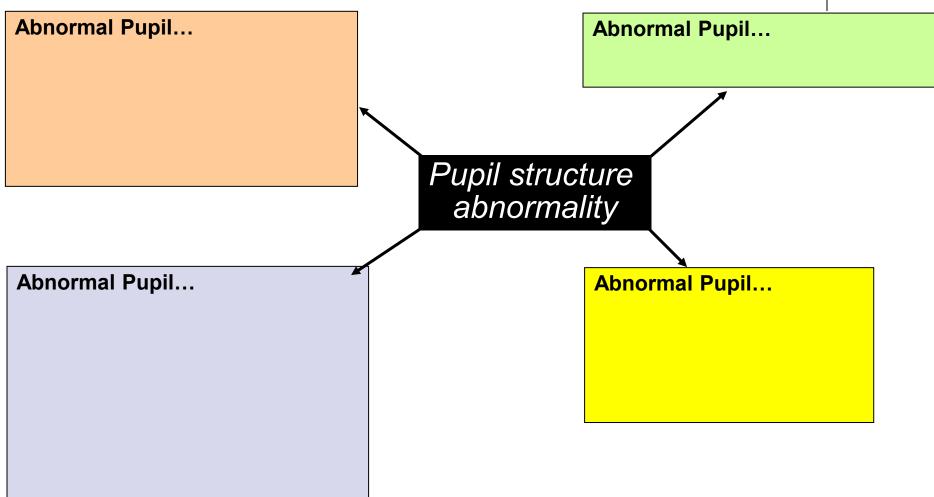
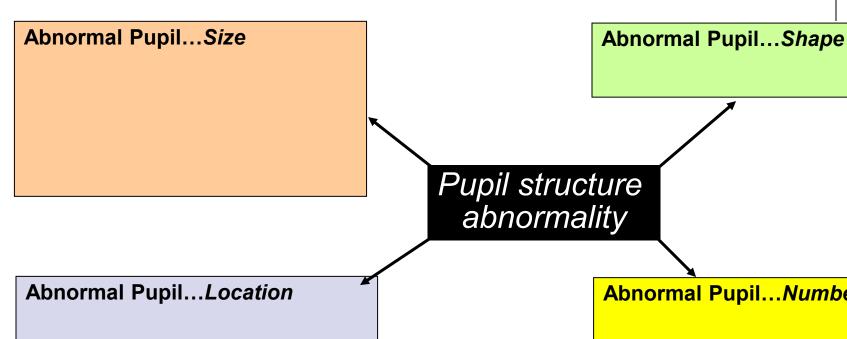
(Other than aniridia)













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2)

Pupil structure abnormality

Abnormal Pupil...Location

Abnormal Pupil...Number

Abnormal Pupil...Shape



Abnormal Pupil...Size

1) Congenital

2) Congenital

Abnormal Pupil...Shape

Pupil structure abnormality

Abnormal Pupil...Location



Abnormal Pupil...Size

1) Congenital miosis (microcoria)

2) Congenital mydriasis

Abnormal Pupil...Location

Abnormal Pupil...Shape

Pupil structure abnormality



Abnormal Pupil...Size

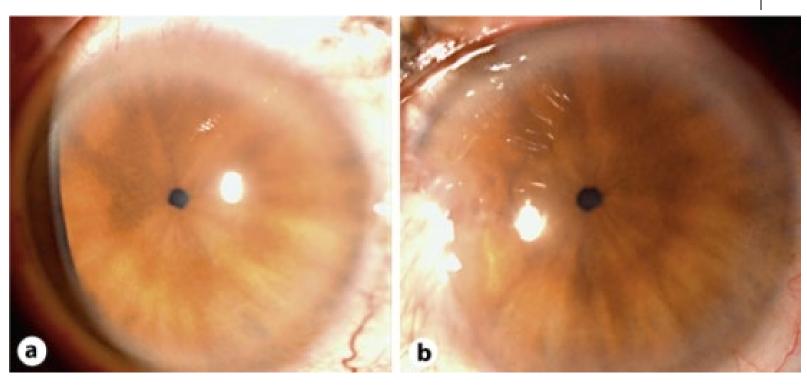
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Abnormal Pupil...Location

Abnormal Pupil...Shape

Pupil structure abnormality





Congenital microcoria



Abnormal Pupil...Size

- 1) Congenital miosis (microcoria)
- --Due to dilator absence/malformation, or fibrous contraction
- --Associated with multiple congenital ocular abnormalities
- 2) Congenital mydriasis

Abnormal Pupil...Shape

Pupil structure abnormality

Abnormal Pupil...Location



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Abnormal Pupil...Shape

Pupil structure abnormality

Abnormal Pupil...Location



Abnormal Pupil...Size

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 - --Probably part of the aniridia spectrum

Abnormal Pupil...Shape

Pupil structure abnormality

Abnormal Pupil...Location







The patient was a 73-year-old female with bilateral congenital mydriasis and no other abnormalities. The pupils reacted almost imperceptibly to light.

