

# TIP SHEET FOR BRAIN HEALTH



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA

## You & Your Brain: A tale of two cities

While studying at University your brain is going to be your best asset and your best friend. How well are you looking after your assets and your best friend?

Research is showing us clearly that the old adage “a healthy body is a healthy mind” is true. Learning to look after your brain and to keep it in good working order is going to be one of the best and possibly easiest things you can do to help with your success at University.

**And guess what?** Believe it or not, being at University is good for your brain! Your brain was designed for learning, so to actively engage in the learning process is to engage your brain. The act of learning appears to stimulate dendritic growth (a connective part of neurons) and ensures the uptake of new neurons (the nerve cells of the brain) into existing brain tissue.

So what does “actively engaging in the learning process” actually mean? Research shows that an active stimulated brain has better quality connections and that the storage and retrieval of information is better than for under-stimulated brains.

However, just learning something new is not the same as active engagement in learning. Stimulation means mental effort that is significant and disciplined - you need to feel the activity is hard and requires effort. Is this beginning to sound like enrolling in a University course? Well it should - being at University is good for your brain!

Unfortunately, the story does not end there. Your brain is less than 2% of your body weight, but it uses 20% of your body's oxygen, 20% of your blood, and 25% of your glucose. It is highly metabolically active, and enormously sensitive. A lot of what we do in our day to day lives can either help or hinder how well our brain is functioning. This is both good news and bad news.

### What helps your brain function?

**Physical exercise** appears to benefit areas of your brain involved in memory and learning. Aerobic exercise where your heart rate is raised substantially appears the best form to engage in. When you are young high intensity exercise appears best, and when you get older moderate intensity exercise does the job.

**Adequate sleep** is good for your brain. Neurons do not divide like other cells, instead they last a life time and repair mechanisms exist to keep them healthy. It is during sleep that this repair process occurs which allows for optimal functioning during waking hours. Also, and importantly, most of our knowledge is processed, consolidated and stored into long term memory during sleep.

**Social interaction** is a great way to stimulate your brain. Simply talking with someone daily will improve your brain's functioning. More meaningful relationships where you are challenging and discussing ideas helps your brain to stay sharp, make judgments, and anticipate and solve problems. All achieved in a day at University.

**Managing your stress** levels is very important for your brain. Your brain's sensitivity means it can be strongly affected by the chemicals/hormones involved in responding to stress. In particular, the hippocampus, a part of the brain central to learning and memory function is highly sensitive to stress hormones. Fortunately, the brain's overall sensitivity also means that it responds well to strategies/activities known to deal with stress – like relaxation, exercise, good social relationships and adequate sleep. Likewise, the sensitivity of the brain means it is highly responsive to what we consume.

**Healthy diet** practices play a big part in keeping your brain fit and healthy. What we *choose not* to eat is just as important as what we *do choose* to eat.

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## Choices good for your brain:

**Glucose** is needed by your brain for fuel to drive all the machinery of its many functions. You can have too much or too little blood sugar affecting your brain. Seek out low GI whole foods.

The **size** of your meals and the **frequency** of your meals will impact on your blood sugar levels. Skipping **breakfast** reduces your performance in concentration, reaction times, learning, mood and memory.

**Protein** intake is essential as a source of amino acids, which are the building blocks for neurotransmitters; they are the current that allows your brain to function; they control memory, learning, attention, cognition and mood.

**Fruit** and **vegetables** containing anti oxidants are important for cleaning toxins out of the brain, and contain important vitamins and minerals that promote optimum brain function.

## Choices not so good for your brain

**Snack foods** containing high levels of processed sugar and fat provide no nutrition to your brain and have a negative impact on mood, attention and memory.

**Alcohol** is toxic to your brain. Excessive use increases stress levels, disrupts sleep patterns, and can lead to anxiety and depression. It also will impact on attention, memory and recall abilities, all affecting your studies.

**Caffeine** consumption if excessive, through coffee, soft drinks, energy drinks, etc, depletes vitamins needed by your brain, increases your experience of stress, disrupts sleep patterns and concentration, and increases irritability.

**Recreational drug** use can have an enormous disruptive impact on your brain depending on the substances you are using, the amounts and frequency of use, the purity of the substance. Serious, permanent damage to your brain can result, including death, not to mention possible conflict with the law!

So, take some time to reflect on the points made above. This will help you to get a better idea of how well you have been looking after your brain. The above gives you an indication of some of the very simple lifestyle changes you can make to enhance your brain's performance and from that your university performance.

## References:

"Keeping your brain healthy" Matthew Bambling. Psychotherapy in Australia. Vol16 No3 May 2010, vol16 No2 February 2010

"Workbook for Treating Anxiety" Arden:

## For more information:

Tip sheets:     Managing Sleep Difficulties  
                  Managing Loneliness  
                  Managing Anger  
                  Relaxation  
                  Managing Anxiety  
                  Depression  
                  Work, life, balance

Websites:     <http://health.yahoo.net/experts/eatthis/best-and-worst-brain-foods/>  
                  <http://brainfoundation.org.au/healthy-brain>  
                  <http://www.increasebrainpower.com/brainfoods.html>

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