Self isolating or working remotely?

Here are 5 ways to boost your immune system

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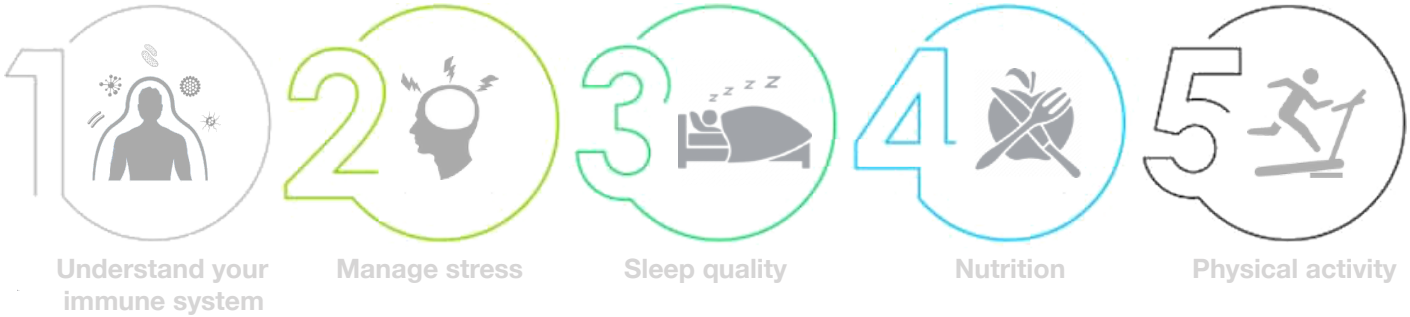
In the Optimising Mental Wellbeing session of the **1 Step North** programme we explore the workings of the brain and how healthy behaviours create chemical reactions that positively affect our moods, our energy, and our inner drive. During the session we also consider how stress and anxiety impact our digestive systems and indeed our immune system. As news of the novel coronavirus — dubbed "COVID-19" by the World Health Organisation makes headlines, most attention is shifting towards prevention and quarantine.

Many organisations throughout the UK are now taking steps to limit the opportunity for their workforce to be exposed to the virus. While properly washing your hands and avoiding crowds is a good idea if you live near an area that has reported cases, it's important to also take steps to boost your immune system so that the body can effectively fight back if you were to come into contact with the virus. The strength of the immune system varies from person to person and, what's more, from day to day because its ability to fight off infection fluctuates depending on many factors. But what is an immune system, and how can we improve its function if we are to work from home or self isolate? Here are our Top 5 considerations for you.



1. UNDERSTANDING THE IMMUNE SYSTEM

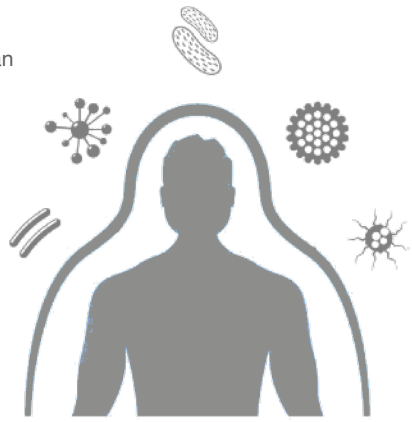
The idea of boosting your immunity is enticing, but the ability to do so has proved elusive for several reasons. The immune system is precisely that — a system, not a single entity. To function well, it requires balance and harmony. This complex network of cells, tissues, and organs work harmoniously to defend the body against foreign invaders. Primarily, the foreign invaders are microbes that can cause infection (bacteria, parasites, or fungi). The immune system works to keep foreign invaders out of the body, or if they do enter the body, to find and destroy them.

The immune system operates like a sophisticated communications system. When a foreign invader enters the body, the immune system is alerted. At that point, the immune system cells are activated and start to produce powerful chemicals. Immune cells communicate by direct physical contact or they can communicate by releasing chemical messengers.

Your skin serves as an initial barrier to invading microbes, but invaders can gain entry through any cuts or cracks. Your digestive and respiratory tracts can also be points of entry for foreign invaders but they too, have their own means to protect against invaders (for example, mucus in your nose, coughing or sneezing to keep invaders out of your nose and lungs, stomach acid destroys invaders in the gut).

