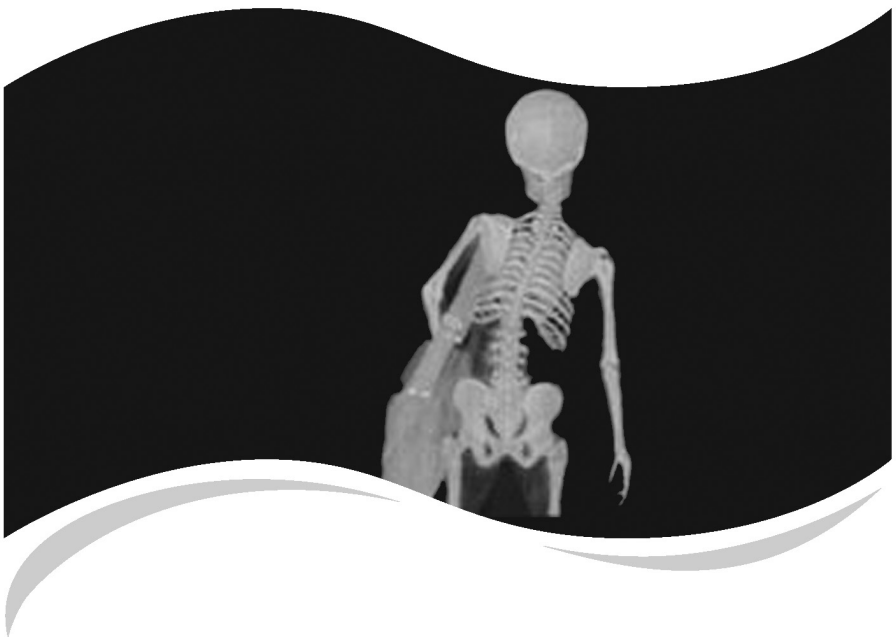




Your Skeleton and Back Pain

Information for School Children
Physiotherapy Department



THE SKELETON

Most of us have 206 bones:

- ❖ the largest bone is the femur (thigh bone)
- ❖ the smallest bone is the stirrup bone (in the ear)
- ❖ large people have the same number of bones as small people but their bones are bigger

Did you know that a giraffe has the same number of bones in it's neck as a person - the bones are just bigger!



Our bones are joined together by joints:

- ❖ some joints are fixed, for example, the skull
- ❖ other joints move, for example, the knee, the shoulder
- ❖ Our muscles make our joints move
- ❖ The muscles attach to bones by tendons
- ❖ Our bones continue to get LONGER until the age of 16-18 years (when we stop growing taller)
- ❖ Our bones continue to get STRONGER until our mid 30s
- ❖ Our bones can become weaker after this and can be easier to break

It is very important we do things to make our bones as strong as possible, especially when we are younger.

WHAT CAN WE DO TO KEEP OUR BONES STRONG

There are two things we can do to help:

1. What we eat - our diet
2. Exercise

What We Eat

We need to eat to:

- ❖ give us energy;
- ❖ keep us warm; and
- ❖ keep our bodies healthy by maintaining growth and tissue repair

Not all foods do the same job. We need energy and a range of nutrients for our bodies to work properly. Some foods provide better nutrition than others.

To build healthy bones and teeth our bodies need calcium and vitamin D (vitamin D helps our body to absorb calcium).

Best calcium foods are:

- ❖ milk and dairy products, for example, milk, cheese, yoghurt
- ❖ bread and cereals, for example, oats
- ❖ pulses, for example, baked beans, chick peas
- ❖ green leafy vegetables, for example, broccoli
- ❖ nuts



Foods which provide vitamin D:

- ❖ fish, for example, tuna, salmon
- ❖ margarine
- ❖ eggs
- ❖ some yoghurts
- ❖ some breakfast cereals

Exercise

- ❖ Physical activity helps the body to stay healthy and work properly
- ❖ If we look after our body when we are young, it can help prevent illnesses when we are older

It is very important we do things to make our bones as strong as possible, especially when we are younger.

- ❖ Bone building exercises are activities that give your bones extra work by loading them in lots of different ways, with lots of quick vigorous spells of exercise that use your body weight
- ❖ Some of these exercises include jumping, football, dancing, skipping, running and gymnastics
- ❖ Cycling and swimming are good for the heart but they do not build stronger bones
- ❖ We should try to exercise a little every day to build stronger bones, instead of lots just once a week
- ❖ Once you are grown up, exercise has a much smaller affect on your bones and the opportunity to grow strong bones has been lost for ever



PREVENTING BACK PAIN

- ❖ Back pain does not just affect older people - more children are also reporting discomfort
- ❖ Problems can begin as early as primary school

You are never too young to start taking care of your back.



The Spine

The spine is made up of small bones called vertebrae:

- ❖ 7 in the neck;
- ❖ 12 in the chest;
- ❖ 5 in the lower back;
- ❖ 5 fused together (sacrum);
- ❖ tailbone (coccyx)

In between these small bones are discs which work like shock absorbers and they help the spine to bend in different directions.

Did you know that there are more than 100 joints in the spine!

WHAT CAUSES BACK PAIN?

Normal daily activities and certain tasks can cause back pain now or in the future.

Common causes of back pain in young people:

- ❖ **posture** - slouching and slumping when sitting and standing
- ❖ **schoolbags** - if too heavy, if not carried properly or if poorly designed
- ❖ **exercise** - not taking enough, or overdoing it, using the wrong technique
- ❖ **diet**- too much junk food can cause weight gain, which puts more stress on the body
- ❖ **growing up** - growth spurts can cause temporary back pain

How Can I Protect My Back?

1. Schoolbags

- ❖ Ideally use a bag with 2 padded straps and wear it over both shoulders
- ❖ Pack your heaviest items first - this stops you arching your back and takes the weight off your shoulders
- ❖ Adjust the straps so your bag fits snugly against your entire back



2. Posture

- ❖ Avoid slouching and slumping when sitting and standing. Instead, imagine a piece of string attached from the top of your head, pulling the body into an upright position

3. **School Furniture**

- ❖ We all come in different shapes and sizes but most classroom desks and chairs do not
- ❖ If you work at a flat table instead of a sloping desk, you must try very hard to keep a good posture (remember the piece of string!)
- ❖ Pull your chair close into your desk and sit back in your seat
- ❖ Your body is not designed to sit for too long. Try to stand up and stretch during lessons and keep active during your break times

4. **Leisure Time**

- ❖ A good fitness level is one of the best things you can do for your back
- ❖ More of us are tending to spend more time playing computer game and watching TV instead of taking part in activities such as football and running
- ❖ Regular exercise helps strengthen your spine
- ❖ Exercise helps you develop stronger tummy muscles, which makes it much easier for you to keep a good posture

5. **Homework and Using Computers**

- ❖ If you use a PC or laptop, make sure your screen is at eye level - this stops you straining your neck as you work
- ❖ Your mouse and keyboard should be within easy reach
- ❖ Sit in a supportive chair and sit back in the seat
- ❖ If your feet don't touch the ground, then use a footrest
- ❖ Take lots of regular breaks - this gives your body a chance to loosen up and prevent stiffness

IF PAIN STRIKES

If you are suffering from back pain, you should tell your parents or guardian. They will be able to arrange an appointment with your local GP who may recommend you see a physiotherapist.

Gentle exercise and stretches can help reduce pain and stop it from coming back. A physiotherapist will be able to show you how to do your exercises properly and provide other helpful advice.

Remember - prevention is better than cure!

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