



New spectacles and complaints

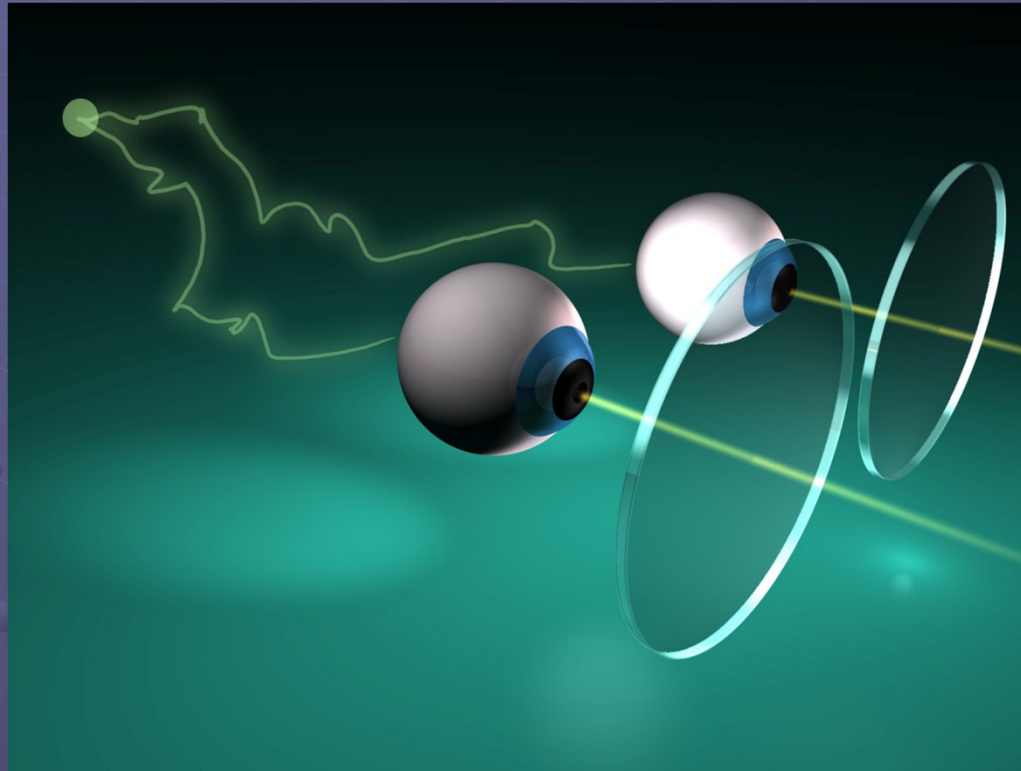
Viviane De Vries

Non-adaptation complaints



- Asthenopia
- Blurred vision
- Distortion
- Deformation
- Tunnel vision
- ...

Non-adaptation complaints



Key factors for success in fitting

- Prescribing
- Advising
- Delivery
- Troubleshooting



Prescribing: Refraction

- Refraction procedure (phoropter / trial frame)
- Accommodation (amplitude)
- Convergence (insufficiency and excess)
- Phorias
- Astigmatism (cyl -0.25D yes or no)
- Binocular balance

Prescribing: Refraction (personal data)

- Prismatic correction
- Measured working distance
- Addition measurement in trial frame (several positions / methods)

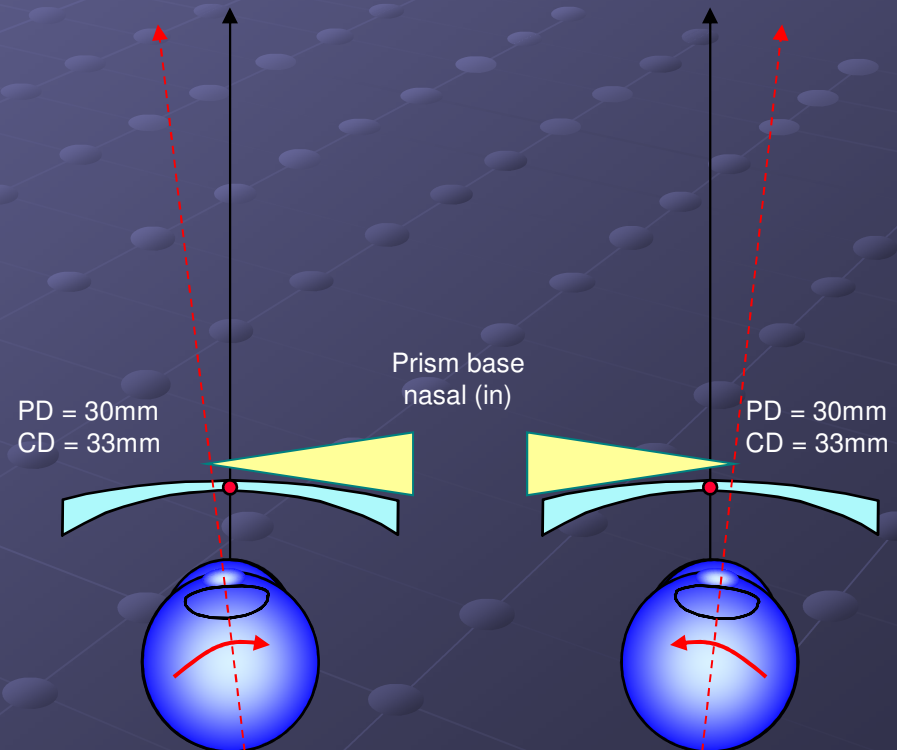


Advising: History (Unifocal)

