Mission:Cure

Nutritional Tips for Children with Pancreatitis

WHY DOES NUTRITION MATTER?

Poor nutrition in children with pancreatitis can lead to additional health concerns including malnutrition, growth and puberty delay, type 3 diabetes, exocrine pancreatic insufficiency (EPI) and bone health.

Common Symptoms of Malnutrition:

- Delayed puberty, weight loss, slow weight gain, and slow height gain
- Bone fractures with minimal trauma
- Changes in vision
- Greasy, loose stool
- Swollen, and sore tongue
- Nausea/Vomiting

THE EXPERTS' OPINION

Mission: Cure has compiled recommendations from guidelines concerning nutritional care for children with pancreatic disorders (primarily pancreatitis) published by nutritional and gastrointestinal experts from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (**NASPGHAN**) and the European Society for Pediatric Gastroenterology and Nutrition (**ESPGHAN**)[1]. In addition, suggestions were taken from pediatric nutrition specialists Virginia Stallings, MD and Michelle Klosterman, RD, CND to promote nutritional considerations for children with pediatric pancreatitis.

While this handout discusses day to day nutritional management, the NASPGHAN and ESPGHAN guidelines also present other topics, such as nutrition management during an acute pancreatitis episode, enteral feeding, and parenteral nutrition. Links to the guidelines and additional resources are at the end of this handout.

Dr. Virginia Stallings
Director of the Nutrition Center, Children's Hospital of Philadelphia

Michelle Klosterman, RD, CNP
Pediatric nurse practitioner and registered dietitian, UC San Francisco

HOW CAN I MONITOR AND MAINTAIN MY CHILD'S NUTRITIONAL WELLNESS?

1 Promote **small, frequent meals** for your child following a regular, healthy diet pattern (as tolerated).

Children diagnosed with Recurrent Acute Pancreatitis (RAP) and Chronic Pancreatitis (CP) are encouraged to consume a "regular fat" diet** consisting of 35-40% calories as fat, 20% protein and 40-45% carbohydrates. Additionally, people with CP are prone to higher resting metabolic rates (i.e. burning ~30-50% calories more than healthy individuals) and may need a higher calorie diet (NASPHGAN, 137).

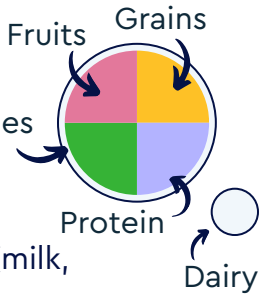
** This is different from a diet advised immediately after a pain episode.

HOW CAN I MONITOR AND MAINTAIN MY CHILD'S NUTRITIONAL WELLNESS?

2 **Monitor** your child's eating habits, their **response** to certain foods and keep track of **daily intake**.

Consider using **MyPlate.gov** guidelines when preparing meals for your child:

- ½ Fruits and vegetables
- ¼ Whole grains
- ¼ Protein (seafood, lean meats, legumes, etc.)
- 1 Serving of fat-free/low fat dairy (milk, yogurt, or cheese)



Keeping a food log will help identify ARP and CP symptoms that may arise from certain foods. This can help you manage and prevent your child's pain episodes. In addition, maintaining a food diary will help you advocate for your child during medical appointments when discussing plans and treatment options with a healthcare team.

3 **Proactively monitor** your child's nutrition with **periodic evaluation** for growth and vitamin and mineral status.

Routine monitoring is key to spotting malnutrition and ensure your child is meeting growth milestones.

RECOMMENDED TESTS	FREQUENCY
Growth (height, weight, BMI)	**Every 3-6 Months**
Vitamin Deficiency (A, E, K*)	**Every 6-12 Months**
Essential Fatty Acid Deficiency	**Every 6-12 Months**
Pancreatic Exocrine Insufficiency	**Every 6-12 Months**
Bone Density	**Yearly**
Vitamin D	**Yearly**
Type 3 Diabetes**	**Based on provider recommendation**

Vitamin & mineral deficiencies are common in CP patients, specifically fat-soluble vitamins A, D, E & K.

Testing for vitamin A and E levels is recommended every 6-12 months. *Vitamin K testing is encouraged if your child has a history of liver disease or bleeding; however it should be noted that experts only suggest additional testing for other vitamins and minerals if other deficiencies are suspected (NASPGHAN, 138).

Yearly screenings for Vitamin D (preferably at the end of the winter) and bone mineral density are recommended since children with CP are more prone to fractures.

Exocrine Pancreatic Insufficiency (EPI) and Type 3c Diabetes (T3cDM) are long-term risks with CP.

Children should be screened for pancreatic exocrine insufficiency using fecal elastase every 6-12 months and be placed on Pancreatic Enzyme Replacement Therapy (PERT) if diagnosed with both CP and EPI per cystic fibrosis (CF) guidelines. PERT should not be used in children with ARP who do not have EPI as treatment for prevention or pain management.

Children diagnosed with T3cDM must be strict in monitoring their glucose levels and must frequently follow up with their providers. **Frequency of testing will be determined by their providers.