Congenital microcoria



Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
- --Due to dilator absence/malformation, or fibrous contraction
- --Associated with multiple congenital ocular abnormalities
- 2) Congenital mydriasis
 - --Probably part of the aniridia spectrum

Abnormal Pupil...Shape -- Dyscoria =

Pupil structure abnormality

Abnormal Pupil...Location



Abnormal Pupil...Size

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Abnormal Pupil...Shape

--**Dyscoria** = congenital misshapen pupil

Pupil structure abnormality

Abnormal Pupil...Location



Abnormal Pupil...Size

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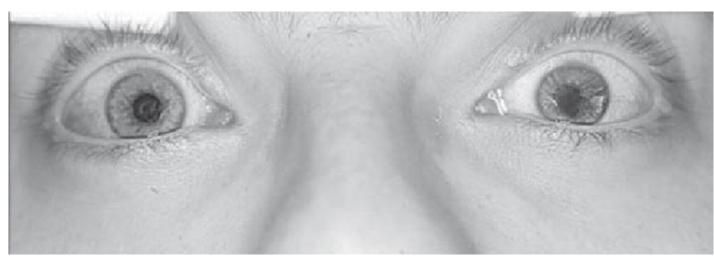
Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location





Slit-shaped dyscoric pupil OS (note also the ipsilateral microcornea)



Abnormal Pupil...Size

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- --Due to dilator absence/malformation, or fibrous contraction
- --Associated with multiple congenital ocular abnormalities
- 2) Congenital mydriasis
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location		
	Typical iris coloboma	?		
	Atypical iris coloboma	?		



Abnormal Pupil...Size

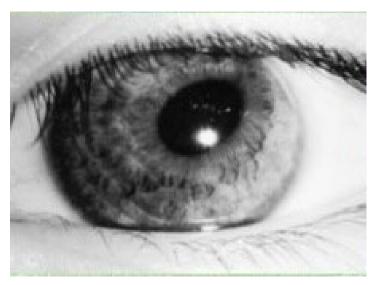
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location		
	Typical iris coloboma	Inferonasal		
	Atypical iris coloboma	Anywhere but inferonasal		





Atypical



Typical

Coloboma



Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
- --Due to dilator absence/malformation, or fibrous contraction
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location	Etiology	
	Typical iris coloboma	Inferonasal	?	
	Atypical iris coloboma	Anywhere but inferonasal	?	



Abnormal Pupil...Size

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location	Etiology	
	Typical iris coloboma	Inferonasal	Incomplete closure of embryonic fissure	
	Atypical iris coloboma	Anywhere but inferonasal	Multiple etiologies implicated	



Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
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Abnormal Pupil...Size

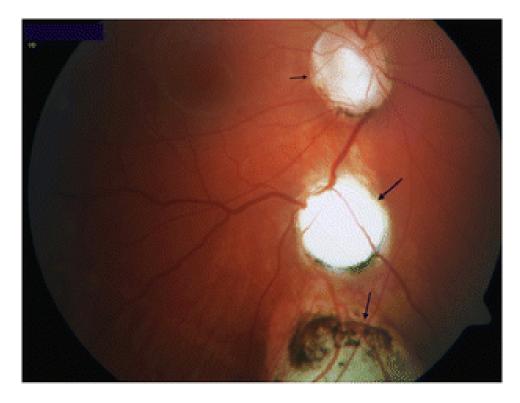
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location	Etiology	Associated abnormalities	
	Typical iris coloboma	Inferonasal	Incomplete closure of embryonic fissure	Colobomas of CB, choroid, optic nerve, retina; nystagmus	
	Atypical iris coloboma	Anywhere but inferonasal	Multiple etiologies implicated	None	





Right eye illustrating optic disc coloboma (small arrow) and two retinochoroidal colobomas (large arrows)

Coloboma



Abnormal Pupil...Size

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- --Due to dilator absence/malformation, or fibrous contraction
- --Associated with multiple congenital ocular abnormalities
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location	Etiology	Associated abnormalities	Workup
	Typical iris coloboma	Inferonasal	Incomplete closure of embryonic fissure	Colobomas of CB, choroid, optic nerve, retina; nystagmus	?
	Atypical iris coloboma	Anywhere but inferonasal	Multiple etiologies implicated	None	?



