

Spinal health for South Australian students

This brochure flags the commencement of a unique initiative between the Centre for Allied Health Research, University of South Australia and the Department of Education, training and Employment in recognising the importance of spinal health in school communities. Whilst this brochure focuses on adolescents the importance of spinal health for teachers and support staff is also acknowledged.

Research undertaken by the Centre for Allied Health Research, University of South Australia (USA), in consultation with the Department of Education, Training and Employment, has given specific indicators for safe practice in relation to spinal health care in schools. The research gives specific direction in relation to:

- Posture
- Use of computers
- Load carrying
- Locker use
- Physical activity.

The research focused on adolescence – a period when the spine is still developing and students are increasing their take-home study materials – and potentially carrying greater loads.

Support for local implementation of the guidelines is available from the Centre for Allied Health Research, University of South Australia, by specific request. Site specific assessments of the school environment can be provided. Further information can be obtained from the Centre Website (www.unisa.edu.au/alliedhealth)

THE CENTRE FOR ALLIED HEALTH RESEARCH, UNIVERSITY OF SOUTH AUSTRALIA

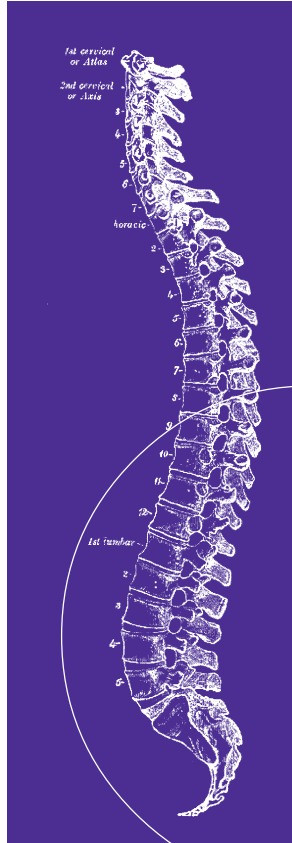
The Centre for Allied Health Research comprises researchers in the fields of physiotherapy, podiatry, medical radiation and occupational therapy. It has long standing and major research interests in adolescent spinal health. The centre is known for efficient and successful completion of practical community-focused research, and for its commitment to educating clinicians on evidence-based practice including spinal health care and health promotion. Centre researchers enjoy strong ongoing links with industry and government bodies. Research into adolescent spinal health commenced in 1997 and is ongoing. Centre researchers regularly publish in strategic and high quality national and international journals, and consequently, the Centre is becoming recognised as the pre-eminent place for evidence-based allied health/ public health research in Australia.



DEPARTMENT OF EDUCATION
TRAINING AND EMPLOYMENT



Supporting school communities to become spinal health promoting environments



LOAD CARRYING

Excessive loads are linked to poor posture. Schools have a responsibility to seek strategies to minimise loads carried, and to educate young people about good load carrying practices.

- The load should not significantly change young people's posture from both a side and front view.
- Backpacks worn over two shoulders are the best form of load carriage.
- There is a limit to how much weight can be carried in a backpack. Research shows that, where possible, backpack weights should be less than 10% of body weight. Less than 10% of average weight equates to:
 - 3.9 kgs for 12-13 year olds
 - 4.3 kgs for 14-15 year olds
 - 4.8 kgs for 16-17 year olds.
 This weight should be viewed in practical terms and represents, for instance, three medium to large textbooks and a lunch box.
- Young people should be encouraged to remove their backpacks and rest the pack on the ground when standing for long periods of time.
- Young people should not be encouraged to ride bicycles while carrying a backpack unless they have a waist strap that securely fastens the load to the body.
- Young people should be alerted to the risks entailed by carrying large and overloaded backpacks. These risks are both to themselves (overbalancing, injuring spine and shoulder joint), and to others (being hit by the backpack on public transport, having a backpack fall on them if insecurely fastened).
- Often young people need to carry other items (musical instruments, sporting gear) as well as their backpacks. Care should be taken to restrict the carrying time and the total amount of weight carried.
- If young people are regularly carrying a laptop, encourage them to check the total weight carried. Where possible, the laptop should be carried in the backpack, as close to the body as possible. This will necessarily restrict the remainder of the load.



LOCKER USE

- Young people should be encouraged to view locker use as an aid to reducing loads, not as an imposition.
- Young people should be involved in determining locker choice and situation.
- Lockers should be secure.
- Lockers should:
 - be appropriately sized to hold the entire school bag
 - suit the users' height and arm reach
 - be positioned as close to class rooms as possible
- Young people should be taught to use lockers safely by:
 - rationalising the loads they need for each lesson
 - determining the best pattern of locker use for them (to suit lessons and class rooms).

GUIDELINES FOR SCHOOL COMMUNITIES

It is acknowledged that student health is primarily a personal and family responsibility, and what students carry in their school bags is often a matter of student choice. The following guidelines are provided to assist school communities to work together over time to create a physical and working environment, which is supportive of student spinal health.

POSTURE

Research shows that up to 25% of any school class will be suffering low back pain or neck pain at any one time. This may be related to posture.

