

Alan L. Rubin, MD Co-author of Diabetes For Dummies Dr Sarah Brewer

Co-author of Arthritis For Dummies

A Reference for the Rest of Us!" 🚬 🚝 UK Edition



## **Thyroid For Dummies**

## by Alan L. Rubin, MD and Dr Sarah Brewer



A John Wiley and Sons, Ltd, Publication

#### **Thyroid For Dummies**<sup>®</sup>

Published by John Wiley & Sons, Ltd The Atrium Southern Gate Chichester West Sussex PO19 8SQ England

E-mail (for orders and customer service enquires): csbooks@wiley.co.uk

Visit our Home Page on <u>www.wiley.com</u>

Copyright © 2007 John Wiley & Sons, Ltd, Chichester, West Sussex, England

Published by John Wiley & Sons, Ltd, Chichester, West Sussex

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except under the terms of the Copyright, Designs and Patents Act 1988 or under the terms of a licence issued by the Copyright Licensing Agency Ltd, 90 Tottenham Court Road, London, W1T 4LP, UK, without the permission in writing of the Publisher. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, England, or emailed to permreq@wiley.co.uk, or faxed to (44) 1243 770620.

**Trademarks:** Wiley, the Wiley Publishing logo, For Dummies, the Dummies Man logo, A Reference for the Rest of Us!, The Dummies Way, Dummies Daily, The Fun and Easy Way, Dummies.com and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and/or its affiliates in the United States and other countries, and may not be used without written permission. All other trademarks are the property of their respective owners. Wiley Publishing, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: The contents of this work are intended to further general scientific research, understanding, and discussion only and are not intended and should not be relied upon as recommending or promoting a specific method, diagnosis, or treatment by physicians for any particular patient. The publisheR, the author, AND ANYONE ELSE INVOLVED IN PREPARING THIS WORK make no representations or warranties with respect to the accuracy or completeness of the contents of this work and specifically disclaim all warranties, including without limitation any implied warranties of fitness for a particular purpose. In view of ongoing research, equipment modifications, changes in governmental regulations, and the constant flow of information relating to the use of medicines, equipment, and devices, the reader is urged to review and evaluate the information provided in the package insert or instructions for each medicine, equipment, or device for, among other things, any changes in the instructions or indication of usage and for added warnings and precautions. Readers should consult with a specialist where appropriate. The fact that an organization or Website is referred to in this work as a citation and/or a potential source of further information does not mean that the author or the publisher endorses the information the organization or Website may provide or recommendations it may make. Further, readers should be aware that Internet Websites listed in this work may have changed or disappeared between when this work was written and when it is read. No warranty may be created or extended by any promotional statements for this work. Neither the publisher nor the author shall be liable for any damages arising herefrom.

For general information on our other products and services, please contact our Customer Care Department within the U.S. at 800-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

For technical support, please visit <u>www.wiley.com/techsupport</u>.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

British Library Cataloguing in Publication Data: A catalogue record for this book is available from the British Library

ISBN-13: 978-0-470-03172-8

ISBN-10: 0-470-03172-7

Printed and bound in Great Britain by Bell & Bain Ltd, Glasgow

 $10 \ 9 \ 8 \ 7 \ 6 \ 5 \ 4 \ 3 \ 2 \ 1$ 



## **About the Authors**

**Dr Sarah Brewer** qualified as a doctor in 1983 from Cambridge University. She was a full-time GP for five years and now works in nutritional medicine and sexual health. Sarah is currently completing an MSc in Nutritional Medicine at the University of Surrey, Guildford.

Although her first love is medicine, her major passion is writing. Sarah writes widely on all aspects of health and has written over 40 popular self-help books. She is a regular contributor to a number of newspapers and women's magazines, and appears regularly on TV and radio. She was voted Health Journalist of the Year 2002.

