Before you begin: This is a big topic, and big topics beget big slide-sets. There’s a natural break around the halfway mark (slide 160ish); I placed a *break time!* slide at that point to mark it.
Choroidal nevi are found in ~10% of the population.
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What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to...
Color?
Choroidal nevi are found in ~ 10% of the population. What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to... Color? Gray-brown
Choroidal Nevus vs Melanoma

Choroidal nevus: Typical color
Choroidal nevi are found in ~10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…

- **Color?** Gray brown
- **Amelanotic?** Yes

Can choroidal nevi be amelanotic?
Choroidal nevi are found in ~ 10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…

- **Color?** Gray brown
- **Amelanotic?** Yes!

Can choroidal nevi be amelanotic?

Yes
Choroidal Nevus vs Melanoma

Choroidal nevus: Amelanotic
Choroidal nevi are found in ~ 10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to...

Color? **Gray-brown**
Margins?
Choroidal nevi are found in ~10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to...

Color? Gray-brown
Margins? Indistinct
Choroidal Nevus vs Melanoma

Choroidal nevus: *Indistinct margins*
Choroidal nevi are found in ~ 10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**
Margins? **Indistinct**
Elevation?
Choroidal nevi are found in ~ 10% of the population.

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to...

- **Color?** Gray-brown
- **Margins?** Indistinct
- **Elevation?** Flat (or only minimally elevated)
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant?
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < [mm] thick are benign nevi.
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions <1 mm thick are benign nevi.
Choroidal nevi are found in ~ 10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > [ ] mm thick are melanomas.
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions <1 mm thick are benign nevi
- Virtually all lesions >3 mm thick are melanomas
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.

- Lesion diameter and malignancy: A flat lesion less than [mm] in diameter is almost always benign.
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
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Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
Choroidal Nevi vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation.
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
Choroidal melanoma with orange pigment and subretinal fluid
Choroidal melanoma with orange pigment
Choroidal nevi are found in ~10% of the population

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation

*What is the name of the orange-pigmented substance?*
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange pigmentation**

What is the name of the orange-pigmented substance? Lipofuscin
Choroidal nevi are found in ~ 10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange pigmentation**

What is the name of the orange-pigmented substance? Lipofuscin

Why is it worrisome?
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange** pigmentation

**What is the name of the orange-pigmented substance?**
Lipofuscin

**Why is it worrisome?**
It indicates the lesion is actively growing.
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi
  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of common DFE finding
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:

- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:

- Presence of orange pigmentation
- Absence of drusen
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it's actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen

*That the absence of drusen is worrisome for melanoma suggests that the presence of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case?*

**Absence of drusen**
Choroidal Nevi vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.

That the absence of drusen is worrisome for melanoma suggests that the presence of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case? Indeed it is.

- Absence of drusen
Choroidal nevus with drusen
Choroidal nevi are found in ~ 10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it's actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen

That the absence of drusen is worrisome for melanoma suggests that the presence of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case? Indeed it is

Why is the presence of drusen suggestive that a melanocytic lesion is benign?
- Absence of drusen
Choroidal nevi are found in ~ 10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation.
- Absence of drusen.

That the absence of drusen is worrisome for melanoma suggests that the presence of drusen is the opposite, i.e., that drusen are a reassuring finding. Is this the case?
Indeed it is.

Why is the presence of drusen suggestive that a melanocytic lesion is benign? It indicates the lesion is chronic—that it’s been around a long time.

Absence of drusen.
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange** pigmentation
- Absence of **drusen**
- Presence of subretinal **fluid**
(a) The right fundus showed a small pigmented submacular mass with prominent overlying orange pigment and shallow subretinal fluid, consistent with small choroidal melanoma.
(b) Autofluorescence photography documenting hyperautofluorescence of overlying lipofuscin.
(c) Spectral domain optical coherence tomography showing subfoveal fluid
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation.
- Absence of drusen.
- Presence of subretinal fluid.
- Location adjacent to optic nerve head (ONH).
- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
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- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation.
  - Absence of drusen.
  - Presence of subretinal fluid.
  - Location adjacent to ONH *(ONH = optic nerve head)*.
Choroidal melanoma abutting ONH
Choroidal Nevus vs Melanoma

(Referring to Drs. Jerry and Carol Shields of the Wills Eye Hospital in Philadelphia.)

