OUR EXPERT

Psycho-Neuro-Immunology

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I am currently studying at university and am usually in really good health. However, when the academic stress is high I can suffer with aching joints, swollen lymph glands and at times also cold sores (which is really annoying). I eat relatively well and I exercise regularly. I've seen the GP and they cannot find anything wrong with me (all blood tests are fine). How can I best boost my immune system to give my body the resistance it needs whilst I am under quite extreme academic pressure?
Emily, aged 19

KARINA ATHWAL started out her career as a corporate lawyer, but inspired by profound improvements to her own health using nutrition and other lifestyle factors, she changed direction and now holds an honours degree in Nutritional Therapy. She has trained as a Master NLP Practitioner and has completed a 2-year postgraduate diploma in clinical Psycho-Neuro-Immunology (cPNI). She is also a certified Metabolic Balance Coach. She can be contacted at higherhealthandhealing.co.uk

When you feel stressed your body produces stress hormones such as adrenaline, noradrenaline and cortisol. These cause metabolic changes in your body, which helps you deal with the perceived challenge.

During acute stress energy is directed to the areas of the body that are most important for your survival in acute danger, such as your brain, cardiovascular system, muscles, immune system and adrenal glands. This happens at the expense of other body systems that are less important when facing acute challenges, such as your digestive tract, skin and bones. Short-term this is helpful for rapid adaptation to danger signals, but long-term you can imagine that such changes in energy allocation can adversely affect the functioning of various organs and hence your health.

Our stress system is very old and has evolved over thousands of years in response to the very challenges which killed humans throughout our evolution – predators, violence, starvation, thirst, heat and infections. Our physiology is much the same as it was in caveman time so we still apply the same mechanisms today even though modern day stress is very different from those historical types of stress. A major difference is in the duration of stress, which in evolutionary terms was intense but short. Now, generally, stress is of much longer duration – such as when completing a university course – and therein lies the problem.

In terms of your immune system, acute stress will increase the activity of certain components of it to deal with potentially harmful invaders. Immune activation means inflammation and short-term this may be helpful if you are wounded by a predator and the risk of infection is high. However, modern day

stress is mostly sterile (psychological stress) – there is no pathogen to fight when feeling challenged by a university course. When the stress is ongoing, this up-regulation in certain aspects of immune activity can lead to low grade-systemic inflammation that becomes chronic and this is detrimental to health. Joint pain can be a sign of prolonged inflammatory processes. At the same time, your ability to produce new types of immune cells is suppressed (too energy-expensive during acute stress) and over time components of your adaptive immune system (Th1), which is responsible for dealing with viruses, are also impaired. This combination inevitably leaves you more vulnerable to viral challenge. Your swollen lymph nodes and tendency to cold sores indicate that your immune system is struggling to handle viruses.

You will now understand that one of the most important considerations in supporting a healthy immune response is stress management. How you perceive the challenges that you are facing at university and your attitude can make a big difference in how your body responds to stress. Coaching may be helpful here. A diet rich in vegetables (eat a variety of colours), with healthy fats (olive oil, avocado, nuts, fish), good quality protein (eggs, fish, poultry and occasional red meat), moderate grain intake and minimum sugar, can be helpful to support immune function; and regular moderate exercise is important for both your stress response and immune function.

In terms of specifics then mushrooms contain substances (notably beta glucans), which have been shown to support immune function and help fight viruses. Maitake, Shitake, Oyster and Reishi mushrooms may be particularly helpful, but all edible mushrooms should be considered, and including a variety of mushrooms will provide a broader spectrum of helpful substances. Cordyceps may help to improve resilience. Supplemental forms of mushrooms/beta glucans are available as well (see below regarding taking supplements).

Fish contains fatty acids from the omega-3 family (EPA and DHA) and these fats are critical for healthy immune function, so eating a portion of fish three to four times per week may be helpful. In particular the so-called SMASH fish (salmon, mackerel, anchovies, sardines and herrings) are rich in these fatty acids; they are also more sustainable from an environmental perspective and less polluted by heavy metals than larger fish. If this is hard to achieve, supplementing with fish oil may be helpful (see below).

Olive leaves are rich in plant chemicals called polyphenols, and laboratory studies suggest that olive leaf extract is effective against over 50 common disease-causing organisms, including viruses, bacteria and fungi. I have used olive leaf extract with many of my clients for viral support with good results.

! It is not recommended that you take supplements without the guidance of a nutritional expert, who can consider your individual needs and ensure that supplementation is safe and not contraindicated. If you suffer with any disease or take medication it is also important that you check with your GP that supplements are appropriate for you to take.