

Wake Forest University Health Sciences

Office of Technology Asset Management
391 Technology Way, Suite 199, Winston-Salem, NC 27104

Featured Technology

SPINECAD-Software Algorithms for Three-Dimensional Characterization and Clinical Classification of Spinal Deformity

Joint invention with researchers at Virginia Tech and WFUHS

Technology Description:

SPINECAD - a computer-aided system for three-dimensional characterization and classification of spinal deformity due to scoliosis

Overview:

Scoliosis is a medical condition wherein the patient spine is curved or rotated. Scoliosis affects 4.5% of the general population (approximately 7 million people in the US) and almost 500 new cases are identified every day, corresponding to approximately 173,000 new cases a year. The current clinical paradigm for quantifying the degree and nature of a spinal deformity caused by scoliosis is poorly resolved and highly personnel intensive.

The SPINECAD software application enables 3-D reconstruction of the spinal geometry from 2-D radiographs, automated classification of the spinal geometry according to the Lenke scheme, and statistical assessment of the sensitivity of reliability and reproducibility. As a tool for pre-operative evaluation of treatment outcome, for example, integrated with a database of shared pre- and post-operative spinal geometries, **SPINECAD can reduce the incidence of adverse outcomes**, resulting in improved quality of life for the affected individuals. **The total market for these surgeries is a multi-million dollar market worldwide!**

Advantages:

1. 3-D reconstruction provides increased accuracy compared to conventional visual inspection of 2D radiographs.
2. Decreased use of CT and MRI scans in the hospital setting reduces the radiation exposure of patients and the associated high cost.
3. SPINECAD software application is less personnel intensive, ensuring effectiveness and cost-savings.
4. Patients will experience improved quality of life due to lower incidence of adverse outcomes.

Additional information:

US20090226055A1: SYSTEMS AND METHODS FOR MULTI-DIMENSIONAL CHARACTERIZATION AND CLASSIFICATION OF SPINAL SHAPE (Patent Pending)

MISSION

To maximize the value of Wake Forest University's intellectual assets through the creation of novel and effective models for commercializing technology.

Licensing Contact:

Camilla Hansen

Email: chansen@wfubmc.edu

Phone: (336) 716-3729