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

9 words
Choroidal nevi are found in ~ 10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
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Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
“**To Find Small Ocular Melanomas, Use Helpful Hints Daily**”
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions <1 mm thick are benign nevi
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- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
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- Virtually all lesions < 1 mm thick are benign nevi.
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Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
“To Find Small Ocular Melanomas, Use Helpful Hints Daily.”
Choroidal nevi are found in ~10% of the population. Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it's actually a melanoma:
- **Presence of orange pigmentation**
- Absence of drusen
- **Presence of subretinal fluid**
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: **“To Find Small Ocular Melanomas, Use Helpful Hints Daily”**
Choroidal nevi are found in ~10% of the population. Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*  

Lesion thickness and malignancy:  
- Virtually all lesions < 1 mm thick are benign nevi  
- Virtually all lesions > 3 mm thick are melanomas  

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.  

Other features of a pigmented lesion that make you worry it’s actually a melanoma:  
- Presence of *orange* pigmentation  
- Absence of drusen  
- Presence of subretinal *fluid*  
- Location adjacent to ONH  

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:  
*“To Find Small Ocular Melanomas, Use Helpful Hints Daily”*
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

“To Find Small Ocular Melanomas, Use Helpful Hints Daily”
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: **“To Find Small Ocular Melanomas, Use Helpful Hints Daily”**
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.

- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: **“To Find Small Ocular Melanomas, Use Helpful Hints Daily.”**

What symptoms associated with a melanocytic lesion would make you worry the lesion is a melanoma?

Symptomatic
Choroidal Nevus vs Melanoma

Choroidal nevi are found in ~10% of the population. Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign

Other features of a pigmented lesion that make you worry it's actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

What symptoms associated with a melanocytic lesion would make you worry the lesion is a melanoma?
- Metamorphopsia, photopsias, and/or visual field loss

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: “To Find Small Ocular Melanomas, Use Helpful Hints Daily”
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.

- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:

- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

“To Find Small Ocular Melanomas, Use Helpful Hints Daily”
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of **orange** pigmentation
  - Absence of drusen
  - Presence of subretinal **fluid**
  - Location adjacent to **ONH**

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

“To Find Small Ocular Melanomas, Use Helpful Hints Daily”
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.

- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
“To Find Small Ocular Melanomas, Use Helpful Hints Daily”
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant?
  - None!

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi
  - Virtually all lesions > 3 mm thick are melanomas

- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign

- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

"To Find Small Ocular Melanomas,
Use Helpful Hints Daily"
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
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  - Virtually all lesions < 1 mm thick are benign nevi.
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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: “To Find Small Ocular Melanomas, Use Helpful Hints Daily.”

- Thickness > 2 mm
- Fluid present
- Orange pigment
- Margin touching ONH
- Symptomatic
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.

- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.

- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

"To Find Small Ocular Melanomas, Use Helpful Hints Daily"
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi.
- Virtually all lesions > 3 mm thick are melanomas.

Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of orange pigmentation
- Absence of drusen
- Presence of subretinal fluid
- Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma: "To Find Small Ocular Melanomas, Use Helpful Hints Daily"
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? None!
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  - Virtually all lesions < 1 mm thick are benign nevi.
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- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

**To Find Small Ocular Melanomas,**

**Use Helpful Hints Daily**

- Thickness > 2 mm
- Fluid present
- Orange pigment
- Margin touching ONH
- Ultrasonographic Hollowness
- Halo absence

None of these features is pathognomonic for a melanoma.
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi.
  - Virtually all lesions > 3 mm thick are melanomas.
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

“To Find Small Ocular Melanomas, Use Helpful Hints Daily”

- **Thickness** >2mm
- **Fluid present**
- **Orange pigment**
- **Margin touching ONH**
- **Ultrasonographic Hollowness**
- **Halo absence**
- **Symptomatic**
Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~10% of the population.
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi
  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign.
- Other features of a pigmented lesion that make you worry it’s actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

“To Find Small Ocular Melanomas, Use Helpful Hints Daily”

- Thickness >2mm
- Fluid present
- Orange pigment
- Margin touching ONH
- Drusen absence
- Ultrasoneographic Hollowness
- Halo absence
- Symptomatic
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

Lesion thickness and malignancy:
- Virtually all lesions < 1 mm thick are benign nevi
- Virtually all lesions > 3 mm thick are melanomas

Lesion diameter and malignancy:
- A flat lesion less than 10 mm in diameter is almost always benign

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange** pigmentation
- Absence of **drusen**
- Presence of subretinal **fluid**
- Location adjacent to **ONH**
Choroidal nevi are found in ~10% of the population.

Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? **None!**

- **Lesion thickness and malignancy:**
  - Virtually all lesions <1 mm thick are benign nevi.
  - Virtually all lesions >3 mm thick are melanomas.

- **Lesion diameter and malignancy:**
  - A flat lesion less than 10 mm in diameter is almost always benign.

Other features of a pigmented lesion that make you worry it’s actually a melanoma:
- Presence of **orange** pigmentation
- Absence of **drusen**
- Presence of subretinal **fluid**
- Location adjacent to **ONH**

**None of them.** Remember, there is no pathognomonic clinical feature distinguishing choroidal nevi from choroidal melanoma!
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ big number
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?

Cutaneous
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

**Q**

Which is more common, cutaneous or intraocular melanoma? How much more common is it? Cutaneous. About # times more common.
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?
How much more common is it?
Cutaneous. About 20 times more common.

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma...

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at age range
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65
    - Smaller peak at age range
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65
    - Smaller peak at 20-40
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M= F
    - Smaller peak at 20-40

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40
Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma...

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M > F
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

Does intraocular melanoma occur in children?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

Does intraocular melanoma occur in children?
Yes, albeit rarely
Q

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

*Does intraocular melanoma occur in children?*
Yes, albeit rarely

*Does the pediatric version carry a better or worse prognosis c/w the adult version?*
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

**Does intraocular melanoma occur in children?**
Yes, albeit rarely

**Does the pediatric version carry a better or worse prognosis c/w the adult version?**
Better
Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors:**
  - ?
  - ?
  - ?
  - ?
  - ?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g.,
    - ?
    - ?
    - ?
    - ?
Incidence: 6-7/ million

Two peaks (age in years):
- Main peak is at 55-65; at this peak, incidence is $M = F$
- Smaller peak at 20-40; at this peak, incidence is $M < F$

Risk factors:
- Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
- ?
- ?
- ?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis? Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

How does dermal melanocytosis present clinically?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
  - Risk factors:
    - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
    - Light irides
    - Cigarette smoking
    - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

How does dermal melanocytosis present clinically?
With eyelid and periocular skin containing patches of diffusely brown, gray, or blue pigmentation
Dermal melanocytosis
Re choroidal/Ciliary Body melanoma...

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., *oculodermal melanocytosis*)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis +

How does ocular melanocytosis present clinically?
Re choroidal/Ciliary Body melanoma...

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
  - Risk factors:
    - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
    - Light irides
    - Cigarette smoking
    - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

How does ocular melanocytosis present clinically?
With slate-gray patches of episcleral pigmentation

A
Ocular melanocytosis
Ocular melanocytosis
Ocular melanocytosis

A, Clinical photograph illustrating slate-gray patches of pigmentation of the scleral surface.

Choroidal Nevus vs Melanoma
A, Clinical photograph illustrating slate-gray patches of pigmentation of the scleral surface.
B, Histologic examination shows an increased population of intensely pigmented spindle and dendritic melanocytes in the deep episclera (E), sclera (S), and uveal tract (U).

Ocular melanocytosis
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

How does ocular melanocytosis present clinically?
With slate-gray patches of episcleral pigmentation

In addition to choroidal melanoma, an eye with ocular melanocytosis is at increased risk of what other potentially blinding (but not fatal) ocular condition?
Re choroidal/Ciliary Body melanoma...

- Incidence: 6-7/million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$
  - Risk factors:
    - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
    - Light irides
    - Cigarette smoking
    - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis? Nevus of Ota

In a nutshell, what is oculodermal melanocytosis? Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does it manifest an ethnicity predilection? It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

How does ocular melanocytosis present clinically? With slate-gray patches of episcleral pigmentation

In addition to choroidal melanoma, an eye with ocular melanocytosis is at increased risk of what other potentially blinding (but not fatal) ocular condition? Glaucoma—about 10% of these eyes develop it
Re choroidal/Ciliary Body melanoma...

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., *oculodermal melanocytosis*)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

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**What is the eponymous name for oculodermal melanocytosis?**
Nevus of Ota

**In a nutshell, what is oculodermal melanocytosis?**
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

**How does ocular melanocytosis present clinically?**
With slate-gray patches of episcleral pigmentation

**In addition to choroidal melanoma, an eye with ocular melanocytosis is at increased risk of what other potentially blinding (but not fatal) ocular condition?**
Glaucoma—about 10% of these eyes develop it
Re choroidal/Ciliary Body melanoma...

