

英文影印版

TAEUSCH
BALLARD



艾弗里

新生儿病学

(第7版)

Avery's Diseases
of the Newborn

SEVENTH EDITION

科学出版社
Harcourt Asia
W.B.Saunders

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第7版 • Seventh Edition

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2001

H. William Taeusch and Roberta A. Ballard: Avery's Diseases of the Newborn, 7th Edition
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Reprint ISBN 0-8089-2220-3

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北京市版权局版权登记号：01-2001-0597

图书在版编目 (CIP) 数据

艾弗里新生儿病学：第7版：英文影印版 / (美) 托伊希 (Taeusch, H.)
主编. -北京：科学出版社，2001.3

书名原文：Avery's Diseases of the Newborn

ISBN 7-03-009136-1

I. 艾… II. 托… III. 新生儿疾病-诊疗-英文 IV. R722

中国版本图书馆 CIP 数据核字 (2001) 第 02097 号

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科学出版社 出版

北京东黄城根北街16号
邮政编码：100717

新蕾印刷厂 印刷

科学出版社发行 各地新华书店经销

*

2001年3月第 一 版 开本：889×1194 1/16

2001年3月第一次印刷 印张：91

印数：1—3 000 字数：3 201 000

定价：269.00 元

(如有印装质量问题，我社负责调换〈杨中〉)

SCIENCE PRESS

A division of China Science Publishing Group
16 Donghuangchenggen North Street,
Beijing 100717
China

HARCOURT ASIA PTE. LTD

A Harcourt Publishers International
Company
583 Orchard Road # 09-01 Forum
Singapore 238884

Distribute in the Mainland China by Science Press,
16 Donghuangchenggen North Street, Beijing 100717, China.

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This Edition First Printed in China in 2001.

ISBN 7-03-009136-1/R·666

Reprint ISBN 0-8089-2220-3

Printed in China

*To the newborns,
infants, and parents
who challenge us
to get it right.*

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Pharmacologic Principles and Practicalities

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*Developmental Abnormalities of the Genitourinary
System; Infection of the Urinary Tract and Vesicoureteral
Reflux*

PREFACE

While mainstream pediatrics focused on diseases of infants and young children, specific interest in the diagnosis and treatment of the few recognized problems of the newborn and the premature infant (feeding, temperature regulation, inanition, icterus, hemorrhagic diseases, and "diatheses") was a smaller parallel rivulet until the 1960s, when the ability to quantify respiratory insufficiency with micro samples of blood from arterial catheters for gas tensions and the ability to treat the condition with ventilators led to the change from obstetrics-based nurseries to neonatal intensive care units. Thereafter, a small number of remarkably cooperative and creative clinical investigators and medical scientists from Europe, Asia, and North America, aided by continual contributions from basic science and technology, have helped develop the field to its present level of sophistication. The degree of medical progress in the diagnosis and care of newborn infants in just a few decades is unprecedented in nearly all other medical fields of endeavor.

This seventh edition of *Diseases of the Newborn* continues a legacy started by Alexander Schaffer in Baltimore nearly 40 years ago. These editions have tracked the exponential success of neonatology in the care of newborns. At the time, Schaffer, a former chief resident of Dr. Edwards Park, was a leading practitioner at the Hospital for Women of Maryland and Johns Hopkins Hospital. For years he accumulated case histories of newborns, the compilation of which led to the first edition of this text. Dr. Mary Ellen Avery joined Dr. Schaffer for the third edition. She emphasized the scientific contributions to the field particularly in the areas of fetal and neonatal physiology.

The sixth edition appeared in 1991 and summarized the standard of care in what now is known as the "presurfactant era" of neonatology. Since that time the infant mortality rate has dropped from about 10 to 7 deaths per 100 livebirths in the United States, a result largely due to the use of antenatal glucocorticoids to mature the fetus as well as the widespread advent of surfactant treatment for respiratory distress syndrome (hyaline membrane disease) over this period.

Many diagnostic and therapeutic problems are receding in the face of current investigations and changes in the state of the art since the last edition: to name a few advances—improved molecular biologic techniques for diagnosis, better imaging techniques, rapid solid-state microchemistries, inhaled nitric oxide, improved formulations and new uses for surfactant, new approaches to ventilation, clearer definition of the limits of viability, improved extracorporeal membrane gas exchange (ECMO), antivirals and anti-infection strategies, improved nutrition, ability to ar-

rest the progression of retinopathy, indomethacin for closure of the ductus, improved pain control, better surgical and nonsurgical approaches to fetal and neonatal anomalies, and information access on the Internet.

Some problems remain intractable, such as the exposure of the fetus to tobacco, alcohol, and illicit drugs. The major problem in perinatology, that of premature birth, has not changed, nor at the time of this writing is any major new understanding of its cause or prevention foreseen.

Therefore, major long-term problems that are simply defined remain unsolved, while extraordinary discoveries both solve and create new problems. Lambs have been cloned in 1997, raising the specter of cloning of humans. Human genes have been inserted into fetal fibroblast donor nuclei to produce lambs that contain the gene for human clotting factor IX in the germline, allowing for easy animal production of human proteins for treatment of human diseases. In 1998, normal human somatic cells have been immortalized. The spectacular successes of science relevant to reproduction can be contrasted with the sluggish progress in ethical application of these discoveries and application of known solutions to the societal ills that ultimately produce many of our major medical problems in neonatology.

In this seventh edition, much of the book has been rewritten with many new section editors and a 30% increase in contributors. The art of writing a textbook lies in the choice of what is important and in choosing the right line of specificity versus generality. As in past editions, we have attempted to create a book that is primarily for those caring for newborns who may want to review areas unfamiliar to them or to screen for diagnostic or therapeutic approaches for an unusual condition, or refresh themselves on how our contributors have defined the state of the art for common problems. We have tried to present diagnosis and treatment options for the most important and/or the most frequent conditions, and we have emphasized areas that are currently advancing rapidly or that remain problematic. We have not included sections on aftercare of the infant who has required intensive care or who may leave the nursery with a chronic condition.

In this age of the Internet and rapid access to current medical information, the question may arise as to why create yet another textbook. Are current journal articles and reviews not sufficient? At least for the time being, we submit that a text can allow a second order of expertise to put medical information into context, and we thank our many contributors for their wisdom and success in carrying out this aim. In part this edition is the product of feedback that you readers have given us about prior editions. We

look forward to knowing whether you find this edition useful, whether you like the format, what omissions you find, and God forbid, what errors of commission you may perceive. We would like to hear from you.

We are also grateful to our patient, wise, and persistent

publishers (Janice Gaillard and Judy Fletcher of W.B. Saunders Company), our copy editor (Sue Reilly), our colleagues who have educated us, our academic institutions, and our families for their support of this effort.

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THE PUBLISHER

AVERY'S DISEASES OF THE NEWBORN

Seventh Edition

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SCIENCE PRESS

Harcourt Asia

W. B. Saunders

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