Once past the surface, the invaders must then get beyond general defences of the innate immune system, which includes chemicals in the blood and immune system cells. If the invaders make it past the general defences, they meet up with specific weapons of the adaptive immune system, primarily antibodies and T cells which have receptors that direct them to their targets. The immune system has an army of cells at the ready (including lymphocytes and phagocytes). While certain immune cells attack all invaders, others are trained to respond to specific targets only. All immune cells are derived from immature stem cells in the bone marrow.

Given how important your immune system is to your health, taking steps to protect your immune system can go a long way in keeping you healthy. Here are 4 key contributors to a well functioning immune system.



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2. MANAGING STRESS

Modern medicine has come to appreciate the closely linked relationship of mind and body. Despite the challenges, scientists are actively studying the relationship between stress and immune function.

For one thing, stress is difficult to define. What may appear to be a stressful situation for one person is not for another. When people are exposed to situations they regard as stressful, it is difficult for them to measure how much stress they feel, and difficult for the scientist to know if a person's subjective impression of the amount of stress is accurate. With all the daily headlines sowing doom and gloom and constant uncertainty, it's easy to become over stressed. Some are so anxious that they've begun stockpiling basic goods and food. It's a good idea to be prepared for any major emergency — and this includes a viral outbreak — however bear in mind that stress hormones such as norepinephrine and cortisol tax the immune system, making its response to viral infections less effective.

In short supply, cortisol can boost immunity by limiting inflammation. But, once it crosses a certain threshold, too much cortisol in the blood opens the door for more inflammation. Stress also negatively impacts the production of lymphocytes — the white blood cells that are the body's first line of defence against infection. Also, remember that constant use of social networking sites, where many people get their information relating to the outbreak, may increase stress—especially if you feel the need to be constantly connected to the online world. Staying up late to use social media could lead to problems falling asleep—and lack of sleep may lead to worsened feelings of anxiety or even depression. During this particularly stressful period remember that the effects of stress are cumulative, meaning even ordinary, day-to-day activities can eventually lead to negative wellbeing consequences. To relieve stress, try some of the following activities; listen to music, get some sunlight and fresh air, get physically active, limit caffeine and alcohol intake, write down exactly what you feel is causing the stress or anxiety, avoid procrastination, talk it over with someone.

3. SLEEP AND RECOVERY

Studies show that people who don't get quality sleep or enough sleep are more likely to get sick after being exposed to a virus. What's more, the production of antibodies and immune cells is reduced when you don't get enough sleep. The optimal amount of sleep for most adults is between 7 and 8 hours. However, school-aged children and teenagers might need up to 10 hours of sleep.
One new study recently conducted by a team from the University of Tübingen in Germany found a mechanism linking sleep to the functioning of the immune system. The researchers who led this study found that a good nights sleep can boost the effectiveness of certain specialised immune cells called T cells. These immune cells recognise pathogens then activate a type of protein that allows T cells to attach to and tackle their targets. The challenge is, however, that research indicates that approximately 1 in 4 people today experience some sort of sleep disturbance. This is an alarming number of people suffering from a lack of one of the body's crucial functions. Sleep creates a unique constellation of immune system and hormones. These are helpful because the active immune system is energy-dependent, and changes in hormone levels during sleep enable your body to take extra energy from the muscles and utilise it for building up and maintaining a healthy immune system. To improve the quality of sleep, you can consider limiting the amount of screen time you get at least two hours before bedtime. Also, help your mind wind down by following a pre-planned night time routine which includes activities such as stretching, breathing exercises and mindfulness. Heart rate monitors and sleep trackers are also a great way to monitor the effectiveness of these activities.

