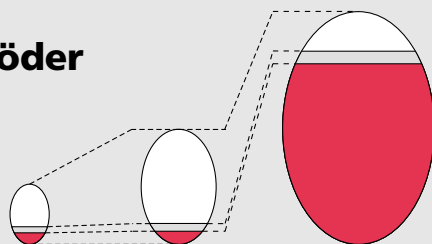


**Current knowledge on  
human testicular development**

# The Developing Testis

## Physiology and Pathophysiology

Editor: **Olle Söder**



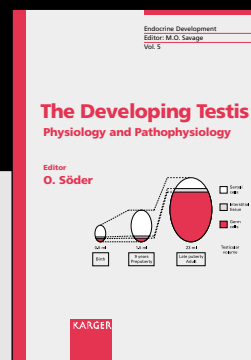
The developing testis is a complex site of various differentiation events resulting in two main functions in adult life – gametogenesis and androgen biosynthesis. Testis research is multidisciplinary in its nature and attracts both basic and clinical scientists.

The purpose of this volume has therefore been to bring together a group of expert scientists in the fields of physiology, endocrinology, pediatrics and andrology to sum up our current knowledge on human testicular development, from the state of male sex determination to the end of puberty. The contents span from molecular events in male sex determination and testis differentiation to clinical entities such as the testis in childhood cancer, cancer in the testis and gonadotropin receptor mutations. Testicular descent and cryptorchidism are reviewed from the eyes of a pediatrician rather than from the traditional surgical view. Exciting recent developments in approaches to prevent male infertility after gonadotoxic cancer treatment in prepubertal boys are reviewed.

The book addresses a wide readership among basic scientists, general pediatricians, endocrinologists, urologists, andrologists and others interested in the function of the developing male gonad.

**KARGER**

*Fields of Interest:  
Endocrinology; Pediatrics; Andrology,  
Oncology, Urology*



### Contents

Foreword: *Savage, M.O.*

Preface: *Söder, O.*

Male Sex Determination and Prenatal Differentiation of the Testis: *Töhhönen, V.; Ritzén, E.M.; Nordqvist, K.; Wedell, A.*

Postnatal Testicular Development, Cellular Organization and Paracrine Regulation: *Setchell, B.P.; Hertel, T.; Söder, O.*

Regulation of Spermatogenesis: *Rey, R.*

Male Germ Cell Apoptosis: *Pentikäinen, V.; Dunkel, L.; Erkkilä, K.*

Gonadotrophin Actions on the Testis – Genotypes and Phenotypes of Gonadotrophin and Gonadotrophin Receptor Mutations: *Huhtaniemi, I.*

Physiology and Disorders of Testicular Descent: *Toppari, J.*

Testicular Neoplasia in Childhood and Adolescence: *Rajpert-De Meyts, E.; Toppari, J.; Høi-Hansen, C.E.; Müller, J.; Skakkebaek, N.E.*

Testicular Function after Cancer Treatment in Childhood: *Jahnukainen, K.; Söder, O.*

Present and Future Options for the Preservation of Testis Tissue and Function: *Nordhoff, V.; Schlatt, S.*

Subject Index

**Endocrine Development, Vol. 5**  
Series Editor: Savage, M.O. (London)  
ISSN 1421-7082

**The Developing Testis**  
Physiology and Pathophysiology  
Editor: Söder, O. (Stockholm)  
X + 160 p., 24 fig., 1 in col., 2 tab.,  
hardcover, 2003  
CHF 148.– / EUR 105.50 / USD 128.75  
Prices subject to change  
EUR price for Germany, USD price for USA only  
ISBN 3-8055-7495-9

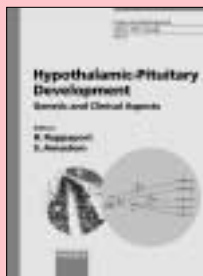
[www.karger.com/ende](http://www.karger.com/ende)

Communicating scientific  
advances in a clinical context

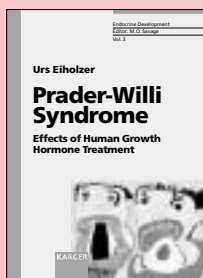
# Endocrine Development

Series Editor: **Savage, M.O.** (London)  
ISSN 1421-7082

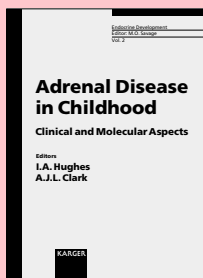
This series is devoted to specific areas of fetal, neonatal, pediatric and adolescent endocrinology. It addresses a wide range of relevant issues in the context of a well defined subject and covers new areas of clinical and basic research. Clear evidence-based guidelines on clinical management by highly qualified basic and clinical scientists who present their clinically relevant recent findings are also provided. Bringing together experts from related disciplines such as fetal and perinatal medicine, epidemiology, public health, molecular endocrinology, radiology and adult endocrinology, the volumes cover a broad spectrum in endocrine development.