Abnormal Pupil...Size

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., **coloboma**

Abn		Location	Etiology	Associated abnormalities	Workup
	Typical iris coloboma	Inferonasal	Incomplete closure of embryonic fissure	Colobomas of CB, choroid, optic nerve, retina; nystagmus	If 1+ other organ system abnormal: Do karyotype analysis with extended banding
	Atypical iris coloboma	Anywhere but inferonasal	Multiple etiologies implicated	None	None



Abnormal Pupil...Size

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Abnormal Pupil...Location

Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil --e.g., coloboma

Pupil structure abnormality

> Abnormal Pupil...Number --Polycoria =



Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
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Abnormal Pupil...Location

Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil --e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Number

--Polycoria = >1 pupil



Abnormal Pupil...Size

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Pupil structure abnormality

Abnormal Pupil...Location

Abnormal Pupil...Number

Abnormal Pupil...Shape

--e.g., coloboma

-- **Dyscoria** = congenital misshapen pupil

- --*Polycoria* = >1 pupil
- --True polycoria requires that each pupil has a...



Abnormal Pupil...Size

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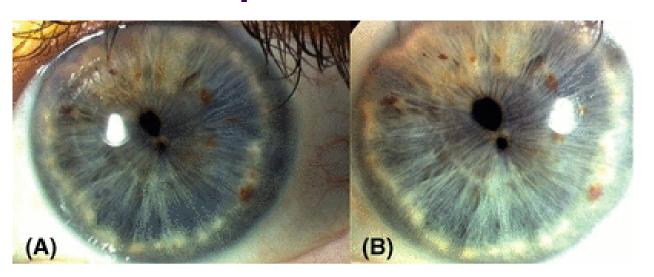
Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

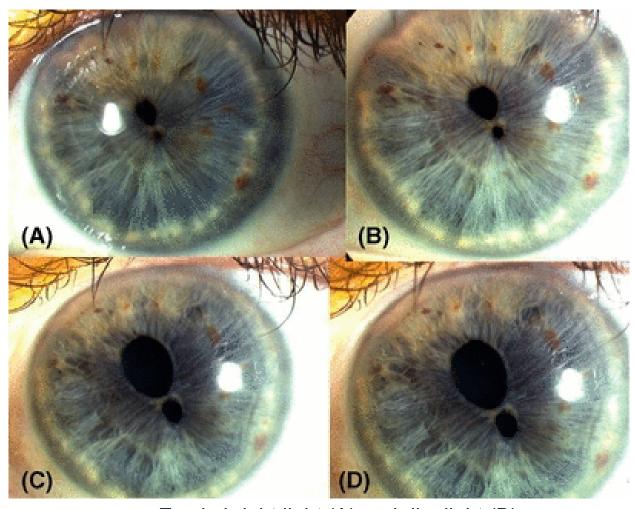
- --Polycoria = >1 pupil
- --True polycoria requires that each pupil has a...sphincter muscle (is exceedingly rare)





Eye in bright light (A) and dim light (B).

True polycoria



Eye in bright light (A) and dim light (B). Following dilatation with tropicamide and phenylephrine (C,D)

True polycoria





Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
- --Due to dilator absence/malformation, or fibrous contraction
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Pupil structure abnormality

Abnormal Pupil...Location

Abnormal Pupil...Number

Abnormal Pupil...Shape

--e.g., coloboma

-- Dyscoria = congenital misshapen pupil

- --Polycoria = >1 pupil
- --True polycoria requires that each pupil has a...sphincter muscle (is exceedingly rare)

accounts for

the vast majority of cases



Abnormal Pupil...Size

- 1) Congenital miosis (microcoria)
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- --Associated with multiple congenital ocular abnormalities
- 2) Congenital mydriasis
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

- --Polycoria = >1 pupil
- --True polycoria requires that each pupil has a...sphincter muscle (is exceedingly rare)
- --Pseudopolycoria accounts for the vast majority of cases





