

Adolescent Health

Hi from your health care team. Adolescence is a time of life that challenges everyone: the young people themselves, patients and families, schools and those responsible for their health. All too often, important health conditions of adolescence are not pursued for a variety of reasons. This can lead to long term consequences. Parents and carers would do well to become more familiar with some of the simple actions and knowledge to help their adolescents.

The last few months have wreaked great change for us. We mourn the passing of our receptionist Julie after a battle with cancer. Sarah is expecting her first baby and has moved on to focus on family and her work at Penrith. Meaghan is now a full time director of training at a massage therapy college.

So with great pleasure we welcome Gabrielle who completed her massage therapy training in the Riverina and works with Anthony as his assistant; Theone who manages our bookkeeping and a new face at the reception with Lee. Lee has a long background in health care reception while Michael will put his years of training and experience in chiropractic into practice with us. He hopes to fulfil his dream of reducing the headaches that so many of us suffer.



Gabrielle, Theone, Lee and Michael

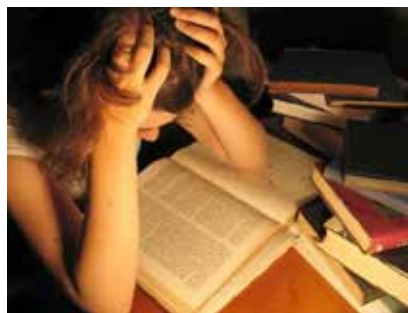
Massage is important for adolescents too!

Many of us think of massage simply as something that “feels good”. Most people would perceive it as a luxury. While this is true, massage therapy has been more recognised as an alternative health modality. If you ask any of our massage therapists, they don’t just help their patients “feel good” they can also help them recover from injuries, promote relaxation, loosen tight muscles and help prevent further problems.

Massage is vital for our physical, emotional and psychological well-being. It is beneficial for all of us. But did you know children of all ages can benefit from regular massage because they can suffer from the same back ache and stress you may feel after a long day at work, at the gym or after a sporting event.

We’ve been talking about children and their school backpacks around Health *plus* Chiropractic. We have discovered that Australian children

are at risk of permanent spinal damage because of incorrectly packed and fitted school bags. Children are more concerned about the fashion and style of the bag rather than the comfort and the correct way to wear backpacks. This can result fatigue in the



classroom and back pain may worsen throughout the rest of their schooling life. Children’s posture seems to be forgotten when they sit at their desk while they study at school or at home. Did you ever get told by your parents to “sit up straight”? This should be a reminder to the younger generation for their mental and physical development.

Often at times when we think about

stress, we think of it as an adult condition. But if you think about it even children are prone to stress. Certain massage techniques can help children with poor concentration, anxiety issues or fatigue. A myofascial release technique works with the muscles and connective tissues in the body. This brings an increase of blood flow around the body to promote relaxation and less tight muscles.

A recent study showed when an intense course of massage was given to depressed and adjustment disorder adolescents, they became less depressed and anxious. In addition, the subjects were more cooperative and night-time sleep increased. Children are being more active by playing sport and encouraged to get out and play. Muscles develop rapidly during this period of physical growth. A soft tissue release will help lengthen a certain muscle group by applying pressure with a slow active and passive stretch. The muscle will slowly increase in length. Our massage therapists use these techniques often with remarkable results.

Optimise Adolescents' Health & Performance with Chiropractic!

Adolescence is a period of change and development, not only in physical appearance, such as the increasing curvatures for girls, the deepening of voice for boys, but there are also vast growth changes happening in the spine and joints of the body. The growth plates which allow bones to assume their adult proportions will soon disappear, making any current deformities or imbalances become permanent. Often these very 'real', but unrecognised problems are shrugged off as "growing pains." Not necessarily true! This is the time to locate and correct any spine-related abnormalities before they become permanent adult problems.

Posture is one aspect that the parent or guardian should regularly check for the adolescent. Adolescents spend prolonged periods sitting either at school or in front of the computer, television and playstation at home. This tends to make them 'slouch,' causing rounded shoulders, forward head carriage and an increased upper back curve (kyphosis). Overtime, they complain about back pain and spinal stiffness as severe as the working adult!

