



What does the term **Entropion** mean?

**Ectropion** 





What does the term **Entropion** mean? It means the eyelid margin is turning **inward** 



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The Plastics book identifies six general causes of entropion and/or ectropion. What are they? (Note that while most apply to both entropion and ectropion, a few apply only to one or the other.)

## Entropion Categories Ectropion





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**Entropion** 

Categories Ectropion

Congenital

Involutional

**Paralytic** 

Cicatricial

Mechanical

**Acute Spastic** 

Q



**Ectropion** 

Of the six, which can result in entropion?

Entropion	Categories	
?	Congenital	
?	Involutional	
?	Paralytic	
?	Cicatricial	
?	Mechanical	
?	Acute Spastic	





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Involutional	Involutional	?
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Acute Spastic	Acute Spastic	?

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Paralytic Paralytic

Cicatricial Cicatricial Cicatricial

Mechanical Mechanical

Acute Spastic Acute Spastic



**Entropion** 

Categories

**Ectropion** 

Congenital

Congenital

Congenital

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Let's drill down on cicatricial changes

**Cicatricial** 

Cicatricial

**Cicatricial** 

Mechanical

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In a nutshell, what is the pathogenesis of... -- Cicatricial **ec**tropion?



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Note this subtle-but-crucial difference!



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'Anterior lamella'? 'Posterior lamella'? How many layers does an eyelid have?



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What structures comprise each lamella? Anterior: ?
Posterior:



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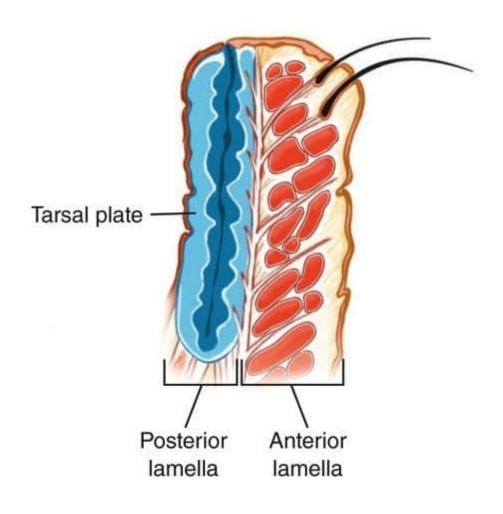
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Eyelid lamellae

## Cicatricial Entropion

27

What about beyond the tarsal plates, ie, above it in the upper lid, and below it in the lower? How many lamella are conceptualized in these locations?

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Start here

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What structures comprise each lamella?

Anterior: Skin and orbicularis muscle!

Posterior: Tarsal plate and conjunctiva!

- Middle lamella:?





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Posterior: Tarsal plate and conjunctiva!

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Anterior: Skin and orbicularis muscle!

Posterior: Tarsal plate and conjunctiva!

· Middle lamella: Eyelid retractors, orbital septum

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beyond the tarsal plates

What structures comprise each lamella?

Anterior: Skin and orbicularis muscle!

Posterior: Tarsal plate and conjunctiva!

· Middle lamella: Eyelid retractors, orbital septum



# A

### Cicatricial E<sup>C</sup><sub>n</sub>tropion

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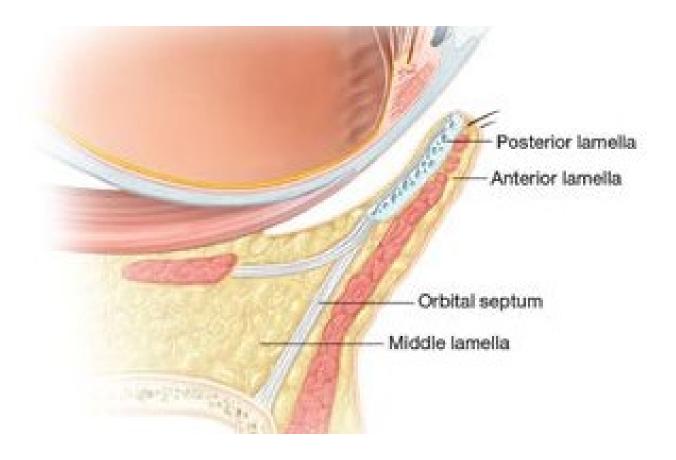
Anterior: Skin and orbicularis muscle!

