

Cataract

ESASO Course Series

Vol. 3

Series Editors

F. Bandello Milan

B. Corcóstegui Barcelona



Cataract

Volume Editor

José L. Güell Barcelona

178 figures, 168 in color, and 5 tables, 2013

KARGER

Basel · Freiburg · Paris · London · New York · New Delhi · Bangkok ·
Beijing · Tokyo · Kuala Lumpur · Singapore · Sydney

José L. Güell

Director of Cornea and Refractive Surgery Unit
Instituto Microcirugía Ocular (IMO)
President of EuCornea (European Society of Cornea
and Ocular Disease Specialists)
Associate Professor of Ophthalmology
Universidad Autónoma de Barcelona
C/ Josep Ma Lladó, 3
ES-08035 Barcelona (Spain)

Library of Congress Cataloging-in-Publication Data

Cataract (2013)

Cataract / volume editor, José L. Güell.

p. ; cm. -- (ESASO course series, ISSN 1664-882X ; vol. 3)

At head of title: Selected contributions from ESASO modules 2009 and 2010

Includes bibliographical references and indexes.

ISBN 978-3-318-02410-4 (hard cover : alk. paper) -- ISBN 978-3-318-02411-1 (electronic version)

I. Güell, José L., 1960- editor of compilation. II. European School for Advanced Studies in Ophthalmology, issuing body. III. Title. IV. Title: Selected contributions from ESASO modules 2009 and 2010. V. Series: ESASO course series ; v. 3. 1664-882X

[DNLM: 1. Cataract. 2. Cataract Extraction--methods. 3. Lenses, Intraocular. 4. Refractive Surgical Procedures--methods. WW 260]

RE451

617.7'42059--dc23

2013021128

Bibliographic Indices. This publication is listed in bibliographic services, including Current Contents®.

Disclaimer. The statements, opinions and data contained in this publication are solely those of the individual authors and contributors and not of the publisher and the editor(s). The appearance of advertisements in the book is not a warranty, endorsement, or approval of the products or services advertised or of their effectiveness, quality or safety. The publisher and the editor(s) disclaim responsibility for any injury to persons or property resulting from any ideas, methods, instructions or products referred to in the content or advertisements.

Drug Dosage. The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

All rights reserved. No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher.

© Copyright 2013 by S. Karger AG, P.O. Box, CH-4009 Basel (Switzerland)

www.karger.com

Printed in Germany on acid-free and non-aging paper (ISO 9706) by Kraft Druck, Ettlingen

ISSN 1664-882X

e-ISSN 1664-8838

ISBN 978-3-318-02410-4

eISBN 978-3-318-02411-1

Contents

vi List of Contributors

viii Preface

Güell, J.L. (Barcelona)

1 Cataract Surgery: An Update on Basics and Surgical Tips

Tjia, K. (Zwolle)

26 Multifocal and Accommodative Intraocular Lenses

Bellucci, R. (Verona)

38 An Introduction to Intraocular Lenses: Material, Optics, Haptics, Design and Aberration

Bellucci, R. (Verona)

56 Femtolasers Cataract Surgery

Nagy, Z.Z. (Budapest)

62 Laser-Assisted Cataract Surgery with LenSx

Buratto, L. (Milan)

80 Phakic Intraocular Lenses

Malecaze, F.; Porterie, M.; Cassagne, M. (Toulouse)

100 Phakic Intraocular Lenses in Keratoconus

Güell, J.L.; Elies, D.; Verdaguer, P.; Gris, O.; Manero, F.; Morral, M. (Barcelona)

116 Laser Corneal Refractive Surgery: An Update

Elies, D.; Güell, J.L.; Verdaguer, P.; Gris, O.; Manero, F. (Barcelona)

129 Intracorneal Refractive Surgery: Lenses and Ring Segments

Pallikaris, I.G. (Heraklion)

137 Subject Index

List of Contributors

Roberto Bellucci

Chief of Hospital Ophthalmology
Hospital and University of Verona
Borgo Trento Hospital
IT-37126 Verona (Italy)
E-Mail roberto.bellucci@ospedaleuniverona.it

Lucio Buratto

Centro Ambrosiano Oftalmico
Piazza della Repubblica 21
IT-20124 Milan (Italy)
E-Mail iol.lasik@buratto.com

Myriam Cassagne

Department of Ophthalmology
Purpan Hospital
Place du Dr Baylac
FR-31059 Toulouse (France)
E-Mail iol.lasik@buratto.com

Daniel Elies

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail elies@imo.es

Oscar Gris

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail gris@imo.es

Jose. L. Güell

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail guell@imo.es

François Malecaze

Department of Ophthalmology
Purpan Hospital
FR-31024 Toulouse (France)
E-Mail malecaze.fr@chu-toulouse.fr

Felicidad Manero

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail manero@imo.es

Merce Morral

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail merce.morral@gmail.com

Zoltan Z. Nagy

Department of Ophthalmology
Simmelweis University
Maria u. 39
HU-1085 Budapest (Hungary)
E-Mail zoltan.nagy100@gmail.com

Ioannis G. Pallikaris

Department of Ophthalmology
Medical School
University of Crete
71003 Heraklion, Crete (Greece)
E-Mail pallikar@med.uoc.gr

Marie Porterie

Department of Ophthalmology
Purpan Hospital
Place du Dr Baylac
FR-31059 Toulouse (France)
E-Mail pallikar@med.uoc.gr

Khiun Tjia

Isala Clinics
Groot Wezenland 20
8011JW Zwolle (The Netherlands)
E-Mail kftjia@gmail.com

Paula Verdaguer

Instituto Microcirugía Ocular
Universidad Autónoma de Barcelona
Josep Maria Lladó, 3
ES-08035 Barcelona (Spain)
E-Mail paulaverdaguer@gmail.com

Preface

Today, there are multiple attractive options for postgraduate training in ophthalmology, but at the same time, it is frequently confusing for the surgeon to select the best one, taking into account the time and space limitations we all need to deal with. Focused peer-reviewed journals, specialized books, national and international meetings and courses, multiple specialized and more general websites, etc., are all useful but they have their own and particular limitations: sometimes they are already a little bit outdated when they reach us, sometimes they are disorganized, and sometimes it is inconvenient to attend proper meetings or meetings that receive low scientific and academic support. This is why some European societies are strongly focusing on investing their time and instruments in education, as is the case with the ESCRS and EuCornea.

Following our experience and excellent response from the participants through the teaching modules in Lugano, the main goal of the ESASO Course Series has been to offer to the ophthalmology trainee an update review of a selection of important topics, mixing basic information with the most advanced techniques. In this book, the authors of each lesson are world-renowned surgeons who spend a significant amount of their time teaching and sharing their own experience with academicism and generosity. We all hope you enjoy this first volume on cataract and refractive surgery.

Jose L. Güell, Barcelona