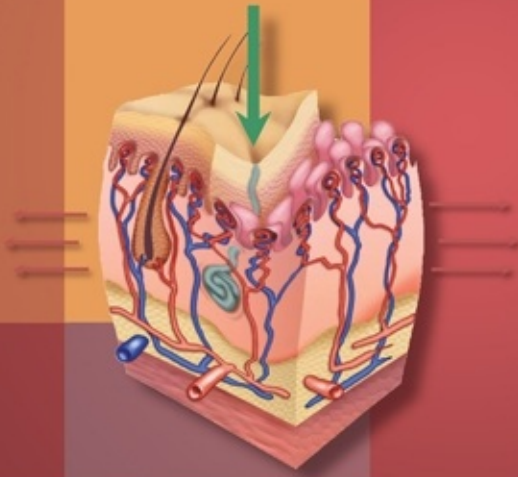


Wound, Ostomy and Continenence Nurses Society™

Core Curriculum

WOUND MANAGEMENT



 Wolters Kluwer



Wound
Ostomy and
Continenence
Nurses
Society®

Thank you

for purchasing this eBook.

To receive special offers and news about our latest products, sign up below.

[Visit LWW.com](http://LWW.com)



Wolters Kluwer

When you have to be right

Wound, Ostomy and Continence Nurses Society™

Core Curriculum

WOUND

MANAGEMENT

Wound, Ostomy and Contenance Nurses Society™

Core Curriculum

WOUND MANAGEMENT

EDITED BY:

**Dorothy B. Doughty, MN, RN, CWOCN,
FAAN**

WOC Nurse Clinician
Emory University Hospital
Atlanta, Georgia

**Laurie L. McNichol, MSN, RN, GNP,
CWOCN, CWON-AP**

Clinical Nurse Specialist and WOC Nurse
Cone Health
Greensboro, North Carolina



Philadelphia • Baltimore • New York • London
Buenos Aires • Hong Kong • Sydney • Tokyo



Wound
Ostomy and
Contenance
Nurses
Society*

Executive Editor: Shannon W. Magee
Senior Product Development Editor: Emilie Moyer
Editorial Assistant: Kathryn Leyendecker
Senior Marketing Manager: Mark Wiragh
Senior Production Project Manager: Cynthia Rudy
Design Coordinator: Teresa Mallon
Manufacturing Coordinator: Kathleen Brown
Prepress Vendor: SPi Global

Copyright © 2016 Wound, Ostomy and Continence Nurses Society™

All rights reserved. This book is protected by copyright. No part of this book may be reproduced or transmitted in any form or by any means, including as photocopies or scanned-in or other electronic copies, or utilized by any information storage and retrieval system without written permission from the copyright owner, except for brief quotations embodied in critical articles and reviews. Materials appearing in this book prepared by individuals as part of their official duties as U.S. government employees are not covered by the above-mentioned copyright. To request permission, please contact Wolters Kluwer at Two Commerce Square, 2001 Market Street, Philadelphia, PA 19103, via email at permissions@lww.com, or via our website at lww.com (products and services).

9 8 7 6 5 4 3 2 1

Printed in China

Cataloging-in-Publication Data available on request from the Publisher.

ISBN: 978-1-4511-9440-1

This work is provided “as is,” and the publisher disclaims any and all warranties, express or implied, including any warranties as to accuracy, comprehensiveness, or currency of the content of this work.

This work is no substitute for individual patient assessment based upon healthcare professionals’ examination of each patient and consideration of, among other things, age, weight, gender, current or prior medical conditions, medication history, laboratory data and other factors unique to the patient. The publisher does not provide medical advice or guidance and this work is merely a reference tool. Healthcare professionals, and not the publisher, are solely responsible for the use of this work including all medical judgments and for any resulting diagnosis and treatments.

