

CHOOSING THE RIGHT BACKPACK FOR YOUR CHILDREN

By: Dr. John A. Papa, DC

As the summer months draw to a close, it is that time of year again when parents and children prepare for another year of school. Backpacks are familiar items that end up on back to school shopping lists. Parents and children can avoid injury by choosing, packing, lifting and carrying a backpack correctly. Learn more about how proper backpack safety can keep your children healthy and injury free.

Fifty per cent of Canadian school children will experience a back pain episode by the end of their teen years. A 2002 study at Queen's University found that choosing the right backpack and taking care to distribute the weight evenly can make a significant difference in avoiding injuries to the neck, shoulders, and back. Carrying a poorly designed or overloaded backpack can place excessive weight on a child's growing spinal column. This type of daily physical stress can lead to serious long term implications such as back pain, headaches, changes in posture and walking, and potential irritation and injury of the spine, joints, and muscles.



Chiropractors are trained health care practitioners who have long recognized that choosing the right backpack and educating children and parents about backpack safety can go a long way in the prevention of serious, long-term back pain. Below are some simple rules to follow when choosing a backpack that is safe.

- 1. Pick the correct size:** Choose a backpack that is proportionate to body size and not larger than needed. The top of the backpack should not extend higher than the top of the shoulder, and the bottom should not fall below the top of the hipbone.
- 2. Choose lightweight material:** Select a backpack made of light material. For example, vinyl or canvas instead of leather.
- 3. Strap it up:** The shoulder straps should be at least two inches wide, adjustable, and padded. Ensure that they do not cut into or fit too snugly around and under the arms.
- 4. Padding goes a long way:** A backpack should have a padded back for added protection and comfort. Pack odd-shaped items on the outside, so they do not dig into the back.
- 5. Pack it right:** Contents should be evenly distributed, with the heaviest items packed closest to the body. This reduces the strain, as the weight is closer to the body's centre of gravity.
- 6. Hug your hips:** A hip strap or waist belt helps to effectively redistribute as much as 50 to 70 per cent of the weight off the shoulders and spine

- onto the pelvis, balancing the backpack weight more evenly on the bones, joints, and muscles.
7. **More pockets are better:** Choose a backpack that has several individual pockets instead of one large compartment. This will help to distribute the weight evenly and keep contents from shifting.
 8. **Wheels and handles:** Explore other backpack options such as a backpack with wheels and a pull handle for easy rolling.
 9. **Weight is everything:** Backpacks should never exceed 15 per cent of a secondary school child's body weight or 10 per cent of an elementary school child's body weight. For example, a 100-pound secondary school child should not be carrying a backpack in excess of 15 pounds. A 60-pound elementary school child should not carry a backpack in excess of 6 pounds. Some of the average weights of various backpack items include: large textbook, 6 pounds; small textbook, 2 pounds; sneakers, 2 pounds; 20 ounce water bottle, 1.25 pounds; large paperback, 1 pound; notebook 100 pages, 1 pound; Game Boy, 0.5 pounds; large apple, 0.5 pounds.

There are several other important backpack safety tips that can be followed to ensure that the chance of pain and injury are minimized. Children should learn to squat or kneel to pick up their backpacks, and use their legs by bending at the knees and not twisting when lifting. Backpacks can be placed on a counter, chair or table before they are put on. All straps, including the waist strap should be adjusted to fit the body so that the backpack fits snugly and does not dangle loosely to the side. You should be able to slide your hand between the backpack and the back. Slinging backpacks on one side can cause the spine to lean towards the opposite side placing stress on the joints and muscles in the mid and lower back. Parents should ask their kids to report any pain or other problem resulting from carrying a backpack. If the pain is severe or persistent, seek care from a health care professional such as a doctor of chiropractic.

Following the above rules and safety tips concerning backpacks can greatly reduce physical strain and stress to a child's body. The author would like to acknowledge the Ontario Chiropractic Association (OCA, www.chiropractic.on.ca) in conjunction with their "Pack It Light. Wear it Right." campaign, in the preparation of this educational information for use by its members and the public.

This article is a basic summary for educational purposes only. It is not intended, and should not be considered, as a replacement for consultation, diagnosis or treatment by a duly licensed health practitioner.