Posterior: Tarsal plate and conjunctiva!

Middle lamella: Eyelid retractors, orbital septum, eyelid fat pads (lower lid)

# Cicatricial E<sup>c</sup>tropion





Eyelid lamellae below the tarsal plate in the lower lid



**Entropion** 

Categories

Ectropion

Congenital

Congenital

Congenital

Involutional

Let's look at cicatricial ectropion in more detail

Paralytic

**Paralytic** 

Cicatricial

Cicatricial

**Cicatricial** 

Mechanical

Mechanical



- Common causes of cicatricial ectropion:





- Common causes of cicatricial ectropion:
  - Trauma
  - Burn
  - latrogenic
  - Actinic skin changes
  - Inflammatory disease
  - Rosacea









Cicatricial ectropion



- Managing cicatricial ectropion of the lower lid involves three steps:
  - 1) Release/relax... (finish the thought)
  - 2)
  - 3)



- Managing cicatricial ectropion of the lower lid involves three steps:
  - 1) Release/relax...the traction caused by the cicatrix
  - 2)
  - 3)



- Managing cicatricial ectropion of the lower lid involves three steps:
  - 1) Release/relax...the traction caused by the cicatrix
  - 2) Lengthen... (ditto)
  - 3)



- Managing cicatricial ectropion of the lower lid involves three steps:
  - 1) Release/relax...the traction caused by the cicatrix
  - 2) Lengthen...the lid vertically (with a FTSG) (full-thickness skin graft)
  - 3)



- Managing cicatricial ectropion of the lower lid involves three steps:
  - 1) Release/relax...the traction caused by the cicatrix
  - 2) Lengthen...the lid vertically (with a FTSG)
  - 3) Shorten...(ditto)



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  - 2) Lengthen...the lid vertically (with a FTSG)
  - 3) **Shorten**...the lid *horizontally* (with a lateral tarsal strip)







Cicatricial ectropion: Pre- and post-repair



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Which of these steps are involved in repair of UPPER lid cicatricial ectropion?



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  - 1) Release/relax...the traction caused by the cicatrix
  - 2) Lengthen...the lid *vertically* (with a FTSG)
  - 3) Shorten...the lid horizontally (with a lateral tarsal

Which of these steps are involved in repair of UPPER lid cicatricial ectropion? 1 and 2, but **not** 3: The upper lid generally does not suffer horizontal laxity, so tightening is not required





Categories

**Ectropion** 

Congenital

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Now let's look at cicatricial entropion Itional

Involutional

Paralytic

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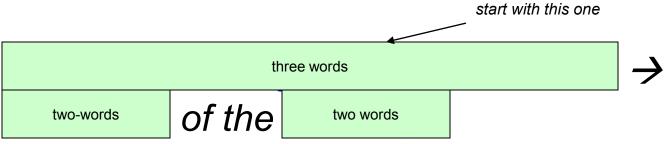
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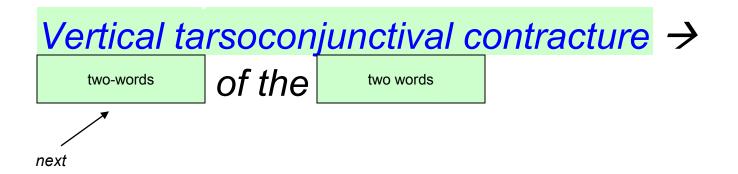
Acute Spastic **Acute Spastic** 



