

CONTENTS

Contributors ix

Preface xi

Acknowledgements xiii

1 Evidence-based primary eye care *David B Elliott* 1

Reviewing the research literature 1

Routine screening 5

Bibliography and Further reading 8

References 9

2 Introduction to the primary eye care examination

David B Elliott 11

The format of the primary care eye examination 11

Patient-centred optometry and communication skills 14

The case history 21

Bibliography and Further reading 27

References 27

3 Assessment of visual function *David B Elliott and*

John Flanagan 29

Case history 29

Distance visual acuity using logMAR charts 29

Distance visual acuity using Snellen charts 34

Near vision adequacy using N- or M-notation near cards 38

Super pinhole visual acuity test 41

10-2 central visual field analysis 43

Amsler charts 44

Photostress recovery time 45

Simple penlight glare test 47

Pelli-Robson contrast sensitivity 48

Frequency doubling perimetry 50

Fast central visual field analysis 53

Multiple stimulus suprathreshold strategy 57

Single point suprathreshold screening	59
30-2 and 24-2 central visual field analysis	60
30 to 60 degree suprathreshold visual field screening	65
Binocular Esterman test	66
Confrontation field testing	68
Farnsworth–Munsell D-15	69
The City University test	72
The Ishihara colour vision test	74
Bibliography and Further reading	79
References	79
4 Determination of the refractive correction <i>David B Elliott</i>	83
Relevant case history information	83
Relevant visual acuity information	84
Keratometry	85
Focimetry	90
Anatomical interpupillary distance	93
Phoropter or trial frame?	95
Static retinoscopy	97
Autorefracton	103
Monocular subjective refraction	104
Maximum plus to maximum visual acuity (MPMVA)	107
The plus/minus technique for best vision sphere determination	108
Duochrome (or biochrome) test	111
The Jackson cross-cylinder	112
The fan and block test	117
Prism-dissociated blur balance of accommodation	119
Monocular fogging balance (modified humphriss)	121
Humphriss Immediate Contrast (HIC)	123
Turville Infinity Balance (TIB)	124
Binocular subjective refraction	125
Cycloplegic refraction	128
Tentative reading addition using calculations	132
Tentative reading addition using assessments of accommodation	137
Trial frame determination of a reading addition and range of clear vision	139
Prescribing	143
Counselling	147
Bibliography and Further reading	149
References	149

5	Assessment of binocular vision	Brendan Barrett and David B Elliott	151
	Relevant case history information		151
	Relevant information from assessments of other systems		153
	Classification of heterophoria		153
	Classification of comitant heterotropia (squint or strabismus)		155
	The cover test		157
	Hirschberg, Krimsky and Bruckner tests		167
	Modified Thorington test		169
	Maddox rod		171
	Maddox wing		174
	von Graefe phoria technique		176
	Modified gradient AC/A ratio test		178
	Fusional reserves (fusional vergences)		180
	The Mallett fixation disparity unit		184
	3 ^Δ base-in/12 ^Δ base-out prism flippers		187
	Near point of convergence		188
	Jump convergence		190
	Push-up/push-down amplitude of accommodation		191
	Nott and MEM dynamic retinoscopy		194
	±2.00 DS flippers		195
	Worth 4-dot test		197
	4 ^Δ base out (BO) test		199
	TNO stereo test		201
	Titmus fly test		204
	Classification of incomitant heterotropia		206
	The motility test (broad H test)		207
	Pursuits (as part of motility testing)		211
	9-point cover test or 9-point Maddox rod/modified Thorington		212
	Park's 3-step test		212
	Saccades		215
	Bibliography and Further reading		217
	References		217

6	Ocular health assessment	C. Lisa Prokopich, Patricia Hrynychak and David B Elliott	221
	Relevant case history information		221
	Relevant visual function information		222
	Relevant binocular vision information		222
	Variations in appearance of the normal eye in young adults		222
	Variations in appearance of the normal elderly eye		230
	Slit-lamp biomicroscopy examination		236

- Tear break-up time 249
- Phenol red thread and Schirmer tests 251
- Diagnostic lacrimal occlusion 253
- Jones 1 and 2 and associated tests 256
- van Herick angle assessment 260
- The 'Shadow test' angle estimation 262
- Gonioscopy with the Goldmann 3-mirror (Universal) lens 264
- Gonioscopy with corneal-type lenses 269
- Goldmann applanation tonometry 272
- Non-contact tonometry (NCT) 276
- Instillation of diagnostic drugs 279
- Pupil light reflexes and swinging flashlight test 283
- Indirect fundus biomicroscopy 286
- Direct ophthalmoscopy 294
- Monocular indirect ophthalmoscopy 299
- Headband binocular indirect ophthalmoscopy (BIO) 301
- Scleral indentation with headband BIO assessment 306
- Goldmann 3-mirror universal examination 308
- Digital imaging 310
- The problem-plan list 311
- Personal letter of referral or report 312
- Bibliography and Further reading 314
- References 314

- 7 Physical examination procedures *Patricia Hrynychak* 319**
 - Relevant case history information 319
 - Relevant information from ocular health assessment 320
 - Palpating the preauricular, cervical, submandibular and submental lymph nodes 320
 - Sphygmomanometry 322
 - Carotid pulse and auscultation with a stethoscope 326
 - Bibliography and Further reading 329
 - References 329