



Backpack Safety Tips

INTRODUCTION

Increasing numbers of school-age children are reporting back pain. In addition to causing pain, backpacks have also been linked to direct injuries. With increased expectations for academic performance, children are assigned more homework and given more textbooks. This increase forces children to take more books home with them, and thus the load in their backpack increases. Additionally, schools have decreased the time available between classes, forcing students to carry more books at one time. By reducing the stress placed on the backs, necks, and shoulders of our school age children, we will reduce the incidence of back pain/injuries seen in this population.

POTENTIAL PROBLEMS

The body's center of gravity shifts back towards the backpack. This forces the student to lean forwards to compensate for the load on their back, putting abnormal stresses through their trunk. If the student wears the backpack too low on the back, the neck also pulls in to counterbalance the low load. This also makes the low back arch to support the pack, putting increased stress on the bones in the lower back. Wearing the backpack over one shoulder forces the student to lean towards the opposite side, creating an abnormal curve through the spine. Carrying a backpack that is too heavy, or carrying it incorrectly, can cause a variety of physical conditions, including:

- back and neck pain
- muscle spasms
- tingling in the hands and arms
- scoliosis
- herniated discs
- Arthritis.

CHOOSING THE RIGHT BACKPACK

The backpack should match the size of the child. The backpack should fit on the child's back so that it sits just below the child's shoulders and rests on their hips.

- Shoulder straps should be wide, padded and contoured
- Back padded for comfort and protection
- Multiple compartments so that the load can be distributed to various places in the backpack
- Chest and hip belts will help to evenly distribute the load
- Rigid internal and external frames will help with proper distribution of the backpack on the back

CARRYING GUIDELINES

- When picking up the backpack, face the pack and bend at the knees. Pick the bag up using legs not backs.
- Each strap should be placed firmly on each shoulder.
- Position backpack to rest against the full back, not over the buttocks.
- If there is a hip belt or chest belt, fasten it so that it is snug across child's hips and/or chest.
- Avoid leaning forward, slumping to side, or arching back when carrying pack.

HOW MUCH WEIGHT?

It is recommended that children carry no more than 15% of their body weight in their backpack. Refer to these guides:

<u>Weight of Child</u>	<u>Weight of Pack</u>
60-75 lbs	9-11 lbs
76-100 lbs	11-15 lbs
101-125 lbs	15-19 lbs
126-150 lbs	19-22 lbs
> 150 lbs	< 25 lbs

It is recommended that no one carry more than 25 pounds on their backs. Your child's backpack is too heavy if there are signs of:

- Struggling to put the pack on or take the pack off;
- Bad back/neck posture (forward head, bending forward at this hips);
- Pain, tingling or numbness.

SUGGESTIONS FOR PREVENTION

- Reduce your child's load with folders instead of binders and avoid packing heavy items like drinks and sports equipment. Use multiple bags.
- Spread out the load by utilizing all the pockets and pack heavier items closer to the body.
- Remove any sharp or uneven items that can cause pain or discomfort.

If you notice your child developing bad posture or pain, your child may benefit from therapy. This will strengthen abdominal and back muscles, improve posture, and increase flexibility. Therapy can enhance your child's ability to maintain good posture when wearing a backpack and reduce the likelihood that musculoskeletal injuries will occur.