

Contents

Guest Editor: *Marilyn Sawyer Sommers, RN, PhD, CCRN*
Guest Co-Editors: *Carole Hetteberg, RN, MSN,*
Carole Kenner, RNC, DNS, FAAN,
Cynthia A. Prows, RN, MSN

Preface 465

Genetics: Foundations for Practice



**Foundations of Genetics: Genetic Structure, Function,
and Therapeutics** 467
Marilyn Sawyer Sommers, RN, PhD, CCRN,
and Theresa Beery, RN, PhD



Genetic Family History Assessment 483
Patricia L. Bender, RN, MSN

Molecular Genetics: From Bench to Bedside 491
Susan M. Foley, RN, MSN,
and Marilyn Sawyer Sommers, RN, PhD, CCRN



**Optimizing Drug Therapy Based on Genetic Differences:
Implications for the Clinical Setting** 499
Daniel R. Prows, PhD, RPh, and Cynthia A. Prows, RN, MSN

Application to Assessment and Management in Health and Illness

**The Impact of Alzheimer Disease Genetics on Expert
and Advanced Gerontological Nursing Practice** 513
Debra L. Schutte, RN, MSN

**Genetics and the Central Nervous System:
Apolipoprotein E and Brain Injury** 524
Mary E. Kerr, RN, PhD, and Marilyn Kraus, MD

**Genetic Risk Factors in the Development of Heart Disease:
Familial Hypercholesterolemia and Hyperhomocysteinemia** 531
Linda A. LaCharity, RN, PhD

The Genetic Basis of Diabetes Mellitus 539
Nancy J. Morwessel, RN, MSN, CNP

Genetic Predisposition to Breast and Ovarian Cancer: A Case Study 555
*Stephanie Amlung, RN, PhD, Karen Huelsman, MS, CGC,
and Barbara Skinn, RN, MSN, OCN*

**Marfan's Syndrome in Pregnancy: Implications
for Advanced Practice Nurses** 563
Dianne M. Felblinger, RN, EdD, and Mary C. Akers, RN, DNSC, CNM

Issues in Research, Education, and Ethics

**Linking Critical Care Nursing and Genetics with Research
Funding Opportunities** 569
Hilary D. Sigmon, RN, PhD

Genetics on the World Wide Web 574
Patricia A. Trangenstein, RN, PhD, and Carol Hetteberg, RN, MSN

National Coalition for Health Professional Education in Genetics 582
Carole Kenner, RNC, DNS, FAAN

**The Application of Genetic Knowledge: Ethical
and Policy Implications** 588
Kathleen M. Driscoll, RN, JD

**Genetic Research and Ethical Challenges: Implications
for Nursing Practice** 600
Maureen L. Dwyer, RN, DNSC, CS

Glossary of Genetic Terms 606

Index 609



CE Tests 612