### **C**ONTENTS

VIDEO TABLE OF CONTENTS, VIII

PREFACE (FOURTH EDITION), X

PREFACE (THIRD EDITION, 2015), XI

ACKNOWLEDGMENTS, XIII

INTRODUCTION TO THE FOURTH EDITION XIV

INTRODUCTION TO THE THIRD EDITION (2015), XVI

INTRODUCTION TO THE SECOND EDITION (2016), XVI

# PART I INTRODUCTION

- 1 What is an Upper Lid Crease and Historical Consideration, 3
- 2 Comparative Anatomy of the Eyelids, 21
- 3 THE EYELID CREASE: CONSULTATION, COUNSELING, GOALS AND EXPECTATIONS, 41

# PART II BASIC TECHNIQUES

- 4 Suture Ligation Methods, 51
- 5 EXTERNAL INCISION METHODS, 71
- 6 ASIAN BLEPHAROPLASTY I: THE FIRST TRAVERSE (VECTOR), 79
- 7 ASIAN BLEPHAROPLASTY II: THE SECOND TRAVERSE (VECTOR), 89
- 8 CONCEPT OF TRIANGULAR, TRAPEZOIDAL AND RECTANGULAR DEBULKING: APPLICATION IN ASIAN BLEPHAROPLASTY, 99
- 9 Optimal Closure and Management of Wound Healing, 105
- 10 PRIMARY ASIAN BLEPHAROPLASTY RESULTS (BEFORE AND AFTER), 113

#### PART III

## INTERMEDIATE CONCEPTS AND REVISIONAL BLEPHAROPLASTY

- 11 Suboptimal Factors, 153
- 12 REVISION PARAMETERS, 165
- 13 REVISIONS IN SUBOPTIMAL CASES, 179
- 14 ADVANCED CONCEPT OF A GLIDE ZONE AS IT RELATES TO UPPER LID CREASE, LID FOLD AND APPLICATION IN ASIAN BLEPHAROPLASTY, 223
- 15 WPD CHEN'S TECHNIQUE OF SUPER-BEVELED APPROACH AND MID-LAMELLAR CLEARANCE IN REVISIONAL ASIAN BLEPHAROPLASTY, 235

### PART IV

# FURTHER DISCUSSIONS AND ADVANCED APPLICATIONS

- 16 Augle of Observation, Crease Height, Tarsal Cilt and Its Effects on Planning for Upper Bilth Roplasty, 247
- 17 INVESTIGATION OF TARSAL TILT: ITS EFFECTS ON NO ... AL A D ABNORMAL CONDITIONS AND CLINICAL OUTCOME OF UPPER BLEPHAROPLASTY, 259
- 18 EFFECT OF HIGH ANCHORING OF THE CREASE, FADEN-LIKE EFFECT AND USE OF BURIED SUTURES, 273
- 19 VISUAL, PHYSIOLOGICAL AND AESTHETIC FACTORS AFFECTING OUTCOME IN ASIAN BLEPHAROPLASTY, 283
- 20 Treatment of Medial Upper Lid Fold and the Fog Surrounding Epicanthoplasty, 293
- 21 ADVANCED CONCEPT OF THE EYELID CREASE AS A STRINGED SERIES OF UNIPOINTS, 299
- 22 Techniques, Principles and Benchmarks in Asian Blepharoplasty, 307

- 23 SUMMARY OF EYELID CREASE FACTORS, 319
- 24 DEPTH OF UPPER LID CREASE CONSTRUCTION IN ASIAN BLEPHAROPLASTY, 335
- 25 RATIOS AND PROPORTIONS IN DOUBLE-EYELID SEGMENTS, 343
- 26 THE EYELID CREASE HEIGHT, DEPTH, AND SHAPE: A SCORING SYSTEM FOR REVISIONAL ASIAN BLEPHAROPLASTY, 351
- 27 FAILURE ANALYSIS IN ASIAN BLEPHAROPLASTY, 373
- 28 AN INTRAOPERATIVE PRIMER: PATHS, PITFALLS AND SOLUTIONS IN ASIAN BLEPHAROPLASTY (INCISIONAL METHODS), 383
- 29 OUTLOOK FOR AESTHETIC ASIAN LYELID SURGERY, 395
- 30 A Deeper Interpretation of the Asian Blepharoplasty Technique of Trapezoidal Debulking and Clear ace of Preaponeurotic Space, 401