Alan L. Rubin, MD, is one of the US's foremost experts on the thyroid gland in health and disease. He is a member of the Endocrine Society and has been in private practice specialising in thyroid disease and diabetes for over 30 years. Dr. Rubin was Assistant Clinical Professor of Medicine at UC Medical Center in San Francisco for 20 years. He has spoken about the thyroid to professional medical audiences and non-medical audiences around the world. He is a consultant to many pharmaceutical companies and companies that make thyroid products.

Dr. Rubin has written extensively on the thyroid gland as well as diabetes mellitus. As a result, he has been on numerous radio and television programs, talking about the cause, the prevention, and the treatment of conditions of the thyroid. He is also the best-selling author of *Diabetes For Dummies* and *Diabetes Cookbook For Dummies*.

## Dedication

**From Alan:** This book is dedicated to my wife, Enid, who was there for every page. She smilingly let me do my work, sometimes into the wee hours of the morning, and missed many an opportunity to go out to dinner or a movie so that I could produce this book for you. If you have a fraction of the support in your life that she has given me, you are a lucky person, indeed.

# Authors' Acknowledgements

**From Alan:** The great publisher and midwife, Kathy Nebenhaus, deserves enormous appreciation for helping me to deliver yet another bright-eyed baby. Her optimism and her enthusiasm actually made this book possible. Her assistant, Natasha Graf, played a huge role in ironing out the inevitable problems that arise when bookpublishing and medicine meet.

My editor, Joan Friedman, did a magnificent job turning my sometimes- incomprehensible prose into words that you can understand. She also conducted a whole orchestra of other editors who contributed to the book, including Robert Annis, Christy Beck, Mary Fales, Alison Jefferson, and Greg Pearson.

My thanks to Dr. Catherine Bain for the technical editing of the book.

Librarians Mary Ann Zaremska and Nancy Phelps at St. Francis Memorial Hospital were tremendously helpful in providing the articles and books upon which the information in this book is based.

My teachers are too numerous to mention, but one person deserves special attention. Dr. Francis Greenspan at the University of California Medical Center gave me the sound foundation in thyroid function and disease upon which this book is based. Finally, there are my patients over the last 28 years, the people whose trials and tribulations caused me to seek the knowledge that you will find in this book.

This book is written on the shoulders of thousands of men and women who made the discoveries, tried the medications, and held the committee meetings. Their accomplishments cannot possibly be given adequate acclaim. We owe them big time.

**From Sarah:** Thanks to Alan L. Rubin, MD, author of the original US version of *Thyroid For Dummies*. The quality of his original script made my job easy, as I had so very little to do when adapting his excellent book for the UK market.

### **Publisher's Acknowledgements**

We're proud of this book; please send us your comments through our Dummies online registration form located at <u>www.dummies.com/register/</u>.

Some of the people who helped bring this book to market include the following:

#### Acquisitions, Editorial, and Media Development

**Commissioning Editor:** Alison Yates

Project Editor: Simon Bell

Copy Editor: Juliet Booker

Technical Editor: Georges Mouton

Executive Editor: Jason Dunne

**Executive Project Editor:** Martin Tribe

Cover Photo: GettyImages/Marc Romanelli

Cartoons: Ed McLachlan

**Composition Services** 

Project Coordinator: Jennifer Theriot

**Layout and Graphics:** Claudia Bell, Carl Byers, Denny Hager, LeAndra Hosier, Lynsey Osborn

Proofreader: Susan Moritz

Indexer: Techbooks

Special Help

Brand Reviewer: Zoe Wykes

#### **Publishing and Editorial for Consumer Dummies**

**Diane Graves Steele,** Vice President and Publisher, Consumer Dummies

**Joyce Pepple,** Acquisitions Director, Consumer Dummies

**Kristin A. Cocks,** Product Development Director, Consumer Dummies

Michael Spring, Vice President and Publisher, Travel

Kelly Regan, Editorial Director, Travel

#### **Publishing for Technology Dummies**

**Andy Cummings,** Vice President and Publisher, Dummies Technology/General User

#### **Composition Services**

Gerry Fahey, Vice President of Production Services

**Debbie Stailey,** Director of Composition Services

### Contents

#### <u>Title</u>

IntroductionAbout This BookConventions Used in This BookWhat You Don't Have to ReadAssumptionsHow This Book Is OrganisedIcons Used in This BookWhere to Go from Here