Given continuous, rapid advances in medical science and health information, independent professional verification of medical diagnoses, indications, appropriate pharmaceutical selections and dosages, and treatment options should be made and healthcare professionals should consult a variety of sources. When prescribing medication, healthcare professionals are advised to consult the product information sheet (the manufacturer’s package insert) accompanying each drug to verify, among other things, conditions of use, warnings and side effects and identify any changes in dosage schedule or contraindications, particularly if the medication to be administered is new, infrequently used or has a narrow therapeutic range. To the maximum extent permitted under applicable law, no responsibility is assumed by the publisher for any injury and/or damage to persons or property, as a matter of products liability, negligence law or otherwise, or from any reference to or use by any person of this work.

LWW.com

For my parents, Howard and Theresa Lovejoy, who taught me the importance of ?faithfulness, perseverance, and lifelong learning. For my husband, Ed, who has shown me there are infinite possibilities and that the journey is a thousand times better together. For those gifts, I am forever grateful.

—Laurie McNichol

To my husband, Mac, who is the “wind beneath my wings”!

—Dorothy Doughty

And special thanks and tremendous gratitude to Tom Conville, who went above and beyond to “make this happen”!

TRIBUTE

Dr. JoAnn Maklebust, the lead author of [Chapter 19](#), passed away on November 16, 2014, shortly after completing this impressive chapter. We are deeply indebted to her for this chapter and for the many other important contributions she has made to nursing, especially to the field of pressure ulcer prevention and treatment. For those of you who did not have the pleasure of knowing Dr. Maklebust, we would like to share some words as a tribute to her memory.

Dr. Maklebust's professional nursing career spanned more than 58 years. She graduated from the University of Michigan School of Nursing in 1956 and earned the Masters of Science in Nursing at Wayne State University in Detroit, Michigan. JoAnn was an expert on pressure ulcers and was a founding member of the National Pressure Ulcer Advisory Panel (NPUAP). She and her colleague and friend, Mary Sieggreen, coauthored books on pressure ulcer prevention and treatment. JoAnn also published more than 100 articles. Over the course of her career, Dr. Maklebust received 26 professional nursing awards. At the age of 78, despite failing health, she pursued doctoral study at Maryville University, and at the age of 80, graduated with her Doctor of Nursing Practice (DNP) degree. Upon completing the DNP degree, she immediately set her mind to the task of writing the chapter presented in this book.

JoAnn was a consummate clinician, mentor, and leader. She was generous with her time and her knowledge. When it came to pressure ulcers, she favored the protective and healing balm of good nursing care over the trumped-up claims of wound care products. She believed so much in the power and influence of the bedside nurse that she would give of herself without hesitation. If a nurse needed something from her she was right there to offer it. She derived a great sense of personal satisfaction in seeing the success of others and had an uncanny ability to inspire others to better themselves as professionals, to go to school, to help others, to think critically, and to do more to improve the care of patients, especially those at risk for pressure ulcers.

The problem of pressure ulcers was most abhorrent to Dr. Maklebust. We can sense this from the title of one article she authored: "Pressure Ulcers: The Great Insult." Personal conversations with Dr. Maklebust revealed the depth of compassion she felt for patients with pressure ulcers. This compassion was grounded in a deep understanding and appreciation of the inherent dignity of all human beings. From her point of view, pressure ulcers wounded not only the bodily tissues but also wounded deeply the dignity of the person.

Most remarkable about Dr. Maklebust was her courage and perseverance. She was always willing to speak the truth about pressure ulcer prevention and to take on every challenge and stick to it until she saw a positive result. For example, when she was a member of the NPUAP, she embraced the challenge of getting CMS to change their ruling in favor of reimbursing for pressure ulcer dressings in the home care setting.

If Dr. Maklebust were here to offer you some advice about pressure ulcer prevention and treatment, we believe she would encourage you to use wound care products judiciously, use compassion generously, and use critical thinking continuously.

