“Stay Ahead of the Curve”
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Question

While attending our son's swimming meet, my husband and I noticed that his left shoulder was slightly higher than the right. What may be causing this and should we be concerned?

Answer

Everyone's spine has a natural curve. These curves round over our shoulders and make our lower back curve slightly inward. However, some individuals have spines that curve from side to side. Unlike poor posture these curves can't simply be corrected by learning to sit up straight. This condition is termed scoliosis and affects only a small percentage of the population, approximately two per cent. Scoliosis commonly affects children as they complete the last part of their growth spurt. However, as children enter adolescence, girls are five to eight times more likely than boys to have their curves increase in size and require treatment. Adults are also prone to scoliosis. This may represent the progression of a condition that actually began in childhood, and was not diagnosed or treated while the person was still growing. What might have started out as a slight or moderate curve has progressed over time. In other instances, adult scoliosis can be caused by the degeneration of disks in the spine. As more and more people reach old age in Canada, the incidence of scoliosis is expected to increase. Eighty-five per cent of individuals with scoliosis have the idiopathic type, meaning its cause is unknown. Occurrences increase in siblings whose parents were affected by scoliosis and require special attention (screening) to ensure the condition is not present. There are several less common types of scoliosis which have a known cause. These curves may be due to defects of the spinal vertebrae present at birth (congenital scoliosis), disorders of the central nervous system such as cerebral palsy, muscle diseases (muscular dystrophy), disorders of connective tissue (Marfan's syndrome), and chromosome abnormalities (Down's syndrome).

The best treatment is early detection. Scoliosis is usually first recognized during a school screening or by a parent. Screening should start in grade 5 (age 10 to 11), and every six to nine months thereafter. Testing can be done quickly by having the child bend from the waist with arms hanging freely. Observable signs may include:

- One shoulder is higher than the other.
- One shoulder blade being more prominent than the other.
- Increased space between the arm and the body on one side when the arms hang loosely at the side.
- One hip appears higher or more prominent than the other.
- The head is not centred over the pelvis.
- One side of the back appears higher than the other when the patient is examined from the rear and asked to bend forward until the spine is horizontal.
In the majority of cases, mild curves that are not getting worse need only be checked periodically by your family health practitioner. Severe curves that continue to progress require referral from your physician to an orthopedic surgeon. Therapy selection is based on combining all factors. The major objective in selecting therapy depends on the severity of the curve and its effect on cosmetic appearance and body function. There are three main therapies to choose from: close observation, bracing (external support), and surgery. In minor curves, there is general agreement that bracing is not required. However, in view of possible rapid progression during the growth period (10 to 15 years of age), these patients must be frequently and carefully examined for signs of increasing deformity. X-rays enable your doctor to determine whether a curve is progressing and is performed as part of this monitoring process. Indications for bracing include curves that are flexible, skeletally immature, between 20 to 40 degrees, and progressing. The purpose of bracing is not to correct a curve but to prevent further progression. In severe curves, surgery is contemplated where an underlying abnormality can be treated, rapid progression is occurring in an immature spine or the curve is more than 40 degrees. These include the use of such instruments as surgical rods, wire, cable and screws. Since severe scoliosis can progress to a serious deformity, parents should continually observe pre-teens and early teenagers for early signs, especially if others in the family have been affected. If there is any question, your child's doctor should be consulted since identifying scoliosis early can prevent serious problems later.