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4. NUTRITION

Like any fighting force, the immune system army marches on its stomach. Healthy immune system warriors need good, regular nourishment. Scientists have long recognised that people who live in poverty and are malnourished are more vulnerable to infectious diseases. There is some evidence that various micronutrient deficiencies — for example, deficiencies of zinc, selenium, iron, copper, folic acid, and vitamins A, B6, C, and E can alter immune responses. A form of malnutrition that is surprisingly common, even in affluent countries, is known as "micronutrient malnutrition." Micronutrient malnutrition, in which a person is deficient in some essential vitamins and trace minerals that are obtained from or supplemented by diet, can be common in the elderly. Older people tend to eat less and often have less variety in their diets. This is why it is so important for them to get advice from a doctor or accredited nutritionist about the right dietary supplements to help them maintain a healthier immune system. Remember, even small changes can have serious repercussions in this age group so it is best to seek specialist advice.

Help protect yourself against infection and boost your immunity by including these nutrients in your eating plan:

Protein plays a role in the body's immune system, especially for healing and recovery. Eat a variety of protein foods including seafood, lean meat, poultry, eggs, beans and peas, soy products and unsalted nuts and seeds.

Vitamin A helps regulate the immune system and protect against infections by keeping skin and tissues in the mouth, stomach, intestines and respiratory system healthy. Get this immune-boosting vitamin from foods such as sweet potatoes, carrots, broccoli, spinach, red bell peppers, apricots, eggs or foods labeled "vitamin A fortified," such as milk or some cereals.

Vitamin C helps protect you from infection by stimulating the formation of antibodies and boosting immunity. Include more sources of this healthy vitamin by choosing citrus fruits such as oranges, grapefruit and tangerines, or red bell pepper, papaya, strawberries, tomato juice or foods fortified with vitamin C, such as some cereals.

Vitamin E works as an antioxidant, neutralises free radicals and may improve immune function. Include vitamin E in your diet with fortified cereals, sunflower seeds, almonds, vegetable oils (such as sunflower or safflower oil), hazelnuts and peanut butter.

Zinc helps the immune system work properly and may help wounds heal. Zinc can be found in lean meat, poultry, seafood, milk, whole grain products, beans, seeds and nuts.

Other nutrients, including vitamin B6, folate, selenium, iron, as well as prebiotics and probiotics, also may influence immune response. Obtaining these nutrients from foods is preferred over taking supplements. However, if you suspect your diet is not providing you with all your micronutrient needs — maybe, for instance, you don't like vegetables — taking a daily multivitamin and mineral supplement may be a helpful addition to your diet. Always make sure you follow specialist guidance in this regard.

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5. PHYSICAL ACTIVITY AND EXERCISE

Regular exercise is one of the pillars of healthy living. It improves cardiovascular health, lowers blood pressure, helps control body weight, and protects against a variety of diseases. Just like a healthy diet, exercise can contribute to general good health and therefore to a healthy immune system. It may contribute even more directly by promoting good circulation, which allows the cells and substances of the immune system to move through the body freely and do their job efficiently.

Exercise can have both a positive and negative effect on the functioning of the immune system and can influence a person's vulnerability to infection. Upper respiratory tract infections (URTIs) are the most common ones that people get and include the common cold. Researchers have found a link between moderate regular exercise and reduced frequency of URTIs compared with an inactive state. Moderate levels of regular exercise seem to reduce our susceptibility to illness compared with an inactive lifestyle but long hard bouts of exercise and periods of intensified training put athletes at increased risk of colds and flu.

It's clear that engaging in physical activities and sports benefits the immune system. The golden rule to avoid adversely affecting the immune system? Moderation. By limiting yourself to 60 minutes of activity a day, you'll avoid increasing the stress that could harm your body's defence system. When engaging in regular physical activity or planning your physical activity routine, it is important for you to know the types of physical activity that you should engage in and the benefits they provide:

- Aerobic activity makes you breathe harder and your heart beat faster, as a result, increases heart and lung fitness. Examples include brisk walking, cycling, jogging, swimming and playing sports.
- Muscle-strengthening activity increase bone strength and muscular fitness. Such activities should work all the major muscle groups of your body, that is, the legs, hips, back, chest, abdomen, shoulders and arms. Examples include doing exercises that use your body weight for resistance (e.g. push ups, pull ups, sit ups and squats), working with resistance band and weight training.

