tendon injuries.

Overall, eating a diet low in grains and sugar, and high in bone broths, good quality protein from meats and eggs, lots of veggies, unpasteurized fermented veggies, kombucha, berries, fruit, and healthy fats is the way to make your connective tissue healthy.

Your body relies on your nutritional intake to maintain musculoskeletal health. Having the right nutrition will help you in recovery and prevention, as its required to build and repair healthy connective tissue. In addition to good nutrition, things like stress, lack of sleep and exposure to environmental toxins all affect hormone levels, resulting in increased cortisol, decreased glucose absorption into cells and therefore an inability to make glucosamine. Achieving optimal musculoskeletal health requires more than just eating right, it relies on all-round good lifestyle choices.

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