- Previous correction
- Previous centration
- Design (spherical / aspherical)
- Material / refractive index / Abbe number

History: Previous centration

- Optical Centre – Center Distance outwards & minus lenses
- Unnecessary divergence



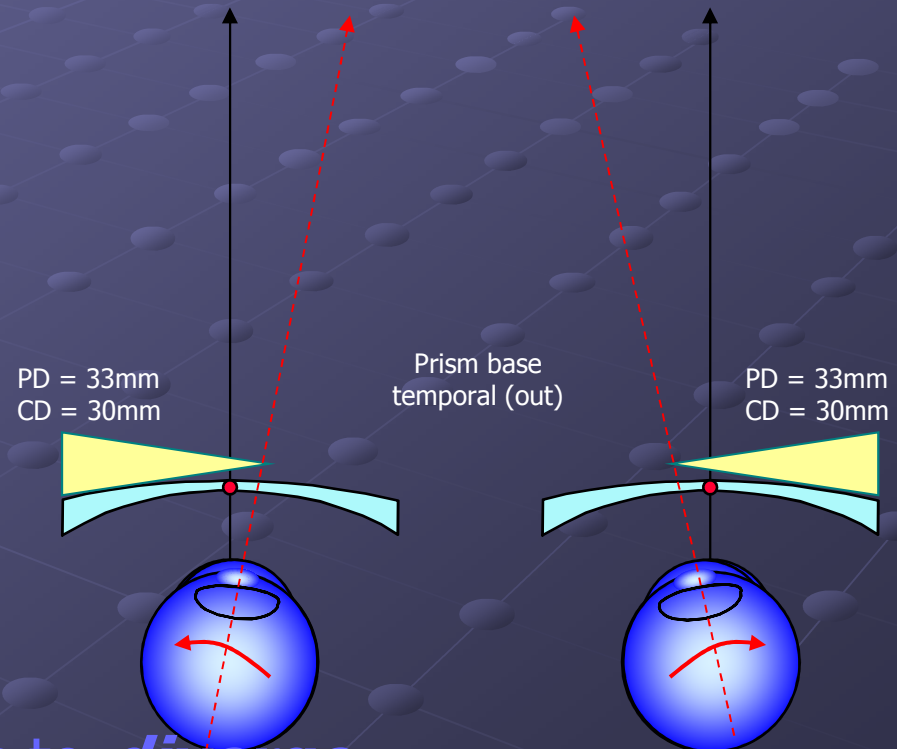
Compensation: the eye needs to *converge*

Pupil Distance and center distance are not “in balance”

Interaction distance – near: distortion

History: Previous centration

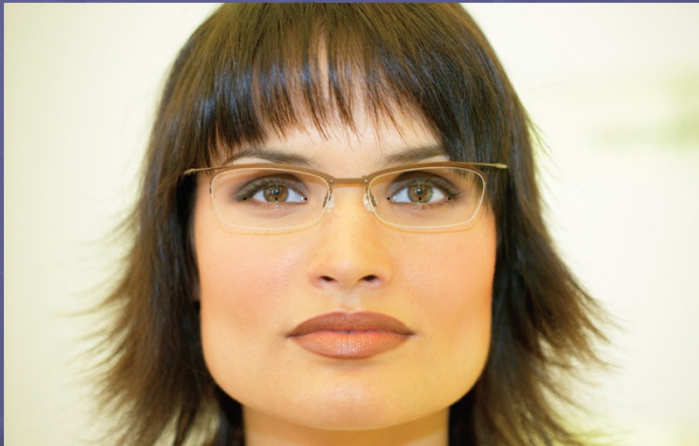
- Complaints Centre Distance inwards & minus lenses
- Unnecessary convergence



Compensation: the eye needs to *diverge*
Pupil Distance and center distance are not "in balance"
Interaction distance – near: distortion

History: Previous centration

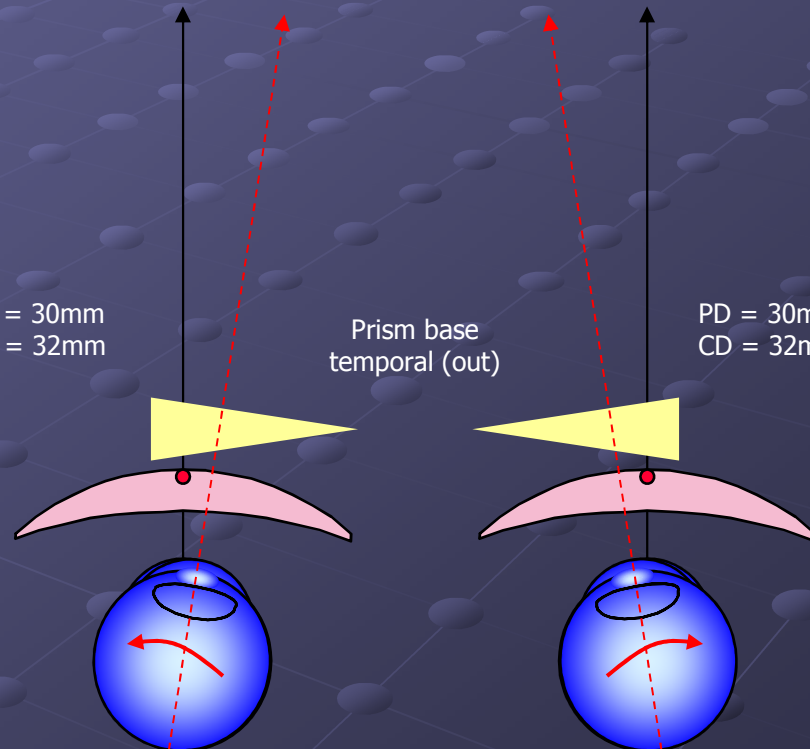
- Complaints Centre Distance outwards & plus lenses
- Unnecessary convergence



