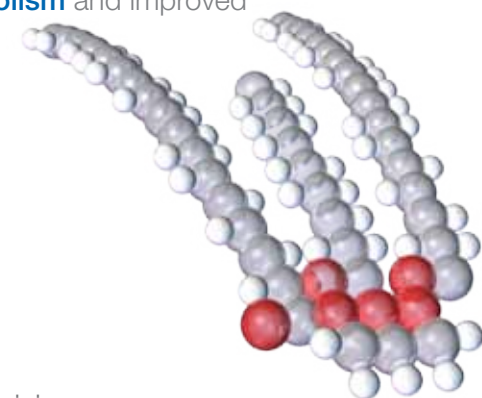


## Better absorption through better nutrition

The benefits of structured lipids compared to a physical mixture of medium- and long-chain triglycerides:

- **Better absorbed** and tolerated<sup>1-3,11</sup>
- **Increased** fatty acid uptake<sup>5</sup>
- **30% to 40% more absorption** of fat-soluble vitamins and antioxidants.<sup>5</sup>
- **A readily available** energy source for peripheral tissues.<sup>1</sup>
- **40% to 50% better delivery** of total fat and essential fatty acids to peripheral organs and skeletal muscle.<sup>2</sup>
- **Reduced muscle catabolism** and improved nitrogen balance during metabolic stress.<sup>6-10</sup>



# Vitaljr<sup>®</sup>

Designed for children ages 1-13.  
Vital jr. is ideal for:

- Inflammatory Bowel Disease
- Cystic Fibrosis
- Celiac Disease
- Pancreatic Disorders
- Short Bowel Syndrome
- Malabsorption
- Maldigestion
- Early enteral feeding
- Transition from TRN
- Cerebral Palsy
- Special health needs

For oral and tube feeding.  
Sole-source or supplemental nutrition.

# VITAL<sup>®</sup>

Vital<sup>®</sup> is ideal for adults with GI dysfunction and/or feeding issues, including:

- Short Bowel Syndrome
- Transition from TPN
- Bowel Resection
- Malabsorption
- Pancreatic Insufficiency
- Chronic Diarrhea
- Crohn's Disease
- Bile Salt Deficiency
- Diverticulosis
- Celiac Disease
- Cystic Fibrosis

For oral and tube feeding.  
Sole-source or supplemental nutrition.

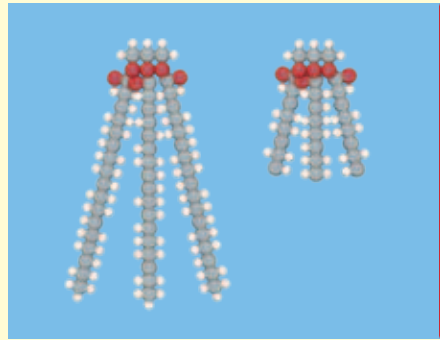
Recommend Vital jr. and Vital to support excellent tolerance and absorption.

Contact your Abbott Nutrition representative or visit [www.abbottnutrition.com](http://www.abbottnutrition.com) for more information.

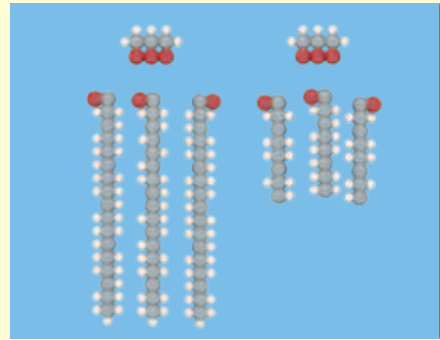
Use under Medical Supervision.

