NUTRITIONAL TIPS for CHILDREN with PANCREATITIS

Common Symptoms of Malnutrition:

- Weight loss/Slow growth patterns
- Greasy, loose stool
- Changes in vision
- Swollen Tongue
- Nausea/Vomiting
- Bone fractures/Bone issues
- Pale, yellowish skin

WHY DOES NUTRITION MATTER?

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

THE EXPERTS' OPINION

Dr. Virginia Stallings
Director of the nutrition center, Children's Hospital of Philadelphia

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

Mission: Cure has compiled recommendations from the first ever 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 Dr. Virginia Stallings and Michelle Klosterman, to promote nutritional considerations for children with pediatric pancreatitis.

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

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

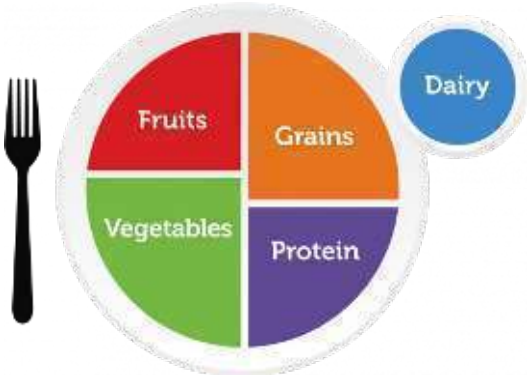
1. Promote **small**, **frequent meals** daily for your child following a regular, healthy diet (as tolerated).

Children diagnosed with Acute Recurrent Pancreatitis (ARP) and Chronic Pancreatitis (CP) are encouraged to practice a "regular fat" diet** consisting of 35-40% fat, 20% protein and 40-45% carbohydrates (NASPHGAN, 137). Additionally, children with CP are prone to higher resting metabolic rates (i.e. burning about 30-50% calories more than normal) and thus may need a higher calorie diet.

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

Consider using MyPlate.gov guidelines[2] when preparing meals for your child:

- 1/2 of the plate be fruits and vegetables,
- 1/4 be filled with whole grains,
- 1/4 be a protein (seafood, lean meats, legumes, etc.) and
- A serving of fat-free or low fat dairy (milk, yogurt or cheese)



Keeping a food log will enable you to identify symptoms that may arise from certain foods. This can help you manage and prevent your child's pain episodes.

2

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

In addition, maintaining a food diary will help you advocate for your child during medical appointments when discussing plans and potential treatment options with the healthcare team.

3

Proactively monitor your child's nutrition with **periodic testing** for vitamin and mineral **deficiencies**.

Routine monitoring is incredibly important to watch out for signs of malnutrition and to ensure that your child is meeting growth milestones.

***VITAMIN K TESTING ENCOURAGED PENDING HISTORY OF LIVER DISEASE OR BLEEDING**
****TYPE 3 DIABETES TESTING VARIABLE UPON PROVIDER RECOMMENDATION**

Recommended Tests

TESTS	FREQUENCY
GROWTH (HEIGHT,WEIGHT, BMI)	EVERY 3 - 6 MONTHS
MALNUTRITION	EVERY 3 - 6 MONTHS
VITAMIN DEFICIENCY (A, E, K*)	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 and mineral deficiencies are common in patients with CP, specifically fat-soluble vitamins A, E and K.

Testing for vitamin A and E levels is recommended every 6-12 months. Vitamin K testing is encouraged should your child have 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) are recommended as are bone mineral density tests since children with CP are more prone to fractures.

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

Children should be screened for pancreatic exocrine insufficiency 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.

Resources

1.Nutritional Considerations in Pediatric Pancreatitis: A Position Paper from the NASPHAN Pancreas Committee and ESPHAN Cystic Fibrosis/Pancreas Working Group: https://naspghan.org/files/Nutritional_Considerations_in_Pediatric.23(1).pdf

2.Visit https://www.myplate.gov/ for food log templates, meal time activities and more to help you prepare nutritious meals for your child.

Dr. Virginia Stallings and Michelle Klosterman offer their practical tips on feeding children with pancreatitis through a webinar sponsored by Mission: Cure. To watch the webinar "Nutrition for Children with Pancreatitis: What Should Your Child Eat?" visit https://mission-cure.org/webinars/webinar-on-nutrition-for-children-with-pancreatitis/