PD = 30mm
CD = 32mm

Prism base
temporal (out)

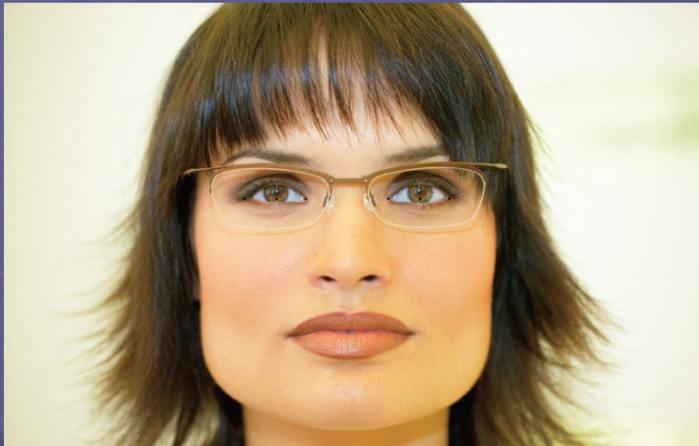
PD = 30mm
CD = 32mm



Compensation: the eye needs to diverge
Pupil Distance and center distance are not “in balance”
Interaction distance – near: distortion

History: Previous centration

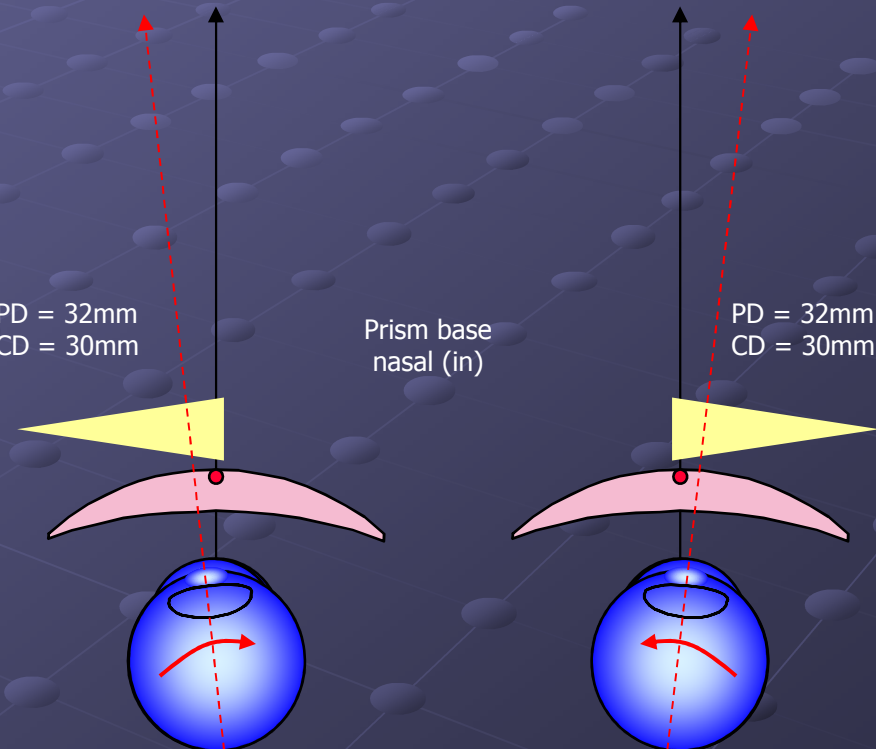
- Complaints Centre Distance inwards & plus lenses
- Unnecessary divergence



PD = 32mm
CD = 30mm

Prism base
nasal (in)

PD = 32mm
CD = 30mm

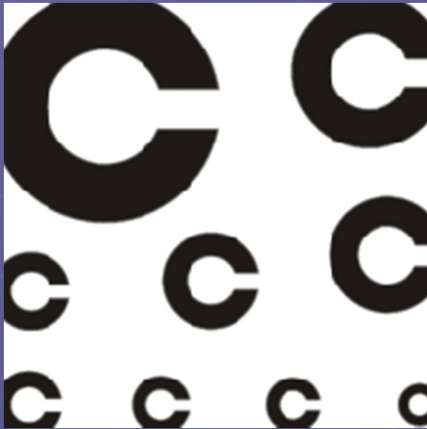


Compensation: the eye needs to converge

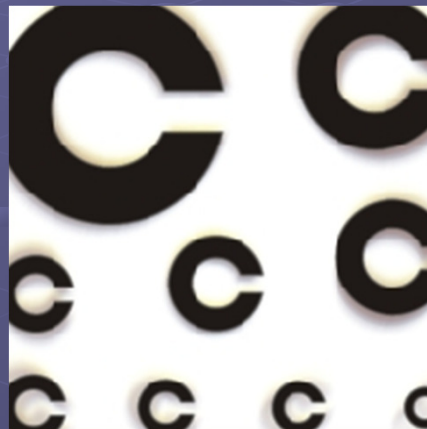
Pupil Distance and center distance are not “in balance”

