



EATING FOR ENERGY

In this article, Craig Sandilands explains the importance of eating for energy and how this affects your physical health too (especially musculoskeletal health). He covers calorie consumption specific to exercise goals and job role, energy levels and the importance of protein and other nutrients and how they are related to MSDs.

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ENERGY BALANCE EXPLAINED

Energy balance represents the relationship between energy intake (calories in) and energy expenditure (calories burned), and there are three different types of energy balance:



Surplus

When you consume more calories than you burn daily, this will lead to weight gain over time



Deficit

When you burn more calories than you consume daily, this will lead to weight loss



Maintenance

If you finish the day with equal calorie intake and expenditure this will result in weight maintenance.



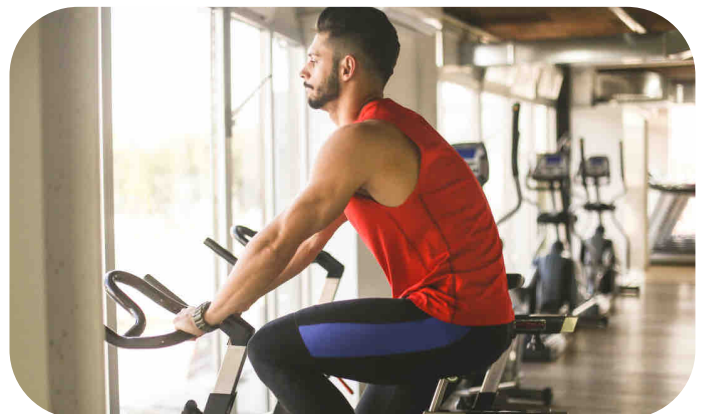
THE 4 PRIMARY FACTORS THAT INFLUENCE YOUR ENERGY BALANCE

- 1 BASAL METABOLIC RATE (BMR)**
Your **BMR** is the number of calories you burn at rest which is usually around 70% of your daily calorie expenditure, this can be calculated using a BMR calculator using your height, weight, gender, and age.
- 2 NON-EXERCISE ACTIVITY THERMOGENESIS (NEAT)**
NEAT is your non-planned exercise like standing, walking, climbing the stairs. If you move enough throughout the day NEAT can account for 20% of your daily calories burned.
- 3 EXERCISE ACTIVITY THERMOGENESIS (EAT)**
EAT represents your calories burned through exercise and will differ according to type of exercise, duration, and intensity but typically, will account for around 10% of your daily energy expenditure.
- 4 THE THERMIC EFFECT OF FEEDING (TEF)**
TEF is the number of calories burned by the body to digest food for use and storage. TEF can be high or low depending on the nutrients you consume. For example, dietary fat is easy to process and has a low TEF whereas, protein takes longer to process and has a high TEF.

TOTAL DAILY ENERGY EXPENDITURE EXERCISE AND JOB ROLE

Some physical activities require a higher energy output than others, and this is no different to job roles. Working at a desk all day needs significantly less energy than working in a physical job role involving regular manual handling.

Your **job role and taking part in exercise** are both very important when determining how many calories you should consume daily to ensure you are not accidentally eating too little (or too much!).





TOTAL DAILY ENERGY EXPENDITURE EXERCISE AND JOB ROLE

Consistently ending the day in a **calorie deficit** will lead to weight loss which may be your goal; however, if not controlled correctly this can have some adverse effects. The consequences of uncontrolled calorie deficit can be feeling low in energy, lack of motivation and focus, fatigue, nutrient deficiencies, weak bones, and decreased immunity.

