

Seattle Children's Research Institute

Center for Tissue and Cell Sciences

Our Vision

Healing children through innovation and discovery. We will restore children's health after injury through repair, regeneration or replacement of tissues, cells and organs.

Director

Allison A. Eddy, MD

Associate Director

Mark W. Majesky, PhD

Members

James A. Bassuk, PhD

Robert J. Boucek, MD, MS

Timothy C. Cox, PhD

Michael L. Cunningham, MD, PhD

Jason Scott Debley, MD, MPH

Anne V. Hing, MD

Sangeeta R. Hingorani, MD, MPH

Simon P. Horslen, MB ChB

David S. Jardine, MD

Amanda L. Jones, PhD

Jesus M. López-Guisa, PhD, MBA

Tim C. McQuinn, MD (affiliate)

Daryl M. Okamura, MD

Kenneth A. Schenkman, MD

F. Bruder Stapleton, MD

Ikuyo Yamaguchi, MD, PhD

Guoqiang Zhang, MD, PhD



The Most Effective Treatments Help the Body Repair Itself

At the Center for Tissue and Cell Sciences, we focus on the repair, regeneration or replacement of tissues, cells and organs to treat illness or injury. Through a better understanding of the body's responses at the molecular, cellular, tissue and whole-organ levels, we are developing innovative therapeutic interventions that will ultimately help the body repair itself. The center is leading the way to new approaches for treating damage caused by childhood developmental abnormalities such as craniofacial malformations and acquired illnesses such as chronic kidney disease, heart disease and asthma. Our "open lab" environment allows clinical and basic science investigators to collaborate in their common search for causes and treatments of childhood diseases.

Learn More:

[www.seattlechildrens.org/research/
tissue-and-cell-sciences/](http://www.seattlechildrens.org/research/tissue-and-cell-sciences/)

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Seattle Children's
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Hope. Care. Cure.™

**Center for Tissue
and Cell Sciences**

“Our work spans the whole spectrum of pediatrics — from what might go wrong in development in utero to what happens after birth to cause injury and how we can initiate repair.”

— Allison A. Eddy, MD, Director of the Center for Tissue and Cell Sciences

Research Areas

- Developmental Biology
 - Craniofacial Program
 - Plastic Surgery
- Stem Cell and Regenerative Medicine
 - Myocardial Regeneration Initiative
- Tissue Inflammation and Fibrosis
 - Chronic Kidney Disease
 - Asthma

Laboratory Resources

- Histology/Pathology
- Imaging (microscopy, ultrasound and CT)

Partnerships

- UW Institute for Stem Cell and Regenerative Medicine
- UW Department of Pathology
- UW Kidney Research Institute
- Fred Hutchinson Cancer Research Center



International Leaders Advancing the Science of Healing

The following overview of our focus areas includes examples of how our discoveries are making a difference for children:

Developmental Biology — The origin and repair of developmental abnormalities. Michael Cunningham, MD, director of Seattle Children’s Craniofacial Center, is studying the molecular and developmental causes of human malformations, including several hereditary craniosynostosis syndromes.

Stem Cell and Regenerative Medicine — Tissue engineering and cellular reprogramming. Mark Majesky, PhD, director of the Myocardial Regeneration Initiative, is investigating cellular approaches to regenerate heart and coronary vessels without invasive surgery or transplant.

Tissue Inflammation and Fibrosis — Molecular regulation of tissue responses to illness or trauma. Allison Eddy, MD, director of the center, is studying mechanisms of progressive kidney disease — when normal renal tissue is destroyed by accumulated scar tissue in response to injury.

Focus on Education

Our goal is to become a training hub for the Seattle Children’s Research Institute, helping to coordinate educational initiatives for students ranging from middle- and high-schoolers to graduate students and PhDs. In partnership with the University of Washington, we currently offer a PhD program in cardiac pathology. With the support of an NIH-funded pediatric nephrology training program, we offer fellowship training in the tissue and cell sciences.



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