Interaction distance – near: distortion

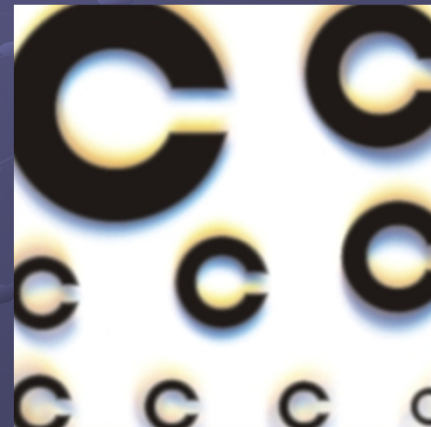
History: Material / refractive index Abbe number



Abbe 58
($n=1.5$)



Abbe 41
($n=1.6$)



Abbe 31
($n=1.67$)

Advising: History (Progressive)

- Generation I (Varilux I)
- Generation II (Varilux II)
- Generation III (Horizontal symmetry)
- Generation IV (Variable inset)
- Generation V (Individualisation)

Advising: History (Progressive)

- Previous correction
- Previous centration
- Design (spherical / aspherical)
- Design (hard / soft)
- Design (front / back / integrated double)
- Material / refractive index / Abbe number

History: Previous correction

- Spherical correction
- Cylindre
- Axis
- Addition level
- Reduction prism
- Prismatic correction

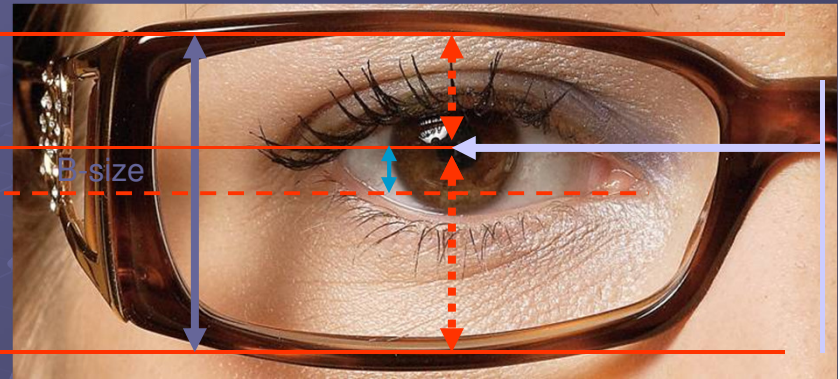
Centration of progressives

- Indication for far on the stamp in the center of the pupil
- Depending on the advice of the manufacturer
- Indication for far on the stamp, 1 to 2 mm below the center of the pupil
- Centration based on near vision using the mirror test
- Always consider the basic rules for grinding!

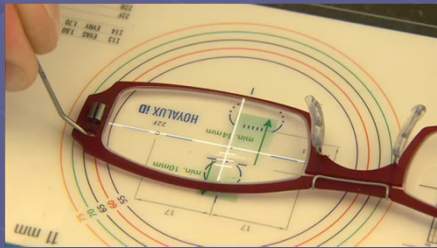
History: Previous centration

- Monocular Pupil Distance
- Fitting procedure

8-10mm
Center Pupil
Half B-size
"functional space"



Check fitting height center of Pupil in "zero" direction



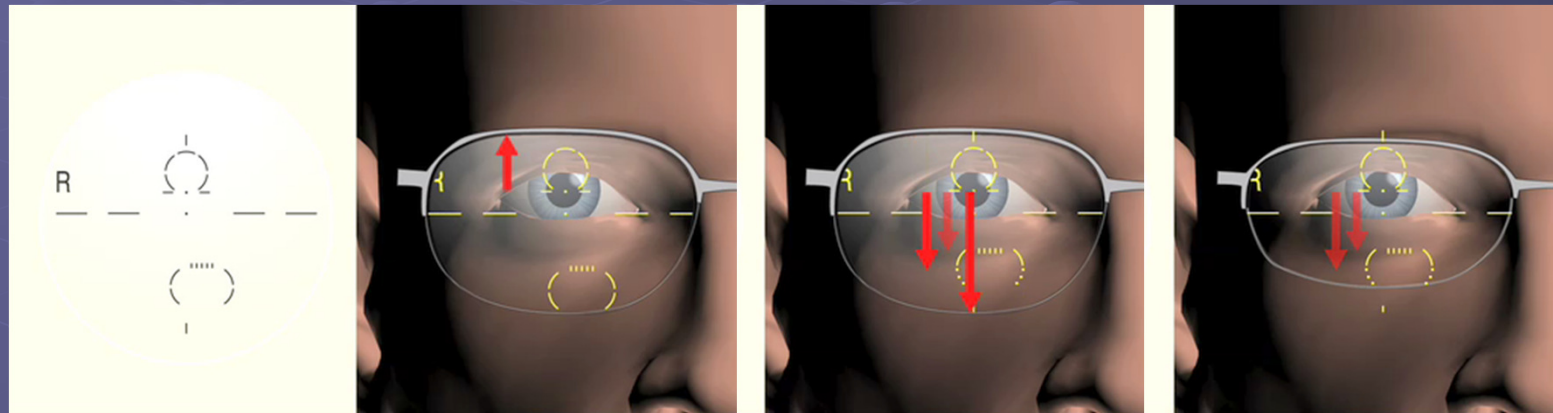
Measure monocular PD

Check monocular PD right

Check monocular PD left



History: “Hard” or “Soft” design



- **Hyperopic** presbyopes require **long corridor length** and “**Soft design**”
- **Myopic** presbyopes require **short corridor length** and “**Hard design**”