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
  - Risk factors:
    - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
    - Light irides
    - Cigarette smoking
    - Northern European ethnicity

**What is the eponymous name for oculodermal melanocytosis?**
Nevus of Ota

**In a nutshell, what is oculodermal melanocytosis?**
Ocular melanocytosis + dermal melanocytosis  
*(Thanks, Captain Obvious)*

(Pictured on the next several slides)
Oculodermal melanocytosis (nevus of Ota)
Oculodermal melanocytosis (nevus of Ota)
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does oculodermal melanocytosis manifest an ethnicity predilection?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent
Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma...

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?
None
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$
- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)

What is the eponymous name for oculodermal melanocytosis? Nevus of Ota

In a nutshell, what is oculodermal melanocytosis? Ocular melanocytosis + dermal melanocytosis

Does oculodermal melanocytosis manifest an ethnicity predilection? It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma? None

OK then, for whom does it convey an increased risk?
Re choroidal/Ciliary Body melanoma...

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F
  
- **Risk factors:**
  - Ocular melanocytic conditions (e.g., *oculodermal melanocytosis*)

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1. What is the eponymous name for *oculodermal melanocytosis*?
   - Nevus of Ota

2. In a nutshell, what is *oculodermal melanocytosis*?
   - Ocular melanocytosis + dermal melanocytosis

3. Does *oculodermal melanocytosis* manifest an ethnicity predilection?
   - It is more common among relatively pigmented peoples: **Hispanic, African, and/or Asian descent**

4. *In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?*
   - None

5. *OK then, for whom does it convey an increased risk?*
   - Caucasians
Re choroidal/Ciliary Body melanoma...

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- **Risk factors**:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

---

What is the eponymous name for oculodermal melanocytosis?

Nevus of Ota

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?

For Caucasians, does Nevus of Ota convey a substantial risk of uveal melanoma?

Ok then, for whom does it convey an increased risk?

Caucasians

Does oculodermal melanocytosis manifest an ethnicity predilection?

It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent
Q/A

Re choroidal/Ciliary Body melanoma...

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- **Risk factors**:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

OK then, for whom does it convey an increased risk?
Caucasians

For Caucasians, does Nevus of Ota convey a substantial risk of uveal melanoma?
Indeed it does—it is estimated that 1 in 400 will develop one!

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?

Does oculodermal melanocytosis manifest an ocular predilection?
Re choroidal/Ciliary Body melanoma…

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$
  - **Risk factors**:
    - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
    - Light irides
    - Cigarette smoking
    - Northern European ethnicity

---

**What is the eponymous name for oculodermal melanocytosis?**
Nevus of Ota

**In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?**
Caucasians

**For Caucasians, does Nevus of Ota convey a substantial risk of uveal melanoma?**
Indeed it does—it is estimated that 1 in 400 will develop one!

**Does oculodermal melanocytosis manifest an ethnicity predilection?**
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent
Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., *oculodermal melanocytosis*)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

---

**What is the eponymous name for oculodermal melanocytosis?**
Nevus of Ota

**In a nutshell, what is oculodermal melanocytosis?**
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

**Does oculodermal melanocytosis manifest an ethnicity predilection?**
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

**For Caucasians, does Nevus of Ota convey a substantial risk of uveal melanoma?**
Indeed it does—it is estimated that 1 in 400 will develop one!

**In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?**
Caucasians

**Does oculodermal melanocytosis manifest an arbitrary predilection?**
No, it does not have a specific predilection.
Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - **Two peaks (age in years):**
    - Main peak is at 55-65; at this peak, incidence is M = F
    - Smaller peak at 20-40; at this peak, incidence is M < F

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

**For more on Nevus of Ota, see slide-set O9**

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

For Caucasians, does Nevus of Ota convey a substantial risk of uveal melanoma?
Indeed it does—it is estimated that 1 in 400 will develop one!

In which of these groups do oculodermal melanocytosis convey an increased risk of melanoma?
- Caucasians

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent
Q

Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - **color, sort of** irides

Next question
Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
Q

Re choroidal/Ciliary Body melanoma...

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors**:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - **Light** irides
  - **bad habit**
  - ?
Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - ?
Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is \( M = F \)
    - Smaller peak at 20-40; at this peak, incidence is \( M < F \)

- Risk factors:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity
Re choroidal/Ciliary Body melanoma…

- **Incidence:** 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors:**
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity
Re choroidal/Ciliary Body melanoma…

- **Incidence**: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is $M = F$
    - Smaller peak at 20-40; at this peak, incidence is $M < F$

- **Risk factors**:
  - Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
  - Light irides
  - Cigarette smoking
  - Northern European ethnicity

**Is sun exposure a risk factor for choroidal melanoma?**
Incidence: 6-7/ million

- Two peaks (age in years):
  - Main peak is at 55-65; at this peak, incidence is M = F
  - Smaller peak at 20-40; at this peak, incidence is M < F

Risk factors:
- Ocular melanocytic conditions (e.g., oculodermal melanocytosis)
- Light irides
- Cigarette smoking
- Northern European ethnicity

Is sun exposure a risk factor for choroidal melanoma?

