MENTORING, EDUCATION, AND TRAINING CORNER

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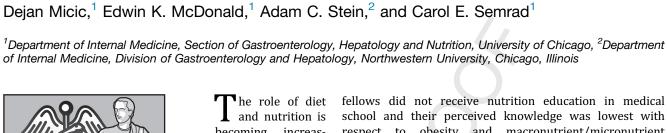
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the Gastroenterology Fellowship

How to Obtain Training in Nutrition During

he role of diet and nutrition is becoming increasingly recognized in the cause, prevention, and management of disease. A lack of training in the field of nutrition has been recognized in multiple subspecialty fields,¹ and highlighted by is shortage of а physicians trained to manage disease-

related malnutrition.² Given the central role of the gastrointestinal system in the field of nutrition, gastroenterologists have the unique potential to take a leading role in the research, management, and training of nutrition as it relates to disease and health for future generations. This requires that fellows in training have adequate nutrition training as directed by the Gastroenterology Core Curriculum.³ In this Mentoring, Education and Training Corner, we outline deficiencies and expectations in nutrition training as part of a gastroenterology fellowship. We provide references for interested trainees to pursue additional training in this growing field of nutrition support.

Deficiencies in the Current State of Nutrition Training

Several studies have outlined the deficiencies in nutrition training in both the field of gastroenterology, as well as various medical specialties, ranging from early training periods in medical school,⁴ through to subspecialty fellowship training. One study of 134 US gastroenterology fellows assessed perceived knowledge in nutrition using multiple choice questions in 5 of the 7 nutrition core curricula. Nearly 90% of fellows reported a desire for more nutrition education and only one-quarter of fellows felt comfortable in the use of enteral and parenteral feeding support and macronutrient/micronutrient requirements.⁵ A preceding study examined 32 Canadian gastroenterology fellows and performed a needs assessment as well as a 40-question multiple choice examination. The majority of fellows did not receive nutrition education in medical school and their perceived knowledge was lowest with respect to obesity and macronutrient/micronutrient requirements.⁶ On the multiple choice examination, mean test scores were 50.04% and using a multiple linear regression analysis, hours of nutrition education during gastroenterology fellowship and hours of nutrition education in medical school correlated positively with test results.⁶ Although the impact of diet and nutrition status on health is commonly recognized, adequate education and training is lacking. Therefore, further integration of research and science in the field of nutrition is required within both the medical field and gastroenterology.

Role of a Nutrition Support Service

Training in nutrition is a heterogeneous field, ranging from understanding metabolism in health and disease, micronutrient and macronutrient requirements, nutrient digestion and absorption, and to the best route and provision of nutrition support. Although formal nutrition training is commonly lacking in medical education, the impact of diet and nutrition is emphasized across medical specialties. A critical aspect of education in nutrition includes access to a dedicated nutrition support service. Aligning doctors with specialized dieticians, nurses, and pharmacists creates a dedicated team with collective expertise in enteral and parenteral nutrition support, including nutrition assessments, management of central catheters, and designing parenteral nutrition formulas. Providing trainees access to a nutrition support service is mutually beneficial to both parties, given the underlying gastrointestinal conditions encountered by a hospital nutrition support service. A survey of practicing members and trainees of the Canadian Association of Gastroenterology found that two-thirds of respondents were involved in providing nutrition support and 89% of respondents felt that a gastroenterologist should be a member of a local nutrition support team. Despite a perceived need for the central role of a gastroenterologist on a nutrition support service, the majority of respondents felt that

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training in nutrition was underemphasized in fellowship programs.⁷

Training Expectations

The Gastroenterology Core Curriculum was first created in 1996⁸ with subsequent revisions in 2003⁹ and most recently

the third edition was published in 2007.³ Sponsored by the American Association for the Study of Liver Diseases, American College of Gastroenterology, American Society for Gastrointestinal Endoscopy, and American Gastroenterological Association (AGA) Institute, the initial core curriculum included the recommendations of the Nutrition Task Force with training