It is import to keep in mind your hydration levels during physical activity and exercise. While there is limited scientific evidence linking hydration levels with immune response directly, dehydration has been found to decrease salivary rate and decreased concentration of salivary immunoglobulin, which is one of the first lines of defence of the immune function on foreign bacteria. So make sure you drink plenty of water while doing any form of physical activity.

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1. LIMIT EXPOSURE

Knowing what the immune system is and how it protects you from infections will help you see that one of the best lines of defence is avoidance. Limiting exposure to people, places, and objects that may contain the virus should be a first step. Ensure that you stay up to date with the latest advice from reputable sources for example:

https://www.nhs.uk/conditions/coronavirus-covid-19/

https://www.hse.gov.uk/news/coronavirus.htm

https://www.cdc.gov/coronavirus/2019-ncov/index.html

2. MANAGE STRESS

- Take breaks from watching, reading, or listening to news stories that you find upsetting. This includes social media.
- Take care of your body. Take deep breaths, stretch, or meditate. Try to eat healthy, well-balanced meals, exercise regularly, get plenty of sleep, and avoid excessive alcohol and caffeine.
- Make time to unwind. Try to do some other activities you enjoy.
- Connect with others. Talk with people you trust about your concerns and how you are feeling.
- Call your local GP if stress gets in the way of your daily activities for several days in a row.

3. SLEEP AND RECOVERY

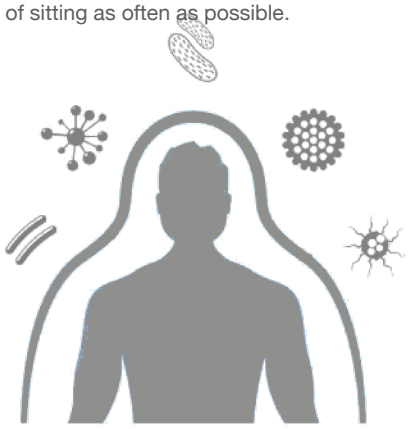
- Limit the amount of screen time you get at least two hours before bedtime.
- To help your mind wind down follow a pre-planned night time routine which includes activities such as stretching, breathing exercises and mindfulness.
- Use heart rate monitors and sleep trackers to monitor the effectiveness of these activities.
- Try to go to sleep and get up at the same time every day.
- When it's time to sleep, make sure the room is dark and quiet.
- Cut back on sugary foods and refined carbs.

4. NUTRITION

- Base your meals on high fibre starchy carbohydrates (wholewheat pasta, brown rice or potatoes with their skins on).
- Eat lots of fruit and vegetables (get your 5 a day)
- Eat more fish, including a portion of oily fish (salmon, trout, herring, sardines, pilchards, mackerel).
- Cut down on saturated fat and sugar (fatty cuts of meat, sausages, butter, hard cheese, cream, cakes, biscuits, lard, pies etc.)
- Eat less salt: no more than 6g a day for adults.
- Do not skip breakfast.
- Do not get thirsty (drink plenty of fluids).

5. PHYSICAL ACTIVITY AND EXERCISE

- Aim for at least 60 mins of physical activity a day.
- Do what you enjoy and you will do more of it.
- See common chores or activities such as gardening or walking your pets as a good opportunity to get active.
- Try to find time for some regular vigorous exercise but be careful not to over train.
- Minimise the amount of time spent in prolonged sitting and break up long periods of sitting as often as possible.
- Other physical activities can include:
  - Stretching
  - Yoga
  - Weight training
  - Dancing
  - Jogging
  - Swimming



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As an expert in employee wellbeing at work we have developed both the 1 Step North "Business Psychology' and the 'Wellbeing in the workplace' programmes to support both employers and employees looking to prioritise wellbeing. The programmes are delivered in a number of ways including Masterclasses, Webinars, Conferences and 1-1 in both the public and private sector. However, we regularly get asked to create bespoke programmes that match the needs and expectations within organisations aligned with their culture and behaviour. To find out more about our programmes and to take advantage of a complimentary appreciative inquiry session to see how we can create bespoke content for your organisation get in touch.

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