

The ABC's of Backpack Safety

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Millions of children across the country carry their school materials in backpacks. While these packs are convenient, carrying too much weight, or wearing one incorrectly, can cause long-term back problems.

Approximately 23% of elementary students and 33% of secondary students complain of backaches. In one study with American students ages 11 to 15, the number of students reporting back pain was as high as 64%, with 21% reporting pain lasting more than 6 months. In 2001, the number of emergency room visits related to backpacks was 7,000. In 2007 that number jumped to 23,000. That is a 328% increase in only six years! With numbers like these it is imperative that parents and students are properly educated on how to buy, pack, and wear a backpack correctly.

Back in 2001, the American Occupational Therapy Association (AOTA) created such an initiative by instituting National Backpack Awareness Day. National Backpack Awareness Day occurs the third Wednesday of September every year. This year it is September 21, 2011. It is on this day that therapists strive to help communities realize how much impact an improperly worn or excessively heavy backpack might have on the future health of our youth. Ensuring children stay fit and healthy will help limit problems, but more importantly parents and students should learn and monitor key factors that will help prevent the painful problems that can arise from improper backpack use. This approach does make a difference! In a study on the effect of backpack education on student behavior and health, nearly 8 out of 10 middle school students who changed how they loaded and wore their backpacks reported less pain and strain in their backs, necks, and shoulders. So let's get down to the ABC's of backpack safety!

A – Assure an *Appropriate* Backpack

While all the colors and designs available these days make backpacks seem like a fun fashion accessory they need to be chosen carefully so they meet the purpose for which they are intended – a convenient and practical way to carry books, pens, pencils, and other *required* school supplies while keeping hands free. When selecting a backpack, resist the urge to give in to your child's cries for the sparkly purple one or the one with Scooby Doo. Think function before fashion and remember the backpack your child uses can affect your child's overall long term health. Look to see if the backpack has the following features:

- Is it appropriate for your child's size and age? School backpacks come in different sizes for different ages to help assure proper body mechanics. The size of the backpack should fit the size of the student. When adjusted properly, the top of the backpack should be two inches below, or perhaps at, shoulder height, but not above. The bottom of the pack should rest just at the curve in the low back area. It should not rest more than 4 inches below the student's waistline. The width of the backpack should not be wider than the student's torso.
- Are the straps wide and well-padded? If not, the increased pressure over a small area can constrict the many blood vessels and nerves in the shoulder and neck region thereby causing pain and tingling in the neck, arms, and hands.
- Does it have adjustable shoulder straps? The shoulder straps should allow adjustment to assure the pack rests snugly in the curve of the lower back. A pack should never hang loosely from the back or be more than four inches below the child's waistline. If a pack is too low or loose, it can pull the child backwards and strain muscles in the lower back or between the shoulders.
- Is the back panel padded? This extra padding can enhance comfort and stability. It can also help prevent isolated pressure points from the corners of objects inside the pack. Air cushioning for the lumbar area is available in some models.

- Are there several compartments or pockets within the pack? These compartments are not only essential to helping your child's organization, they also provide for better weight distribution and help prevent unexpected shifting that can lead to a sudden strain.
- Does the pack have a waist belt that can be fastened for extra support? These belts help transfer the weight from the shoulders to the body's trunk and hips. If the student refuses to wear the belt, then you might want to consider investing in a model that offers a lumbar cushion as that too will help support and buffer the load.
- Is there reflective trim on the pack? This is vital to increasing the visibility of your child when it rains or if they are returning home in the evening.

Once you find a pack that has the features you are looking for, try it on! Don't just try it on empty; actually try the pack on while it is loaded. Bring books and other materials along with you when you select your backpack so you can truly see and feel how each pack varies when fully loaded. Also, make sure the straps can indeed be adjusted so the pack fits snugly on the child's back at the appropriate height. You will also want to make sure ALL loose or dangling straps can be permanently secured or cut off. Straps that are too long might become entangled in vehicle or bus doors or in bicycle wheels. This could result in serious injury or death.

B – Be Sure *Both* Straps Are On and the Load is *Balanced* for Safety

Your child should ALWAYS wear BOTH shoulder straps to distribute the weight evenly. While it may be easier to wear a pack slung over one shoulder, this can cause a person to lean to one side and curve the spine. Children are already at risk for scoliosis in their growing years. We don't want to add to that risk.

Take the time to teach your child how to properly pack a backpack so that things are balanced and in the best position for safety. Make sure items are loaded so that the heaviest items are closest to the child's back. This will help keep the bulk of the load close to the body and easier to carry. This is the safest option, and the most important when packing the bag. Also make sure to place all items so that they will not shift during transport. Use the separate sections for small items. If books and material are kept tight, they will not slide around, and will not cause sudden unexpected stress on the back.

C - *Clear* it Out and *Carry* Less

AOTA recommends that a loaded backpack never weigh more than 15 percent of the student's total body weight (for a student 100 pounds; this means that the backpack should weigh no more than 15 pounds). It is estimated that about 55 percent of students are carrying backpacks heavier than the recommended guideline. Too much weight can pull a child backward and then force them to compensate by bending forward at the hips. If your child has to lean forward to carry the backpack, then it is too heavy!

Check what your child carries to school and brings home on a daily, or at least a weekly, basis. Often times a backpack turns into a magical black abyss of "stuff" as kids want to carry extra things (toys, iPods, clip on keychains/pens) or forget to take out completed papers and this can weigh them down. Make sure the items are necessary to the day's activities. Pack only the essential supplies and leave the non-essential items at home or at school. Every object adds weight, and it adds up fast!

If something needs to be transported, and it is above the 15% guideline, it can still be carried, just in a different way. Do not put it on the back, have your child just carry it in their arms. Carrying a book in your arms in front of your body can actually help counter act the pull of the backpack. If you know your child will have to consistently carry a heavy load, consider purchasing a rolling backpack. Remember though, these packs will still need to be carried when loading and unloading on a bus, and are not necessarily a good thing if there are too many stairs or pathways hindered by rocks and snow.