Morris A. Magnan and Mary Sieggreen

CONTRIBUTORS

Ashwin Agarwal, BS
Medical Student
Duke University School of Medicine
Durham, North Carolina

Lizabeth E. Andrew, MS
Retired
Newnan, Georgia

Elizabeth A. Ayello, PhD, RN, ACNS-BC, CWON, ETNN, MAPWCA, FAAN
Faculty
Excelsior College School of Nursing
Albany, New York
Clinical Editor
Advances in Skin and Wound Care
New York, New York

Sharon Baranoski, MSN, RN, CWCN, APN-CCNS, FAAN
President
Wound Care Dynamics, Inc.
Shorewood, Illinois

Barbara M. Bates-Jensen, PhD, RN, FAAN
Professor of Nursing and Medicine
University of California, Los Angeles
Los Angeles, California

Carole Bauer, MSN, RN, ANP-BC, OCN, CWOCN
Wound, Ostomy and Continence Nurse Practitioner
Karmanos Cancer Center
Detroit, Michigan

Janice M. Beitz, PhD, RN, CS, CNOR, CWOCN, CRNP, MAPWCA, FAAN
Director
WOC Nursing Education Program
Professor
Rutgers University School of Nursing–Camden

Camden, New Jersey

Phyllis A. Bonham, PhD, MSN, RN, CWOCN, DPNAP, FAAN

WOC Nurse Consultant

Professor Emerita

College of Nursing

Medical University of South Carolina

Charleston, South Carolina

David M. Brienza, PhD

Professor

University of Pittsburgh

School of Health and Rehabilitation Sciences

Pittsburgh, Pennsylvania

C. Tod Brindle, MSN, RN, CWOCN, Clin IV

Nurse Clinician

Wound Care Team

VCU Medical Center

Richmond, Virginia

Ruth A. Bryant, RN, MS, CWOCN

Scholar in Residence

Washington State University

Providence Health Care

Spokane, Washington

Michele (Shelly) Burdette-Taylor, PhD, RN-BC, MSN, CWCN, CFCN

CEO of TayLORD Health, LLC

Advanced Wound Care

Sharp Memorial Hospital

San Diego, California

Faculty

School of Nursing, Community Health

University of Alaska

Anchorage, Alaska

Joanna J. Burgess, BSN, RN, CWOCN

Nursing Specialty Services, CWOCN

Department of Wound, Ostomy, Continence Nursing

WakeMed Health and Hospitals

Cary, North Carolina

Adela Rambi G. Cardones, MD

Assistant Professor

Department of Dermatology

Duke University

Staff Physician

Durham VA Medical Center

Durham, North Carolina

Linda J. Cowan, PhD, ARNP, FNP-BC, CWS

Research Health Scientist

Center of Innovation for Disability and Rehabilitation Research

North Florida/South Georgia Veterans Health System

Clinical Associate Professor

Adult and Elderly Department

College of Nursing

University of Florida

Gainesville, Florida

Suzanne Creehan, MSN, RN, CWON

Program Manager

Wound Care Team

VCU Medical Center

Richmond, Virginia

David R. Crumbley, MSN, RN, CWCN

Assistant Clinical Professor

Auburn University School of Nursing

Auburn, Alabama

Barbara A. Dale, BSN, RN, CHHN, CWOCN

Director of Wound Care

Quality Home Health

Livingston, Tennessee

Becky Dorner, RD, LD, FAND

President

Becky Dorner amp; Associates, Inc.

Nutrition Consulting Services, Inc.

Naples, Florida

Dorothy B. Doughty, MN, RN, CWOCN, FAAN

WOC Nurse Clinician

Emory University Hospital

Atlanta, Georgia

Kevin R. Emmons, DrNP, RN, AGPCNP-BC, CWCN
Clinical Assistant Professor
Wound Faculty
Rutgers University School of Nursing–Camden
Camden, New Jersey

JoAnn Ermer-Seltun, MS, RN, ARNP, FNP-BC, CWOCN
Co-Director and Faculty
webWOC Nursing Education Program
Minneapolis, Minnesota
Mercy Medical Center Advanced Wound Center and Continence Clinic
Bladder Control Solutions, LLC
Mason City, Iowa

Jane Fellows, MSN, RN, CWOCN
Ostomy/Wound Clinical Nurse Specialist
Duke University Medical Center
Durham, North Carolina

Bonny Flemister, MSN, RN, CWOCN, ANP, GNP-BC
Independent Consultant
Kilgore, Texas

