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Children and Back Pain

By Claudia Anrig, DC

Lower back problems may be a more common disorder with children than chiropractors realize. One large-scale survey of 1,178 school children revealed a cumulative predominance of back pain in 51.2 percent of the surveyed population. The most common back pain recorded was lumbar, thoracic and leg. The survey concluded that contributing factors to back pain included: previous back injury; age; female gender; volleyball; and watching television.

Adolescent athletes are more predisposed to low back pain. Excessive spinal loading that typical accompanies many sporting activities increase the risk for acute low back injuries during the growth spurt. This occurrence is more harmful to the lower back.

From the textbook *Pediatric Chiropractic*, Dr. Dan Murphy addresses lower spine injuries in his chapter, "Children in Motor Vehicle Collisions." In approximately half of those involved in vehicle injury, lumbar spine injury is present. The lumbar injury is often attributed to the belt fulcrum trauma.

In the recent issue of the *ICPA Research Update*, three studies were reported:

1) "Disc disease may start in adolescence"

Disc disease begins as early as age 15, according to a study in *Spine*. Investigators in Finland reviewed 12,000 cases of possible lumbar disc disease. All subjects were 28 years old or less. Investigators found that the men were twice as likely as the women to be hospitalized for LBP. In general, researchers determined: "Symptomatic low back pain leading to hospitalization first appeared around the age of 15 years, and the incidence rose more sharply from the age of 19, especially in men with other low back diseases."

Zitting P, et al. Cumulative incidence of lumbar disc diseases leading to hospitalization up to the age of 28 years. *Spine* 1998;23(21):2337-42.

2) "Acute trauma associated with Schmorl's nodes"

Scientists used radiographs and pathological examination to evaluate 70 thoracolumbar spines. Investigators found nine Schmorl's nodes; the majority were in spines of young people (11-30 years old). All nodes were located in the T8-L1 region. Men had nine times the risk of developing acute Schmorl's nodes than the women. Trauma analysis indicates that axial loading plays a pivotal role in node formation, according to the study.

The study's authors concluded: "Schmorl's nodes do occur acutely as the result of a single traumatic episode, and are almost always associated with other acute spinal injury."

Fahey V, et al. The pathogenesis of Schmorl's nodes in reaction to acute trauma. An autopsy study. *Spine* 1998;23(21):2272-5.

3) Prevalence of pediatric musculoskeletal pain in children

How prevalent is musculoskeletal pain (MSP) in children who seek pediatric care? Researchers in Spain set out to answer the question in a four and one-half month prospective study of 1,000 consecutive visits to an urban clinic. All subjects were age 3-15 years.

Sixty-one children (6.1%) sought treatment for MSP. Trauma was the most common cause of MSP (30%). Overuse also accounted for a sizable portion of complaints (28%). Children with knee and joint pain made up roughly two-thirds of the total cases. Soft tissue pain caused 18% of all complaints. The author pointed out that because the clinic studied does not typically evaluate fractures, patients with fractures were unlikely to visit the clinic, and consequently, were not included in the study.

De Inocencio J. Musculoskeletal pain in primary pediatric care: analysis of 1,000 consecutive general pediatric clinic visits. *Pediatrics* 1998;102(6):e63.

So When Do We Begin to Evaluate for Back Pain?

Two factors should be considered: rapid spinal column growth and micro/macro trauma.

At birth, the length of the spinal column is approximately 24 cm; by the end of the adolescent state, the length will have increased to 70 cm. The spine will experience the largest growth period during the first five years of life. During the first year, the spine will grow 12 cm; by age 5, a total of 27 cm. Spinal growth of 10

cm will occur from age 5-10. With the onset of puberty (10-18 years old) the spine will lengthen 15 cm in females and 10 cm in males.

During childhood, micro and macro traumas are expected to the pediatric spine. This occurrence cannot be controlled or eliminated. The thoracic and lumbar regions like the entire spine, will be subjected to childhood trauma. Trauma to the pediatric spine may result in vertebral subluxations.

The research community is now paying attention to the pediatric population and back pain. Back pain is a leading health complaint in the adult population. This complaint contributes to loss work time and decreased quality of life. The adult population is often managed by invasive approaches (i.e., surgery, drugs and therapy) that are not always successful.

The chiropractic profession has been recognized for its positive results in approaching back pain in the adult population.

It is not uncommon for the chiropractor to evaluate the adult patient with acute or chronic back pain (often associated with spinal degeneration). Maybe the ideal time to evaluate and render care for the vertebral subluxation (a noninvasive approach to back pain) would be the pediatric population. Once again, like dentistry, children would benefit if chiropractic would actively partake in the prevention of disease processes.

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