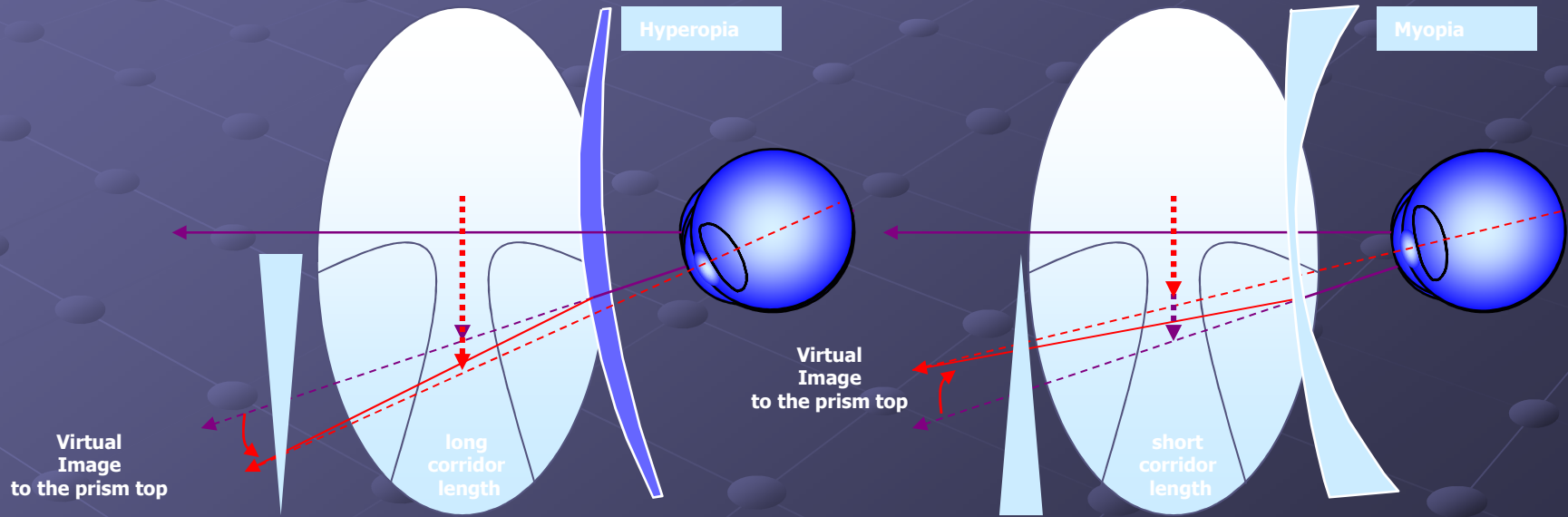
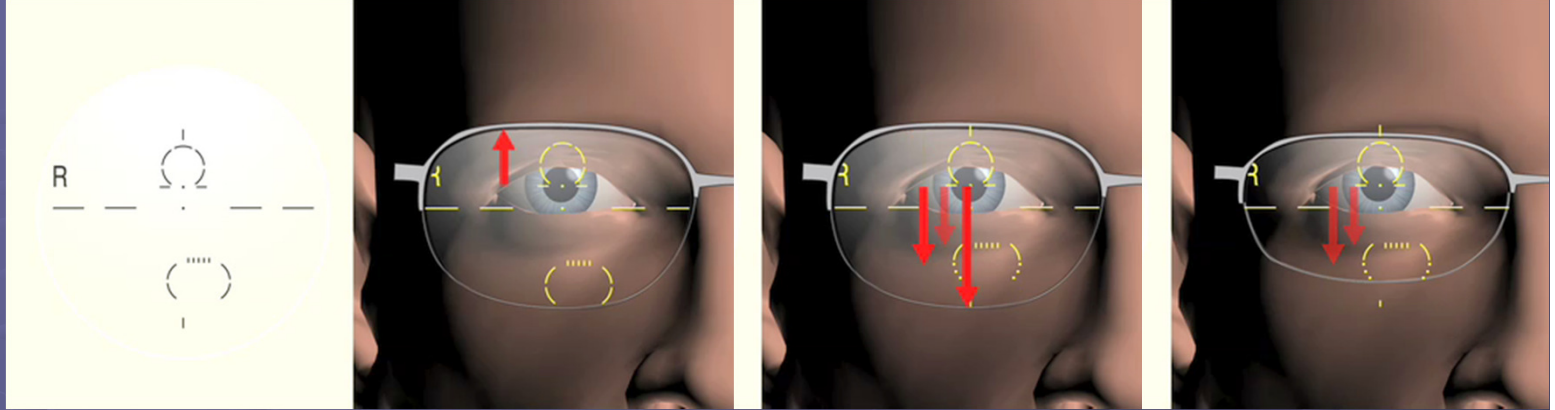


Figure stamp /engravings

- Yellow figure stamp
- Blue figure stamp
- Template for centration

“Hard” progressive

- Myopia
- Head movers
- Small frames
- Young presbyopes
- Low additions
- History

“Soft” progressive

- Hyperopia
- Eye movers
- Large frames
- Experienced presbyopes
- High additions
- History

