

**Department of Surgery, Division of Pediatric Orthopaedic Surgery
COLLEGES OF MEDICINE AND ENGINEERING**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 2, 2009

The Department of Orthopaedics is pleased to offer the following research project for the summer of 2009. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and, if possible, develop a timetable for the twelve-week research period.

PEDIATRIC ORTHOPAEDIC BIOMECHANICS

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PROJECT DESCRIPTION

The purpose of the Orthopaedic Research Laboratory of Cincinnati Children's is to improve the treatment, diagnosis, and prevention of musculoskeletal disorders of childhood and adolescence. Particular emphasis is given to the most severely affected surgical patients, and to those with the most common injuries. The core competence of the laboratory is biomechanics. In addition, we collaborate with other divisions integral to surgery, such as radiology and pathology, and with medical device developers. Our main project focuses on a potential new surgical treatment for idiopathic scoliosis. Other studies include investigation of etiologic mechanisms of osteochondritis dissecans, a focal failure of bone calcification that occurs in young athletes, and development of growth plate injury criteria. Possible student projects include histomorphometry of tissue and cell structure and biomechanical testing of spines or knees.