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Backpacks can be a pain in the neck

By Tyler Dyck

Many children head off to school with their backpacks loaded with heavy books and school materials--how do you know when a load is too much, and what are the risks to your child?

When a heavy load is placed on your back, the vertebrae, muscles and ligaments must withstand that force. If the alignment of the bones is correct and the surrounding muscles are strong, a body can more easily carry the load, but if the load is either too heavy or placed too far to one side, abnormal strain can occur. For example: if a backpack is carried repetitively on one shoulder, the neck and back will start to show signs of strain and you will compensate by leaning sideways or arching your back.

Now imagine this sort of strain in a child whose bones and muscles are still developing... In children especially, postural changes and compensation must be caught and rectified as early as possible. In a physiotherapy assessment, a child is first checked for joint alignment and muscle imbalances of the spine and shoulder girdle region. Also important are the child's muscular strength, endurance and overall activity level. Sedentary children are at high risk for injury because sitting in front of the computer or TV for long durations can exacerbate faulty posture.

Treatment of postural problems starts with techniques to improve the child's spinal alignment, and to correct muscle imbalances in the spine and shoulder girdle regions. Exercise can be given specifically to strengthen weak muscles and stretch out tight structures. Finally, education focused on both the child and parent, on correct choice and fitting of backpacks is paramount.

Most parents have no idea what their children are carrying in their backpacks or how much the packs weigh! A recent study published in the *Archives of Disease in Childhood* found that 96% of parents had never checked their child's backpack weight and 34% had never checked the backpack contents. Also important is the length of time that the child carries the load.

Here are some tips on keeping your child safe:

- Weigh your child's pack. The pack and its contents should not weigh more than 15% of the child's total body weight. For example, if your child weighs 40kg, the backpack should weigh no more than 6kg.
- Shoulder straps should be wide and padded and should always be worn with the straps over both shoulders.
- Use of a hip and/or chest strap can help distribute weight to stronger parts of body. The pack should sit 5cm above child's waist and snug to the body while allowing free unrestricted movement of both arms.
- Ensure proper placement of items in the pack; put heavy items close to the center of the spine, use compartments evenly to balance the weight, and keep items accessible.
- Encourage kids to only carry items that are needed for that particular school day. Teach them to periodically unload unnecessary items in their locker throughout the day.
- Advise children to bend their knees when they are picking their pack off the ground, and to be careful when lifting it into their locker.

It is also important to watch your child for the following signs and symptoms: spinal or joint pain related to pack use, numbness/tingling of the arms or legs, red marks on the shoulders or back, and twisting or struggling while getting the backpacks on or off.

For further information on this topic please contact the Fawzia Sultan Rehabilitation Institute (FSRI) in Hawally at 264-2862, or check out our website at www.rehabinstitutekuwait.com

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