Probably, although definitive data are lacking
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma?
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? **The COMS**
- What does COMS stand for?
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS?
Q/A

Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

- What does COMS stand for? Collaborative Ocular Melanoma Study

- What was the basic structure of the COMS? Three subtrials based on two words
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

Q

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

● What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

● What does COMS stand for? Collaborative Ocular Melanoma Study

● What was the basic structure of the COMS? Three subtrials based on tumor size:
  - Small Tumors
  - Medium Tumors
  - Large Tumors
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

In general experimental-design terms, what sort of study was each trial?
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

- Small Tumors: Observational
- Medium Tumors: RCT
- Large Tumors: RCT

In general experimental-design terms, what sort of study was each trial?
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

About how many eyes were enrolled in each?
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

<table>
<thead>
<tr>
<th>Tumor Size</th>
<th>Number of Eyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Tumors</td>
<td>~200</td>
</tr>
<tr>
<td>Medium Tumors</td>
<td>~1300</td>
</tr>
<tr>
<td>Large Tumors</td>
<td>~1000</td>
</tr>
</tbody>
</table>

*About how many eyes were enrolled in each?*
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

![Diagram showing three subtrials: Small Tumors vs Medium Tumors vs Large Tumors, with each subtrial having a study arm vs study arm comparison.]

**Choroidal Nevus vs Melanoma**
Re choroidal/Ciliary Body melanoma…

● What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

● What does COMS stand for? Collaborative Ocular Melanoma Study

● What was the basic structure of the COMS? Three subtrials based on tumor size

- Small Tumors vs Treatment vs Observation
- Medium Tumors
- Large Tumors

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

**Diagram:**

- **Small Tumors**
  - Treatment vs Observation
- **Medium Tumors**
  - study arm vs study arm
- **Large Tumors**
  - study arm vs study arm
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

**Diagram:**

- Small Tumors
  - Treatment vs Observation
- Medium Tumors
  - Enucleation vs Plaque brachytherapy
- Large Tumors
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

**Choroidal Nevus vs Melanoma**

- Small Tumors vs Observation
- Medium Tumors vs Enucleation vs Plaque brachytherapy
- Large Tumors vs study arm vs study arm
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

**Diagram:**
- **Small Tumors**: Treatment vs Observation
- **Medium Tumors**: Enucleation vs Plaque brachytherapy vs Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT
- **Large Tumors**
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS.
- What does COMS stand for? Collaborative Ocular Melanoma Study.
- What was the basic structure of the COMS? Three subtrials based on tumor size:
  - Small Tumors: Treatment vs Observation
  - Medium Tumors: Enucleation vs Plaque brachytherapy
  - Large Tumors: Enucleation w/pre-op XBRT vs Enucleation w/o pre-op XBRT

Note the crucial distinction!

Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size:
  - Small Tumors: Treatment vs Observation
  - Medium Tumors: Enucleation vs Plaque brachytherapy
  - Large Tumors: Enucleation vs Enucleation w/o pre-op

In this context, What does XBRT stand for? External-beam radiotherapy.
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

- What does COMS stand for? Collaborative Ocular Melanoma Study

- What was the basic structure of the COMS? Three subtrials based on tumor size

Small Tumors

- Treatment vs Observation

Medium Tumors

- Enucleation vs Plaque brachytherapy

Large Tumors

- Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

*In this context, What does XBRT stand for? External-beam radiotherapy*
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS?
  Three subtrials based on tumor size:
  - Small Tumors: Treatment vs Observation
  - Medium Tumors: Enucleation vs Plaque brachytherapy 
  - Large Tumors: Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

**Did pre-op XBRT improve survival?**

**Choroidal Nevus vs Melanoma**
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS?
  - Three subtrials based on tumor size
    - Small Tumors
      - Treatment vs Observation
    - Medium Tumors
      - Enucleation vs Plaque brachytherapy
    - Large Tumors
      - Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Did pre-op XBRT improve survival? NO
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size

**Diagram:**
- Small Tumors: Treatment vs Observation
- Medium Tumors: Enucleation vs Plaque brachytherapy
- Large Tumors: Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