#### **APPENDICES**

- APPENDIX 1: Pre-1952 Japanese Literature on Cosmetic Eyelid Surgery (in Japanese), 419
- APPENDIX 2: Modern Literature on Asian Eyelid Surgery, 421
- APPENDIX 3: RECENT LITERATURE (1998–2021) ON ASIAN EYELID SURGERY, 433
- **APPENDIX 4:** RECENT LITERATURE ON EPICANTHOPLASTY, 447
- APPENDIX 5: AESTHETIC EFFECTS OF ASIAN BLEPHAROPLASTY, 455
- **APPENDIX 6:** RECENT LITERATURE ON ANATOMY, 457

INDEX, 461

### VIDEO TABLE OF CONTENTS

All videos are proprietary properties of Dr. W.P.D. Chen

#### PRIMARY CASES



- Video P-1: Primary Asian bleph for a 29 F, desired nasally tapered crease, shows treatment of medial canthal fold and down-knotting
- Video P-2: Primary Asian bleph for a 26 I, who desired parallel crease. Video shows up-knotting
- Video P-3: Primary Asian bleph for a 2. F Desired nasally-joining crease shape, and of abov average crease height. Shows down-knotting
- Video P-4: Primary Asian bleph combined with ptosis repair for a 65 F
- Video P-5: Primary Asian bleph for 62 F with presence of sulcus and multiple wrinkles, without true evelid crea
- Video P-6: Primary Asian bleph for a 48 F. Has suler preoperatively; desires a nasally-joining crease shar, with lower-than-average crease height
- Video P-7: An introductory case showing the general concepts and steps involved in Primary AB on a right upper eyelid
- Video P-8: Another case showing the general steps involved in Primary AB on a right upper eyelid
- Video P-9: Primary case of a 30-year-old female with OD absent crease and OS rudimentary crease desiring a higher than average parallel crease
- Video P-10: Primary case of a 22-year-old female desiring a parallel crease, having previously used adhesive tape over pretarsal area
- Video P-11: Primary case of a 22-year-old male with left eye fissure appearing larger. Patient desires a low-set
- Video P-12: Primary case of a 31-year-old male with an absent crease, desiring an average height parallel
- Video P-13: Primary case of a 31-year-old female with absent crease desiring average height and nasallyjoining crease shape (NJC)
- Video P-14: Primary case of a 52-year-old male with no crease and moderate hooding
- Video P-15: Primary case of a 28-year-old female with fatty, heavy lids
- Video P-16: Primary case of a 31-year-old male with an absent crease and a truncated upper lid hooding, desiring a parallel crease of average height
- Video P-17: Primary case of a 37-year-old female with a shielded NJC crease OU with more hooding of the left eye, desiring greater than average NJC
- Video P-18: Primary case of a 26-year-old male with an absent crease, desiring a parallel crease

### REVISIONAL CASES



- Video R-1: Revisional Asian bleph on a woman who desired parallel crease shape
- Video R-2: Revisional Asian bleph for a 19 F who showed shallowing of crease from residual fat
- Video R-3: Repeat Asian bleph for 41 M, previous Asian bleph by Chen was 9 years prior. One can identify the compartments well
- Video R-4: Revisional Asian bleph in 28 F who presented with crease asymmetry. Desired medium height NJC crease and excised 1-mm scarred skin. Shows down-knotting
- Video R-5: Revisional surgery on a 41-year-old Korean female who had previously undergone upper blepharoplasty
- Video R-6: Revisional surgery on a 60-year-old female who had previously undergone blepharoplasty and a subsequent revisional attempt whereby abdominal fat had been injected into the upper lids 2 years previously
- Tueo R-7: Revisional surgery on a 68-year-old female with permanent eyeliner. This patient had deepened from blepharoplasty and a scarred crease at 8
- Video K-8: Revisional surgery on a 43-year-old female pre anung for RUL revision
- Video K-7: Revisional surgery on a 43-year-old female presenting for LUL revision
- Video K-10: P evisional surgery on a 35-year-old male presenting for NJC
- Video R-11: Reminional surgery on a 38-year-old female who had previous undergone revision, desiring the crease to be recordagain
- Video R-12: Revisional surgery on a 46-year-old female who had previously undergone three separate crease procedures

#### SHORT STEP VIDEOS OF PRIMARY SURGERY

- Video SSV-1: After marking, the skin incision is started on the lower incision line, which is the eyelid crease
- Video SSV-2: First traverse through orbicularis oculi, along upper incision line. It is beveled superiorly
- Video SSV-3: Cautery to control capillary bleeding
- Video SSV-4: Reaching orbital septum and its opening
- Video SSV-5: Handling of fat, release and partial reduction
- Video SSV-6: Reposit preaponeurotic fat
- Video SSV-7: Resection of skin-orbicularis flap

medial canthal angle (Figure 1-13A), or it may be a parallel crease (PC) (a less desirable term is "outside" or "outer" fold), in which the crease runs fairly parallel to the lash margin from the medial canthus to the lateral canthus (Figure 1-13B).

In eyelids with a NJC the crease may gently flare away from the lid margin as it approaches the lateral canthal region, forming a laterally-flared crease; this is seen sometimes in individuals naturally born with this shape,

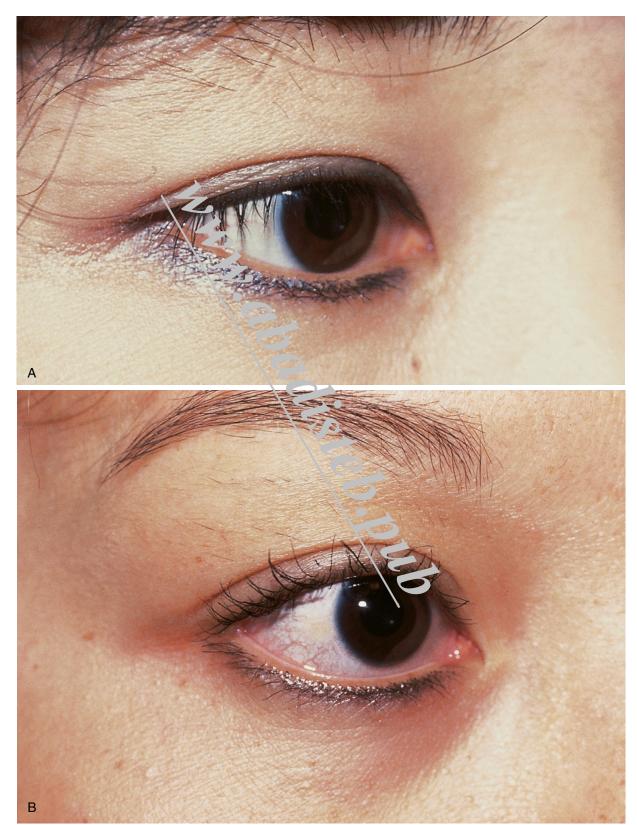


FIGURE 1-13 (A) Asian eyelid with a nasally-joining crease. Note the merging of the crease medially into the medial upper lid fold and the relatively parallel course from the central third of the lid outward. (B) Asian eyelid with a parallel crease.

but not one that can be constructed predictably (Figure 1-14). More commonly the NJC configuration is such that the rest of the crease runs level and concentric to the eyelash margin from the central one-third of the eyelid laterally (Figure 1-15).

Asians rarely have a lid crease that is semilunar in shape, as is common in Caucasians (see Figure 1-4H). In a semilunar crease each end of the crease is closer to the respective lid margin than the central portion of the crease. Having a semilunar crease is by far the most frequent complaint heard from Asian patients who have had



FIGURE 1-14 Nasally-joining crease with a variant form showing a lateral flare widest separation of the crease from the ciliary border occurs laterally, like that shown in Figure 1-11.

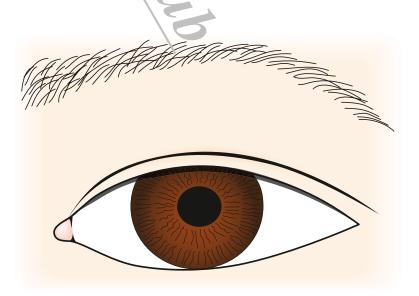


FIGURE 1-15 Nasally-joining crease that runs level to the eyelash from the central third of the eyelid outward (see Figure 1-13A).

blepharoplasty performed in the United States<sup>2</sup> (Figure 1-16). This crease is often unnatural, high and harsh.

In the author's experience, a high Asian crease is one located 8–11 mm from the ciliary margin. A high crease may result if a surgeon adheres to an empiric formula for the height of the lid crease or uses techniques of supratarsal fixation in which a distance of 8 mm or more is applied without regard to ethnicity. Either method results in a crease that looks excessively high on an Asian patient. To summarize, such a regimented approach is counterproductive in Asian blepharoplasty for the following reasons:

- Asians are usually smaller in build; correspondingly, the upper tarsus measures only 6.5–8.0 mm in height on average.
- The distance between the eyebrow and the upper lid margin is smaller on Asians than on Caucasians. A crease located 10–12 mm from the lash margin would look much closer to the mid level of the upper lid than is natural (Figure 1-17).

Not only should ethnicity be a factor in blepharoplasty, but also each individual's features. When the crease is high, it is farther from the lid margin than the height of the tarsus, the surgically applied crease traverses



FIGURE 1-16 Asian patient after blepharoplasty. Note asymmetry of the .... creases and the high placement of the semilunar crease.

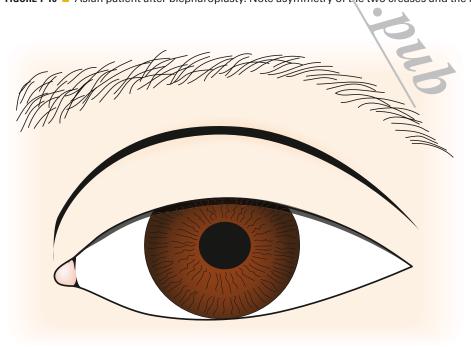
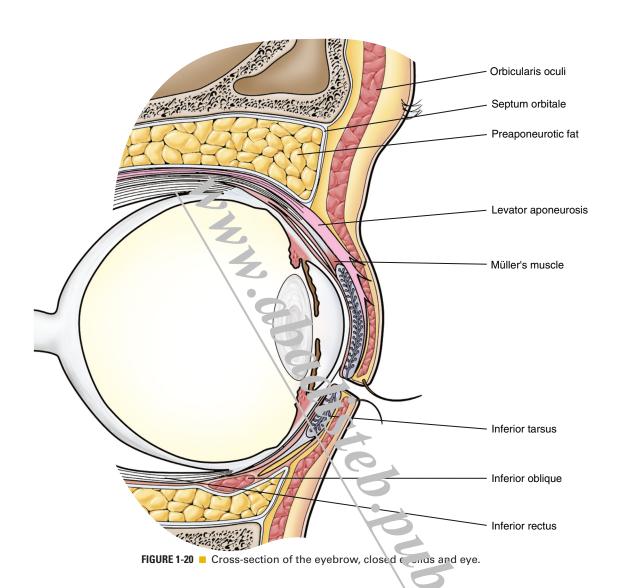


FIGURE 1-17 ■ When a semilunar crease is placed more than 10–12 mm in an Asian upper lid, the crease is in the mid level of the eyelid, halfway to the brow.

Figure 1-20 shows the cross-section of the eyebrow, closed eyelids and eye. The upper tarsus, which contains oil glands, is usually 10 mm in Caucasian and 6.5–7.5 mm in Asian women. The inferior tarsus is 3.9–4.0 mm in

both. (Pink layer is levator muscle, which originates from the orbital apex, with the 10-mm length of this pink tissue above the upper tarsus being the aponeurosis segment of the levator.)



Figures 1-21 and 1-22 show the basic difference between a natural Asian eyelid without an eyelid crease versus the eyelid of a person born with one naturally. Figure 1-23 shows an upper lid with scarring involving the anterior skin-orbicularis and the preaponeurotic fat space.

The issues often raised at academic meetings in recent times are: "If one sees a crease line anywhere on the upper lid, whether it is lower than the normal insertion point of the levator aponeurosis on the upper lid skin (which normally should be precisely along the upper border of the tarsal plate), or at any point unrelated to the levator, like one or more wrinkled skin crease lines within the upper concavity of the upper lid, aren't these the eyelid crease also?" The answer is no. Technically they are just wrinkles, because they are not caused by contraction of the levator muscle. Just like a true elbow crease is formed

by the biceps pulling on the forearm bones (radius and ulnar), and not simply because of any skin wrinkle left on the arm, or of skin damage or adipose tissue changes. Nor should we call a sunken sulcus (concavity) a crease that "has migrated upward". If one adheres to this biodynamic and anatomically accurate definition of an eyelid crease, there will be much less confusion among practitioners as to what a crease is and where to apply a crease, as well as what form of surgery or procedure represents a physiologic route. It is indeed curious that there are just as many medical practitioners who are unclear about this as there are patients seeking information on this very point.

The divergence between the suture methods and incisional methods lies at the core of understanding the natural mechanism of an eyelid crease, and the approaches by which this can be achieved.

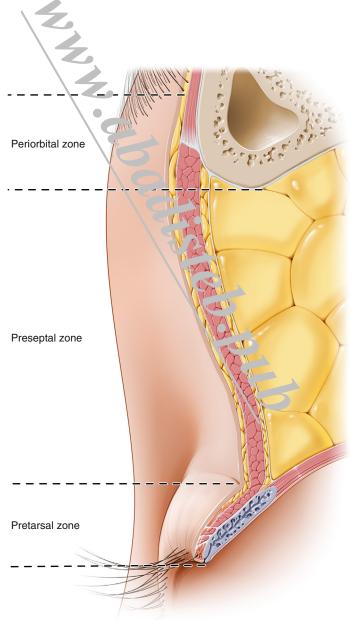


FIGURE 1-21 Diagram showing a simplistic representation of an Asian upper eyelid; here it is shown as in the 50% of subjects who are without a crease (single eyelid). Zone 1 corresponds to the area in front of the tarsal plate (pretarsal zone), with its anatomic height usually being 7–8 mm. (Copyright W.P.D. Chen.)