# **Contact Lenses Grading Scales**



GRADE 0

GRADE 1

GRADE 2

GRADE 3 GF

GRADE 4

#### **Bulbar redness**



Cause	Dilation of bulbar vessels, e.g. by mechanical stimulation
Normal condition	Grade 1 to 2, younger people grade 0 found more often
Advice	Evaluate always with the same magnification

#### Limbal redness



Cause Dilation of bulbar vessels, e.g. by hypoxia	
Normal condition Up to grade 2	
Advice Often combined with bulbar redness	

#### Tarsal redness



#### **Corneal neovascularisation**



Cause	Dilation of tarsal vessels, e.g. by preservatives in lens care products
Normal condition	Up to grade 2
Advice	Roughness of the tarsal conjunctiva would also be increased

Cause	Mostly due to corneal hypoxia
Normal condition	Grade 0
Advice	Classification based on the length of vessels grown into the cornea

# **Corneal staining**



Cause	Superficial cells of the corneal epithelium are damaged
Normal condition	Grade 0 and grade 1 if blink is incomplete
Advice	Stain with fluorescein, monitor with blue light and a yellow filter

### SICS – Solution induced corneal staining



Cause	Toxic reaction to contact lens solution
Normal condition	Grade 0
Advice	Stain with fluorescein, monitor with blue light and a yellow filter

### Polymegethism



Cause	Alteration of the endothelial cell size; normally age related, in CL wear due to hypoxia
Normal condition	Regular hexagonal cells of equal size
Advice	Observe with a specular microscope in high magnification

# Tips for upgrading to silicone hydrogel lenses

• Wearing comfort can be different during the first fit.

N – nasal

T – temporal

Striae and descemet folds

Practice orientated

0 % corneal oedema:

• Changing to an aspheric lens design can cause a slight over-refraction of 0.25D in spite of the same back vertex power. Check whether the lens is right sided if you got a higher over-refraction.

• Preservative free lens care solution should be preferred. If the contact lens wearer wants to retain the habitual lens care solution check the cornea with fluorescein for SICS.

# Location: Cornea

Purpose	To specify corneal slit lamp fin	nding
Criteria	Central zone extends 2/5 and	para-central zone 4/5 of the HVID
Advice	Useful for precise documentat	tion e.g. place of an infiltrate
S	C – central S – superior I – inferior	P – para-central

Sign of corneal oedema, e.g. by hypoxia

5 % corneal oedema:very few striae7 % corneal oedema:more striae12 % corneal oedema:striae and folds

no striae



Striae often seen a few minutes after awakening, no folds

High magnification and illumination, note the number of folds

# Location: Tarsal conjunctiva

Purpose	To grade tarsal slit lamp findings exactly if there are local differences
Criteria	Central zone extends 1/3 of the height and 2/5 of the width of the lid area
Advice	Tilt of the inverted lid can differ from eye to eye
Contraction of the second	C – central



#### S – superior I – inferior N – nasal T – temporal

# Microcysts and vacuoles

Sign of corneal oedema, e.g. by hypoxia
No microcysts and vacuoles
High magnification, monitor in the reflected light, note the quantity



→ Vacuoles (refraction with the light)

Microcysts (refraction against the light)





Cause

Advice

Normal condition



© 2009 JENVIS RESEARCH. DEVELOPED BY SICKENBERGER, WIEGLEB, MARX. 2009-204-62126