Lynn Fong, BSN, RN, CWOCN
WOC Nurse Clinician
Sharp Memorial Hospital, Wound Care
San Diego, California

Elizabeth Friedrich, MPH, RD, CSG, LDN, FAND
President
Friedrich Nutrition Consulting
Salisbury, North Carolina

Kelly A. Jaszarowski, MSN, RN, CNS, ANP, CWOCN
Clinical Instructor
R. B. Turnbull, Jr., MD WOC Nursing Education Program
Cleveland Clinic
Cleveland, Ohio
WOC/ET Consultant
Washington, Illinois

Jan Johnson, MSN, ANP-BC, CWOCN
Nurse Practitioner
Wound Management Clinic
Department of Dermatology
Duke University Medical Center
Durham, North Carolina

Lee Ann Krapfl, BSN, RN, CWOCN
Wound, Ostomy, and Continence Nurse Specialist
Mercy Medical Center
Dubuque, Iowa

Carolyn Lund, RN, MS, FAAN
Neonatal Clinical Nurse Specialist
UCSF Benioff Children's Hospital Oakland
Oakland, California

Dianne Mackey, MSN, RN, CWOCN
Staff Educator
Home Health, Hospice, and Palliative Care
San Diego, California

Morris A. Magnan, PhD, RN
Clinical Nurse Specialist
Karmanos Cancer Center
Detroit, Michigan

JoAnn Maklebust, MSN, RN, APRN, AOCN, FAAN
Nurse Practitioner, Surgical Oncology
Karmanos Cancer Institute, Patient Services
Detroit, Michigan

Laurie L. McNichol, MSN, RN, GNP, CWOCN, CWON-AP
Clinical Nurse Specialist and WOC Nurse
Cone Health
Greensboro, North Carolina

Yvette Mier, BSN, RN, CWOCN
Certified Wound, Ostomy and Continence Nurse
Outpatient Wound Treatment Center
WellStar Kennestone Regional Medical Center
Marietta, Georgia

Susan S. Morello, BSN, RN, CWOCN, CBN
Clinical Consultant
Omaha, Nebraska

Asfandyar Mufti, BMSc
Medical Student
Faculty of Medicine
University of Ottawa
Ottawa, Ontario, Canada

Rose W. Murphree, DNP, RN, CWOCN, CFCN
Director
Wound, Ostomy and Continence Nursing Education Center
Nell Hodgson Woodruff School of Nursing
Emory University
Atlanta, Georgia

Debra S. Netsch, DNP, APRN-CNP, FNP-BC, CWOCN
Nurse Practitioner and WOC Nurse
Mankato Clinic, Ltd.
Mankato, Minnesota
Co-Director and Faculty
webWOC Nurse Education Program
Minneapolis, Minnesota

Denise Nix, MS, RN, CWOCN
Consultant
Minnesota Hospital Association
Minneapolis, Minnesota

C. W. J. Oomens, PhD, Ir
Associate Professor
Biomedical Engineering Department
Eindhoven University of Technology
Eindhoven, The Netherlands

Benjamin F. Peirce, RN, CWOCN
Wound Technology Network, Inc.
Hollywood, Florida

Barbara Pieper, PhD, RN, CWOCN, ACNS-BC, FAAN
Professor
Nurse Practitioner

College of Nursing
Wayne State University
Detroit, Michigan

Mary Ellen Posthauer, RD, CD, LD, FAND
President
MEP Healthcare Dietary Services, Inc.
Evansville, Indiana

Janet M. Ramundo, MSN, RN, CWOCN
Instructor
Wound, Ostomy, and Continence Nursing Education Center
Emory University
Atlanta, Georgia

Laurie M. Rappl, PT, DPT, CWS
Clinical Manager
Aurix Systems by Nuo Therapeutics
Gaithersburg, Maryland

Michelle C. Rice, MSN, RN, CWOCN
Ostomy/Wound Clinical Nurse Specialist
Department of Advanced Clinical Practice
Duke University Hospital
Durham, North Carolina