Classification by design



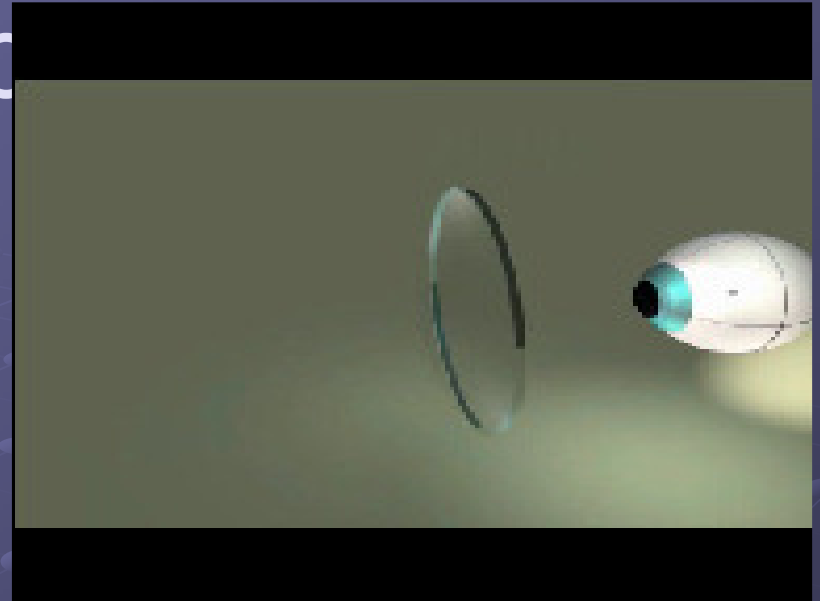
Classic designs

Advanced designs

- *“Basic designs”* for the *“price sensitive”* users
- *“Quality designs”* for those who are willing to pay for *quality and functionality*
- *“High quality designs”* for presbyopes who want *more than a progressive lens*
- *“Advanced designs”* for those modern presbyopes who like to experience *“top of the top”*

FreeForm Tec

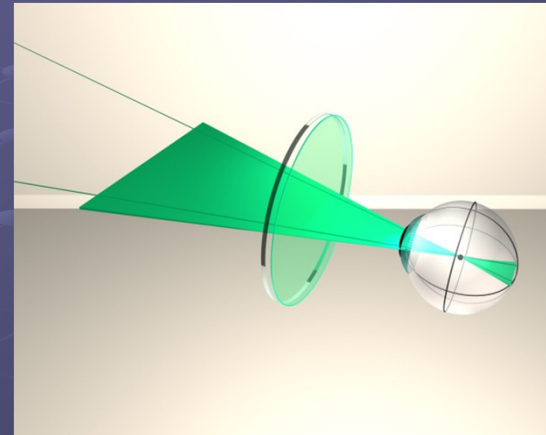
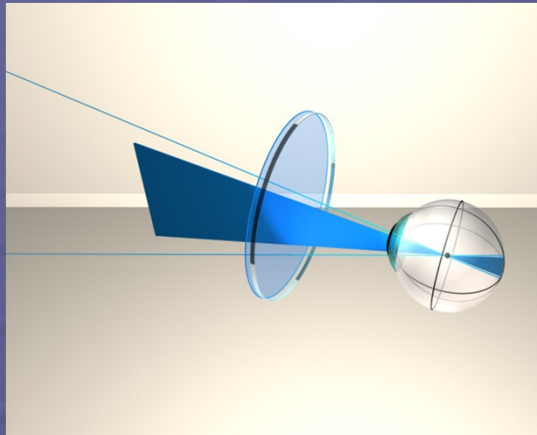
The advanced designs



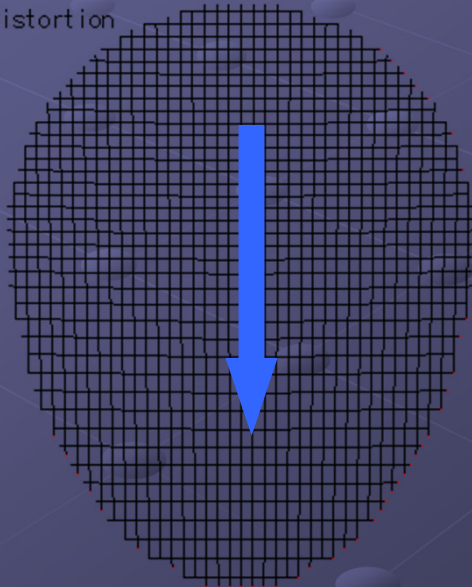
FreeForm optical surfaces

- high speed cutting for ***Freely Definable Mathematical Parameters***
- ***Eyeball rotation based calculation***
- ***Balanced View Control (distorsion control)***
- ***Listing's Law***

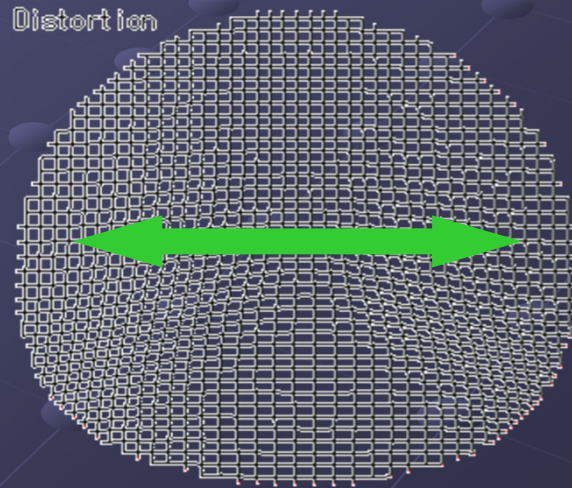
History: Front or back design



Distortion



Distortion



“Front” or “Back”?

- “Front”: eye ball rotation easier to read part
- “Front”: less wide intermediate zone and reading part (more vertex distance)

“Front” or “Back”?