Pseudopolycoria in ICE syndrome



Abnormal Pupil...Size

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- --Due to dilator absence/malformation, or fibrous contraction
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia =

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Abnormal Pupil...Location

Corectopia = displacement of pupil

Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

--Slight (.5mm) direction deviation is **normal**

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Abnormal Pupil...Size

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- 2) Congenital mydriasis
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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

--Slight (.5mm) inferonasal deviation is **normal**

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is *normal*
- -- Deviation up to 1mm considered OK

- --Polycoria = >1 pupil
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Corectopia



Abnormal Pupil...Size

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is *normal*
- --Deviation up to 1mm considered OK Corectopia associated with lens subluxation =

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is *normal*
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subluxation = ectopia lentis et pupillae

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Abnormal Pupil...Shape

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Pupil structure abnormality

Abnormal Pupil...Location

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subluxation = ectopia lentis et pupillae

a)

b)

3 high-yield facts about ectopia lentis et pupillae

c)

- --Polycoria = >1 pupil
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Abnormal Pupil...Size

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Abnormal Pupil...Shape

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Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

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- --Deviation up to 1mm considered OK Corectopia associated with lens

subluxation = ectopia lentis et pupillae

a) uni- v bilateral condition

b)

C)

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

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Corectopia associated with lens subluxation = **ectopia lentis et pupillae**

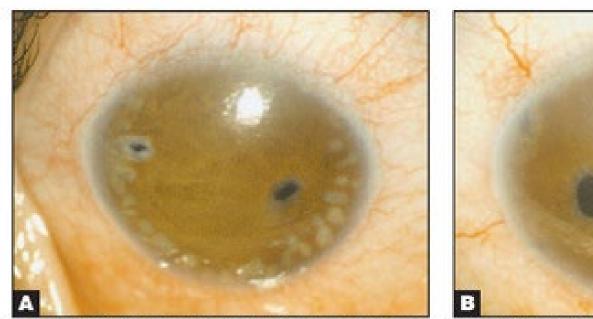
a) Bilateral condition

a) L

C)

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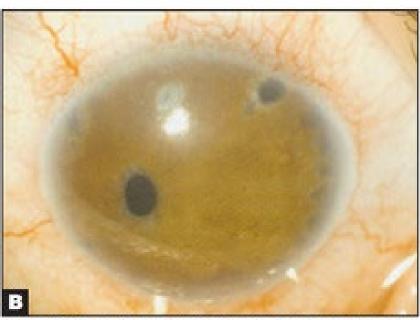


Figure 1. Preoperative view of both eyes in a patient with bilateral ectopia lentis et pupillae syndrome showing several lesions on the iris due to previous laser therapy. (A) Right eye. (B) Left eye.

Ectopia lentis et pupillae: Bilateral involvement



Abnormal Pupil...Size

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Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is **normal**
- --Deviation up to 1mm considered OK Corectopia associated with lens

subluxation = ectopia lentis et pupillae

- a) Bilateral condition
- b) Pupil and lens displaced in directions

same vs opposite

Abnormal Pupil...Number

- --*Polycoria* = >1 pupil
- --True polycoria requires that each pupil has a...sphincter muscle (is exceedingly rare)
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C)



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Pupil structure abnormality

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- a) Bilateral condition
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Abnormal Pupil...Shape

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Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is *normal*
- -- Deviation up to 1mm considered OK

What directions are the pupils and lenses displaced?

- a) bilaterar condition
- b) Pupil and lens displaced in opposite directions
- C)

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Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

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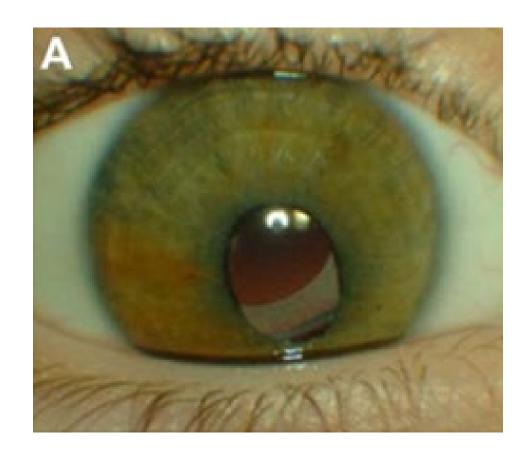
What directions are the pupils and lenses displaced? Pupils inferotemporal, lenses superonasal

