



December 9, 2008

CONTACT: Tom Rosenberger, APR
Communications Department
(513) 569-5260

CONTACT: Cindy Starr, MSJ
Communications Department
(513) 558-3505

***New classification of spinal deformity defines
range of normalcy for all adult and pediatric patients***

***Five-year project headed by Charles Kuntz, IV, M.D.,
provides structure for treatment of wide range of conditions***

CINCINNATI –Charles Kuntz, IV, MD, a Mayfield Clinic neurosurgeon who has spent his career helping people with severe spine problems stand up straight, has spearheaded the creation of a new spinal deformity classification system. The classification system, published this fall in the journal *Neurosurgery*, defines deformity in relation to the healthy, normal curve of the spine.

“What we’ve done is define spinal deformity and its manifestations throughout the course of a lifetime, based on a systematic approach to the spine, from the head to the pelvis,” says Dr. Kuntz, Director of the Division of Spine and Peripheral Nerve Surgery at the University of Cincinnati Neuroscience Institute (UCNI). “Defining deformity with this degree of precision allows us to provide optimal treatment.”

Dr. Kuntz and his co-authors defined spinal deformity by synthesizing published literature that describes normal neutral upright spinal alignment in asymptomatic juvenile, adolescent, adult, and geriatric volunteers. The researchers used a total of 38 angles and displacements to define neutral upright spinal alignment, compiling their data over a period of five years.

The spine is a “dynamic organ that changes during the course of a lifetime,” Dr. Kuntz says, with normal curves increasing with age.

An estimated 1.5 percent of the population has some degree of spinal deformity, which can take many forms. Abnormal curvatures can occur from side to side, as in scoliosis; they can involve an abnormal forward curve of the spine, known as kyphosis, or hunchback; and they can involve an abnormal posterior curve of the lower spine, known as lordosis, or swayback.

Spinal deformity, depending on its severity, can cause pain, disability, and a reduction in quality of life.

506 Oak Street • Cincinnati, Ohio • 45219-2552
513-221-1100 • 800-325-7787 • www.MayfieldClinic.com

Offices located throughout Greater Cincinnati • Middletown • Northern Kentucky
Affiliates: Mayfield Clinic Spine Surgery Center • Mayfield Spine Institute • Mayfield Imaging Center • Precision Radiotherapy • Priority Consult, LLC
University of Cincinnati Department of Neurosurgery • UC Neuroscience Institute

Dr. Kuntz, whose spinal reconstructions can take as long as 10 to 15 hours over a period of two days, strives for the optimal spinal alignment with the finest cosmetic symmetry, even in the most severely disabled patients. "Some physicians may feel that the result doesn't have to be perfect," Kuntz says. "But I do. It's a big deal when you have a patient who can't stand up straight, who can't look you in the eye, who's embarrassed to go out. And it's a big deal when you help him or her become a person who's not only attractive to others, but also attractive to himself or herself."

Other co-authors of the spinal classification are Atiq Durrani, MD, Linda Levin, PhD, and David Pettigrew, PhD, of the University of Cincinnati; Christopher Shaffrey, MD, of the University of Virginia; Stephen Ondra, MD, of Northwestern University; and Praveen Mummaneni, MD, of the University of California at San Francisco.

* * * * *

UCNI, a regional center of excellence at UC and University Hospital, is dedicated to patient care, research, education, and the development of new treatments for stroke, brain and spinal tumors, epilepsy, traumatic brain and spinal injury, Alzheimer's disease, Parkinson's disease, disorders of the senses (swallowing, voice, hearing, pain, taste and smell), and psychiatric conditions (bipolar disorder, schizophrenia and depression).

The Mayfield Clinic is recognized as one of the nation's leading physician organizations for clinical care, education, and research of the spine and brain. Supported by 20 neurosurgeons, three neurointensivists, an interventional radiologist, and a pain specialist, the Clinic treats 20,000 patients from 35 states and 13 countries in a typical year. Mayfield's physicians have pioneered surgical procedures and instrumentation that have revolutionized the medical art of neurosurgery for brain tumors and neurovascular diseases and disorders.