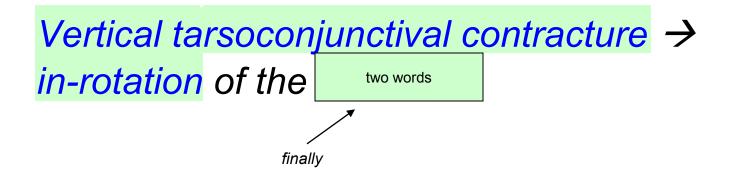














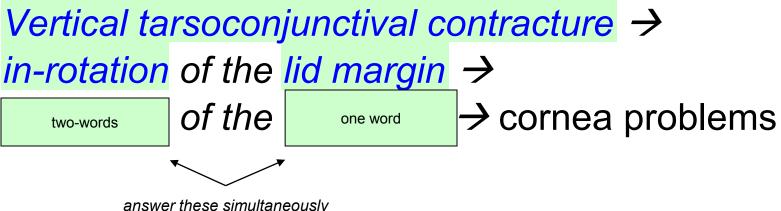
 In another nutshell, what is the pathogenesis of cicatricial entropion?

Vertical tarsoconjunctival contracture > in-rotation of the lid margin



 In another nutshell, what is the pathogenesis of cicatricial entropion? How does this lead to

cornea problems?



answer these simultaneously



 In another nutshell, what is the pathogenesis of cicatricial entropion? How does this lead to cornea problems?

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Vertical tarsoconjunctival contracture →
in-rotation of the lid margin →
in-rotation of the eyelashes → cornea problems
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'In-rotation of the eyelashes'? Why not just say 'trichiasis'?



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Huh? But the lashes are touching the cornea--isn't that the **definition** of trichiasis? No, it isn't. Trichiasis is defined as the inward-directing of lashes <u>that originate from a normally-positioned lid margin</u>. In any form of entropion (ie, not just cicatricial), the position of the lid margin is rotated inward, and therefore **not** normal. Thus, the term *trichiasis*, while often employed, is technically incorrect.

65

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'In-rotation of the eyelashes'? Why not just say 'trichiasis'?

Recause trichiasis is not present

Technically incorrect, sure. But in fairness, many clinicians aren't this persnickety about the term *trichiasis--*and neither are the *BCSC* books. So this is not the hill you want to die on when taking the Boards.

the position of the lid margin is rotated inward, and therefore **not** normal. Thus, the term *trichiasis*, while often employed, **is technically incorrect**.



 In another nutshell, what is the pathogenesis of cicatricial entropion? How does this lead to cornea problems?

Vertical tarsoconjunctival contracture >
in-rotation of the lid margin >

in-rotation of the evelashes > cornea problems

How does distichiasis differ from trichiasis?

'In-Be

Be

#### **Cicatricial Entropion**



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Hunr but the lashes are touching the contea--ish t that the definition of themasis?



Be



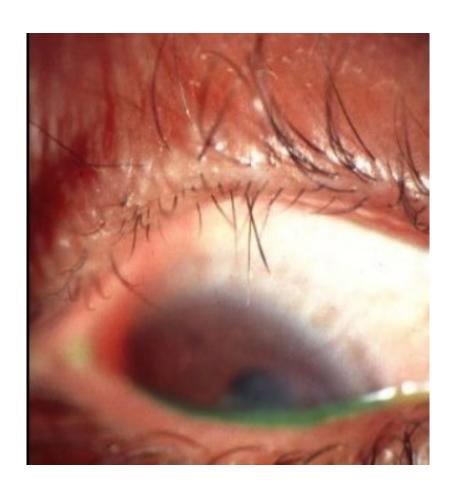
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Distichiasis: Lashes arising from MG orifices



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No, it isn't. Trichiasis is defined as the inward-directing of lashes <u>that originate from</u> <u>a normally-positioned lid margin</u>. In any form of entropion (ie, not just cicatricial), the position of the lid margin is rotated inward, and therefore **not** normal. Thus, the term *trichiasis*, while often employed, is technically incorrect.



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What sort of event/situation can 'prod' a meibomian gland to produce acquired distichiasis?

Trauma; chronic inflammation

It can be either

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When evaluating cicatricial entropion, for what crucial question must an adequate answer be determined?



