



Nutrition & Diagnosis-Related Care

EIGHTH EDITION



SYLVIA ESCOTT-STUMP

Nutrition and Diagnosis-Related Care

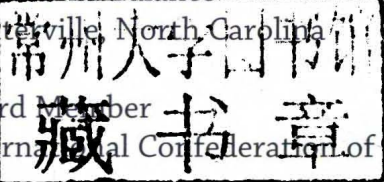
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Eighth Edition

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9 8 7 6 5 4 3 2

Printed in China

Library of Congress Cataloging-in-Publication Data

Escott-Stump, Sylvia, author.

Nutrition and diagnosis-related care / Sylvia Escott-Stump.—Eighth edition.

p. ; cm.

Includes bibliographical references and index.

ISBN 978-1-4511-9532-3 (paperback)

I. Title.

[DNLM: 1. Nutrition Therapy—Handbooks. 2. Nutritional Physiological Phenomena—Handbooks. WB 39] RM217.2

615.8'54--dc23

2014039415

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FOREWORD

This book is a valuable resource for registered dietitian-nutritionists, dietetic interns and students, and other health care professionals involved or interested in medical nutrition therapy. Efficient time management is required to deliver high-quality patient care. However, the registered dietitian-nutritionist (RDN) must be both efficient *and* effective. Tools such as Hot Topics related to inflammation will trigger important critical thinking, as will the content related to gene-nutrition interactions and the nutrition care process. Indeed, this latest edition provides key updates for prioritizing patient care and planning nutrition therapies.

The guidance provided by *Nutrition and Diagnosis-Related Care* charts the course for each patient, especially for clinical conditions that the practitioner does not routinely treat.

This book presents an extensive yet succinct compilation of nutrition information. The most impressive attribute is that the germane information required by dietitians is presented in a single resource. This greatly simplifies the development of nutrition care plans and interventions. Thus, dietetic practitioners have this superb resource to provide evidence-based interventions and to achieve excellent patient outcomes.

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PREFACE

Health care professionals must identify all elements of patient care capable of affecting nutritional status and outcomes. The registered dietitian-nutritionist (RDN) must provide nutritional care in a practical, efficient, timely, and effective manner regardless of setting. Various environments provide unique and special considerations. The astute dietitian is sensitive to the patient/client's current status in the continuum of care, meticulously adapting the nutritional care plan. Communication between facilities saves time for screenings and assessments and will simplify making progress with interventions. With electronic health records, data and summary reports must be shared confidentially from one practitioner to the next.

Nutrition and Diagnosis-Related Care has evolved since 1985 to supplement other texts and references and to quickly assimilate and implement medical nutrition therapy (MNT). This guide can be used to help write protocols, establish nutrition priorities, and demonstrate cost-effective therapies. The majority of disorders are described where nutrition interventions can decrease complications, further morbidity, and lengthy hospital stays. Adequate nutritional intervention often results in financial savings for the patient, the family, and the health care system.

Evidence-based knowledge solidifies the role of nutrition as therapy and not just a basic daily requirement. The eighth edition updates and clarifies the current status of nutrition therapy guidance. A major factor influencing health is **inflammation**. For example, a recent study provided vitamin D, omega-3 fatty acids, melatonin, and methylated vitamin B₁₂ to individuals with Alzheimer's disease. Results have shown improvement in overall functioning. Thus, **Hot Topic** boxes provided in this edition hone in on the current knowledge about the role of nutrition in reducing inflammatory conditions.

The format of the book continues to promote easy navigation for quick retrieval of information. Appendix A summarizes the nutrients, requirements, functions, and food sources. Appendix B highlights the nutrition care process for the profession of dietetics. Sample forms are included, including language related to the critical thinking involved with A-D-I (assessment, nutrition diagnosis, interventions) and M-E (monitoring and evaluation). The nutritional acuity level ranking for prioritizing dietitian services is found in Appendix C. As nutrition knowledge continues to evolve at a rapid pace, the Recommended Dietary Allowances (RDA) and Dietary Reference Intakes (DRI) tables included in prior editions of this text should now be accessed online to ensure that the most current information is used. The tables are available at <http://fnic.nal.usda.gov/dietary-guidance/dietary-reference-intakes/dri-tables>.

The field of dietetics continues to be a focus for health promotion and disease prevention. The profession is a top career choice for making a difference in people's lives: changing them for the better!

■ ASSUMPTIONS ABOUT THE READER

For this text, the following assumptions have been made:

1. The reader has an adequate background in nutrition sciences, physiology and pathophysiology, medical terminology,

biochemistry, basic pharmacotherapy, and interpretation of biochemical data to understand the abbreviations, objectives, and interventions in this book.

