Cardiac Magnetic Resonance Imaging Program
Herma Heart Center, Children's Hospital of Wisconsin, Medical College of Wisconsin, Milwaukee Wisconsin USA

Program History
• Established in 2004
• Directed by Pediatric Cardiology Service
• Clinical cardiac imaging for neonates to adults
• ACR Diagnostic Imaging Center of Excellence
• Participates in multi-institutional research
• Engaged in investigator directed research
• Engaged in quality improvement (QI) activities

• 3 board certified cardiologists
  (*CMR training as designated): Joseph Cava, MD, PhD
  *Harvard University, Boston Children’s Hospital
  Margaret M Samyn, MD
  *Harvard University, Boston Children’s Hospital
  Benjamin Goot, MD
  *University of Alberta, Stollery Children's Hospital

• 7 CMR trained technologists
  Stacy Leibham (co-lead), Michael Lessard (co-lead), Brittany Cress, Lisa Susak, Cheryl Knippel, Justine Goodman, and Holly Smits

• 8 CMR nurses:
  Linda Flannery, Tami Pautz, Erika Schrang, Lori McLain, Denise Feurt, Amy Kaelberer, Pam Grande, and Mary Beth Hoefle

• Post processing expertise:
  Margie Bessette Baker – 3D Alexa Yrineo – Planimetry

• Quality Improvement: CMR Team aided by:
  David Saudek MD, Sydney Allen MPH, Julie Slicker MS

• Additional support:
  Cardiac anesthesia (led by George Hoffman MD and Eckehardt Stuth MD) provides anesthesia support with 10 double boarded cardiac anesthesiologists providing care.
  Radiology (led by David Gregg MD) over-reads each CMR scan for extra cardiac anatomy.

A collaborative case review session occurs monthly with Froedtert Hospital’s adult cardiology/radiology group.

Clinical CMR volume

Research
• Dr Samyn is a member of the Society for Cardiovascular Magnetic Resonance (SCMR) Executive Group for the Pediatric/ Congenital CMR Imaging Section.
• We participate in preparation of SCMR white papers.
• We have an active research collaboration with Marquette University’s Division of Biomedical Engineering (John LaDisa PhD) for research use of computational fluid dynamics modeling.
• We are engaged in multi-center research including the ongoing Toronto Sick Kids’ study of pediatric patients with hypertrophic cardiomyopathy, as well as these published studies:
  • Quality improvement initiatives underway to shorten scan time and improve patient satisfaction.
  • In addition, our research interests include use of CMR strain and T1 mapping analyses for the study of patients with:
    • Repaired tetralogy of Fallot
    • dTGA status post atrial switch
    • Single ventricle status post Fontan
    • Cardiac transplant

Contact Us
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• Margaret Samyn MD, Professor 414-266-4763 MSamyn@chw.org
• Benjamin Goot MD, Assistant Professor 414-266-4952 BGoot@chw.org

4th Year Imaging Fellows – Where are they now?

• David Saudek MD Imaging Fellow 2007 – 2008 Medical College of Wisconsin Milwaukee, WI
• Alia Chaves MD Imaging Fellow 2013 – 2014 University of Maryland Baltimore, MD
• Joseph Cava MD Imaging Fellow 2011 – 2012 Northwestern University Lurie Children’s Hospital Chicago, IL
• Jennifer Pyrko MD Imaging Fellow 2012 – 2013 Stollery Children’s Hospital Saskatoon, SK
• Quick MD Imaging Fellow 2013 – 2014 Medical College of Wisconsin Milwaukee, WI
• Olivia Labelle MD Imaging Fellow 2014 – 2015 Children’s Hospital Boston LaCroix, WI
• Evan Yurkovich MD Imaging Fellow 2013 – 2014 Children’s Hospital Boston LaCroix, WI
• Gary Holmquist MD Imaging Fellow 2014 – 2015 Children’s Hospital Boston LaCroix, WI
• Kelly Mathieu MD Imaging Fellow 2016 – 2017
• Benjamin Goot MD Imaging Fellow 2017 – 2018

Axial gradient images Siemens Skyra® 3T magnet showing superior sinus venosus defect with partial anomalous pulmonary venous return (PAPVR) (Qp:Qs = 2.5:1) with dilated RV and pulmonary arteries.