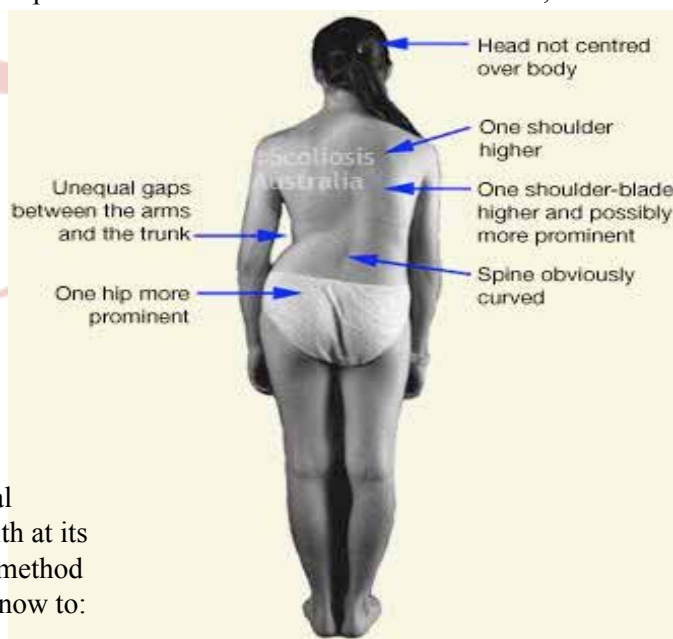
Another lookout for parents is their child's school backpack. Currently, our school children are exposed to carrying heavy school backpacks, up to 17% of their body weight, which is double the maximum recommended weight. They are filled with various textbooks and sports clothes, also carried incorrectly, such as only on one shoulder, the bag being too low or not using the supportive features. Ultimately, this causes slumped head and shoulders, not helping to their already inactive lifestyle of today's adolescents.

Adolescent scoliosis is another condition chiropractors encounter in the office. Adolescent scoliosis is a sideways curvature of the spine, typically occurring after the age of 10 and affecting females more than men. Signs of scoliosis include: uneven musculature on one side of the spine, rib prominence and/ or prominent shoulder blades, uneven hips/leg lengths and in some cases, slow nerve action. Back pain and stiffness is common with scoliosis, which are very general symptoms, so early screening and detection is vital for prompt treatment.

Many spinal conditions affected during adolescence respond very well to chiropractic treatment, these include:

- Headaches
- Neck Pain
- Back Pain
- Shoulder Pain
- Knee Pain
- Hip Pain

Preventative care of these above conditions and any spinal dysfunctions help adolescents to feel better, preserve health at its best and perform better. Chiropractic is the natural, right method to make these necessary corrections. So why not enquire now to: Health *plus* Chiropractic, on (02) 9631 8944.



Adolescent Feet Need Attention too...

Since adolescence covers a fair period of time, there are a vast number of foot-related conditions that can arise during this stage. For the sake of narrowing these down, I have chosen the three most common conditions that I have encountered since the start of the new year:

Ingrown Toenails - This is when the side of a nail grows into the skin causing pain, redness and swelling. If the nail penetrates the skin, this can lead to infection and the development of proud flesh.

The most commonly affected nail is that of the big toe. The main causative factor for ingrown toenails is the shape of the nail - the amount of curvature and width. Other factors that can lead to an ingrown toenail are poor trimming technique, previous trauma to the nail, a fleshy toe and tight footwear.

Treatment generally involves removal of the offending piece of nail. The treatment provides fast relief of the associated pain and infection. It is important to note that ingrown toenails can be recurrent. If conservative treatment fails to manage the problem, then nail surgery should be considered as a permanent solution.

Warts (Verrucae) - These are caused by infection of the skin with human papilloma virus (HPV). (cont next page)

The Adolescent Brain - A Work in Progress...

Throughout the ages adolescents has been known to be a difficult period. Socrates stated teenagers are “inclined to contradict parents and tyrannize teachers”. Often society blamed the parents for their teenage offspring’s impulsivity, thoughtlessness or stupidity. During the 1960’s and 70’s there was an attempt to understand what goes wrong in adolescence as due to “raging hormones”. More recently scientists are looking at the brain and scanning studies proved what every parent of a teenager knows: not only is the brain of the adolescent far from mature, but both gray and white matter undergo extensive structural changes well



past puberty. Up until recently scientists thought that a person’s brain growth was complete and the structure was more or less fixed by the age of 3 and fully developed by age 12. However, over the past decade with the aid of magnetic resonance imaging (MRI) we find that the teenage brain is a work in progress. Research shows that during adolescence

the brain undergoes a profound growth spurt and continual change thus over time becoming more complex and more efficient, especially in the brain’s prefrontal lobes – and that it is only about 80% developed in adolescents. The cortex is divided into lobes that mature from back to front. The last section to connect is the frontal lobe, which is responsible for cognitive processes such as reasoning, self-control, judgement, decision-making, planning, organization and emotional regulation. This mental merger of the prefrontal lobe area of the brain does not reach full maturity until around age 25 in females and up to age 28-30 in males. This may help to explain certain teenage behaviour that adults can find mystifying, such as poor decision-making, reckless risk taking, and emotional outbursts.

Prof Frances E. Jensen of Harvard Medical School states “the teenage brain is not just an adult brain with fewer miles on it. It’s a paradoxical time of development.” From the age of 12 to young adulthood there is a frenzy of brain remodelling whereby there’s pruning of the grey matter (the thinking part) and only keeping the most efficient connections. Meanwhile, there are also large brain sections that are being coated with a white substance called myelin. This “white matter” helps speed up nerve conductance 100 fold thus creating fast brain superhighways.