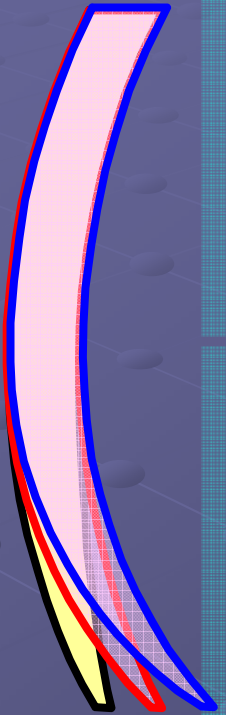

- “Back”: eye ball rotation is larger
- “Back”: wider intermediate zone and reading part (vertex distance = smaller)

Twin design “front” and “back”

- The main characteristic is that both the benefits and advantages of the front and the back are placed on the right place.

Classification by design

Front Surface Design

- 
- 
- Hoyalux GP/ Wide
 - Hoyalux Summit Pro/ Summit CD
 - Zeiss Gradal HS
 - Zeiss Individual
 - Essilor Physio
 - Anateo

Back Surface Design

- 
- Rodenstock Impression
 - Rodenstock Multigressiv
 - Rodenstock Freesign
 - Seiko P-1
 - Tokai BS
 - Nikon Presio
 - Essilor Ipseo



HOYALUX iD

Integrated Double
surface design



HOYALUX iD

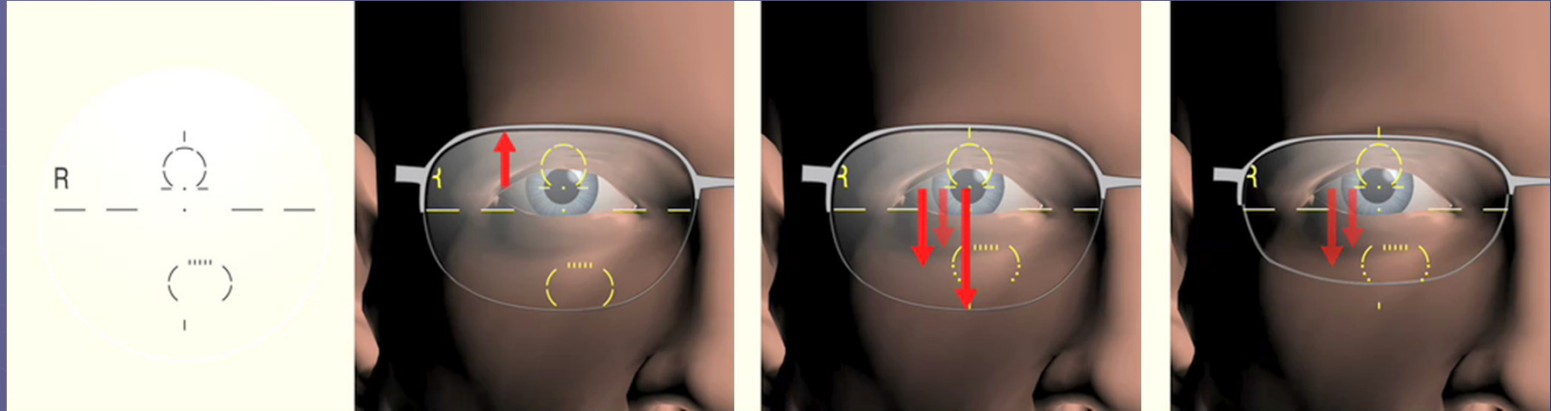
LifeStyle

eStyle

Advanced Back Surface
controlled design

Advising: Personal data

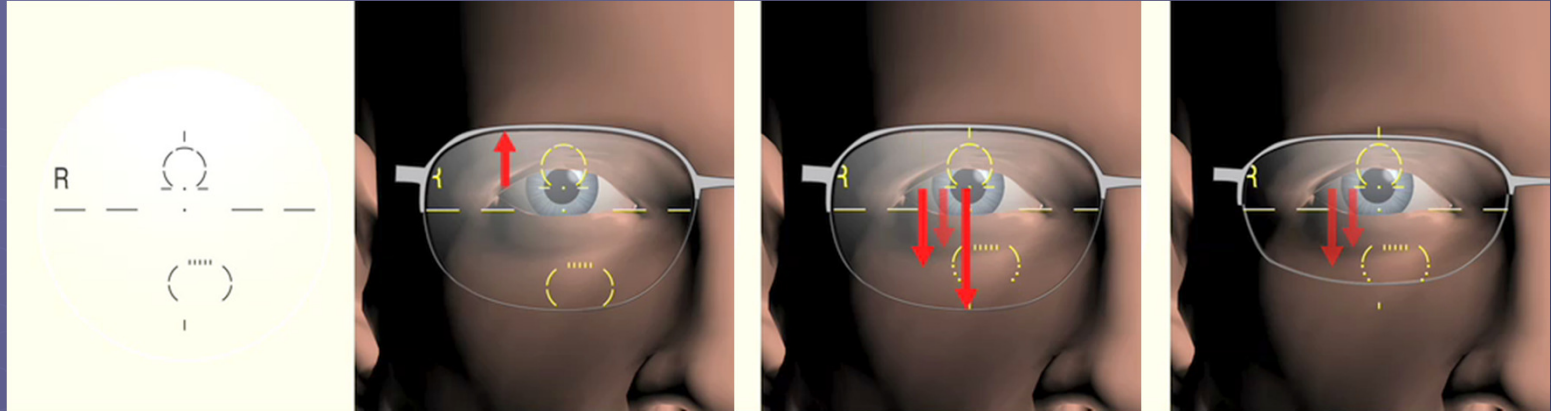
- Centration (height)
- Pupildistance
- Monocular PD
- Variable Inset
- Inset of choice
- Reduction prism
- Vertex distance
- Pantoscopic angle
- Frame face form angle
- Head movement
- Eye movement