**Questions:**
- Did treatment modality affect survival? NO
- Did pre-op XBRT improve survival? NO

**Comparison:**
- Choroidal Nevus vs Melanoma
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS?
  - Three subtrials based on tumor size
  - Small Tumors
  - Medium Tumors
  - Large Tumors

- Did treatment modality affect survival? NO
- Did pre-op XBRT improve survival? NO
Q

Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

- What does COMS stand for?
  - Collaborative Ocular Melanoma Study

Three subtrials based on tumor size:

- **Small Tumors**
  - Treatment vs Observation

- **Medium Tumors**
  - Enucleation vs Plaque brachytherapy

- **Large Tumors**
  - Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Which was better?

Did treatment modality affect survival?
- NO

Did pre-op XBRT improve survival?
- NO

**Choroidal Nevus vs Melanoma**
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does COMS stand for? Collaborative Ocular Melanoma Study
- What was the basic structure of the COMS? Three subtrials based on tumor size
  - Small Tumors: Treatment vs Observation
  - Medium Tumors: Enucleation vs Plaque brachytherapy
  - Large Tumors: Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Which was better? Dunno—enrollment in the Treatment condition was too low to allow comparison

Did treatment modality affect survival? NO

Did pre-op XBRT improve survival? NO

Choroidal Nevus vs Melanoma
**Q**

What did observation of the Observation group reveal?

Which was better?
Dunno—enrollment in the Treatment condition was too low to allow comparison.

Did treatment modality affect survival?

NO

Did pre-op XBRT improve survival?

NO

**Choroidal Nevus vs Melanoma**

- **Small Tumors**
  - Treatment vs Observation

- **Medium Tumors**
  - Enucleation vs Plaque brachytherapy

- **Large Tumors**
  - Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

- What is the acronym for the major clinical trial for the management of intraocular melanoma? The COMS

- What does COMS stand for?
  - Collaborative Ocular Melanoma Study

- Which was better?
  - Dunno—enrollment in the Treatment condition was too low to allow comparison.

- Did treatment modality affect survival?
  - NO

- Did pre-op XBRT improve survival?
  - NO

- Three subtrials based on tumor size.
What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: ?

Which was better?
Dunno—enrollment in the Treatment condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Q/A

Choroidal Nevus vs Melanoma

Choroidal melanoma…

What is the acronym for the major clinical trial for the management of intraocular melanoma? The COMS

What does COMS stand for?
Collaborative Ocular Melanoma Study

What was the basic structure of the COMS?
Three subtrials based on tumor size

Small Tumors
Treatment vs Observation

Medium Tumors
Enucleation vs Plaque brachytherapy

Large Tumors
Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Three subtrials based on tumor size

Which was better?
Dunno—enrollment in the Treatment condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Q/A

Choroidal Nevus vs Melanoma
What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS.

What does COMS stand for?
Collaborative Ocular Melanoma Study.

What was the basic structure of the COMS? Three subtrials based on tumor size: Large Tumors, Medium Tumors, and Small Tumors.

Did treatment modality affect survival? No.

Did pre-op XBRT improve survival? No.

Which was better? Dunno—enrollment in the Treatment condition was too low to allow comparison.

What did observation of the Observation group reveal? Small tumors grew enough to qualify as Medium (or Large) at the following rates:
- By 1 year: 10%
- By 5 years: 20%
- By 10 years: 30%

Which was better?

Dunno—enrollment in the Treatment condition was too low to allow comparison.
Re choroidal/Ciliary Body melanoma…

What is the acronym for the major clinical trial for the major clinical trial management of Intraocular melanoma? The COMS

What does COMS stand for?

Collaborative Ocular Melanoma Study

What was the basic structure of the COMS?

Three subtrials based on tumor size

- Large Tumors
- Medium Tumors
- Small Tumors

Did treatment modality affect survival?

NO

Did pre-op XBRT improve survival?

NO

Which was better?

Dunno—enrollment in the Treatment condition was too low to allow comparison

What did observation of the Observation group reveal?

Small tumors grew enough to qualify as Medium (or Large) at the following rates:

--By 1 year: 10%
--By 5 years: 20%
--By 10 years: 30%

What did observation of the Observation group reveal?

Small tumors grew enough to qualify as Medium (or Large) at the following rates:

--By 1 year: 10%
--By 5 years: 20%
--By 10 years: 30%

Which was better?

Dunno—enrollment in the Treatment condition was too low to allow comparison

Did treatment modality affect survival?