Bonnie Sue Rolstad, MS, RN, CWOCN
President and Faculty
webWOC Nursing Education Program
Minneapolis, Minnesota

Barbara Rozenboom, BSN, RN, CWON
Wound Ostomy Nurse
Unity Point at Home
Urbandale, Iowa

Gregory Schultz, PhD
Professor
Department of Obstetrics and Gynecology
Institute for Wound Research
University of Florida
Gainesville, Florida

R. Gary Sibbald, BSc, MD, Med, FRCPC(Med), FRCPC(Derm), MACP, FAAD,
MAPWCA

Professor
Public Health and Medicine
University of Toronto
Toronto, Canada

Charleen Singh, MSN/Ed, RN, FNP-BC, CWOCN
WOCN Coordinator
Stanford Children's Health
Palo Alto, California

Joyce K. Stechmiller, PhD, ACNP-BC, FAAN
Department Chair and Associate Professor
Adult and Elderly Department
University of Florida College of Nursing
Gainesville, Florida

Debra M. Thayer, MS, RN, CWOCN
Senior Technical Service Specialist
3M Critical and Chronic Care Solutions Division
3M Health Care
St. Paul, Minnesota

Freya van Driessche, BS, MS
Wound Research Fellow
Department of Dermatology and Cutaneous Surgery
Miller School of Medicine
University of Miami
Miami, Florida

Lia van Rijswijk, MSN, RN, CWCN
Clinical Editor
Ostomy Wound Management
Newtown, Pennsylvania

Myra Varnado, BS, RN, CWOCN, CFCN
Chief Nursing Officer
Wound Care Specialists
Metairie, Louisiana

Carolyn Watts, MSN, RN, CWON

Senior Associate in Surgery
Clinical Nurse Specialist
Section of Surgical Sciences
School of Medicine
Vanderbilt University Medical Center
Nashville, Tennessee

Dot Weir, RN, CWON, CWS
Wound Clinician
Osceola Regional Medical Center
Orlando, Florida

Stephanie S. Yates, MSN, RN, ANP-BC, CWOCN
Wound, Ostomy and Continence Nurse Practitioner
Clinical Nurse Specialist
Duke University
Durham, North Carolina

FOREWORD

It is an honor to be invited to write the foreword to the *Wound, Ostomy and Continence Nurses Society™ Core Curricula*. Having served 22 years as a Wound, Ostomy and Continence (WOC) Nursing Program Director, I can attest as to how valuable a resource these books will be to students, faculty, preceptors, and all clinicians caring for people with wounds, ostomies, and incontinence.

Terms currently popular in health care refer to patient-centered and patient-focused care. For those of you entering the wonderful WOC nursing specialty, know this: the patient has always been the focus of WOC nursing! In fact, our specialty grew from a need identified by patients themselves. As colorectal and urologic surgeries advanced, so did the number of people living with ostomies. In 1958, Akron, Ohio native Norma N. Gill joined her surgeon, Rupert B. Turnbull, Jr., MD, in founding what was then coined by Dr. Turnbull as enterostomal therapy (ET).

Beginning in 1948, when she was a 28-year-old mother of two young children, Norma began a long odyssey battling mucosal ulcerative colitis. She manifested all the gastrointestinal symptoms, including massive bouts of bloody diarrhea associated with this disease, along with many of the extraintestinal manifestations, such as uveitis, iritis, and extensive pyoderma gangrenosum on her face, chest, abdomen, and legs. During a brief remission in 1951, much to the amazement of Norma and her husband Ted, she became pregnant. The pregnancy was fraught with complications, the need for numerous blood transfusions, and fear for the lives of both mother and child throughout. Despite all of these life-threatening occurrences, in June 1952, Norma gave birth to a healthy baby girl. The complications continued after her baby's birth, and Norma's response to treatment was spotty at best. In October 1954, she was admitted to the Cleveland Clinic, and there her life was saved and history forever changed. Dr. Turnbull operated to remove Norma's colon and create an ileostomy. Her postoperative course after ileostomy was rocky, and she had to undergo some additional operations to remove her rectum and have plastic surgery performed on her face.