**References** 1. Tso P, Karlstad MD, Bistran BR, et al: Intestinal digestion, absorption, and transport of structured triglycerides and cholesterol in rats. *Am J Physiol* 1995;268 (4 Pt 1):G568-G577. 2. Tso P, Lee T, DeMichele SJ: Lymphatic absorption of structured triglycerides vs. physical mix in a rat model of fat malabsorption. *Am J Physiol* 1999;277 (4 Pt 1):G333-G340. 3. McKenna MC, Hubbard VS, Bieri J: Linoleic acid absorption from lipid supplements in patients with cystic fibrosis with pancreatic insufficiency and in control subjects. *J Pediatr Gastroenterol Nutr* 1985; 4:45-51. 4. Hubbard VS, McKenna MC: Absorption of safflower oil and structured lipid preparations in patients with cystic fibrosis. *Lipids* 1987;22:424-428. 5. Tso P, Lee T, DeMichele SJ: Randomized structured triglycerides increase lymphatic absorption of tocopherol and retinol compared with the equivalent physical mixture in a rat model of fat absorption. *J Nutr* 2001;131:2157-2163. 6. DeMichele SJ, Karlstad MD, Babayan VK, et al: Enhanced skeletal muscle and liver protein synthesis with structured lipid in enterally fed burned rats. *Metabolism* 1988;37:787-795. 7. DeMichele SJ, Karlstad MD, Bistran BR, et al: Enteral nutrition with structured lipid: effect on protein metabolism in thermal injury. *Am J Clin Nutr* 1989;50:1295-1302. 8. Swenson ES, Selleck KM, Babayan VK, et al: Persistence of metabolic effects after long-term oral feeding of a structured triglyceride derived from medium-chain triglyceride and fish oil in burned and normal rats. *Metabolism* 1991;40(5):484-490. 9. Teo TC, DeMichele SJ, Selleck KM, et al: Administration of structured lipid composed of MCT and fish oil reduces net protein catabolism in enterally fed burned rats. *Ann Surg* 1989;210(1):100-107. 10. Teo TC, Selleck KM, Wan JM, et al: Long-term feeding with structured lipid composed of medium-chain and n-3 fatty acids ameliorates endotoxic shock in guinea pigs. *Metabolism* 1991;40:1152-1159. 11. Kenler AS, Swails WS, Driscoll DF, et al: Early enteral feeding in postsurgical cancer patients: fish oil structured lipid-based polymeric formula versus a standard polymeric formula. *Ann Surg* 1996;223(3):316-333.

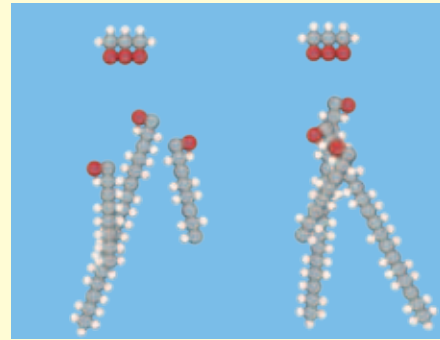
# The Science of Structured Lipids



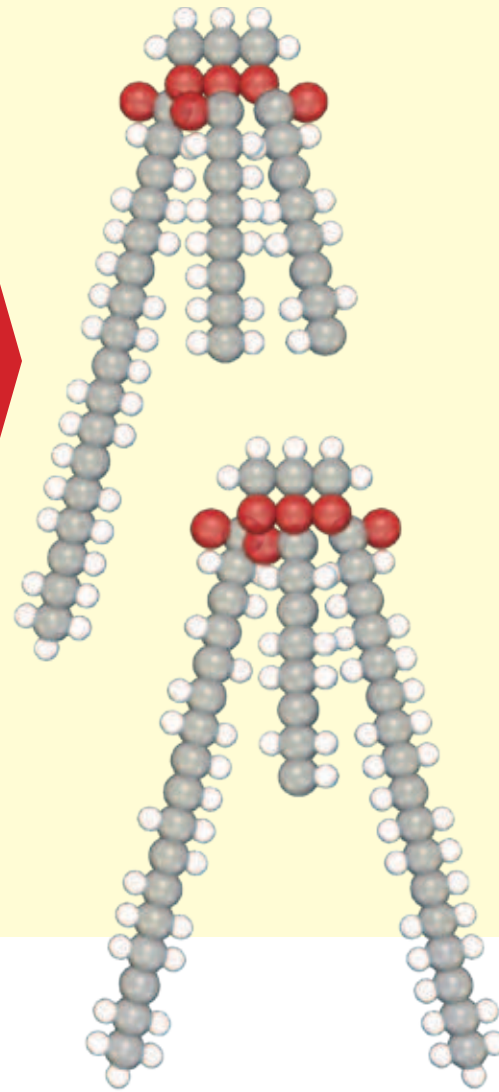
These are medium- and long-chain triglycerides.