#### Part I : Understanding the Thyroid

Chapter 1: Bigging It Up: The Huge Role of a Little Gland Discovering the Extent of the Problem Identifying an Unhappy Thyroid Recognising Who's at Risk Realising the Importance of a Healthy Thyroid Treating What Ails You Understanding the Consequences of Delaying Treatment Giving Your Thyroid a Hand: Healthy Lifestyle Choices Paying Special Attention: Pregnant Women, Children, and Older People Staying Informed Chapter 2: Feeling Fragile: The Emotional Effects of Thyroid Problems Exploring How an Underactive Thyroid Slows Your Thoughts Seeing How an Overactive Thyroid Can Trigger Anxiety

Fighting Depression

Chapter 3: Discovering How Your Thyroid Works

Locating the Thyroid

Producing Thyroid Hormones

**Understanding the Function of Thyroid Hormones** 

Chapter 4: Testing Your Thyroid

Checking Blood Levels of Thyroid Hormones

Taking Non-Hormonal Blood Tests

Determining the Size, Shape, and Content of Your Thyroid

#### Part II : Treating Thyroid Problems

Chapter 5: Dealing with an Underactive Thyroid

Living with Autoimmune Thyroiditis

Identifying Hypothyroidism

Diagnosing Severe Hypothyroidism

Treating Hypothyroidism

Chapter 6: Taming an Overactive Thyroid

Picturing Hyperthyroidism

Listing the Signs and Symptoms of Hyperthyroidism

<u>Confirming a Diagnosis of Hyperthyroidism</u>

Determining Whether Graves' Disease Is the Culprit

**Recognising Other Causes of Hyperthyroidism** 

<u>Choosing the Best Treatment for Graves' Disease</u>

Treating Other Causes of Hyperthyroidism

Surviving Thyroid Storm

Chapter 7: Getting the Low-Down on Thyroid Nodules

Discovering a Thyroid Nodule

**Evaluating Cancer Risks** 

Securing a Diagnosis

**Treating Cancerous Nodules** 

Dealing with Nodules That Are Non-Cancerous

Ignoring Small Nodules

Chapter 8: Coping with Thyroid Cancer

**Determining What Causes Thyroid Cancer** 

Identifying the Types of Thyroid Cancer

Staging Thyroid Cancer

**Treating Thyroid Cancer** 

Following Up Cancer Treatment

Chapter 9: Learning about Multinodular Goitres

Exploring How a Multinodular Goitre Grows Up

Choosing to Treat It or Ignore It

Making a Diagnosis

Treating a Multinodular Goitre

#### Part III : Managing Your Thyroid

Chapter 10: Taking Care with Drugs That Affect Your Thyroid Revealing the Drug-Food-Thyroid Connection Identifying the Effects of Specific Substances Preventing Harmful Drug Interactions Discovering Whether You're at Risk Chapter 11: Spotting Thyroid Infections and Inflammation Putting a Face on Subacute Thyroiditis