2. An individualized drug history review is essential, as only a few medications are included here. Note as well that drugs are often removed from the market; check with a pharmacist for more guidance.
3. Herbs, botanicals, and dietary supplements are discussed because they are often used without prior consultation with a dietitian or a physician. They have side effects as well as perceived or real benefits. Products may be "natural" but not necessarily "safe" for an individual.
4. For teaching, the nutrition professional must provide appropriate handouts, printed materials, and teaching tools to prepare the patient for independent functioning. The educator must identify teachable moments and share what is needed at the time. "More information" is not always the best option for a single intervention. When possible, multiple visits should be scheduled to address nutrition and lifestyle changes.
5. The nutrition counselor must use evidence-based techniques with the patient and significant other(s). Follow-up interventions are highly recommended to evaluate successful behavioral changes by the patient/client. Appendix B provides a brief overview; the reader must devote adequate time to develop counseling skills that will achieve desirable outcomes.
6. Dietitians must prioritize nutritional diagnoses that can be managed within a given time frame. A realistic plan must be designed and goals should include a time frame.
7. With assignments in ambulatory centers, extended care facilities, subacute or rehabilitative centers, private practices, grocery stores, Web-based practices, rehabilitation facilities, and home care, the "seamless" continuum affords registered dietitian-nutritionists the possibility of lifelong patient relationships. The "patient-centered medical home" affords continuity through monitoring, follow-up, and evaluation by one team.
8. **Clinical Indicator** lists offer common tests, disease markers, and biochemical evaluations reviewed by physicians or dietitians for that condition. Because laboratory test results are not always available in nonhospital settings, changes in appetite, intake, and weight are the most viable screening factors. Physical changes and signs of malnutrition should always be noted during assessments and reassessments.
7. A current nutrition care manual or textbook should be used to write dietary modifications. Comprehensive lists are not included with this book.
8. Evidence-based guides provide predictable types of interventions over multiple visits. Identify and use relevant guidelines, such as those at <http://www.anddeal.org/default.cfm>
9. Except where specifically noted for children, nutrition therapy plans in this book are for adults over the age of 18.
10. Vitamin and mineral supplements are needed in cases of a documented or likely deficiency. However, in large doses, they may cause food-drug interactions. Note all supplements when planning meals and nourishments to avoid

excessive intakes. Athletes, women, elderly individuals, and vegetarians tend to take vitamin and mineral supplements more often than other individuals.

11. Food from a healthy, varied diet is the best “nutritional medicine.” Evidence points to the benefits of whole foods for their nutrient–chemical mix. A well-balanced diet follows the U.S. Department of Agriculture MyPlate food guidance system. Various ethnic, vegetarian, pediatric, geriatric, and diabetes food guides are available for menu planning and design.
12. With awareness of the interacting roles of diet and nutrients with genes and vice versa, greater emphasis has been placed on personalized nutrition counseling. It is no longer acceptable to prescribe a “one size fits all” nutrition plan. When genetic testing is available, the skilled RDN must

provide advice that considers the ethical, legal, economic, and social implications for the patient/client and family.

13. Ethics, cultural sensitivity, and a concern for patient rights should be practiced at all times. When known, the wishes and advanced directives of the patient are to be followed, even if they preclude the administration of artificial nutrition.
14. Interesting and varied websites have been included for additional insights into various diseases, conditions, and nutritional interventions.
15. It is essential to use the current standardized nutrition language, as terms and definitions may change as the profession evolves. Access the latest information at <http://www.eatright.org/NCP/>. The electronic version (eNCPT) provides access to the terminology and many countries have translated the standardized terminology into their own language.

ACKNOWLEDGMENTS

Thanks to all reviewers who made valuable suggestions for changes.

I wish to thank Jonathan Joyce, Eve Malakoff-Klein, Teresa Exley and their team members for valuable suggestions, insights,

and edits. This book is dedicated to my family (Russ, Matthew, and Lindsay Stump) and to my students, interns, and colleagues around the globe. They make it all worthwhile!