Despite all of this, Norma began to feel better—incredibly better. As she was resuming her role as a wife and mother, she felt the need, as we now say, to “pay it forward.” Norma wanted to help others who were facing the same challenges she had endured and emerged stronger than she had been before her illness. Her journey began with the Akron physicians and hospital she had come to know well during her illness. Norma started from scratch and cobbled together an inventory of the limited equipment available at the time. Soon she had many referrals from the surgeons and knew she had found her calling. In 1958, during an appointment with Dr. Turnbull, she told him what she was doing in Akron to help people with new ostomies and fistulae. He was impressed and called her a couple of months later to offer her a job at the Cleveland Clinic.

August 1958 is when the seeds for the modern specialty of WOC nursing were planted. It was not long before the word was out, and surgeons began requesting that their staff come to

train with Norma and Dr. Turnbull. The R.B. Turnbull, Jr. School of Enterostomal Therapy (now WOC Nursing) was established. After her long work day in Cleveland, Norma would return to Akron and see patients in hospitals there before heading home to her family and doing it all again the next day.

There was a child in an Akron hospital who always remembered her first encounter with Norma. Here was a woman who commanded respect. The surgeon, head nurse, and staff nurses, as well as the girl's mom, crowded around the bed as Norma taught the proper way to care for a new ileal conduit. That child grew up well adjusted to her new stoma, and thanks to a great family and the one and only Norma Gill, that child grew up to be me! The baby who was predicted never to be born to Norma and Ted is Sally Gill-Thompson—one of my best friends and a famous ET practitioner in her own right.

After establishment of the formal program in Cleveland, other ET schools soon opened, and graduates from the United States and abroad spread the word across the globe. Professional organizations were established, and admission criteria became more stringent as health care became more complex. ET nurses became well respected for their skills and experience caring for people with complex ostomies and fistulae. It was a natural extension of our practice to embrace wound and continence care, and with a painful good-bye to our ET designation in the 1990s, we became known as WOC nurses to better reflect our practice. As you embark on your studies of WOC nursing, take time to reflect and appreciate the wonderful legacy you are continuing with your specialty practice.

Norma will be watching.

Paula Erwin-Toth, MSN, RN, CWOCN, CNS, FAAN

P R E F A C E

The WOCN Society has funded development and publication of the WOC Nursing Core Curriculum to support both WOC nursing education and WOC nursing practice. The content is based on the curriculum blueprint developed by the WOC Nursing Education Program Directors and approved by the WOCN Society's Accreditation Committee and Board of Directors, and the content is organized in a manner to support learning by the novice practitioner or student in an accredited wound care program. Specifically, the wound section begins with the characteristics of normal skin, the physiology of wound healing, and principles of wound assessment and wound management, and then moves to skin and wound care for specific patient populations and for specific types of wounds. However, the text is also designed to support the knowledgeable wound care practitioner; there are chapters on thermal wounds, surgical wound management, oncologic lesions, palliative care, and fistula management, in addition to in-depth content related to pressure ulcer prevention and management and the pathology and management of venous, arterial, and neuropathic wounds.

The chapters in the wound text are written by clinicians, most of whom are wound care nurses; this section of the core curriculum is written "by wound care clinicians, for wound care clinicians." As editors, we are very grateful to our extremely knowledgeable and committed contributors, and we thank each of them for saying "yes" to the opportunity to elevate practice through their writing. Each chapter begins with curriculum objectives addressed in the specific chapter, and a topical outline to give the reader a quick overview of the content covered in that chapter. Throughout the chapter, clinical pearls are embedded to highlight key "take home" messages. Each chapter also includes multiple illustrations, tables, and boxes to facilitate understanding. Finally, there are questions and answers at the end of each chapter to support the individual's self-assessment of knowledge.

ACKNOWLEDGMENTS

The Wound, Ostomy and Continence Nurses Society™ (WOCN®) wishes to thank all of the clinical experts who munificently shared their time and expertise to create this textbook. The Society would like to especially acknowledge the consulting editors, Dorothy Doughty and Laurie McNichol, for their inspiration, knowledge, and unwavering commitment to the development of this resource and to the field of wound, ostomy and continence nursing.

