

Physiotherapy Newsletter

August – Do Backpacks = Back Pain?

BACKPACK SAFETY

Why the big hype about backpack safety? It's not like carrying a heavy backpack is going to cause serious illnesses like scoliosis; however, carrying a heavy backpack can be a source of low-level trauma and cause chronic shoulder, neck and back pain.

THE SPINE



To understand how carrying a heavy backpack can affect your body, it is helpful to know how the back works. Your spine is made up of 33 bones called vertebrae, between vertebrae are discs that act as shock absorbers. When a heavy weight, such as a backpack filled with books, is incorrectly placed on the shoulders the force of the heavy backpack can pull you backward. As a result, you may bend forward at the hips or arch your back to compensate. This causes the spine to compress unnaturally.

CAN BACKPACKS CAUSE BACK PAIN?

Research has shown that:

- Backpacks can cause long-term pain for children who wear them
- Adults with severe back problems often had pain as kids
- 64% of 3500 middle school students aged 11-15 reported back pain
- As the ratio of backpack to child's weight increased, so did reports of pain
- A child whose backpack weighs 5% or less of his/her body weight is less likely to report pain

BUT...

- Heavy backpacks alone don't hurt the back – carrying them improperly and with poor positioning is what can contribute to pain and deprive you of what could be a built in exercise.
- In an era where physical education programs are being cut, and there is an obesity epidemic due to a lack of exercise, some think it is still too physically demanding for children to carry books.
- In order to take advantage of this form of physical activity that is ingrained in every-day life without suffering from back pain, avoid these common mistakes of poor positioning:

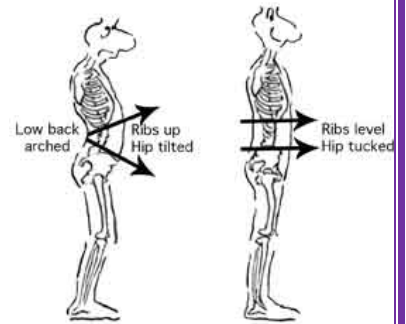
1) *Rounding the upper body forward to offset the weight of the pack:*

- If you stand up straight instead of hunching forward or sideways when carrying a backpack, the pressure on the spine shifts from the spine to the core muscles – free exercise!



2) Leaning or arching backward allowing the lower back to overarch:

- Backpacks do not cause you to arch your back – weak abdominal muscles allow you to be pulled backward by the weight. If you maintain a neutral spine (i.e. do not overarch your low back), the compression on the lower back is reduced and you get a free abdominal workout!



Tips to minimize the risk of back pain from carrying a backpack:

- Limit the weight you carry in a backpack to 10-15% of your body weight (for example, the backpack of a child who weighs 80 lbs should not weigh more than 8-12 lbs)



- Buy a backpack that has wide, padded shoulder straps and a waist belt (these backpacks are more effective at distributing the weight)
- Avoid “messenger” style, single strap bags
- Wear your backpack over both shoulders. Kids who wear their backpacks over just one shoulder may look “cool”, but they may also end up leaning to one side to offset the extra weight which can lead to poor posture, upper and lower back pain, and increased strain on the shoulders and neck.

- Ensure the straps are tightened enough for the backpack to fit closely to the body and sit about 5cm above the waist

Signs that carrying a heavy backpack to school is causing health problems for your child:

- Your child complains of back pain
- Your child walks bent over sideways to try to adjust the heavy load of the backpack
- Your child complains of numbness or tingling in his/her arms and hands
- Your child carries more than 10-15% of his/her body weight in his/her backpack
- Don't assume your child's back pain is caused by a heavy backpack, especially if the pain is severe or persists after you lighten your child's backpack load. Back pain in children may be a sign of a more serious problem such as a slipped vertebra, disc bulge, a sports injury, a tumour or an infection. A visit to the pediatrician can rule out these more serious causes of back pain.

Hold your kids responsible for packing lightly:

- Encourage kids to use their locker or desk throughout the day instead of carrying the day's worth of books around in their backpack
- Eliminate unnecessary items such as laptops, CD players and video games which can all add extra weight to a backpack
- Encourage kids to bring home only those books needed for homework or studying that night
- Ensure your child is using all of the backpack's compartments, storing heavier items (such as textbooks) closest to the centre of the pack
- Teach your child to pick up the backpack correctly in order to avoid back injuries – they should bend at the knees and pick up the pack with both hands