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What is the DDx for cicatricial entropion? Glad you asked...



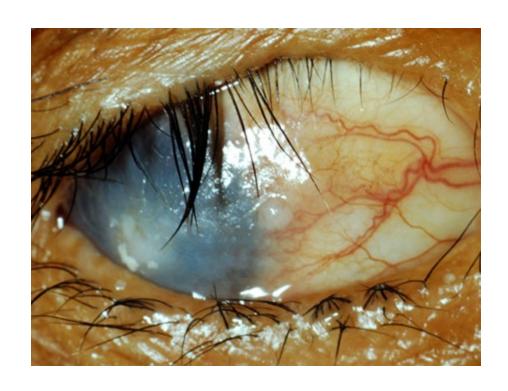
- Common causes of cicatricial **en**tropion:





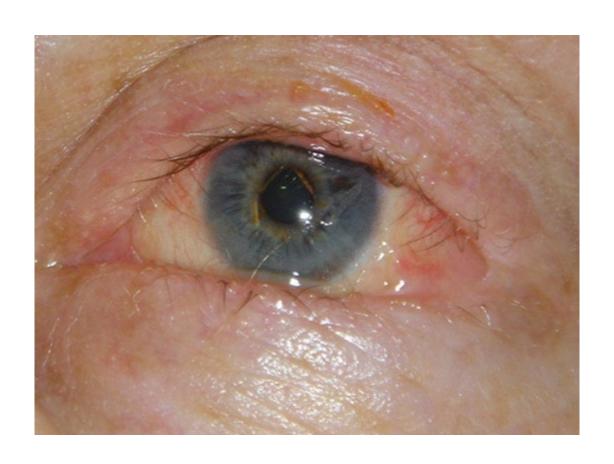
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  - Stevens-Johnson syndrome (SJS)
  - Trachoma
  - Trauma
  - Sarcoid
  - latrogenic





Cicatricial entropion





Cicatricial entropion in OCP



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If the cause is inflammatory, make sure that process is **completely quiescent** before attempting repair!



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In a nutshell, what sequence of events leads to corneal opacification? Repeated infections produce scarification of the superior palpebral conj, and the subsequent cicatricial entropion leads to severe trichiasis which decimates the corneal surface



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In the US, which ethnic group is most likely to be affected?



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Where do the follicles tend to occur? On the superior palpebral conj, and the superior limbal region



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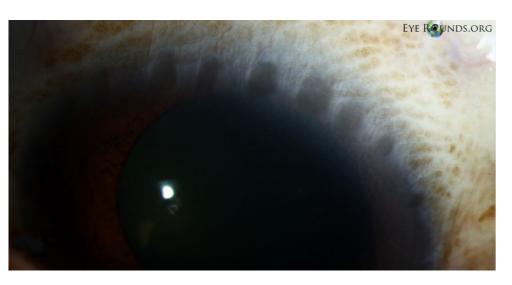
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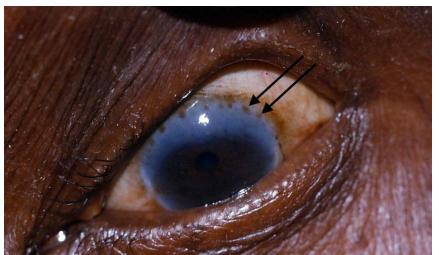
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Trachoma: Herbert's pits



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Where do the follicles tend to occur?

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Trachoma: Arlt's line



- How would you correct cicatricial entropion in cases of:
  - Mild disease:
  - Moderate disease:
  - Severe disease:



- How would you correct cicatricial entropion in cases of:
  - Mild disease: Anterior lamellar resection
  - Moderate disease:
  - Severe disease:



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- How would you correct cicatricial entropion in cases of:
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  - Severe disease:



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- How would you correct cicatricial entropion in cases of:
  - Mild disease: Anterior lamellar resection
  - Moderate disease: Tarsal fracture procedure
  - Severe disease: Excise/replace scarred tissues