

# **SPINAL HEALTH FOR ADOLESCENT STUDENTS**

**information for parents & schools**

**Guidelines**

**February 2002**



Catholic Education Office, Diocese of Parramatta

# **Spinal health for adolescent students**

## **Major health problem**

Spinal pain is a major health problem in our community costing millions of dollars in lost productivity and pain and suffering.

Development of a healthy spine during periods of growth – and learning habits for good spinal health are the responsibility of the individual student, their family and the wider community.

Schools also have a particular role to play in supporting and encouraging spinal health.

Recent research undertaken through the University of South Australia Centre has given specific indicators for safe school practice in relation to spinal health in general and adolescent student spinal health in particular.

## **Adolescent spine**

The adolescent spine differs from the adult spine in that it sustains sporadic and extreme growth until the age of approximately 18 years, with full spinal growth mostly completed by 24 years. Girls enter their growth phase before boys, and physical size of adolescent students is not indicative of strength or skill.

## **School backpacks**

Recent research has shown that once young people enter high school they carry loads similar to those being carried by the oldest students in Year 12.

As high school is a period of extreme spinal growth, especially for girls in Year 7 and 8 and for boys in Year 8 and 9, it is possible that excessive weights, consistently carried in these secondary years, may have a detrimental impact on spinal development.

It is recommended that schools take into account the load that students need to carry when purchasing textbooks and setting homework.

One strategy that schools can employ to address this issue is to consider curriculum dependence on print material so that it might be minimised with a greater focus being placed on the use of electronic material.

## **Ordering school backpacks**

When ordering backpacks for students, schools should consider specifying backpacks that are ergonomically designed and endorsed by the Physiotherapists Association.

In schools where students are free to provide a backpack of their own choice parents should be informed of the advisability of choosing a backpack that conforms with the standards established by the Physiotherapists Association.

The NSW branch of the Australian Physiotherapy Association (ph: 8748 1555) will provide contact details for local speakers on spinal health who can provide presentations to PDHPE or pastoral care classes.

## **Weight limits**

Students should be encouraged to wear their backpack over two shoulders. Backpack weights should be less than 10% of body weight. This would equate to:

3.9 kgs for 12-13year olds

4.3kgs for 14-15 year olds

4.8kgs for 16-17 year olds

Young people should be encouraged to remove their backpacks and rest the pack on the ground when standing for long periods of time.

## **Use of lockers**

Young people should be encouraged to view locker use as an aid to reducing loads. Lockers should ideally be:

- large enough to hold the entire school bag
- suit the user's height and arm reach (shorter students should use the lowest lockers)
- be positioned as close to classrooms as possible

Young people should be taught to use lockers safely by:

- taking time to work out what load they need for each lesson
- determining the best pattern of locker use for them to suit lessons and class rooms.

## **Using desktop computers**

- the keyboard should be at elbow height when the student is sitting
- the top of the screen should be at eye level
- the elbow should be kept in by the side of the body and the mouse kept close to the body
- the screen should be maintained at a distance of approximately 50-60 cm from the eyes

## **Using laptop computers**

Using laptops is not ideal for the spinal health of students. Screens that are too small or badly lit and keyboards that are not appropriately sized often restrict their usefulness.

When students use laptops regularly, attention should be given to the correct height of desks and chairs and to the arrangement of power cords. When selecting laptops for students, choose the lightest one with the largest screen.

## **Warning young people about the risks**

Where students are permitted to ride bicycles to and from schools they should be encouraged to wear a waist strap that securely fastens the load to the body.

Students should be alerted to the risks involved when carrying large and over loaded backpacks, 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 etc).

When young people need to carry other items, for example musical instruments/ sporting gear etc as well as their backpacks, care should be taken to restrict the time spent carrying and the total amount of weight carried.

If young people are regularly carrying a laptop as well as a backpack, 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.

## **Posture**

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

Students should be encouraged to stand and sit well, and to be responsible for their own bodies. They 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.

Where possible the classroom should offer a choice of furniture where a range of year groups work. Tables and benches at which students will be required to sit should have sufficient leg space underneath to allow the student to sit forward facing, symmetrical posture.

Furniture should be setup in the classroom to allow students to view the teaching material/ whiteboard demonstration with a neutral posture.

Teachers should be sensitive to the potential effects of glare throughout the school day.