Preventing and Treating Compression Fractures of the Spine

Introduction
For children and adults with OI the spine is particularly vulnerable to injury. Some activities such as contact sports obviously increase the risk of fracture. Other activities that may not seem to be dangerous may pose a “hidden” threat. The most common injury is a vertebral compression fracture.

What is a vertebral compression fracture?
This occurs when an injury causes the spinal bone or vertebra to fracture and collapse or compress. This type of fracture can be painful when it happens, but can also cause ongoing back pain. It is caused by a severe jolt to the spine or because the spine is weakened by OI and/or osteoporosis. The basics about compression fractures are no different for people with OI than for other people except that they happen more often when OI is involved.

How can I protect my spine?
It helps to learn and practice good techniques for standing, sitting, lifting and even doing ordinary activities such as housework, or gardening. These techniques are the same as for adults who have osteoporosis. It is also important to avoid activities that are likely to cause injury.

What kinds of activities should be avoided?
Avoid anything that jars, twists or puts pressure on the spine. This includes (but is not limited to) heavy lifting, jumping, diving, riding horses, all-terrain vehicles, or motorcycles and most amusement part rides. People with weak spines should also avoid sliding down a slide, jumping from a swing and sledding.

What can school children do to keep their spines healthy?
It is important to wear seatbelts in cars and avoid sitting at the back of the school bus where the ride is the most bouncy. When possible, keep a second set of textbooks at home to avoid carrying heavy book bags back and forth to school.

What can adults do to protect their backs?
Adults should avoid lifting heavy objects and sudden twisting motions. They
should be sure that office chairs and/or wheelchairs are comfortable, and offer good back support. Their feet need to be supported and should not dangle.

**What else can be done to protect the spine?**
Exercise is important for children and adults. Swimming is an excellent activity that provides joint motion without stress and is good for the heart and lungs and muscles in the back. Walking is also beneficial for many people. Talk to your doctor and physical therapist about what other recreational activities would suit your interests and abilities.

**Any other hints?**
Anyone who sits a lot either in a desk chair or in a wheelchair needs to change position often. It helps to get out of the chair and either lie down or stand for a portion of the day.

**What are the symptoms of a vertebral compression fracture?**
- Sudden, severe back pain
- The pain gets worse when you stand up or walk, or bend over
- Chronic back pain that doesn’t seem to get better
- Loss of height
- Worsening of pre-existing spine curves
- Other signs can include hip pain, and breathing problems

**How is this kind of fracture treated?**
It can take two or three months for this type of fracture to heal. The goal of treatment is to encourage healing, keep the spine stable, restore function and reduce or eliminate pain. Doctors familiar with OI recommend starting with:
- Limited bed rest
- Pain medicines – often a mix of over the counter and prescription drugs
- Activity modifications: no lifting, bending, or twisting
- Gradual return to activities

When healing is delayed or pain is difficult to manage a soft or rigid brace or back support may be prescribed. These must be carefully fitted and monitored to avoid putting pressure on the ribs that can cause new fractures. Whether a surgical procedure is an appropriate treatment for those with slow healing compression fractures can only be decided on a case-by-case basis.

Information provided by Michael Whyte, MD, Director of the Center for Metabolic Bone Disease, Shriners Hospital for Children, St. Louis and member of the OI Foundation’s Medical Advisory Council.
For more information about osteogenesis imperfecta contact:

Osteogenesis Imperfecta Foundation
804 W. Diamond Avenue, Suite 210, Gaithersburg, MD 20878
Tel: 800-981-2663 (free of charge) or 301-947-0083
Fax: 301-947-0456
Internet: www.oif.org
E-mail: bonelink@oif.org