NUTRITION-FOCUSED PHYSICAL EXAM

AN ILLUSTRATED HANDBOOK





ο

ABOUT ASPEN

The American Society for Parenteral and Enteral Nutrition (ASPEN) is a scientific society whose members are healthcare professionals—physicians, dietitians, nurses, pharmacists, other allied health professionals, and researchers—that envisions an environment in which every patient receives safe, efficacious, and high-quality patient care.

ASPEN's mission is to improve patient care by advancing the science and practice of clinical nutrition and metabolism.

A B O U T THE CLEVELAND CLINIC Cleveland Clinic is a nonprofit, multispecialty academic medical center integrating clinical and hospital care with research and education for better patient care. More than 3,400 staff physicians and researchers in 140 medical specialties provide services through 27 clinical and special expertise institutes. Cleveland Clinic comprises a main campus, nine regional hospitals, and more than 150 outpatient locations, with 18 family health centers and three health and wellness centers in northern Ohio, as well as medical facilities in Florida, Nevada, Toronto, and Abu Dhabi. Cleveland Clinic is currently ranked as the No. 2 hospital in the country by *U.S. News & World Report*. Clevelandclinic.org **NOTE:** This publication is designed to provide accurate authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering medical or other professional advice. Trademarked commercial product names are used only for education purposes and do not constitute endorsement by ASPEN or Cleveland Clinic.

This publication does not constitute medical or professional advice, and should not be taken as such. Use of the information published herein is subject to the sole professional judgment of the attending health professional, whose judgment is the primary component of quality medical care. The information presented herein is not a substitute for the exercise of such judgment by the health professional. All rights reserved. No part of this may be used or reproduced in any manner whatsoever without written permission from ASPEN. For information, write: American Society for Parenteral and Enteral Nutrition (ASPEN), 8630 Fenton Street, Suite 412, Silver Spring, MD 20910-3805; (301) 587-6315, www.nutritioncare.org, aspen@nutritioncare.org.

Copyright © 2016. American Society for Parenteral and Enteral Nutrition.

ISBN 978-1-889622-29-3 Print edition ISBN 978-1-889622-30-9 Ebook edition Printed in the United States of America.

NUTRITION-FOCUSED PHYSICAL EXAM

AN ILLUSTRATED HANDBOOK

CONTRIBUTORS

Peggy Hipskind, MA, RD, LD Advanced Practice II Dietitian Nutrition Therapy Center for Human Nutrition Digestive Disease and Surgery Institute Cleveland Clinic

Marianne Galang, RD, LD, CSO Advanced Practice I Dietitian Nutrition Therapy Center for Human Nutrition Digestive Disease and Surgery Institute Cleveland Clinic Andrea Jevenn, RD, LD, CNSC Advanced Practice I Dietitian Nutrition Support Team Center for Human Nutrition Digestive Disease and Surgery Institute Cleveland Clinic

Cassandra Pogatschnik, RD, LD, CNSC Advanced Practice I Dietitian Center for Gut Rehabilitation and Transplant Center for Human Nutrition Digestive Disease and Surgery Institute Cleveland Clinic

EDITOR

Cindy Hamilton, MS, RD, LD, FAND Director Center for Human Nutrition Digestive Disease and Surgery Institute Cleveland Clinic

PREFACE

The Cleveland Clinic Center for Human Nutrition (CHN) has developed this Illustrated Nutrition-Focused Physical Exam (NFPE) Handbook to assist bedside clinicians in the nutrition assessment of their patients and to help discern the presence and degree of malnutrition. The Academy-ASPEN Consensus Statement and Characteristics for Identification of Malnutrition (2012) has been a catalyst to realizing the importance of incorporating the NFPE as part of a comprehensive nutrition assessment. Most healthcare disciplines perform a physical exam of their patients, and a NFPE should be part of the nutrition clinician's skill set.

With the release of the Consensus Statement the CHN embarked on a departmental goal to standardize our approach in assessing the nutritional status of our patients. A comprehensive training program was developed centered around online education modules and live patient simulations. All clinicians, including dietitians, dietetic technicians, nurses, nurse practitioners, fellows, physicians, and our clerical staff embraced the importance of this effort. The project became so successful that we were able to offer it to dietitians and students from other institutions.

Based on our experiences and training scores of dietitians on how to diagnose malnutrition, it became evident that a learning tool was needed with stepby-step instructions on how to perform a NFPE and visual aids to demonstrate how to assess physical findings. The authors of this handbook contributed their expertise to provide photos, illustrations, and specific tips and techniques in performing the NFPE. We hope this handbook is a useful resource, enhances the skill set of clinicians and promotes confidence to perform a NFPE.

We especially would like to express our gratitude to ASPEN, who with great enthusiasm, was willing to provide us with the opportunity to collaborate to produce this handbook. We appreciate the relationship cultivated with ASPEN over many years, which is one of collegiality and a shared vision.

CINDY HAMILTON, MS, RD, LD, FAND

- 01 Introduction4
- 02 Preparation for the Physical Exam......6
 - Overview
 - Systematic approach to a nutrition assessment
 - Assessment and interview techniques and tips
 - Exam techniques and tips
 - Exam techniques using inspection/palpation
- 03 Inflammation.....12
 - Overview
 - Common diagnoses associated with etiology of malnutrition (Table 1)
 - Markers of inflammation: vital signs (Table 2)
 - Markers of inflammation: biochemical markers (Table 3)
 - Imaging studies (Table 4)
- **04** Physical Exam of Subcutaneous Muscle

and Fat Stores18

- Overview
- Symmetry
- Special considerations: obesity, critical illness, and sarcopenia
- Additional tools for body composition assessment
- Head-to-toe approach
 - Head and face
 - Upper chest
 - Upper back
 - Midaxillary line
 - Arms
 - Hands
 - Lower extremities

- 05 Assessment of Fluid Status:
 - Accumulation and Dehydration27
 - Overview
 - Fluid accumulation/edema
 - Impact of edema on nutrition
 - Academy-ASPEN fluid accumulation characteristics that support a diagnosis of malnutrition (Figure 1)
 - Differential diagnosis of edema (Table 1)
 - Medications known to cause generalized/peripheral edema (Table 2)
 - Terminology used to describe edema (Table 3)
 - Grading of pitting edema (Table 4)
 - Evaluation of fluid accumulation/edema (Table 5)
 - Dehydration
 - Labs and vital signs associated with dehydration (Table 6)
 - Areas of focus to evaluate for dehydration (Table 7)
- - Overview
 - Reduced grip strength as a supportive clinical characteristic for malnutrition (Table 1)
 - Measuring functional status
 - Techniques for using a dynamometer
- 07 Assessment of Micronutrient Status42
 - Overview
 - Skin
 - Nails
 - Hair
 - Orofacial

####