The WOCN Society would like to acknowledge Hollister Incorporated for providing a commercially supported educational grant for the development of this textbook.



C O N T E N T S

Tribute

Contributors

Foreword

Preface

Acknowledgments

PART 1 General Concepts

1 Anatomy and Physiology of the Skin

Asfandyar Mufti, Elizabeth A. Ayello, and R. Gary Sibbald

2 Wound Healing

Janice M. Beitz

3 Assessment of the Patient with a Wound

Barbara M. Bates-Jensen

4 General Principles of Wound Management: Goal Setting and Systemic Support

Lee Ann Krapfl and Benjamin F. Peirce

5 Patient and Caregiver Education: Significance and Guidelines

Lia van Rijswijk

6 Nutritional Assessment and Support in Relation to Wound Healing

Becky Dorner, Mary Ellen Posthauer, and Elizabeth Friedrich

7 General Principles of Topical Therapy

JoAnn Ermer-Seltun and Bonnie Sue Rolstad

8 Wound Cleansing and Dressing Selection

Kelly A. Jaszarowski and Rose W. Murphree

9 Principles and Guidelines for Wound Debridement

Janet M. Ramundo

10 Assessment and Management of Wound-Related Infections

Dot Weir and Gregory Schultz

11 Refractory Wounds: Assessment and Management

Debra S. Netsch

12 Skin and Wound Care for Neonatal and Pediatric Populations

Carolyn Lund and Charleen Singh

13 Skin and Wound Care for the Geriatric Population

Bonny Flemister

14 Skin and Wound Care for the Bariatric Population

Susan S. Morello

15 Skin and Wound Care for the Spinal Cord–Injured Patient

Laurie M. Rappl and David M. Brienza

PART 2 Specific Wounds

16 General Concepts Related to Skin and Soft Tissue Injury Caused by Mechanical Factors

Dorothy B. Doughty and Laurie L. McNichol

17 “Top-Down” Injuries: Prevention and Management of Moisture-Associated Skin Damage (MASD), Medical Adhesive–Related Skin Injury (MARSI), and Skin Tears

Debra M. Thayer, Barbara Rozenboom, and Sharon Baranoski

18 Bottom-Up (Pressure Shear) Injuries

Joyce K. Stechmiller, Linda J. Cowan, and C. W. J. Oomens

19 Pressure Ulcer Prevention: Specific Measures and Agency-Wide Strategies

JoAnn Maklebust and Morris A. Magnan

20 Therapeutic Surfaces for Bed and Chair

Dianne Mackey and Carolyn Watts

21 Venous Insufficiency, Venous Ulcers, and Lymphedema

Jan Johnson, Stephanie S. Yates, and Joanna J. Burgess

22 Assessment and Management of Patients with Wounds due to Lower-

Extremity Arterial Disease (LEAD)

Phyllis A. Bonham

23 Lower Extremity Neuropathic Disease

Myra Varnado

24 Differential Assessment of Lower Extremity Wounds

Dorothy Doughty and Laurie L. McNichol

25 Atypical Lower Extremity Wounds

Barbara Pieper

26 Foot and Nail Care

Michele (Shelly) Burdette-Taylor and Lynn Fong

27 Wounds Caused by Infectious Processes

Freya van Driessche

28 Wounds Caused by Dermatologic Conditions

Ashwin Agarwal and Adela Rambli G. Cardones

29 Oncology-Related Skin and Wound Care

Carole Bauer

30 Thermal Wounds: Burn and Frostbite Injuries

Yvette Mier

31 Traumatic Wounds: Assessment and Management

David R. Crumbley and Lizabeth E. Andrew

32 Management of Surgical Wounds

C. Tod Brindle and Suzanne Creehan

33 Palliative Wound Care

Kevin R. Emmons and Barbara A. Dale

34 Fistula Management

Denise Nix and Ruth A. Bryant

35 Nursing Management of the Patient with Percutaneous Tubes

Jane Fellows and Michelle C. Rice

Glossary
Index