Fitting procedure

Zone length & minimum space

Eye Point – top rim	10mm at least	tolerance 2mm
Eye point – bottom rim		
➤ 14mm zone length	at least 18mm	tolerance 1mm
➤ 11mm zone length	at least 14mm	tolerance 1mm



Fitting procedure

- **Angle of inclination**
 - recommended angle = 8 -12 degrees
- **Vertex Distance**
 - recommended vertex distance = 12.5mm

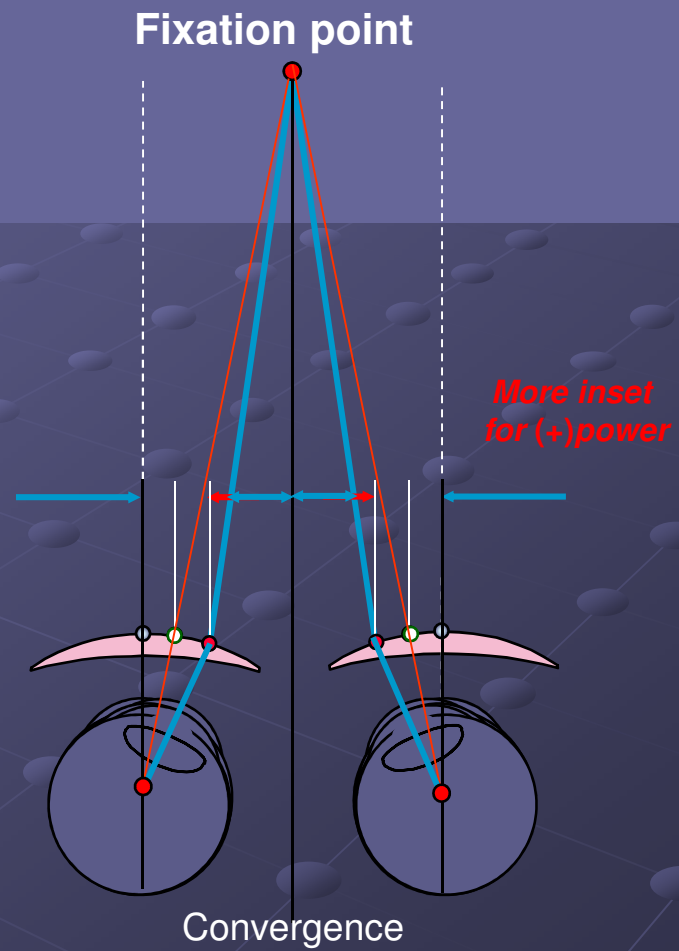
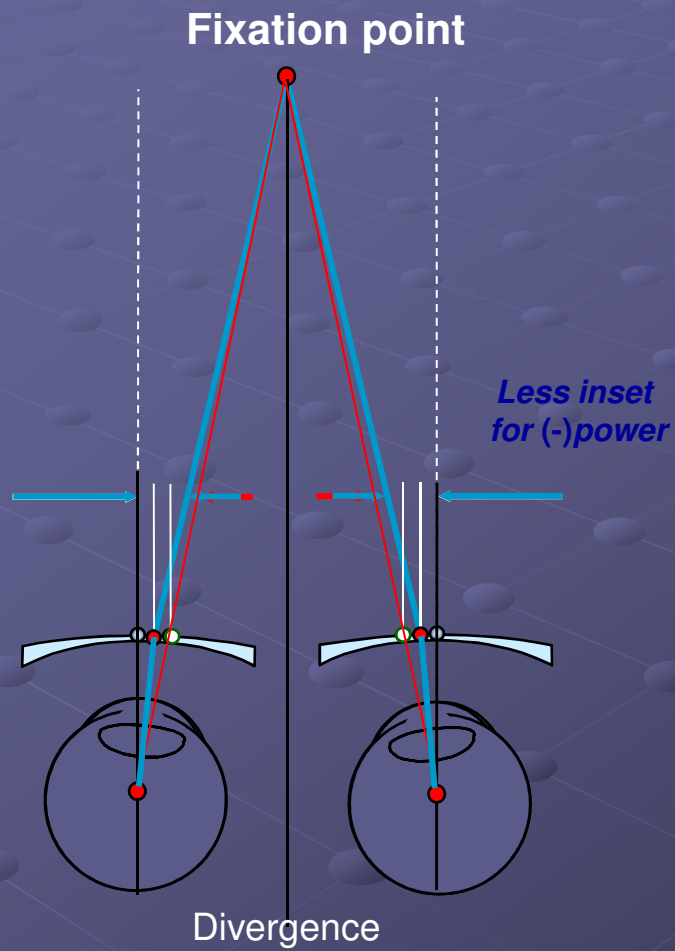
Variable inset

- Inset is determined by the manufacturer
- Average 2.5 mm nasally compared to distant part
- Variable: depending on the distance correction

Variable inset

- The more hyperopic, the greater the inset because the stronger the convergence
- The more myopic, the smaller the inset because the weaker convergence

Fitting procedure: Variable Inset



Inset of choice

- From 0 to 6 mm
- Convergence (insufficiency / excess)
- Amblyopia
- Anisometropia
- Small pupildistance
- Large pupildistance
- High hyperopia

Reduction prism

- Value: Prism = $0.67 \times$ addition
- Influence
- Tradition
- Sheedy en Parsons
- Vertical prism < 2 prismatic dioptries
- Vertical prism > 4 prismatic dioptries

Advising: Life style



Troubleshooting

- Refraction
- Design
- History
- Centration





Thank you !