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COMMON ABBREVIATIONS

A_{1c}	A _{1c} test (glycosylated hemoglobin)	DNA	deoxyribonucleic acid
AA	amino acid	DOB	date of birth
abd	abdomen, abdominal	DRI	dietary reference intakes
ADIME	assessment-diagnosis-intervention-monitoring-evaluation	DV	daily value
ABW	average body weight	D5W	5% dextrose solution in water
ACE	angiotensin-converting enzyme	EAA	essential amino acid
ACO	affordable care organization	ECG, EKG	electrocardiogram
ACTH	adrenocorticotrophic hormone	EEG	electroencephalogram
Alb	albumin	EFAs	essential fatty acids
ALP	alkaline phosphatase	Elec	electrolytes
ALT	alanine aminotransferase	EN	enteral nutrition
amts	amounts	eNCPT	electronic nutrition terminology reference manual
ARF	acute renal failure	ESRD	end-stage renal disease
ASHD	atherosclerotic heart disease	ETOH	ethanol/ethyl alcohol
AST	aspartate aminotransferase	Fe⁺⁺	iron
ATP	adenosine triphosphate	F & V	fruits and vegetables
BCAAs	branched-chain amino acids	FSH	follicle-stimulating hormone
BEE	basal energy expenditure	FTT	failure to thrive
BF	breastfeeding	FUO	fever of unknown origin
BMR	basal metabolic rate	G, g	gram(s)
BP	blood pressure	GA	gestational age
BS	blood sugar	GBD	gallbladder disease
BSA	body surface area	GE	gastroenteritis
BUN	blood urea nitrogen	gest	gestational
BW	body weight	GFR	glomerular filtration rate
bx	biopsy	GI	gastrointestinal
c	cup(s)	Gluc	glucose
C	coffee	GN	glomerular nephritis
CA	cancer	GTT	glucose tolerance test
Ca⁺⁺	calcium	H&H	hemoglobin and hematocrit
CABG	coronary artery bypass grafting	HbA_{1c}	hemoglobin A _{1c} test
CBC	complete blood count	HBV	high biological value
CF	cystic fibrosis	HBW	healthy body weight
CHD	cardiovascular heart disease	HCl	hydrochloric acid
CHF	congestive heart failure	Hct	hematocrit
CHI	creatinine-height index	HDL	high-density lipoprotein
CHO	carbohydrate	HEN	home enteral nutrition
Chol	cholesterol	HLP	hyperlipoproteinemia or hyperlipidemia
Cl⁻	chloride	HPN	home parenteral nutrition
CNS	central nervous system	HTN	hypertension
CO₂	carbon dioxide	Ht	height
CPK	creatine phosphokinase	I	infant
CPR	cardiopulmonary resuscitation	I&O	intake and output
CrCl	creatinine clearance	IBD	inflammatory bowel disease
CRP	C-reactive protein	IBS	irritable bowel syndrome
CT	computed tomography	IBW	ideal body weight
Cu	copper	IEM	inborn error of metabolism
CVA	cerebrovascular accident	INR	international normalized ratio (coagulation)
DAT	diet as tolerated	IU	international units
dec	decreased	IUD	intrauterine device
decaf	decaffeinated	IV	intravenous
def	deficiency	K⁺	potassium
DJD	degenerative joint disease	kcal	food kilocalories
dL	deciliter	kg	kilogram(s)
DM	diabetes mellitus	L	liter(s)
		lb	pound(s)

LBM	lean body mass	pCO₂	partial pressure of carbon dioxide
LBV	low biological value	PG	pregnant, pregnancy
LBW	low birth weight	PKU	phenylketonuria
LCT	long-chain triglycerides	PN	parenteral nutrition
LDH	lactate dehydrogenase	pO₂	partial pressure of oxygen
LDL	low-density lipoproteins	PRN	pro re nata (as needed)
LE	lupus erythematosus	Prot	protein
LGA	large for gestational age	PT	prothrombin time; physical therapy
LH	luteinizing hormone	PTH	parathormone
lytes	electrolytes	PUFA	polyunsaturated fatty acid(s)
M	milk	RAST	radioallergosorbent test
MAC	midarm circumference	RBC	red blood cell count
MAMC	midarm muscle circumference	RDA	recommended dietary allowance (specific)
MAO	monoamine oxidase	RDS	respiratory distress syndrome
MCH	mean cell hemoglobin	REE	resting energy expenditure
MCT	medium-chain triglycerides	RQ	respiratory quotient
MCV	mean cell volume	RRT	renal replacement therapy
Mg⁺⁺	magnesium	Rx	treatment
mg	milligram(s)	SFA	saturated fatty acids
μg	microgram(s)	SGA	small for gestational age
MI	myocardial infarction	SI	small intestine
mm	millimeter(s)	SIADH	syndrome of inappropriate antidiuretic hormone
MODS	multiple organ dysfunction syndrome	SIDS	sudden infant death syndrome
MSG	monosodium glutamate	SOB	shortness of breath
MUFA	monounsaturated fatty acids	Sx	symptoms
N&V	nausea and vomiting	t, tsp	teaspoon(s)
N	nitrogen	T, tbsp	tablespoon(s)
Na	sodium	TB	tuberculosis
NCEP	National Cholesterol Education Program	TF	tube feeding; tube fed
NCP	Nutrition Care Process	TIBC	total iron-binding capacity
NEC	necrotizing enterocolitis	TLC	total lymphocyte count
NG	nasogastric	TPN	total parenteral nutrition
NPO	nil per os (nothing by mouth)	Trig	triglycerides
NSI	Nutrition Screening Initiative	TSF	triceps skinfold
O₂	oxygen	UA	uric acid
OP	outpatient	UTI	urinary tract infection
OT	occupational therapist	UUN	urinary urea nitrogen
oz	ounce(s)	VMA	vanillylmandelic acid
P	phosphorus	VO_{2max}	maximum oxygen intake
PAD	peripheral artery disease	WBC	white blood cell count
PCMH	patient-centered medical home	WNL	within normal limits
PCM	protein-calorie malnutrition	Zn	zinc
PEM	protein-energy malnutrition		

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