NO

Did pre-op XBRT improve survival?

NO

Choroidal Nevus vs Melanoma
What was the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS.

What does COMS stand for?
Collaborative Ocular Melanoma Study.

What was the basic structure of the COMS?
Three subtrials based on tumor size.

Small Tumors
- Treatment vs Observation

Medium Tumors
- Enucleation vs Plaque brachytherapy
- Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Large Tumors
- Did treatment modality affect survival? NO
- Did pre-op XBRT improve survival? NO

Which was better?
Dunno—enrollment in the Treatment condition was too low to allow comparison.

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%

A Choroidal Nevus vs Melanoma
What did observation of the Observation group reveal? Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%
--By 10 years: ?

Which was better? Dunno—enrollment in the Treatment condition was too low to allow comparison

Did treatment modality affect survival? NO

Did pre-op XBRT improve survival? NO

Three subtrials based on tumor size:
- Small Tumors
  - Treatment vs Observation
- Medium Tumors
  - Enucleation vs Plaque brachytherapy
  - Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT
- Large Tumors

Collaborative Ocular Melanoma Study (COMS)

What is the acronym for the major clinical trial for the management of choroidal melanoma? The COMS

What does COMS stand for?

Choroidal Nevus vs Melanoma
Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%
--By 10 years: 30%

What is the acronym for the major clinical trial that addressed the management of choroidal melanoma? The COMS

What does COMS stand for?
Collaborative Ocular Melanoma Study

What was the basic structure of the COMS?
Three subtrials based on tumor size

Large Tumors
- Enucleation w/ pre-op XBRT vs Enucleation w/o pre-op XBRT

Medium Tumors
- Enucleation vs Plaque brachytherapy

Small Tumors
- Treatment vs Observation

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Which was better?
Dunno—enrollment in the Treatment condition was too low to allow comparison
(This is a good point in the set to take a break)
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: exam maneuver
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: *Indirect ophthalmoscopy*
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for tumors
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **subtype** tumors)
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
Choroidal melanoma: Transillumination
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyper-fluorescence (if not present, question the diagnosis)
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
Choroidal melanoma: FA
Choroidal melanoma?

Choroidal Nevus vs Melanoma
Choroidal melanoma? No, this is a metastatic choroidal tumor.
**Choroidal Nevus vs Melanoma**

*How can you tell it's not a melanoma?*

*Choroidal melanoma? No, this is a metastatic choroidal tumor*
Choroidal melanoma? No, this is a metastatic choroidal tumor

**Q/A**

How can you tell it’s not a melanoma?
Because the pictured tumor lacks an internal vasculature independent of the retinal vasculature.
Choroidal melanoma? No, this is a metastatic choroidal tumor.

How can you tell it’s not a melanoma?
Because the pictured tumor lacks an internal vasculature independent of the retinal vasculature.
Choroidal Nevus vs Melanoma

How can you tell it’s not a melanoma?
Because the pictured tumor lacks an internal vasculature independent of the retinal vasculature.

This is the so-called two words pattern, ie, an internal circulation within the lesion and the normal vascularity of the overlying retina.
This is the so-called ‘double circulation’ pattern, ie, an internal circulation within the lesion and the normal vascularity of the overlying retina.
**Choroidal Nevus vs Melanoma**

How can you tell it's not a melanoma? Because the pictured tumor lacks an *internal vasculature independent of the retinal vasculature*.

This is the so-called ‘double circulation’ pattern, ie, an internal circulation within the lesion *and* the normal vascularity of the overlying retina. The double circulation pattern is most apparent on [angiography](https://example.com) (above).
Choroidal Nevus vs Melanoma

How can you tell it’s not a melanoma?
Because the pictured tumor lacks an **internal vasculature independent of the retinal vasculature**

This is the so-called ‘double circulation’ pattern, ie, an internal circulation within the lesion and the normal vascularity of the overlying retina. The double circulation pattern is most apparent on ICG angiography (above)
Re choroidal/Ciliary Body melanoma…

● Clinical evaluation:
  ● Gold standard: **Indirect ophthalmoscopy**
  ● Gonio to check for **anterior** tumors
  ● Transillumination is very useful (except for **amelanotic** tumors)
  ● Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  ● The #1 ancillary study is **ultrasound**
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**
Re choroidal/Ciliary Body melanoma…

- **Clinical evaluation:**
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**

*We talking here about a-scan, or b-scan?*
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound

We talking here about a-scan, or b-scan? Both
This is an a-scan of a choroidal melanoma.
Choroidal Nevus vs Melanoma

What does this spike represent?

