Q

- *What are the three basic forms of visual deficit?*

1) *Decreased*

2)

3)

A

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity

2)

3)

Q

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity (ie, a [ ] visual deficit)

2)

3)

A

- ***What are the three basic forms of visual deficit?***

1) *Decreased* acuity (ie, a **central** visual deficit)

2)

3)

Q

- ***What are the three basic forms of visual deficit?***

1) ***Decreased acuity*** (ie, a **central** visual deficit)

   Per the Academy, what is the Snellen cutoff for low vision?

2)

3)

A

- *What are the three basic forms of visual deficit?*

1) ***Decreased* acuity** (ie, a **central** visual deficit)

2) *Per the Academy, what is the Snellen cutoff for low vision?*
Worse than 20/40 in the better-seeing eye

3)

Q

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* abb.

3)

A

- ***What are the three basic forms of visual deficit?***

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* VF

3)

Q

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* VF (ie, a [ ] visual deficit)

3)

A

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* VF (ie, a **peripheral** visual deficit)

3)

Q

- ***What are the three basic forms of visual deficit?***

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* VF (ie, a **peripheral** visual deficit)

3) *Decreased* [two words]

A

- *What are the three basic forms of visual deficit?*

1) *Decreased* acuity (ie, a **central** visual deficit)

2) *Constricted* VF (ie, a **peripheral** visual deficit)

3) *Decreased* contrast sensitivity

Q

- ***In general terms, how is each managed?***

1) *Decreased* acuity (ie, a **central** visual deficit)
   - [redacted] is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)

3) *Decreased* contrast sensitivity

A

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)

3) *Decreased* contrast sensitivity

Q

- ***In general terms, how is each managed?***

1) *Decreased* acuity (ie, a **central** visual deficit)

- **Magnification** is the mainstay of treatment

How does ***magnification*** *help in central acuity loss?*

l visual deficit)

3) *Decreased* contrast sensitivity

A

- ***In general terms, how is each managed?***

1) *Decreased* acuity (ie, a **central** visual deficit)

- **Magnification** is the mainstay of treatment

How does ***magnification*** *help in central acuity loss?*
By enlarging the image, magnification moves it out beyond the area of the central defect

l visual deficit)

3) *Decreased* contrast sensitivity

Q

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - [redacted] and [redacted] training are mainstays of tx

3) *Decreased* contrast sensitivity

A

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - Orientation and mobility training are mainstays of tx

3) *Decreased* contrast sensitivity

Q

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment
2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - **Orientation and mobility training** are mainstays of tx
3) *De*

Why doesn't magnification play a role in managing peripheral visual loss?

A

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment
2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - **Orientation and mobility training** are mainstays of tx
3) *De*

Why doesn't magnification play a role in managing peripheral visual loss?
By enlarging the image, magnification would move it **into** the area of deficit

Q

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - Orientation and mobility training are mainstays of tx

3) *Decreased* contrast sensitivity
   - ***?***
   - ***?***
   - ***?***
   - ***?***

Multiple tx approaches

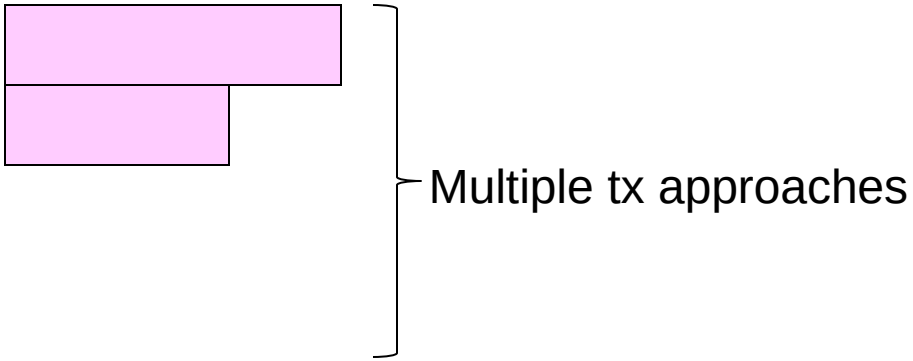
Q/A

- *In general terms, how is each managed?*

1) *Decreased* acuity (ie, a **central** visual deficit)
   - Magnification is the mainstay of treatment

2) *Constricted* VF (ie, a **peripheral** visual deficit)
   - Orientation and mobility training are mainstays of tx

3) *Decreased* contrast sensitivity
   - Increased
   - Increased
   - *?*
   - *?*



A

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2) *Constricted* VF (ie, a **peripheral** visual deficit)
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3) *Decreased* contrast sensitivity
   - Increased illumination
   - Increased contrast
   - *?*
   - *?*

} Multiple tx approaches

Q

- ***In general terms, how is each managed?***

1) *Decreased* acuity (ie, a **central** visual deficit)
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   - Increased illumination
   - Increased contrast
   - nuisance control
   - *?*

Multiple tx approaches

A

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   - Increased illumination
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   - *?*

} Multiple tx approaches

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3) *Decreased* contrast sensitivity
   - Increased illumination
   - Increased contrast
   - Glare control
   - +/- previously discussed method

Multiple tx approaches

A

- *In general terms, how is each managed?*

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3) *Decreased* contrast sensitivity
   - Increased illumination
   - Increased contrast
   - Glare control
   - +/- magnification

} Multiple tx approaches

Q

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In general, should pts with poor contrast sensitivity be prescribed telescopic devices?