Coping with Postpartum and Silent Thyroiditis

**Identifying Acute Thyroiditis** 

**Diagnosing a Rare Form of Thyroiditis** 

Chapter 12: Overcoming Iodine Deficiency Disease

Realising the Vastness of the Problem

Facing the Consequences of Iodine Lack

Endemic Cretinism

Managing the Problem of Iodine Deficiency

Drawbacks of Iodisation

Chapter 13: Going In: Surgery on the Thyroid Gland

**Deciding When Surgery Is Necessary** 

Talking Things Over

Preparing for Surgery

What Happens During Surgery

Considering a New Approach

**Possible Complications** 

**Recuperating After the Operation** 

Chapter 14: Exciting New Approaches in Thyroid Treatment

Preventing Ill Effects of Large Doses of Iodine

Finding Out More about Hypothyroidism

Dealing with Hyperthyroidism

**Treating Goitres and Nodules** 

**Developing New Approaches in Thyroid Cancer** 

Tackling Iodine Deficiency Disease

<u>Chapter 15: Living with Thyroid Problems: Diet and Exercise</u>

**Guaranteeing Your Best Nutrition** 

Maintaining a Healthy Weight

Clarifying the Thyroid-Weight Connection

**Considering Iodine in Your Diet** 

**Exercising for Your Thyroid** 

Introducing Leptin: The New Hormone on the Block

Chapter 16: Helping Yourself: Herbs and Homeopathy

Finding a Reputable Practitioner

**Digging into Medicinal Herbs** 

**Understanding Homeopathy** 

#### Part IV : Special Considerations in Thyroid Health

Chapter 17: Examining the Genetic Link to Thyroid Disease

**Genetics for Beginners** 

The Origins of Genetic Thyroid Diseases

The Future of Managing Hereditary Thyroid Disease

Chapter 18: Controlling Thyroid Disease during Pregnancy

Looking at Normal Thyroid during Pregnancy

Pregnancy and Hypothyroidism

<u>Hyperthyroidism in Pregnancy</u>

Finding New Thyroid Nodules during Pregnancy

Chapter 19: Developing Thyroid Conditions in Childhood

**Understanding the Onset of Thyroid Function** 

Screening the Newborn

Coping with Hypothyroidism in Children

Dealing with Hyperthyroidism in Children

**Diagnosing Goitres in Children** 

Linking Nodules and Cancer in Children

Chapter 20: Maturing: Thyroid Disease in Later Life

Assessing the Extent of the Problem

**Understanding Sources of Confusion in Diagnosis** 

Discovering Hypothyroidism in Older People

Managing Hyperthyroidism in Older People

Checking Out Thyroid Nodules in Older People

#### Part V : The Part of Tens

Chapter 21: Ten Myths about Thyroid Health

I'm Hypothyroid, So I Can't Lose Weight

I'm Hyperthyroid, So I Can't Gain Weight

Breastfeeding and Antithyroid Pills Don't Mix

Brand Name Thyroid Hormone Pills Are Best

I Have to Take Thyroid Medication for Life

Natural Thyroid Hormones Are Better Than Synthetic Hormones

Thyroid Disease Is Catching

Iodine Deficiency Is a Medical Problem

The Higher My Autoantibody Levels, the Worse My Thyroid Disease

Clinical Symptoms Are More Reliable Than Blood Tests

Chapter 22: Ten Ways to Maximise Thyroid Health

Screening at Appropriate Intervals

Checking Thyroid Function As Your Body Changes

Performing a 'Neck Check'

**Getting Enough Iodine to Satisfy Your Thyroid** 

Stopping Thyroid Medication, If PossibleUsing Both Types of Thyroid HormonePreventing the Regrowth of Thyroid CancerAnticipating Drug InteractionsProtecting Your Thyroid from RadiationKeeping Up-to-Date with Thyroid Discoveries

#### Part VI : Appendixes

<u>Appendix A: A Glossary of Key Terms</u> <u>Appendix B: Sources of More Information</u>

: Further Reading

# Introduction

As part of my medical training, I (Sarah) was taught by an enlightened physician, Dr David Rubenstein of Addenbrooke's Hospital, Cambridge. He encouraged me to do three things when evaluating a patient with puzzling symptoms: Think Drugs (so as not to miss unsuspected side effects), Think Dirty (to exclude syphilis, a disease that mimics so many other conditions) and Think Thyroid – because under and overactive thyroid problems are so often missed, especially in older people.

I went on to make a career out of thinking drugs and thinking thyroid (thinking dirty is no longer as necessary as it was just a generation ago).

For hundreds of years, people understood that a connection exists between a strange looking growth in the neck and certain diseases. Until about 60 years ago, confusion reigned as people with similar growths in their necks often have opposite symptoms. One group shows excessive excitement, nervousness, and shakiness, while the other has depression, sleepiness, and general loss of interest. What the two groups have in common is that they are mostly all women.