Although teenagers believe that they are smarter than their parents studies show that their reaction times are slower, tend to make more errors (due to lacking some “wiring” that carries out impulse

control i.e. “brake” or “stop” messages to the rest of the brain) and need twice as much brain to accomplish the same tasks. Other ways that adolescent brains differ from adults is that their brains are reward orientated, thrill and risk seeking, novelty seeking and very much engaged in looking for new sensations. On the positive note this is the time when teenagers can be most creative, experiment and learn new things – a great time for learning. But it also explains why adolescence is a time of maximum risk as they tend to act first and not think of consequences. Teens’ brains are wired to seeking the buzz to satisfy that reward centre, while their prefrontal lobes can’t register all the risks these action entail. For example if a teenager spends an hour on the internet instead of focusing on homework, it’s because the teenage brain doesn’t register delayed gratification. Even though the teenager can vaguely register that there will be parental punishment later on, the appeal of fun now is too strong.

The discovery that teen brain development continues into our mid to late twenties has enormous ramifications. Understanding these changes that take place in the brain during adolescence presents an opportunity to intervene early in mental illnesses that have their onset at this age. Furthermore, it may help adults understand the importance of creating an environment in which teens can explore and experiment while helping them avoid behaviour that is destructive to themselves and others.

Some very interesting video clips that explain more than can be discussed in this article can be found at <http://teenagebrain.blogspot.com.au/>

Now that MRI studies have cracked open a window on the developing brain, researchers are looking at how the newly detected physiological changes might account for the adolescent behaviours so familiar to parents: emotional outbursts, reckless risk taking and rule breaking, and the impassioned pursuit of sex, drugs and rock ‘n’ roll. Some experts believe the structural changes seen at adolescence may explain the timing of such major mental illnesses as schizophrenia and bipolar disorder.



(from previous page) A wart’s appearance varies from a ‘puncture mark’ in the early stages to a ‘cauliflower’ in more mature lesions. Warts on non-weightbearing surfaces protrude above the level of skin whereas those on weightbearing areas protrude into the skin and as a result are more painful. Warts are commonly mistaken for corns. Since corns are caused by pressure, the treatment of the two conditions vary. It is important to clinically diagnose the problem to get the best possible treatment outcome. If the warts do not respond to conservative treatment, a minor procedure known as curettage can be performed to eliminate the problem.

Sever’s Disease – This is a common complaint among physically active young adolescents, especially boys aged 8-14. It is described as a traction injury due to the bones growing at a faster rate than the muscles in the leg, causing increased tension at the insertion of the Achilles tendon. Other factors that contribute to this condition include the cartilage of the heel bone not being ossified in the age group described as well as biomechanical issues. Inflammation and pain at the insertion of the achilles tendon at the back of the heel bone are the main symptoms. These usually arise during or after activity. Treatment of this condition generally includes a stretching program in combination with heel raises or orthotic devices depending on the severity of the contributing factors.

The Generational Time Bomb:

How do your children measure up?

Predicting your child's future health is as simple as measuring their waist circumference – a measure of the fat located centrally in the body (abdominal fat).

A recent study published in the International Journal of Obesity, followed more than 2000 Australian children over 20 years, calculating their risk of developing diseases later in life. The study's major finding was that waist circumference is the best measure to predict a child's cardiovascular and diabetes risk later in life.

This study revealed that children with a higher waist circumference were five to six times more likely to develop Metabolic

Whilst there is well published data and evidence about the 'cut off' waist circumference measurements in adults – 80cm for females and 94 cm for males, there are no values for children yet. Simply, a higher waist circumference places your child at a greater risk later in life than a lower measurement.

Is it all about size?

Health is never only about one thing, or controlling one factor in your life. Many other influences come into play when predicting health in the long term. Some of these include physical inactivity, smoking,



Syndrome, compared with children with a lower waist circumference. Having Metabolic Syndrome increases the risk of coronary artery disease, stroke and type 2 diabetes. Therefore child hood obesity has two implications – the number of Australians with heart disease and diabetes will increase, plus the age of onset of these diseases will decrease!

Metabolic Syndrome is diagnosed by a high abdominal waist circumference plus two or more of the following; raised triglycerides or reduced HDL 'good' cholesterol, raised blood sugars, high blood pressure.

How much is too much?

lack of sleep, high cholesterol... and the list goes on.

How to measure waist circumference accurately

1. Place the tape measure directly on the skin
2. The correct place to measure a waist is horizontally half way between the lowest rib and the hip bone – this is roughly in line with the belly button
3. Breathe out normally and take the measure

For more information on waist circumference and how to improve your child's health, make an appointment with Rebecca Barakat – Dietitian and Exercise Physiologist at Health *plus* Chiropractic.

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