A

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Not in most cases

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Not in most cases

Why not?

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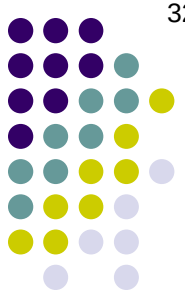
3) *Decreased* contrast sensitivity
   - Increased illumination
   - Increased contrast
   - Glare control
   - **+/- magnification**

In general, should pts with poor contrast sensitivity be prescribed telescopic devices?
Not in most cases

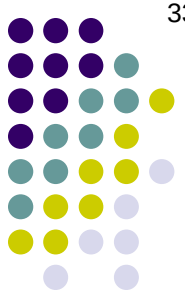
Why not?
Because each lens in a scope will inevitably degrade contrast to some degree

Q



- If VA is moderately poor (less than ~20/100), what can be done to obtain a more accurate refraction and estimate of BCVA?

A



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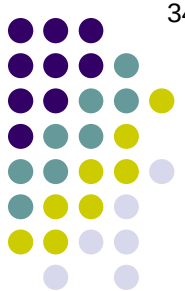
  Refract the patient at 10 feet instead of 20. This allows finer gradations during both refraction and acuity assessment.

A



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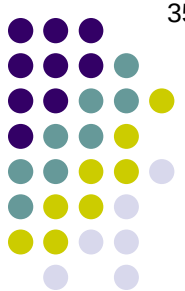
  Refract the patient at 10 feet instead of 20. This allows finer gradations during both refraction and acuity assessment. Consider a patient who, when refracted at 20 feet, can read the 20/200 line but not the 20/100. It would seem that BCVA is 20/200. However, if she is refracted/assessed at 10 feet, she may be able to read lines between the 20/50 (equivalent to 20/100) and 20/100 (equivalent to 20/200).

A



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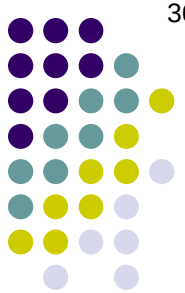
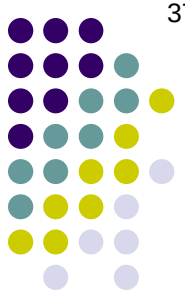
Q



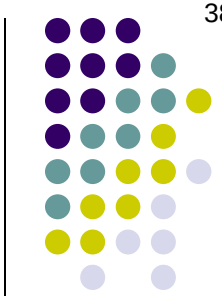
- What are the three ways to magnify an image?
  1) ***?***
  2) ***?***
  3) ***?***

A



- What are the three ways to magnify an image?
  1) Move the eye and object closer to one another
  2) Physically enlarge the object
  3) Increase the angular subtense of the object's retinal image independent of the object's size and distance

Q



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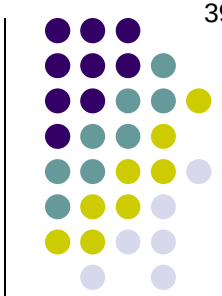
- What device can do this, ie, magnify a retinal image without decreasing the distance between the retina and the object or manipulating object size?

A



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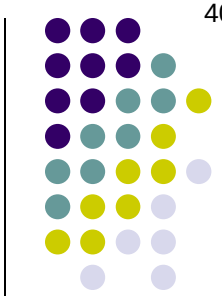
  - A telescope (includes binoculars, by the way)

Q



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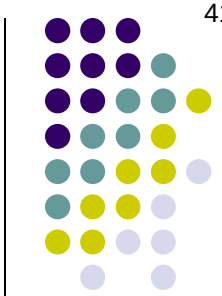
  - A telescope (includes binoculars, by the way)
- What phenomenon places practical limits on the magnification power that can be used *binocularly*?

A



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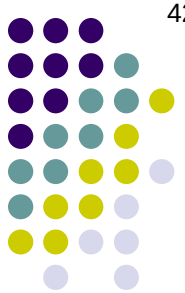
- What phenomenon places practical limits on the magnification power that can be used *binocularly*?
  - The ***convergence demand*** imposed by the magnification

Q

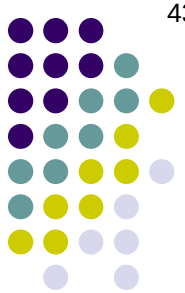


- What are the three ways to magnify an image?
  1) Move
  2) Phys
  3) Incre
     imag
- What
  decrea
  object,
  - A tel
- What p
  magni
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\textit{something}}{\textit{something}}$$

Q/A



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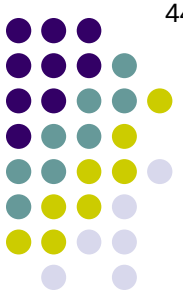
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD}\ [\text{units}]}{\text{Viewing distance}\ [\text{units}]}$$

A



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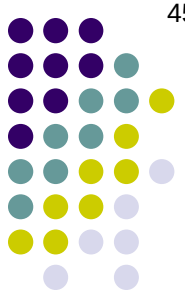
  object,
  - A tel
- What p
  magni
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\text{Viewing distance (m)}}$$

Q



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PD I get. But what determines viewing distance?

the

y?