As recently as 60 years ago, scientists started to measure the chemicals coming from these growths (enlarged thyroid glands), and suddenly the whole picture began making sense. Now, many of the secrets of the thyroid gland and the hormones it makes are known, although it undoubtedly still has a few surprises up its sleeve.

This book explains that, with very rare exceptions, thyroid diseases, including thyroid cancer, are some of the most easily treated of all disorders. This fact is why many thyroid specialists say, 'If I have to have cancer, let's hope it's a thyroid cancer.'

This book reveals the thyroid in all its glory. As it regulates body temperature, one of the main symptoms of thyroid problems is feeling hot or feeling cold. Unfortunately, this symptom leads to a lot of confusion within the thyroid itself. So much so that the left lobe of the thyroid was once heard to say to the right lobe: 'Now I know it's summer – here comes another swallow.'

# **About This Book**

The good news is that you don't need to read this book from cover to cover. Since the first few chapters are a general introduction to the thyroid, you may find it helpful to start in Part I, but if you prefer to go right to information about the thyroid condition that affects you, off you go to find it. If you run across any terms you don't understand, look for them in the glossary of terms in Appendix A. This book is written as a sort of medical biography of a family – Toni, Stacy, Linda, Ken, and other members of the clan whom you meet during your reading. These folks illustrate the fact that thyroid disease often runs in families. You meet members of the family, as well as some other fine fictional characters, at the beginning of each chapter that describes a thyroid disease, so you have a good picture of the condition covered in that chapter.

## **Conventions Used in This Book**

Although books such as this are easiest to read if they only use non-scientific terms, you and your doctor would soon find that you're speaking two different languages. Therefore, *Thyroid For Dummies* does use scientific terms, but these terms are explained in everyday English the first time you run across them. Plus, definitions of those difficult terms are available in the Glossary at the back of the book.

Three scientific terms come up over and over again in this book: thyroxine, triiodothyronine, and thyroidstimulating hormone (also known as thyrotropin). These terms are explained in detail in Chapter 3. For these three words, abbreviations are used for easier reading: Thyroxine is T4, triiodothyronine is T3, and thyroidstimulating hormone is TSH.

# What You Don't Have to Read

Throughout the book, you find shaded boxes of text called sidebars. These contain interesting material but not essential to your understanding. If you don't care to go so deeply into a subject, skip the sidebars; you can still understand everything else.

# Assumptions

This book assumes that you or someone you care about has a thyroid condition that is not yet treated or perhaps is not treated to your satisfaction. If this assumption doesn't apply to you, perhaps you suspect that you have a thyroid condition and want to determine whether you should see a doctor. Or perhaps you can't get your doctor to run the necessary tests to determine whether a thyroid problem exists. Regardless of your individual situation, this book has valuable information for you.

The material in the chapters does not make any assumptions about what you know regarding the thyroid and doesn't introduce any new terms without explaining what they are. If you already know a lot about the thyroid and its functions, you can still find new information that adds to your knowledge.

# How This Book Is Organised

The book is divided into six parts to help you find out all you want to know about the thyroid gland.

## Part I: Understanding Your Thyroid

So much (right and wrong) is written about the way the thyroid affects your mood that this issue is cleared up at the very beginning of the book. After you understand how the thyroid affects your emotions, you find out just what the thyroid is and what it does. Finally, in this part you learn about the medical tests that help to determine if something is wrong with your thyroid.

## Part II: Treating Thyroid Problems

This part explains each of the conditions that affect the thyroid and how they affect you. After finishing this part of the book, you will know just about everything we know about thyroid disease, how to identify it, and how to treat it.

## Part III: Managing Your Thyroid

Here you discover how medications can influence your thyroid function. We also explain thyroid infections, along with the worldwide problem of iodine deficiency. I also show you why thyroid surgery is rarely done, and look at new treatments coming along. The final two chapters look at ways to improve your thyroid health – and your health in general – using diet, exercise, lifestyle choices, and complementary therapies.