**Vol. 4**  
**Hypothalamic-Pituitary Development**  
Genetic and Clinical Aspects  
Editors: Rappaport, R. (Paris); Amselem, S. (Créteil)  
X + 180 p., 34 fig., 2 in color, 22 tab., hard cover, 2001  
CHF 188.- / EUR 134.50 / USD 163.50  
ISBN 3-8055-7239-5



**Vol. 3**  
Urs Eiholzer (Zürich)  
**Prader-Willi Syndrome**  
Effects of Human Growth Hormone Treatment  
XII + 118 p., 84 fig., 60 in color, 11 tab., hard cover, 2001  
CHF 88.- / EUR 63.- / USD 76.50  
ISBN 3-8055-7256-5



**Vol. 2**  
**Adrenal Disease in Childhood**  
Clinical and Molecular Aspects  
Editors: Hughes, I.A. (Cambridge); Clark, A.J.L. (London)  
X + 178 p., 41 fig., 4 in color, 9 tab., hard cover, 2000  
CHF 188.- / EUR 134.50 / USD 163.50  
ISBN 3-8055-7015-5

**KARGER**

Prices subject to change  
EUR price for Germany, USD price for USA only

## Order Form

### Endocrine Development

Please send:

- copies: Vol. 5  
**The Developing Testis**  
CHF 148.- / EUR 105.50 / USD 128.75  
ISBN 3-8055-7495-6
- copies: Vol. 4  
**Hypothalamic-Pituitary Development**  
CHF 188.- / EUR 134.50 / USD 163.50  
ISBN 3-8055-7239-5
- copies: Vol. 3  
**Prader-Willi Syndrome**  
CHF 88.- / EUR 63.- / USD 76.50  
ISBN 3-8055-7256-5
- copies: Vol. 2  
**Adrenal Disease in Childhood**  
CHF 188.- / EUR 134.50 / USD 163.50  
ISBN 3-8055-7015-5

the book series **Endocrine Development**  
on continuation beginning with vol. \_\_\_\_\_

All Karger series are available on continuation.

For easy ordering or information about other  
Karger publications log on to: [www.karger.com](http://www.karger.com)

Postage and handling free with prepayment

Payment:

Check enclosed  Please bill me

Please charge this order to my credit card

American Express  Diners  Visa  
 MasterCard  Eurocard

Card No.:

Exp. date:

Name/Address (please print):

Date:

Signature:

Orders can be placed at agencies, bookstores, directly with  
the publisher, or with any Karger distributor.

**S. Karger AG, P.O. Box, CH-4009 Basel (Switzerland)**  
Fax +41 61 306 12 34, E-Mail [karger@karger.ch](mailto:karger@karger.ch)

**USA:** S. Karger Publishers, Inc., 26 West Avon Road,  
P.O. Box 529, Farmington, CT 06085  
Toll free: 1-800-828-5479

**Germany:** S. Karger GmbH, Lörracher Str. 16A, D-79115  
Freiburg

**France:** Librairie Lugubühl,  
36, bd de Latour-Maubourg, F-75007 Paris

**United Kingdom, Ireland:** S. Karger AG,  
4 Rickett Street, London SW6 1RU (UK)

**Baltic States:** Klanberg Ltd., Jääraku 67,  
EE-12015 Tallinn (Estonia)

**Gulf Council Countries, Iran, Middle East,  
North Africa, Turkey:**

Trans Middle East Internat. Distribution Co. Ltd., KaSha,  
P.O. Box 2376 Telaa' Al-Ali, Amman 11953 (Jordan)

**ASEAN countries, Hong Kong, Taiwan,**

**South Korea:** APAC Publishers Services Pte. Ltd.,  
31, Tannery Lane, #07-01 Dragon Land Building,  
Singapore 347788

**India, Bangladesh, Sri Lanka:**

Panther Publishers Private Ltd., 33, First Main,  
Koramangala First Block, Bangalore 560 034 (India)

**Japan:** Karger Japan, Inc., Yushima 5 Bldg. 3F,  
4-2-3 Yushima, Bunkyo-ku, Tokyo 113-0034

**Australia:** DA Information Services, 648 Whitehorse Road,  
P.O. Box 163, Mitcham, Vic. 3132

To be ordered through: