Photoablative Surgery Issues

A basic way to divvy up photoablative surgery complications…
Photoablative Surgery Issues

Optical Issues  Structural Issues

A basic way to divvy up photoablative surgery complications…
Photoablative Surgery Issues

Optical Issues

Structural
Photoablative Surgery Issues

Optical Issues

Overcorrection

Undercorrection

Aberrations

Structural
What is the most common cause of overcorrection?
What is the most common cause of overcorrection?
Stromal dehydration
What is the most common cause of overcorrection?
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How does stromal dehydration lead to overcorrection?
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If the stroma is dehydrated, it ablates more readily, and thus more tissue is removed per laser burst
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What surgical factors are common causes of stromal dehydration?
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If the stroma is dehydrated, it ablates more readily, and thus more tissue is removed per laser burst

What surgical factors are common causes of stromal dehydration?
--Allowing too much time to pass between denuding the epithelium/cutting the flap, and ablating the stroma
--Humidity and/or temperature in the excimer room being outside of the manufacturer’s recommendations
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If a pt is overcorrected, how soon should surgical correction be undertaken?
What is the most common cause of overcorrection?
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If a pt is overcorrected, how soon should surgical correction be undertaken?
As many pts experience some degree of spontaneous regression over the first 3-6 months, it is prudent to allow at least several months to pass before intervening
What is the most common cause of undercorrection?
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--Treating high degrees of myopia or hyperopia
--Spontaneous regression
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What steps can be taken to reduce or even reverse regression leading to undercorrection?
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--Heavy topical steroid use in the post-op period if regression is noted to be ongoing
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If a pt is undercorrected, how soon should surgical correction be undertaken?
Once the refraction has stabilized, which usually takes at least 3 months
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What other complication, if present, should prompt the surgeon to wait even longer?
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If a pt is undercorrected, how soon should surgical correction be undertaken?
Once the refraction has stabilized, which usually takes at least 3 months

What other complication, if present, should prompt the surgeon to wait even longer?
Post-op haze--if present, it portends a higher risk for further regression and/or haze formation. In such cases, the prudent course is to wait at least 6-12 months prior to re-treating.
What factors are associated with the presence of post-op aberrations?
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-- Treating high degrees of myopia, hyperopia or astigmatism
-- A smaller ablation zone
-- The presence of aberrations pre-op
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Which higher-order aberration is most contributory to pt symptoms?
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--Treating high degrees of myopia, hyperopia or astigmatism
--A smaller ablation zone
--The presence of aberrations pre-op

Which higher-order aberration is most contributory to pt symptoms?
Spherical aberration
Photoablation Surgery Issues

Structural Issues

Photoablative Surgery Issues

Structural Issues

- Central islands
- Decentered ablations
- Steroid-induced IOP elevation
- Central toxic keratopathy
- Infectious keratitis
In this context, what is a central island?
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A small (<1 mm) area of elevation (at least 1D’s worth) within the area of flattening after myopic ablation.
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In terms of symptoms, how does a central island manifest?
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Are central islands a common phenomenon?
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Are central islands a common phenomenon?
Not with current excimer technology, no
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Is the presence of a central island an indication for an immediate surgical revision?
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Is the presence of a central island an indication for an immediate surgical revision?
As many will regress spontaneously, no
What are common causes of a decentered ablation?

- Central islands
- Decentered ablations
- Steroid-induced IOP elevation
- Central toxic keratopathy
- Infectious keratitis
What are common causes of a decentered ablation?
--Loss of fixation by the operative eye
--Poor pre-op head positioning by the surgeon
--Failure to ensure the operative eye is oriented perpendicular to the laser
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Hyperopic

Is decentration more visually significant with myopic, or hyperopic ablations?
Hyperopic

Will decentration regress spontaneously like a central island?
No, it must be addressed surgically
What is the main risk factor for steroid-induced IOP elevation?
What is the main risk factor for steroid-induced IOP elevation? Use after surgery for a prolonged period of time.
Photoablative Surgery Issues

- Central islands
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What is the main risk factor for steroid-induced IOP elevation?
Use after surgery for a prolonged period of time

Which class of procedure is at increased risk?
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Surface ablation procedures.
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Why surface procedures?
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Why surface procedures?
Because steroids are often used for months afterwards to prevent haze formation
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Why is managing IOP after photoablative surgery especially challenging?
What is the main risk factor for steroid-induced IOP elevation?
Use after surgery for a prolonged period of time

Which class of procedure is at increased risk?
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Why is managing IOP after photoablative surgery especially challenging?
Because altered corneal thickness and curvature renders applanation tonometry artifactually low. Likewise, fluid under a LASIK flap can do the same. The only method of measuring IOP that is reliable after photoablative refractive surgery is dynamic contour tonometry.
Central islands

Decentered ablations

Steroid-induced IOP elevation

Central toxic keratopathy

Infectious keratitis

What is central toxic keratopathy?
What is central toxic keratopathy?
The development of acute, nonprogressive central corneal opacification in the immediate post-op period.
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*What is central toxic keratopathy?*
The development of acute, nonprogressive central corneal opacification in the immediate post-op period

*Is it rare, or common? Inflammatory, or noninflammatory?*
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Is it rare, or common? Inflammatory, or noninflammatory?
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What is the cause?
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What is the cause?
It is unknown as of this writing
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In addition to haze formation, what other undesirable effect does it have?
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It causes flattening of the anterior cornea, thereby producing a hyperopic shift
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How is it treated?
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How is it treated?
Hypertonic solutions have been proposed, but their efficacy remains unproven
Which is more vulnerable to post-op infection--surface ablation, or LASIK?
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Which is more vulnerable to post-op infection--surface ablation, or LASIK?
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Why are surface-based procedures at greater risk for infection?
Which is more vulnerable to post-op infection--surface ablation, or LASIK?
Surface ablation

Why are surface-based procedures at greater risk for infection?
Because the surgical technique involves creating a huge epi defect, thereby stripping the cornea of one of its primary defenses (ie, an intact epithelium). Further, post-op management of surface surgery involves BCLs as well as long-term steroid use, both of which further the risk of bacterial infection.
Which is more vulnerable to post-op infection--surface ablation, or LASIK?
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Which bugs are most commonly implicated?
Which is more vulnerable to post-op infection--surface ablation, or LASIK?

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Which bugs are most commonly implicated?
Gram+ lid flora: *S aureus* (including MRSA), *Strep pneumoniae* and *viridans* spp. Less commonly, atypical mycobacteria, *Nocardia*, and various fungal species have been found
Which is more vulnerable to post-op infection--surface ablation, or LASIK?
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Are flap-based procedures immune to infection?
Definitely not. Bugs sequestered under the flap are shielded from the antimicrobial content of the normal tear film. Treatment requires lifting the flap, scraping it for C&S, and irrigating with abx prior to re-placement.
What post-surgical maneuver after surface ablation puts the pt at increased risk for sterile infiltrates?
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- The use of a BCL, especially in conjunction with the use of topical NSAIDs without concurrent topical steroids.
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Q: **Surface Ablation Issues I: Sterile Infiltrates**

- What post-surgical maneuver after surface ablation puts the pt at increased risk for sterile infiltrates?
  - The use of a BCL, especially in conjunction with the use of topical NSAIDs without concurrent topical steroids.

- What are the keys to management of sterile infiltrates?
  - Make sure it's sterile (ie, that it's not infectious).
  - Add topical steroids and taper topical NSAIDs.
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Surface Ablation Issues I: Sterile Infiltrates

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Post-surface-ablation haze can be divided into two categories based on time of onset--what are they?
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- Early onset
- Late onset
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For each, how long after surgery until it appears?
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- Early onset. A couple of weeks.
- Late onset. Six to twelve months.

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For each, how long after surgery until it appears?

For each, at what level in the K is the haze located?
Post-surface-ablation haze can be divided into two categories based on time of onset—what are they?

- Late onset. Six to twelve months. Anterior stroma.

For each, how long after surgery until it appears?

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What are the risk factors for development of severe haze?

- Deep ablation
- Small ablation zone
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How is haze treated?
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How is haze treated?
- Increase steroid use. If this fails…
- Debridement in conjunction with topical MMC
Q

LASIK Issues I: Cutting The Flap

- **Cutting the flap with a microkeratome…problems**
  - Adequate suction induces an IOP of at least [ ] mmHg
LASIK Issues I: Cutting The Flap

- **Cutting the flap with a microkeratome…problems**
  - Adequate suction induces an IOP of at least 65 mmHg
LASIK Issues I: Cutting The Flap

- Cutting the flap with a microkeratome…problems
  - Adequate suction induces an IOP of at least 65 mmHg
  - Inadequate suction ↑ the risk of a flap prob 1 or flap prob 2
LASIK Issues I: Cutting The Flap

- Cutting the flap with a microkeratome...problems
  - Adequate suction induces an IOP of at least 65 mmHg
  - Inadequate suction ↑ the risk of a thin flap or buttonhole
LASIK Issues I: Cutting The Flap

- **Cutting the flap with a microkeratome...problems**
  - Adequate suction induces an IOP of at least **65** mmHg
  - Inadequate suction ↑ the risk of a **thin flap** or **buttonhole**
  - A [descriptive term, and specifics] cornea ↑ the risk of a thin flap or buttonhole as well
LASIK Issues I: Cutting The Flap

- **Cutting the flap with a microkeratome...problems**
  - Adequate suction induces an IOP of at least $65$ mmHg
  - Inadequate suction $\uparrow$ the risk of a thin flap or buttonhole
  - A steep ($>46D$) cornea $\uparrow$ the risk of a thin flap or buttonhole as well
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  - A flat (<41D) cornea ↑ the risk of a flap prob 3
A

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- **How do you manage a…**
  - **Thin flap/buttonhole?**
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● How do you manage a…
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  - A flat (<41D) cornea ↑ the risk of a free cap

- **How do you manage a...**
  - **Thin flap/buttonhole?** Stop the procedure; re-cut in 3-6 months
  - **Free cap?** Place in antidessication chamber; finish the procedure; re-place the cap +/- sutures
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

Two broad category of striae

?  ?
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

Two broad category of striae

Macrostriae
Microstriae
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

- Two broad category of striae
  - Macrostriae
  - Microstriae

What are the two main risk factors for striae?
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LASIK Issues II: Flap Striae and Dislocation

Flap Striae

- Macrostriae
- Microstriae

Two broad category of striae

What are the two main risk factors for striae?
- Thin flaps
- Deep ablations
LASIK Issues II: Flap Striae and Dislocation

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Two broad category of striae

- Macrostriae
- Microstriae

Do all striae require treatment?
LASIK Issues II: Flap Striae and Dislocation

**Flap Striae**

- Two broad category of striae
  - Macrostriae
  - Microstriae

*Do all striae require treatment?*
No. If BCVA and subjective VA are good, folds can be observed.
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

- Two broad category of striae
  - Macrostriae
  - Microstriae

Thickness
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

Two broad category of striae

Macrostriae
Full flap

Microstriae
Bowman’s layer only

Thickness
**LASIK Issues II: Flap Striae and Dislocation**

**Flap Striae**

- **Macrostriae**
  - Full flap
  - **Thickness**
  - **Clinically significant?**

- **Microstriae**
  - Bowman’s layer only

*Two broad category of striae*
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

Two broad category of striae

Macrostriae
- Full flap
- Always
- Thickness: Clinically significant?

Microstriae
- Bowman’s layer only
- Rarely
LASIK Issues II: Flap Striae and Dislocation

Flap Striae

Two broad category of striae

Macrostriae
- Full flap
- Always

Microstriae
- Bowman’s layer only
- Rarely

Cause

Clinically significant?

Thickness
LASIK Issues II: Flap Striae and Dislocation

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*What is probably the most common cause of flap slippage leading to macrostriae?*
LASIK Issues II: Flap Striae and Dislocation

**Flap Striae**

- **Macrostriae**
  - Full flap
  - Always
  - Flap slippage
  - **Thickness**
  - **Clinically significant?**
  - **Cause**

- **Microstriae**
  - Bowman’s layer only
  - Rarely
  - Flap contracture

What is probably the most common cause of flap slippage leading to macrostriae?
Eyelid squeezing by the pt upon removal of the speculum
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Flap Striae

Two broad category of striae

Macrostriae
- Full flap
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- Flap slippage
  - Thickness
  - Clinically significant?
  - Cause

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- Flap contracture

A pt has multiple macrostriae, all oriented parallel to one another. They stem from the hinge. What is the likely cause?

Frank slippage of the flap. Re-place it immediately!

Because if left in place, folds quickly become permanent

Within roughly 24 hours
**Flap Striae**

**Two broad category of striae**

- **Macrostriae**
  - Full flap
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  - **Cause**

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Why must slippage be addressed immediately?
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LASIK Issues II: Flap Striae and Dislocation

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Why do macrostriae tend to widen the flap gutter?
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Why do macrostriae tend to widen the flap gutter?
Because the folds reduce the surface area the flap can cover.
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Thickness
Clinically significant?
Cause
Gutter status
Acute treatment
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Flap Striae

Two broad category of striae

Macrostriae
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- Widened
- Lift and replace
  - Thickness
  - Clinically significant?
  - Cause
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LASIK Issues II: Flap Striae and Dislocation

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- Unaffected
- Observation; lubrication
- ‘Cracked mud’

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What clinical maneuver helps bring out the cracked mud appearance?
LASIK Issues II: Flap Striae and Dislocation

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What clinical maneuver helps bring out the cracked mud appearance? Instillation of fluorescein. The microstriae will be visualized as areas of negative staining.
LASIK Issues II: Flap Striae and Dislocation

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Acute treatment
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Clinically significant?

Yes

No
**LASIK Issues II: Flap Striae and Dislocation**

### Flap Striae

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**A pt is found to have circumferential striae. What was likely her pre-op refractive status?**

- High myopia
- Yes

Less. They usually resolve spontaneously.
**LASIK Issues II: Flap Striae and Dislocation**

### Flap Striae

**Two broad category of striae**

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**Clinically significant?**

- **Thicknes**
- **Cause**
- **Gutter status**
- **Acute treatment**
- **Classic description**

**Visible w/ direct illumination**

- Yes
- No

*A pt is found to have circumferential striae. What was likely her pre-op refractive status?*  
High myopia
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Thickness
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Visible w/ direct illumination

A pt is found to have circumferential striae. What was likely her pre-op refractive status?
High myopia

Are circumferential striae more or less concerning than other types of striae?
# LASIK Issues II: Flap Striae and Dislocation

## Flap Striae

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### Visible w/ direct illumination

- Yes
- No

---

*A pt is found to have circular [circumferential] striae. What was likely her pre-op refractive status?*

High myopia

*Are circumferential striae more or less concerning than other types of striae?*

Less. They usually resolve spontaneously.
LASIK Issues II: Flap Striae and Dislocation

- Flap dislocation
  - Early
    - Often occurs on post-op day
- Flap dislocation
  - *Early*
    - Often occurs on post-op day 1
**Flap dislocation**

- **Early**
  - Often occurs on post-op day 1
    - In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter
Flap dislocation

- **Early**
  - Often occurs on post-op day 1
    - In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter

- **Late**
  - Usually secondary to
• Flap dislocation
  • Early
    • Often occurs on post-op day 1
      ▪ In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter
  • Late
    • Usually secondary to blunt trauma
Flap dislocation

- **Early**
  - Often occurs on post-op day 1
    - In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter

- **Late**
  - Usually secondary to blunt trauma
    - Some healing/scarring occurs at the location, but essentially none at the rest of the flap/stroma interface
    - Lack of extensive healing means flap is always vulnerable to dislocation from blunt force
Flap dislocation

**Early**
- Often occurs on post-op day 1
  - In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter

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Flap dislocation

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**Treatment:**
● Flap dislocation

  ● **Early**
    ● Often occurs on post-op day 1
      ▪ In immediate post-op period, adhesion between flap epithelium and tarsal conj can be stronger than tensile strength of epithelial bridge across flap gutter

  ● **Late**
    ● Usually secondary to blunt trauma
      ▪ Some healing/scarring occurs at the edge of the flap, but essentially none at the rest of the flap/stroma interface
      ▪ Lack of extensive healing means flap is always vulnerable to dislocation from blunt force

  ● **Treatment:** Re-place flap ASAP!
Q

- DLK…
  - …stands for...
• DLK…
  • …stands for *diffuse lamellar keratitis*
Q

**LASIK Issues III: DLK**

- DLK...
  - ...stands for **diffuse lamellar keratitis**
  - aka *funny nickname* for its grainy appearance
LASIK Issues III: DLK

- DLK…
  - …stands for *diffuse lamellar keratitis*
  - aka *Sands of Sahara* for its grainy appearance
LASIK Issues III: DLK

- **DLK**
  - ...stands for **diffuse lamellar keratitis**
  - aka **Sands of Sahara** for its grainy appearance
  - ...is a **infectious vs non-** inflammation of the **interface**
DLK…

- ...stands for **diffuse lamellar keratitis**
- aka **Sands of Sahara** for its grainy appearance
- ...is a **noninfectious** inflammation of the **flap-bed** interface
Q

**LASIK Issues III: DLK**

- **DLK…**
  - …stands for *diffuse lamellar keratitis*
  - aka *Sands of Sahara* for its grainy appearance
  - …is a *noninfectious* inflammation of the *flap-bed* interface
  - …is probably \(^{2\circ}\) to a *very general* process of the *LASIK location*
DLK…

- stands for diffuse lamellar keratitis  
  - aka Sands of Sahara for its grainy appearance
- …is a noninfectious inflammation of the flap-bed interface
- …is probably 2° to contamination of the interface
DLK…

- stands for **diffuse lamellar keratitis**
- aka **Sands of Sahara** for its grainy appearance
- is a **noninfectious** inflammation of the **flap-bed** interface
- is probably 2° to **contamination** of the interface (with rust, RBCs, bacterial products, etc)
DLK…
- …stands for *diffuse lamellar keratitis*
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- has 4 grades:
**LASIK Issues III: DLK**

**DLK…**

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</tr>
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<td></td>
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</tr>
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<td></td>
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A/Q

LASIK Issues III: DLK

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<td>Granules peripherally + centrally</td>
<td>None</td>
<td>PF q1° + PO prednisone</td>
</tr>
<tr>
<td>3</td>
<td>Scarring</td>
<td>Decreased</td>
<td>No good tx</td>
</tr>
<tr>
<td>4</td>
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<td>Decreased</td>
<td>PF q1° + PO prednisone + lift flap and irrigate</td>
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<td>(post-op)</td>
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**Q**

LASIK Issues III: DLK
# LASIK Issues III: DLK

- **DLK vs Infectious Keratitis after LASIK**

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<td><strong>Time of onset</strong></td>
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## LASIK Issues III: DLK

### DLK vs Infectious Keratitis after LASIK

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- The patient with a POchx of
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- The patient with a POcHx of **HSV keratitis**
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POcHx of **HSV keratitis**

*What is the concern re operating on patients with a history of HSV keratitis?*
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POCHx of HSV keratitis

What is the concern re operating on patients with a history of HSV keratitis?
Re-activation of the virus
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POcHx of HSV keratitis
- The patient with a POcHx of different abb.
A

Photoablative Surgery: Other Issues

● These patients should give you pause before proceeding with ablative keratorefractive surgery:
  ● The patient with a POcHx of **HSV keratitis**
  ● The patient with a POcHx of **DES** *(Dry-eye syndrome)*
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POchx of HSV keratitis
- The patient with a POchx of DES
- The patient with PMHx of two words
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POchx of **HSV keratitis**
- The patient with a POchx of **DES**
- The patient with PMHx of **rheumatoid arthritis**
These patients should give you pause before proceeding with ablative keratorefractive surgery:
- The patient with a POcHx of HSV keratitis
- The patient with a POcHx of DES
- The patient with PMHx of rheumatoid arthritis

What dreaded post-op complication can occur in RA patients after keratorefractive surgery?
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POcHx of HSV keratitis
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What dreaded post-op complication can occur in RA patients after keratorefractive surgery?

Wound melt
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POcHx of HSV keratitis
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What dreaded post-op complication can occur in RA patients after keratorefractive surgery?
Wound melt

What ocular condition co-exists with RA, such that the outcome may be suboptimal even in the absence of a wound melt?
These patients should give you pause before proceeding with ablative keratorefractive surgery:

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What dreaded post-op complication can occur in RA patients after keratorefractive surgery? Wound melt

What ocular condition co-exists with RA, such that the outcome may be suboptimal even in the absence of a wound melt? DES
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POchx of HSV keratitis
- The patient with a POchx of DES
- The patient with PMHx of rheumatoid arthritis
- The patient whose pre-op exam suggests the possibility of forme fruste keratoconus or other ectatic disorder
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Of these four conditions, which one is probably most widely regarded as a contraindication to keratorefractive surgery?
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POC-Hx of HSV keratitis
- The patient with a POC-Hx of DES
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Keratoconus—forme fruste or otherwise
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Of these four conditions, which one is probably most widely regarded as a contraindication to keratorefractive surgery?

Keratoconus—forme fruste or otherwise

This assertion is technically incorrect. Keratoconus is certainly a contraindication for RK as well as keratoablative procedures such as LASIK and PRK. However, there is a keratorefractive procedure that is not only not contraindicated in keratoconus, it can be used to treat keratoconus. What is it?

Corneal inlay (ie, Intacs) procedure
These patients should give you pause before proceeding with ablative keratorefractive surgery:

- The patient with a POcHx of HSV keratitis
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Even this is not universal--there are good and honorable surgeons who will perform keratoablative refractive surgery on forme fruste patients.
Photoablative Surgery: Speaking of Ectasia…

- *In this context, what does ectasia refer to?*
In this context, what does ectasia refer to? A noninflammatory, progressive disorder of corneal biomechanics which leads to thinning and warping
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- Ectatic disorders include:
  - Three words
  - One word
  - Three words
  - Abb.
In this context, what does ectasia refer to? A noninflammatory, progressive disorder of corneal biomechanics which leads to thinning and warping.

- Ectatic disorders include pellucid marginal degeneration, keratoglobus, Terrien marginal degeneration, KCN.
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- Is post-surgery ectasia more common after LASIK, or surface procedures?
• *In this context, what does ectasia refer to?* A noninflammatory, progressive disorder of corneal biomechanics which leads to thinning and warping.
  
  • Ectatic disorders include *pellucid marginal degeneration*, *keratoglobus*, *Terrien marginal degeneration*, *KCN*.

• Is post-surgery ectasia more common after LASIK, or surface procedures? *LASIK, by a mile*
In this context, what does ectasia refer to? A noninflammatory, progressive disorder of corneal biomechanics which leads to thinning and warping.

- Ectatic disorders include pellucid marginal degeneration, keratoglobus, Terrien marginal degeneration, KCN.

Is post-surgery ectasia more common after LASIK, or surface procedures? LASIK, by a mile.

While there are many risk factors, two dwarf the others in importance. What are they?

- A too-thin residual stromal bed (RSB).
- A cornea predisposed to ectasia (i.e., biomechanically abnormal).
In this context, what does ectasia refer to? A noninflammatory, progressive disorder of corneal biomechanics which leads to thinning and warping.

- Ectatic disorders include pellucid marginal degeneration, keratoglobus, Terrien marginal degeneration, KCN.

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While there are many risk factors, two dwarf the others in importance. What are they?
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What is the tx?
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While there are many risk factors, two dwarf the others in importance. What are they?

- A too-thin residual stromal bed (RSB)
- A cornea predisposed to ectasia (ie, biomechanically abnormal)

What is the tx? RGPs; CXL +/- ICRS; PK.