

# Current Nutritional Support for Cystic Fibrosis Does Not Adequately Address Fat Malabsorption with Enteral Nutrition<sup>1,2</sup>

## Malnutrition in Hospitalized Patients Results in Poorer Outcomes and Higher Treatment Costs



Almost 50% of all patients are malnourished at the time of hospital admission<sup>3</sup>



4 to 6 days longer hospital length of stay<sup>4,5</sup>



54% higher likelihood of hospital 30-day readmissions<sup>6</sup>



Up to 300% increase in hospital costs<sup>5</sup>

### Clinical Value of RELiZORB<sup>7,8</sup>

- The only FDA-cleared digestive enzyme product to hydrolyze fats in enteral nutrition
- Clinical evidence in enterally fed patients
- Designed for continuous feeding
- Allows use of low-cost enteral formulas

**RELiZORB**<sup>®</sup>   
(IMMOBILIZED LIPASE) CARTRIDGE



RELiZORB is a first-of-its-kind digestive enzyme cartridge designed to mimic the function of pancreatic lipase. RELiZORB is indicated for use in pediatric patients (ages 5 years and above) and adult patients to hydrolyze fats in enteral formula.

Characterized by a deficiency in pancreatic enzymes—including lipase, the enzyme responsible for fat digestion—exocrine pancreatic insufficiency (EPI) can lead to significant malnutrition and fat malabsorption<sup>9</sup>

### Conditions commonly associated with fat malabsorption<sup>10</sup>:

- Cystic fibrosis
- Acute or chronic pancreatitis
- Pancreatic cancer or other cancers
- Pancreatectomy
- Short bowel syndrome

### More than 50% of critically ill patients without pre-existing pancreatic diseases have EPI<sup>9,11</sup> – including those with:

- Abdominal surgery
- Chronic liver disease
- Trauma/critical care
- Crohn's disease
- Celiac disease

Fat malabsorption is associated with poor outcomes that can impact digestive symptoms, nutritional status, physical functioning, treatment burden, body image, and pain<sup>1,12,13</sup>

# Consider RELiZORB in Your Cystic Fibrosis Patients Who Require Enteral Nutrition



## Meet Jamie\*

**A 25-year-old female with cystic fibrosis who has impaired nutritional status and fat malabsorption**

\*Fictional patient based on actual patient experience. The information presented is for illustrative purposes only, and not intended, nor implied, to be a substitute for professional medical advice. Individual patient profiles may vary.

As Many as Half of All Patients With Cystic Fibrosis Do Not Meet Nutritional Targets Due to Impaired Nutrient Absorption<sup>1</sup>

### Clinical Presentation

- Symptoms of fat malabsorption: diarrhea, bloating, and weight loss on oral diet despite taking maximum dose of oral enzymes
- Weight 40.5 kg (BMI 15.6 kg/m<sup>2</sup>)

### Relevant History

- Consistent weight loss (current weight 40.5 kg, down from 50 kg a year ago)
- End stage lung disease, with FEV<sub>1</sub> 26% of predicted
- Vegetarian diet
- Poor intake due to reduced appetite

### Diagnosis

- Cystic fibrosis and end stage lung disease
- Exocrine pancreatic insufficiency with fat malabsorption

### Treatment

- Initial treatment focus was improvement of nutritional status, including reduction of fat malabsorption symptoms, to broaden future treatment options
- Despite initial hesitation, the patient agreed to the placement of a gastro-jejunal tube. The patient continued to eat normally during the daytime, but was started on two RELiZORB cartridges with 1 L Vital® enteral formula overnight
- Shortly after starting RELiZORB, the patient reported significant improvement in fat malabsorption symptoms (decreased GI symptoms of diarrhea and bloating)
- The patient's condition continued to improve and she remains on enteral feedings with RELiZORB to supplement her oral diet

RELiZORB is for use with enteral feeding only; do not connect to intravenous or other medical tubing. Medications should not be administered through RELiZORB. Please see Instructions For Use for full safety information at [www.relizorb.com](http://www.relizorb.com).

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**References:** 1. Turck D, Braegger CP, Colombo C, et al. *Clin Nutr*. 2016;35:557-577; 2. Woestenenk JW, van der Ent CK, Houwen RH. *J Pediatr Gastroenterol Nutr*. 2015;61:355-360; 3. Kirkland LL, Kashiwagi DT, Brantley S, Scheurer D, Varkey P. *J Hosp Med*. 2013;8:52-58; 4. Barker LA, Gout BS, Crowe TC. *Int J Environ Res Public Health*. 2011;8:514-527; 5. Correia MI, Waitzberg DL. *Clin Nutr*. 2003;22:235-239; 6. Fingar KR, Weiss AJ, Barrett ML, et al. Agency for Healthcare Research and Quality, Rockville, MD; 7. RELiZORB Instructions for Use; 8. RELiZORB Compatible Formulas & Pumps; 9. Wang S, Ma L, Zhuang Y, Jiang B, Zhang X. *Crit Care*. 2013;17:R171; 10. Singh VK, Haupt ME, Geller DE, Hall JA, Diez PMQ. *World J Gastroenterol*. 2017;23:7059-7076; 11. MedLinePlus Website. <https://medlineplus.gov/ency/article/000299.htm>; 12. Bodnar R, Kadar L, Holics K, et al. *Ital J Pediatr*. 2014;40:50; 13. Sawicki GS, Rasouliyan L, McMullen AH, et al. *Pediatr Pulmonol*. 2011;46:36-44.