



DEPARTMENT OF  
ORTHOPAEDIC SURGERY

# NEW FUTURES FOR PEDIATRIC ORTHOPAEDICS



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## *Philanthropy*

has played a crucial role in Johns Hopkins University's tripartite mission: patient care, education, and research. Gifts from our donors (people like you) allow us to make significant discoveries in the laboratory and to apply the results in our clinics.

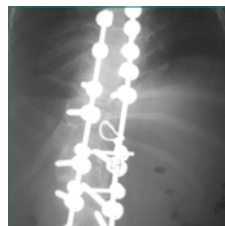
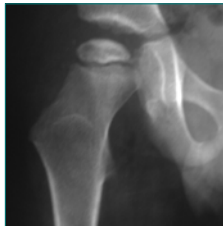
Some people give money to Hopkins out of gratitude. Giving is their way of saying thank-you for the care they have received. Others give because they are frustrated that a cure or treatment has not yet been identified.

Your gift, large or small, could support a specific initiative, enable us to buy a piece of highly specialized equipment, or help a young researcher create the next breakthrough. Gifts of any amount are gratefully welcomed.

It takes extensive amounts of financial resources to conduct research of the caliber that we do at Johns Hopkins. We thank-you for your part in helping us to be the best.

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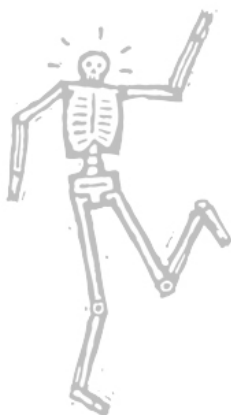
# Research Projects &

## Understanding the History of Genetic Disorders of the Skeleton

### *Specific Needs*

Inheritance determines our future. Genetic disorders of the skeleton affect peoples' health increasingly as they age. **Little is known about the natural history of these bone and joint problems.**

Filling this gap is one of the main goals of our division. Knowledge of this area will help guide treatment for the spine, hip, knee and other areas.



## Marfan Skeletal Pathogenesis

### *Specific Needs*

**Marfan syndrome changes the growth of the skeleton in many ways.** Spinal curvature, foot deformity, and joint pain may develop in children diagnosed with Marfan syndrome.

We are specifically looking at a mouse model for this condition which will allow us to understand this syndrome better. By studying its spinal features **we will be able to test interventions which may decrease pain and deformity these patients.**



Gifts in the form of checks may be made out to "The Johns Hopkins Pediatric Orthopaedics Fund" and sent to Dr. Paul D. Sponseller at 601 N. Caroline Street, 5212 JHOC, Baltimore, MD 21287-0765.

You may also make a donation through our website at: <http://www.hopkinsmedicine.org/orthopedicsurgery/gift.html>

All of our clinical, teaching and research professionals thank you for your partnership.

# Resources for Future

## Molecular Biology / Stem Cells in Orthopaedics



### *Specific Needs*

The Osteobiology Lab studies the origins of disorders such as fibro-dysplasia and osteogenesis imperfecta, or disorders of soft bone. We have specific expertise in stem cell biology in orthopaedics.

**The goal of our research is to develop medical treatments which can decrease the need for surgery.**

## Scoliosis Gene Typing Bank

### *Specific Needs*

For over a decade, researchers at Johns Hopkins Pediatric Orthopaedics have collected blood samples and x-rays in order to try to understand the causes of **Idiopathic Scoliosis, the mysterious disorder which causes twisting of the spinal column of growing children.**

**Correlating spinal curvatures with specific points on the DNA map is one of our goals.** We can then develop methods to slow, stop or even correct curves as safely and effectively as possible, **perhaps, even preventing surgery!**



## Pediatric Spine Disorders Electronic Database

### *Specific Needs*

Information on orthopaedic spine and genetic disorders is crucial to improving our knowledge of their natural history.

**We are collecting data on spinal deformities over the course of growth.**

As time goes on, this data will become increasingly helpful. We will be able to identify problems earlier and provide better recommendations for treatment.

# Faculty Development

## Professorship in Children's Orthopaedics

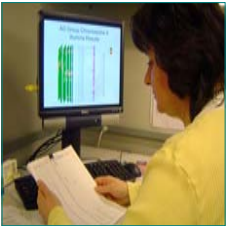


### *Specific Needs*

This professorship will provide **ongoing salary support for a faculty surgeon** to devote time to research. It will free the recipient from needing to generate clinical income, and allow a focus on a particular area.

This recipient will be an established, successful researcher. It is a major ingredient for a successful research career at Hopkins.

## Postdoctoral Fellow Training Grants



### *Specific Needs*

In order to train competent scientists in the field of Genetic Skeletal Disorders and Matrix Biology, **young scientists need to spend two to three years in the laboratory after completing a Ph.D.** This time puts them on the track to becoming a professor.

The attainment of a research grant and independent funding is a big step which requires protected time and support. Usually this effort is repaid by many years of productive research.

## Associate & Assistant Professorships: Skeletal Matrix Biology



### *Specific Needs*

In genetic disorders of the skeleton, matrix (the basic tissue of bone and ligaments) is abnormally formed. Our understanding of this process can be greatly improved through research. **There is great potential for medical treatments which can make bone and ligament stronger**, lessening the need for surgery. **Research teams are needed** to work on several disorders because of common themes.

Establishment of an **Associate Professorship** will allow a **young, promising faculty member** to focus his or her career in this area.

Establishment of an **Assistant Professorship** in Skeletal Matrix Biology will allow a **new faculty** to work along side of Clinician Scientists, to develop research projects which can then go on to become grant funded.