Structured lipids are created by separating fatty acids from the glycerol backbone of medium- and long-chain triglycerides, a process called de-esterification.



These fatty acids are then randomly rejoined through re-esterification, to create triglycerides containing medium- and long-chain fatty acids on the same glycerol backbone.

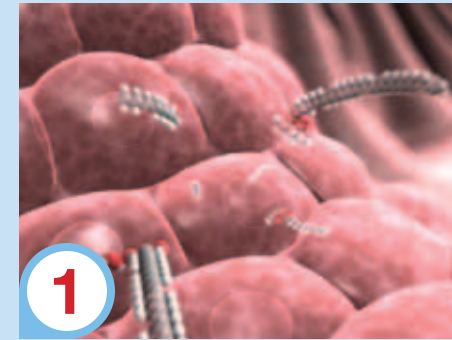


Normal human growth, development and weight maintenance are dependent on the intake of dietary fat. In many gastrointestinal conditions, the body is unable to absorb fatty acids effectively.

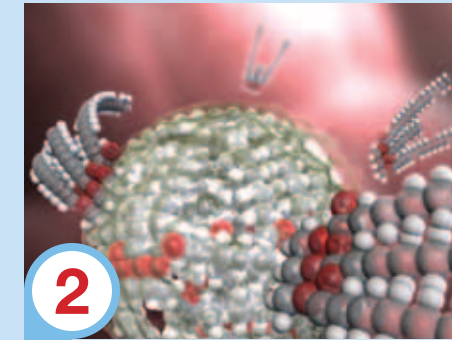
Structured lipids provide:

- An easily digested source of fat.<sup>1,2</sup>
- Enhanced fatty acid<sup>3,4</sup> and fat-soluble vitamin absorption.<sup>5</sup>
- Improved energy delivery to peripheral tissues.<sup>1</sup>

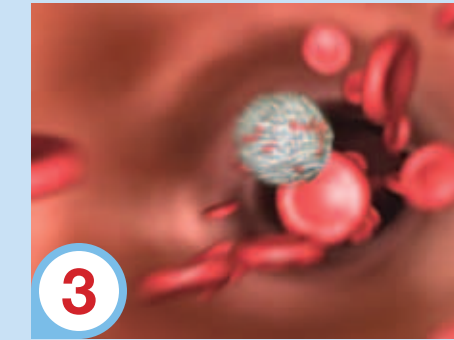
# How Structured Lipids work



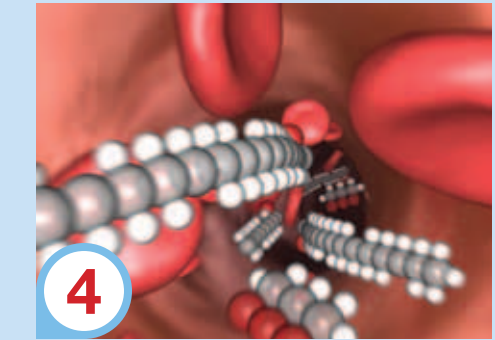
Once ingested, structured lipids are readily broken down into diglycerides, monoglycerides and free fatty acids, which are easily absorbed from the intestinal lumen into the mucosal cell.



Within the mucosal cell, they are reassembled into triglycerides and packaged along with fat-soluble vitamins into chylomicrons.



These chylomicrons containing structured lipids leave the mucosal cell via the lymphatic circulation and pass into systemic circulation, where they are transported to peripheral tissues.



Peripheral tissues can then take up the contents of the chylomicron, which include long- and medium-chain fatty acids as well as important fat-soluble vitamins.

## Increased delivery of total fat and essential fatty acids

By causing significantly more medium-chain fatty acids to bypass metabolism by the liver, structured lipids:

- Are an excellent source of readily available energy.<sup>1,2</sup>
- Help prevent muscle catabolism.<sup>6-10</sup>
- Help prevent the loss of lean body mass.<sup>6-9</sup>