Table 1. Current Recommendations for Nutrition Training in Gastroenterology Curricula 1. Basic nutritional principles Trainees should have an understanding of normal micronutrient and macronutrient function, requirements, digestion, absorption, and metabolism and the effects of gastrointestinal diseases and resection on these processes. They should understand the nutritional aspects of celiac disease and other mucosal diseases associated with malabsorption, Crohn's disease, liver disease, acute pancreatitis, pancreatic insufficiency, limited ileal resection, and short bowel syndrome. Trainees should also understand the process of intestinal adaptation following massive small bowel resection. 2. Nutritional assessment Trainees should be able to determine when a patient is at risk for malnutrition. They should be able to identify specific nutrient deficiencies and excesses and protein-energy malnutrition by using a focused history and physical examination and appropriate laboratory tests. The specific criteria that increase the patient's risk for malnutrition and associated medical complications, including abnormally low plasma nutrient concentrations, weight loss, and body mass index, must be understood clearly. 3. Malnutrition Trainees should understand the physiologic consequences of underfeeding, including the metabolic response to starvation, alterations in body composition and organ function that occur with inadequate protein and energy intake, and the clinical effects of specific nutrient deficiencies. The adverse effects of aggressive refeeding of the severely malnourished patient also must be understood. Stress states Trainees should understand the metabolic response to illnesses and injury and the effects of illness and injury on nutrient metabolism and requirements. 5. Specific gastrointestinal disease states Trainees should understand and be able to implement nutrition management plans that are based on current evidence-based literature, related to severe acute pancreatitis, liver disease and transplantation, inflammatory bowel disease, gastrointestinal fistulas, short bowel syndrome, radiation enteritis, and celiac disease. Trainees should also understand how to systematically evaluate a patient with intestinal malabsorption such as chronic pancreatitis, bacterial overgrowth, celiac disease, and protein-losing enteropathy. 6. Nutrition support Trainees should understand how to use oral, enteral, and parenteral feeding techniques to prevent or correct specific nutrient deficiencies and to provide appropriate protein, energy, fluid, vitamin, and mineral intake in patients who are unable to maintain an adequate oral intake of nutrients because of short bowel syndrome, nausea and vomiting, inability to swallow, severe illness, psychiatric illness, or altered mentation. Specific knowledge of the following topics is essential: a. Energy and macronutrients and micronutrient requirements. b. Indications for enteral and parenteral nutritional support. c. Appropriate timing of the initiation of nutritional support via enteral or parenteral nutrition. d. Benefits and complications associated with both enteral and parenteral nutrition in specific disease states. e. How to calculate and implement enteral and parenteral therapy, including indications, administration options, composition and proper selection of formulations, monitoring techniques, and evaluation for complications. f. Indications for and composition of diets modified in nutrients or consistency. g. The physiologic principles of oral rehydration therapy and appropriate use of oral rehydration solutions. h. The use of enteral tube feeding, including indications, feeding tube options, tube placement techniques, composition and proper selection of liquid formulations, monitoring tube feeding, and complications. i. Proficiency in the endoscopic placement of percutaneous endoscopic gastrostomy and percutaneous endoscopic jejunostomy feeding tubes. j. Management of access catheters for parenteral nutrition, including placement, maintenance, complications and their treatment. k. Criteria and indications for implementing home enteral and parenteral nutrition. I. Drug-nutrient interactions. Knowledge of these nutrition support principles is needed for both short-term (inpatient) and long-term (home) therapy. 7. Obesity Trainees should obtain a general understanding of the pathogenesis of obesity and the factors involved in the regulation of food intake and energy balance. They should understand the medical complications associated with obesity, particularly the gastrointestinal complications (gastroesophageal reflux disease, gallbladder disease, pancreatitis, liver disease, and colon cancer). Trainees should understand the principles of weight management, including behavior modification, diet, physical activity, pharmacotherapy, and surgical therapy. The trainees should also be aware of endoscopic and surgical treatments for weight loss. Trainees should understand how to appropriately diagnose and manage complications of obesity surgery, including stomal ulceration, stomal stenosis, intestinal hernias, and nutrient deficiencies. 8. Ethical and legal issues Trainees should obtain an understanding of the ethical and legal issues involved in providing and withdrawing enteral and parenteral nutrition support for terminally ill patients, patients with end-stage dementia, patients who are unable to give consent, and patients who refuse nutritional therapy but are unable to maintain adequate nutritional status without artificial feeding. Download English Version:

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