- a) Dilateral Condition
- b) Pupil and lens displaced in opposite directions

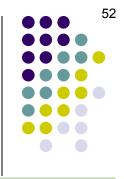
C)

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Ectopia lentis et pupillae: Pupil displaced inferonasal; lens, superotemporal



Abnormal Pupil...Size

- 1) Congenital **miosis** (*microcoria*)
- --Probably part of the aniridia spectrum

Abnormal Pupil...Shape

-- Dyscoria = congenital misshapen pupil --e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is normal
- --Deviation up to 1mm considered OK

What directions are the pupils and lenses displaced? Pupils inferotemporal, lenses superonasal

C)

- b) Pupil and lens displaced in opposite directions
 - Can the pupils and lenses be so displaced that the lens isn't located within the pupillary aperture?

- --Polycoria = >1 pupil
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 - muscle (is exceedingly rare)
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Abnormal Pupil...Size

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Abnormal Pupil...Shape

-- Dyscoria = congenital misshapen pupil --e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

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What directions are the pupils and lenses displaced? Pupils inferotemporal, lenses superonasal

C)

- b) Pupil and lens displaced in opposite directions
 - Can the pupils and lenses be so displaced that the lens isn't located within the pupillary aperture? They can indeed

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 - muscle (is exceedingly rare)
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Abnormal Pupil...Size

- 1) Congenital miosis (microcoria)
- --Due to dilator absence/malformation, or fibrous contraction
- --Associated with multiple congenital ocular abnormalities
- 2) Congenital mydriasis
 - --Probably part of the aniridia spectrum

Abnormal Pupil...Shape

-- **Dyscoria** = congenital misshapen pupil -- e.g., coloboma

Pupil structure abnormality

Abnormal Pupil...Location

Corectopia = displacement of pupil

- --Slight (.5mm) inferonasal deviation is **normal**
- --Deviation up to 1mm considered OK Corectopia associated with lens

subluxation = ectopia lentis et pupillae

- a) Bilateral condition
- b) Pupil and lens displaced in opposite directions
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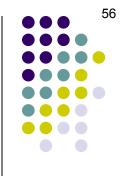
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Ectopia lentis et pupillae: Bilateral inferonasal displacement of slit(ish) pupils



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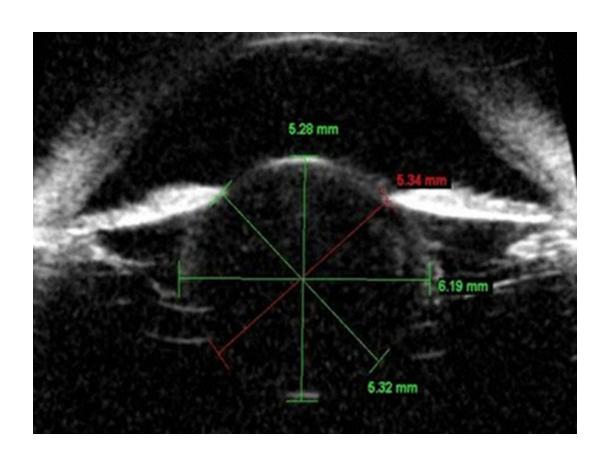
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Microspherophakia. Note the small size, round shape of the lens



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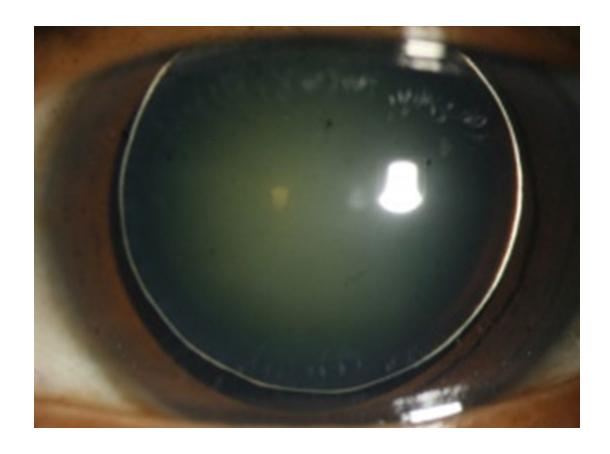
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Weill-Marchesani syndrome: Short stature





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For more on Weill-Marchesani, see slide-set FELT14

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