# Heavy backpacks put extra weight on areas that can be sensitive


- (like your shoulders),
- change the way you stand and walk,
- affect your balance,
- make your spine crooked (scoliosis),
- pull bones out of alignment,
- and cause damage in your spine (disc degeneration).

(Age=11 years old, Body=60 pounds, Head=4.9 pounds)

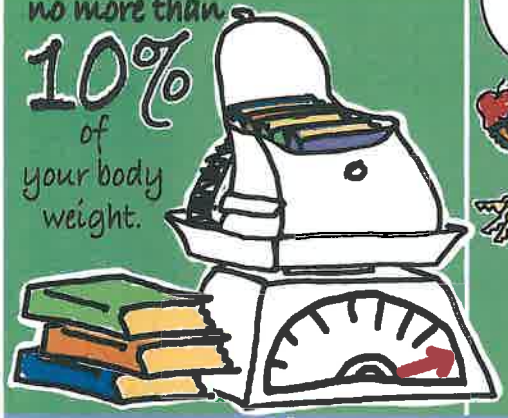

Heavy backpacks make your head move in front of your body, which can affect bone alignment, posture and stretch ligaments/muscles.

Sometimes the bones making up the spine move slightly from where they normally would be.

This can affect overall ease of movement, cause pain/discomfort and possibly alter nerve communication.

## SO, WHAT TO DO?

Your backpack should WEIGH no more than 10% of your body weight.



### Lessen the Load


It's not just books, but also all that "other stuff" as well!

Wear your backpack correctly with both straps over your shoulders

YES! ☑ NOPE! ☒

Wearing your backpack over just one shoulder puts your spine out of balance and stresses that side.

## See your Chiropractor!

Chiropractors are doctors specially trained to catch changes with the spine, nervous system and posture early.

They work to realign the bones in your spine and joints, by making gentle adjustments that keep your nervous system communicating like it should.

By taking care of the things you can't see now, you prevent pressure and stress building up inside, which may turn out to be a lot more painful and expensive later.

**Resource Website: www.bacsupport.com**

**Research shows that children carrying more than 10% of their body weight is damaging to their spinal and postural health. Just because you can't see the internal damage, doesn't mean it isn't happening! Have you ever wondered how this is affecting my child?**

1. WHO, NIH and many other prominent health research programs across the globe recently released their findings in the Global Burden of Disease 2010 Project, which listed musculoskeletal issues (meaning back pain) as the second leading cause of disability worldwide!

2. The "Spain" study, which was released April 2012, was listed in the *Archives of Childhood Diseases*. This study showed that many teens carry school backpacks that exceed 10 percent to 15 percent of their body weight, which puts them at risk for back pain and related disorders (scoliosis).

3. The 2010 MRI study was the first of its kind and was done by an Orthopedist. It showed damage to the spine, mainly in scoliosis, herniated discs and decreased vertebral disc height, significantly advanced as backpack weight was incrementally increased.

4. Research and studies dating back to the early 1990's show significant damaging changes in posture, blood flow, head carriage and gait in addition to increased pain.

5. For every 1 inch the head is carried in front of the spine (anterior head carriage), the head weighs 10 more pounds. Studies have shown significant changes in anterior head carriage with heavy backpacks. This not only can cause stress/pain in the neck and shoulders, but because of the altered overall posture, the whole spine, joints, tendons and muscles can be affected.

6. School age children's spines are still growing and substantial changes at this point in their growth could cause irreparable damage.

7. If our children are focusing on pain, they are not able to focus on their school work and learning.

8. Any change in the environment of the nervous system, whether through tightening of the muscles, vascular changes or spinal deviations from the norm, can cause short and long term effects for the health of an individual.

**Most of these findings are PREVENTABLE, if caught early!! So, what can you do to help?**

Watch the video at www.bacsupport.com

Make sure your child's backpack is worn correctly and weighs no more than 10% of their body weight.

Get your child under Chiropractic care. Chiropractors are Doctors specially trained to detect and correct spinal and postural changes early, before damage becomes harder to reverse.