- Students should be encouraged to stand and sit well, and to be responsible for their own bodies. Students who regularly report neck pain or headaches should be encouraged to pursue eye sight testing to rule out potential causes.
- Young people should be encouraged to stand tall, with shoulders aligned over hips, and with weight evenly over both feet.
- When sitting, young people should be encouraged to use the back support of their chair, with their feet resting on the ground.
- It is possible that school seating may be too small for some students, and too large for others. Where possible the purchase of different sizes of furniture should be encouraged and classrooms should try to offer a choice of furniture in classrooms where a range of year groups work.
- Furniture should be purchased with the end-use in mind. Tables and benches at which students will be required to sit should have sufficient leg space underneath to allow the student to sit in a forward facing, symmetrical posture.
- School room lighting should enable young people sitting at the back of the room to view objects at the front of the room with ease. Be wary of the influence of glare from direct sunlight, or reflected off shiny surfaces (i.e. computer screens). Teachers should be sensitive to the potential effects of glare throughout the school day. Glare can cause students' eye strain, headaches and awkward postures whilst at their desks.

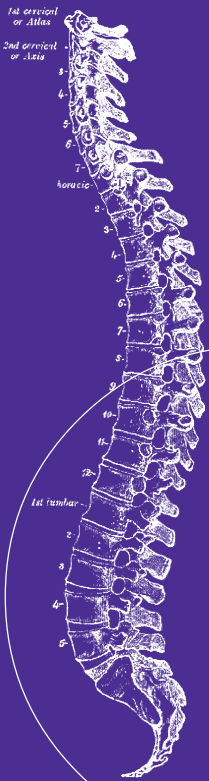
COMPUTING

Spinal health should be a consideration in computer setup and use.

- When using desk top computers young people should be encouraged to place the keyboard at elbow height whilst sitting in an upright posture.
- The top of the screen should be at eye level.
- When using computer mouse devices the elbow should be kept in by the side of the body and the mouse kept as close to the body as possible.
- The screen should be maintained at a distance of approximately 50-60 cm from the eyes.
- Young people should be encouraged to plan work away from the computer, to minimise time spent at the computer console.
- When using a properly set up desk mounted personal computer (PC), young people should be encouraged to have five minutes break every hour. During these breaks they should be encouraged to leave the desk and move around.

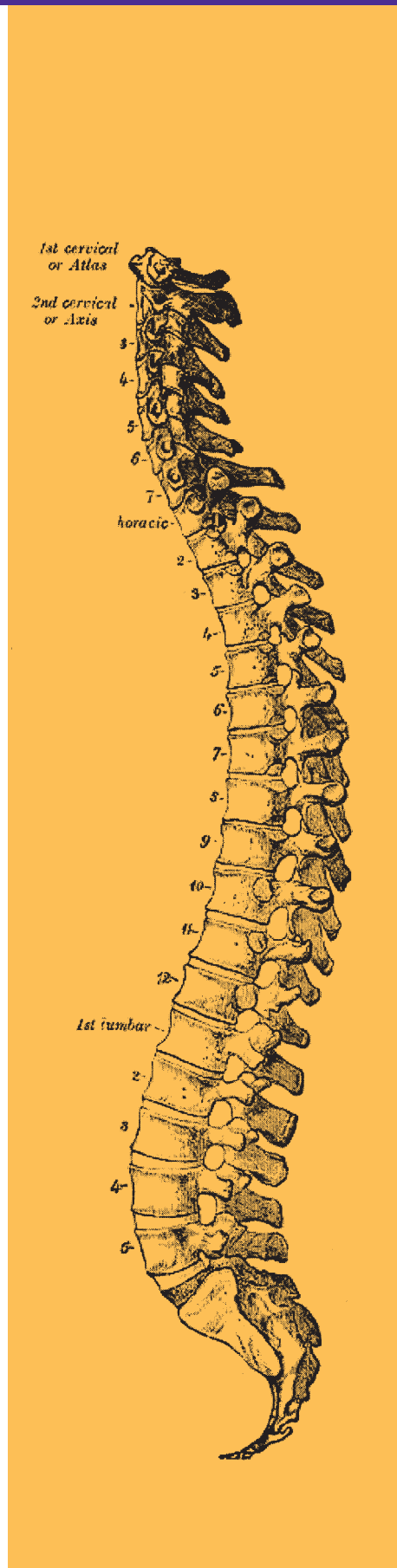
Prolonged use of laptops is not ideal for the spinal health of students. Their usefulness is often restricted by screens that are too small or badly lit, and keyboards that are not appropriately sized. Regular use of laptops requires attention to the correct height of desks and chairs (to address the issues raised above), and to the arrangement of power cords for occupational health and safety reasons.

- When using laptop computers for extended periods of time, young people should be encouraged to have five minute breaks every 30 minutes of constant computer use. During these breaks young people should be encouraged to leave the desk and move around. It is also good practice to move the shoulders, arms and head to relieve postural tension.
- When selecting laptops for young people choose the lightest, and the one with the largest screen.
- With the high use of computers in the home environment students should be educated in the importance of correct workstation setup both at home and at school.



SPINAL HEALTH FOR YOUNG AUSTRALIANS

“Up to 40% of adult Australians suffer repeated episodes of back pain, resulting in days off work”



“Over 80% of adult Australians will suffer disabling back pain at least once in their lifetime”

Experts believe that causes of adult back pain may be set up in the growing years