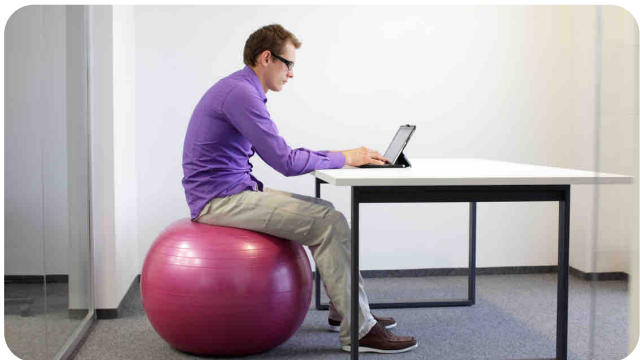
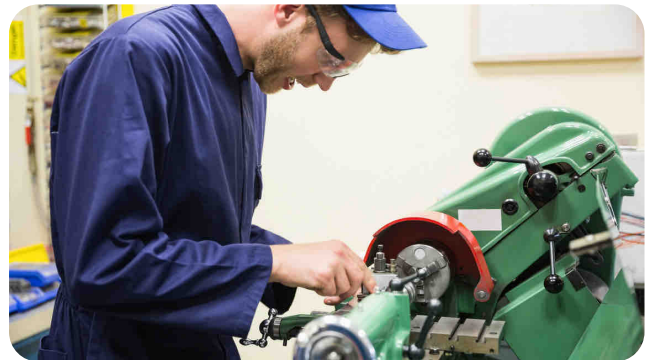
To avoid this, calculate your **total daily energy expenditure (TDEE)** to base your calorie intake around your TDEE and your goals. If you work in a physically demanding job and participate regularly in exercise, then it is particularly important that you are aware of your TDEE and mindful of how much you eat for energy.

ENERGY LEVELS AND MUSCULOSKELETAL HEALTH

Low energy levels can result in fatigue, lack of focus and motivation and this can affect your attitude towards manual handling tasks. You may be more likely to rush a job, take a shortcut or demonstrate poor technique and therefore increase your risk of injury because of low energy levels.

Risk of injury

If you have low energy due to poor nutrition your muscles and bones could be deficient in crucial vitamins and minerals leading to an increased risk of bone, joint and muscle disease and therefore, and increased risk of injury when carrying out manual handling.



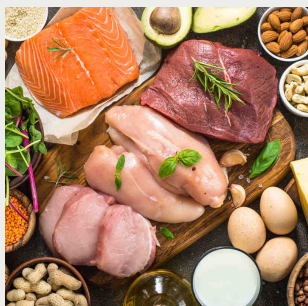
Fatigue and poor posture

Low energy levels can also interfere with your working day behind a computer, you may be less able to concentrate, and less likely to stand up and move around. This can blunt your awareness of ergonomic working conditions leading to poor posture, resulting in muscular imbalances and back pain.



ENERGY LEVELS AND MUSCULOSKELETAL HEALTH

Did you know that 1 in 4 people in the UK suffer from some form of musculoskeletal disorder? Regardless of how major or minor these conditions are, they can often be made worse by poor nutrition and unhealthy lifestyles. You should aim to eat a healthy balanced diet however certain nutrients vitamins and minerals can improve musculoskeletal health. You may want to talk to your GP if you have any concerns about this.



Protein is necessary to gain bone mass during childhood and adolescence, and then it helps us to preserve bone mass as we age. Protein is also referred to as the building block of the body and is essential for muscle growth repair and maintenance. A stronger muscular system helps to support the bones and joints, relieving some of the stress placed on the skeletal system when carrying out tasks such as manual handling. Food sources high in protein include fish, chicken, red meat, beans and pulses, dairy, and eggs.



Calcium and **vitamin D** are both recommended in a healthy balanced diet and according to the International Life Sciences Institute, adequate consumption of both can reduce the risk of suffering from osteoarthritis. Calcium helps to build bone tissue, and vitamin D promotes the absorption of calcium. Food sources high in calcium include green vegetables and dairy products whereas, vitamin D can be found in salmon and tuna and some dairy products fortified in vitamin D.



Magnesium, which can be found in fish, green veg, nuts and seeds, is essential to the structural development of bone. The older you get the more mindful of magnesium consumption you should be as absorption decreases and can result in an increased risk of fractures.



CONCLUSION

Make sure you are consuming enough energy for the demands of your lifestyle and being mindful of your food choices, ensuring you eat a healthy balanced diet you. Your nutrition should be specific to you and if you need some assistance with a calorie or protein target or general advice on your diet, please get in contact with one of our Wellness Coaches who are here to support you, simply **email:** pt@healthoutfit.co.uk

Sources

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