

# **Elevation Based Corneal Tomography**

## ***Second Edition***

*Editors:*

*Michael W. Belin, MD, FACS*

*Stephen S. Khachikian, MD*

*Renato Ambrósio Jr., MD, PhD*

### CHAPTER 1

#### **Introduction and Overview**

Michael W. Belin, MD, FACS; Stephen S. Khachikian, MD

### CHAPTER 2

#### **Evolution of Topographic / Tomographic Imaging**

Stephen S. Khachikian, MD; Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD

### CHAPTER 3

#### **Understanding Elevation Based Topography: How Elevation Data is Displayed**

Michael W. Belin, MD, FACS; Stephen S. Khachikian, MD; Renato Ambrósio Jr., MD, PhD

### CHAPTER 4

#### **The Importance of Understanding the Reference Surface**

Michael W. Belin, MD, FACS; Stephen S. Khachikian, MD; Renato Ambrósio Jr., MD, PhD

### CHAPTER 5

#### **Suggested Set-up and Screening Guidelines**

Michael W. Belin, MD, FACS; Stephen S. Khachikian, MD; Renato Ambrósio Jr., MD, PhD

### CHAPTER 6

#### **Normative Data for the Oculus Pentacam**

Stephen S. Khachikian, MD; Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD

### CHAPTER 7

#### **Comprehensive Pachymetric Evaluation**

Renato Ambrósio Jr., MD, PhD; Isaac Carvalho de Oliveira Ramos, MD; Allan Luz, MD;  
Frederico Guerra, MD; Marcella Salomão, MD ; Michael W. Belin, MD, FACS

### CHAPTER 8

#### **Keratoconus / Ectasia Detection with a Modified (Enhanced) Reference Surface**

#### **Belin / Ambrósio Enhanced Ectasia Display III**

Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD; Stephen S. Khachikian, MD

CHAPTER 9

**Keratoconus & Ectasia Detection:**

**Asymmetric Keratoconus & Post LASIK Ectasia Study**

Marcella Salomão, MD; Isaac Carvalho de Oliveira Ramos, MD; Allan Luz, MD;  
Frederico Guerra, MD; Leonardo N. Pimentel, MD; Renato Ambrósio Jr., MD, PhD

CHAPTER 10

**Applications of Artificial Intelligence Techniques for  
Improving Tomographic Screening for Ectasia**

João Marcelo Lyra, MD, PhD; Aydano P. Machado, MSc, PhD; Bruna V. Ventura, MD;  
Guilherme Ribeiro, MD; Luana P. N. Araújo, MD; Isaac Ramos, MD;  
Frederico P. Guerra, MD; Renato Ambrósio Jr, MD, PhD

CHAPTER 11

**Elevation Topography Atlas**

Stephen S. Khachikian, MD; Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD

CHAPTER 12

**Scheimpflug Images in Clinical Practice**

Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD; Stephen S. Khachikian, MD

CHAPTER 13

**BESSt 2 Formula for IOL Calculation**

Edmondo Borasio, MedC, BQ, FEBO

CHAPTER 14

**Evaluation of Corneal Optical Quality for Premium IOLs with Pentacam HR**

Naoyuki Maeda, MD

CHAPTER 15

**Scheimpflug Evaluation of Primary Angle Closure Glaucoma**

Shuning Li, MD

CHAPTER 16

**Other Displays**

Joerg Iwanczuk, Dipl Ing (FH); Michael W. Belin, MD, FACS

CHAPTER 17

**The Use of Pentacam in a Cataract Practice**

Dilraj Grewal, MD; Satinder Pal Singh Grewal, MD

CHAPTER 18

**Glossary**

Stephen S. Khachikian, MD; Michael W. Belin, MD, FACS; Renato Ambrósio Jr., MD, PhD