Q/A

- What are the three ways to magnify an image?
  1) Move
  2) Phys
  3) Incre imag
- What
  decrea the object,
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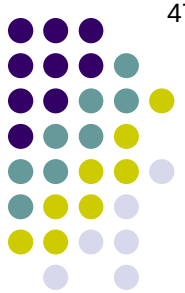
How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\textbf{Viewing distance (m)}}$$

PD I get. But what determines viewing distance?
It is the [redacted] of the dioptric power of the magnifier in question

A



- What a
  1) Move
  2) Phys
  3) Incre
     imag
- What
  decrea
  object
  - A tel
- What
  magni
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\textbf{Viewing distance (m)}}$$

PD I get. But what determines viewing distance?
It is the reciprocal of the dioptric power of the magnifier in question

- What are the three ways to magnify an image?
  1) Move
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  3) Incre
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  decrea
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How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\text{Viewing distance (m)}}$$

Say a patient has a PD of 60mm, and wants to use a 5D magnifier.

(No question yet—proceed when ready)

Q

- What are the three ways to magnify an image?
  1) Move
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Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
What will be the resulting convergence demand?

$$\text{Convergence demand} = \frac{?}{?}$$

A

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How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\text{Viewing distance (m)}}$$

Say a patient has a PD of **60mm**, and wants to use a **5D** magnifier.
What will be the resulting convergence demand?

60mm = 6cm

1/5 = 0.2

$$\text{Convergence demand} = \frac{6}{0.2}$$

Q

- What are the three ways to magnify an image?
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Convergence demand = ***?***

A

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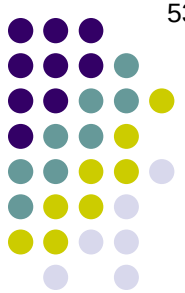
Convergence demand = 30Δ

Q



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Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
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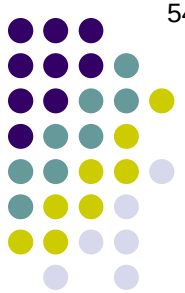
$$\text{Convergence demand} = \frac{6}{0.2}$$

Convergence demand = 30Δ

In this context, what does the delta (Δ) *signify?*

A



- What a
  1) Move
  2) Phys
  3) Incre
     imag
- What c
  decrea
  object,
  - A tel
- What p
  magni
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

$$\text{Convergence demand} = \frac{\text{Pupillary distance, PD (cm)}}{\text{Viewing distance (m)}}$$

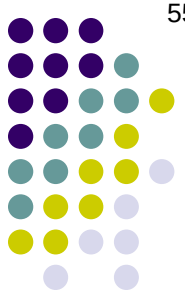
Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
What will be the resulting convergence demand?

$$\text{Convergence demand} = \frac{6}{0.2}$$

Convergence demand = 30Δ

In this context, what does the delta (Δ) *signify?* ***Prism*** **diopters**

Q



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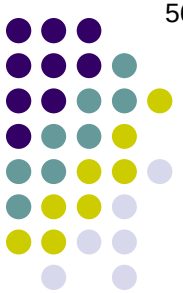
Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
What will b

Is this a reasonable amount of convergence to ask of a patient?

Convergence demand = 30Δ

A



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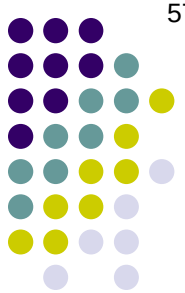
Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
What will b

Is this a reasonable amount of convergence to ask of a patient?
Not really—30D is a very large convergence demand

Convergence demand = 30Δ

Q



- What are the three ways to magnify an image?
  1) Move
  2) Phys
  3) Incre
     imag
- What
  decrea
  object,
  - A tel
- What p
  magni
  - The ***convergence demand*** imposed by the magnification

How is convergence demand calculated?

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Say a patient has a PD of 60mm, and wants to use a 5D magnifier.
What will b

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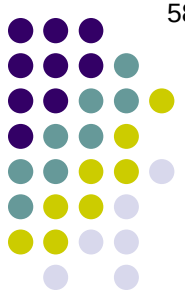
Not really—30D is a very large convergence demand

What could be done to reduce it?

Convergence demand = 30Δ

Q/A



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What will b

Is this a reasonable amount of convergence to ask of a patient?
Not really—30D is a very large convergence demand

What could be done to reduce it?
Consider inserting 5D of base-in v base-out prism OU to cut the demand to #

Convergence demand = 30Δ

A

Low Vision: Basics & Pearls

- What a
  1) Move
  2) Phys
  3) Incre
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Not really—30D is a very large convergence demand

What could be done to reduce it?
Consider inserting 5D of base-in prism OU to cut the demand to 20

Convergence demand = 30Δ