Nonalcoholic Fatty Liver Disease

Cincinnati Children's®
changing the outcome together

1,700+
Patients evaluated since 2008

RESEARCH THAT ENHANCES CLINICAL CARE

We offer children with NAFLD access to national research studies including:

- NIDDK-sponsored NASH Clinical Research Network studies
- TARGET-NASH registry

We also have ongoing studies investigating novel non-invasive diagnostic tools for children with NAFLD.

Cincinnati Children's is ranked #1 in Gastroenterology & GI Surgery and #3 in the nation among Honor Roll hospitals.

Children who are overweight or obese, have diabetes or have high cholesterol can develop Nonalcoholic Fatty Liver Disease (NAFLD), a disease in which too much fat is stored in the liver. NAFLD is the most common cause of chronic liver disease in children in the United States, and increasingly worldwide. The extra fat in the liver can become Nonalcoholic Steatohepatitis (NASH), the most severe form of NAFLD, causing swelling and scar tissue. Over time, NASH can lead to cirrhosis, which can result in liver failure and loss of liver function. The disease can be reversed or improved with targeted lifestyle changes if diagnosed early. NASH is currently the second leading cause for liver transplantation in adults in the United States.

The Steatohepatitis Center at Cincinnati Children's Hospital Medical Center helps identify NAFLD and NASH in childhood so treatment interventions can be initiated to reverse and resolve the disease before progression to end-stage liver disease can occur.

HOW WE'RE DIFFERENT

Our core multidisciplinary team includes physicians with expertise in hepatology and pediatric weight management, experienced nurse managers and registered dietitians. Our team also includes a psychologist with weight management expertise who assists patients and families with implementing lifetyle changes that can improve and even resolve this disease.

- Our program has dedicated clinics for Spanish-speaking patients including a physician whose first language is Spanish, access to live Spanish interpreters and Spanish language educational materials.
- We use state-of-the-art protocols to evaluate patients for other potential causes of chronic hepatitis and confirm the presence of NAFLD and NASH; these include use of Fibroscan transient elastography, as well as enhanced ultrasound and magnetic resonance elastography to detect and monitor for progression of clinically significant fibrosis (scarring) in children with NAFLD.
- We comprehensively screen for closely related comorbid conditions—including diabetes mellitus type 2, obstructive sleep apnea, dyslipidemias, gallstones and hypertension—so these conditions can be effectively managed.
- Rigorously tracked outcomes have shown that our clinical program results in significant mean improvements in liver enzyme levels and body mass indices after one year of participation.
- We are part of the National Institutes of Health (NIH)-funded NASH Clinical Research Network, providing access to innovative multicenter studies and clinical trials.

TREATMENT TEAM

Gastroenterology and Hepatology

Stavra Xanthakos, MD, MS
Director

Marialena Mouzaki, MD, MSc
Associate Director

Ana Catalina Arce-Clachar, MD

Kristin Bramlage, MD

Nurse Care Managers

Lisa Leesman,RN

Macy Siemer, RN

Jenn Stager, RN

Brittany Taylor, RN

Emily Vincent, RN

Nutrition

Katharine Hensley, RD

Kathryn Hitchcock, RD

Emily Romantic, RD

Psychology

Sanita Ley, PhD

Research Coordinators

Ann Popelar

Program Coordinator

Kate Bachmann, AAS

For patient referrals and non-urgent consultation during business hours, contact the program directly at 513-803-7740.

www.cincinnatichildrens.org

TREATMENT APPROACH

Since healthy weight is the first-line approach in improving NAFLD and NASH, our personalized care plans include:

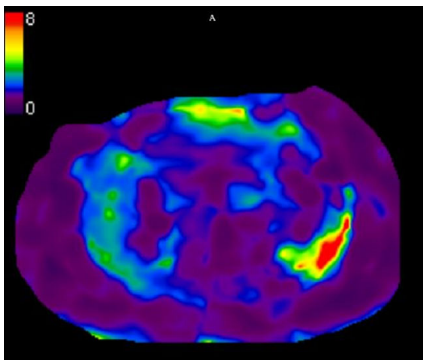
- Assessing concerns about weight, weight-related problems and readiness to change
- Conducting comprehensive dietary assessments to identify risk factors for excess weight gain
- Identifying barriers to making healthier lifestyle changes and working with the family to provide alternate solutions
- Partnering with the family and patient to identify realistic, individualized nutrition and activity goals and monitoring progress every three to six months
- Collaborating with other established weight management programs at Cincinnati Children's to ensure that patients have access to more intensive weight management options, if needed
- Offering access to clinical trials of novel therapeutic options

RESEARCH TO IMPROVE CLINICAL OUTCOMES

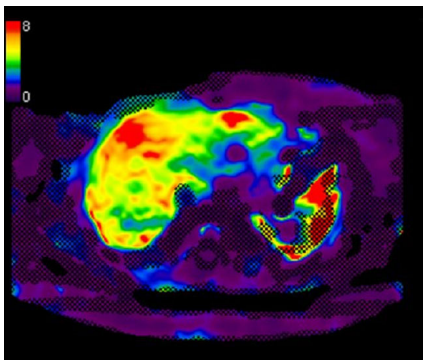
Cincinnati Children's researchers are engaged in basic, clinical and translational studies to advance our understanding and enhance treatments of NAFLD and NASH. Since 2006, our research and scientific collaborations have resulted in 131 original research publications in this area. Current research initiatives include:

- NIH-funded multicenter observational longitudinal cohort study to improve our understanding of the natural history of NAFLD and NASH in children as they age into young adulthood
- NIH-funded clinical trial comparing effectiveness of bariatric surgery to comprehensive lifestyle intervention for severely obese teens with advanced NASH
- TARGET-NASH is studying real world outcomes in children and adults with NAFLD across the United States
- Studying whether skin-based biomarkers can be used to noninvasively diagnose and monitor disease severity
- Studying the ability of novel imaging techniques to detect and monitor fibrosis progression in children with NASH, including quantitative ultrasound and magnetic resonance-based elastography methods
- Translational research looking into mechanisms of NASH in animal models to identify novel treatment options
- An Institutional Review Board-approved biorepository to store serum, DNA and excess liver tissue, if available, from patients with biopsy-confirmed NAFLD to identify novel biomarkers of developing NAFLD and NASH

PROGRESSIVE LIVER FIBROSIS ON MR ELASTOGRAPHY



Age 8, mean liver stiffness 2.2 kPa on MR elastography, mild stage 1 fibrosis on biopsy



Age 12, mean liver stiffness 5.5 kPa on MR elastography, cirrhosis on biopsy

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