

Funvctional Nutrition Support in Pediatric Colitis

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Patient: Child diagnosed with colitis (ulcerative colitis or IBD). Intervention period: 3months (epithelial support supplements), ongoing nutritional & probiotic strategy.

Background

Pediatric colitis involves chronic inflammation of the colon, with symptoms including abdominal pain, malabsorption, and impaired growth. Nutritional status, micronutrient deficiencies (e.g. zinc, vitamin D), and gut microbiome imbalances play key roles in disease activity and mucosal healing [1]. Omega-3 polyunsaturated fatty acids (PUFAs) and antioxidant-rich diets are associated with reduced relapse risk and better outcomes in IBD [2]. Clinical evidence shows aloe vera gel can induce remission in mild ulcerative colitis versus placebo [3]. Zinc and glutamine support intestinal barrier integrity and reduce inflammatory markers in children [4]. Probiotics have demonstrated benefit as adjuncts in mild pediatric [5].

Case Presentation & Goals

Child presented with colitis symptoms, poor appetite, and mucosal compromise. Objectives included:

- Stabilize appetite & nutritional intake
- Support epithelial repair
- Rebalance gut flora
- Reduce inflammatory activity
- Support growth and overall recovery

Interventions

Dietary & Lifestyle Modifications

- **Essential fatty acids:** increased cold-water fish (mackerel, sardines) for anti-inflammatory EPA/DHA intake [6].

- **Antioxidants & fiber:** cooked cruciferous vegetables (broccoli, cauliflower, kale, cabbage), fruits, seeds, water-soluble fiber (legumes, soups).
- **Hydration:** ~3 L/day, timed before or after meals; warm lemon water on waking.
- **Gut-soothing beverage:** Aloe vera juice (~ 100 ml diluted) prior to meals.
- **Water quality:** filtered water to reduce exposure to contaminants.

Supplementation

Goal	Supplement & Dosage
Essential nutrients	Nordic Naturals Children's DHA 1 tbsp/day; MaryRuth's liquid multi-vitamin 1 tbsp/day
Appetite & immune support	ChildLife Zinc Plus (zinc + vitamin C) 2 tsp/day — zinc supports epithelial healing & immune response
Gut lining support (1 mo only)	Renew Life IntestiNew 1 scoop AM & PM; ION Gut Support 1 tbsp/day; Metagenics UltraFlora IB probiotic capsule daily
Personal care	Natural hygiene products (Weleda, Alverde) to minimize exposure to irritants

Expected Outcomes

- Improved appetite and nutritional status
- Weight stabilization and growth catch-up
- Symptom reduction (pain, diarrhea, distress)

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- Enhanced mucosal healing and barrier function
- Reduced inflammatory markers and relapse risk

Discussion

Functional nutrition approaches in pediatric colitis are supported by emerging evidence. Omega-3 PUFAs show modulation of inflammatory eicosanoids and improved mucosal healing, though clinical trial results vary [2-7]. Aloe vera demonstrated clinical benefit in mild UC in small trials [3]. Zinc and glutamine improved mucosal integrity in young children [4]. Probiotics have been recommended as adjunct therapy in mild pediatric UC [5]. Multivitamin supplementation addresses common micronutrient deficiencies observed in pediatric IBD [1].

Conclusion

This case supports a personalized, multidisciplinary nutrition-based strategy that may complement conventional therapy in pediatric colitis. Combining anti-inflammatory diet components, epithelial support supplements, probiotics, and micronutrient optimization potentially accelerates healing, stabilizes patient status, and improves quality of life. Further controlled studies are needed to refine protocols and dosing in this age group.

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