This is an a-scan of a choroidal melanoma.
What does this spike represent? The retina

This is an a-scan of a choroidal melanoma.
What does this spike represent?
The retina

What does this ultrasonographically hollow portion represent?

This is an a-scan of a choroidal melanoma.
What does this spike represent?
The retina

What does this ultrasonographically hollow portion represent?
The tumor itself

This is an a-scan of a choroidal melanoma.
This is an α-scan of a choroidal melanoma.
What does this spike represent?
The retina

What does this little spike represent?
The sclera

What does this ultrasonographically hollow portion represent?
The tumor itself

This is an a-scan of a choroidal melanoma.
Choroidal Nevus vs Melanoma

What does this spike represent?
The retina

What does this little spike represent?
The sclera

What does this portion represent?
The orbit

What does this ultrasonographically hollow portion represent?
The tumor itself

This is an α-scan of a choroidal melanoma.
What does this spike represent? The retina

What does this little spike represent? The sclera

What does this portion represent? The orbit

What does this ultrasonographically hollow portion represent? The tumor itself

This is an a-scan of a choroidal melanoma.
Put it all together and you have…

This is an a-scan of a choroidal melanoma.
Choroidal Nevus vs Melanoma

Put it all together and you have…M for melanoma

This is an a-scan of a choroidal melanoma.
Choroidal melanoma, \textit{b}-scan: The dome-shaped is most common.
Choroidal melanoma, b-scan: The dome-shaped is most common. But the mushroom or ‘collar button’ shape is most classic.
Choroidal melanoma, \( b \)-scan: Subretinal fluid can be present, and can even cause an ERD
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: *Indirect ophthalmoscopy*
  - Gonio to check for *anterior* tumors
  - Transillumination is very useful (except for *amelanotic* tumors)
  - Classic FA pattern: Late *hyperfluorescence* (if not present, question the diagnosis)
  - The #1 ancillary study is *ultrasound*
  - CT/MRI are *used/not used*
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**
  - CT/MRI are **not widely used**
Re choroidal/Ciliary Body melanoma...

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**
  - CT/MRI are **not widely used**
  - **OCT**: does not penetrate well enough to image it well
Re choroidal/Ciliary Body melanoma…

- **Clinical evaluation:**
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**
  - CT/MRI are not widely used
  - OCT: **SD-OCT** does not penetrate well enough to image it well
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: **Indirect ophthalmoscopy**
  - Gonio to check for **anterior** tumors
  - Transillumination is very useful (except for **amelanotic** tumors)
  - Classic FA pattern: Late **hyperfluorescence** (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**
  - CT/MRI are **not widely used**
  - OCT: **SD-OCT** does not penetrate well enough to image it well, but **EDI-OCT** does
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound
  - CT/MRI are not widely used
  - OCT: SD-OCT does not penetrate well enough to image it well, but EDI-OCT does
Choroidal Nevus vs Melanoma

Choroidal melanoma, EDI-OCT
Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - OCT: SD-OCT does not penetrate well enough to image it well, but EDI-OCT does

What do SD(OCT) and EDI(OCT) stand for in this context?

--SD-OCT?

--EDI-OCT?
Re choroidal/Ciliary Body melanoma…

- **Clinical evaluation:**
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- **OCT:**
  - SD-OCT does not penetrate well enough to image it well, but EDI-OCT does

---

**Choroidal Nevus vs Melanoma**

---

**What do SD(OCT) and EDI(OCT) stand for in this context?**

-- **SD-OCT**? Spectral domain
-- **EDI-OCT**? Enhanced depth imaging
Re choroidal/Ciliary Body melanoma…

• Categorization by cytology is known as the **Callender classification system**
Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the Callender classification system.
Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender* classification system
  - Exclusively *spindle* A cells = tumor is called…
Re choroidal/Ciliary Body melanoma…

● Categorization by cytology is known as the Callender classification system
  ● Exclusively spindle A cells = spindle cell nevus
Posterior uveal melanoma. Spindle-A melanoma cells have slender, elongated nuclei with small nucleoli. A central stripe may be present down the long axis of the nucleus (*arrowheads*) (H&E stain).
Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the Callender classification system
  - Exclusively *spindle* A cells = **spindle cell nevus**
  - *Spindle* A + B cells = **tumor is called…**
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Posterior uveal melanoma. In spindle-B melanoma cells, coarse, granular chromatin and plump, large nuclei are seen. Nucleoli are prominent. Mitoses may be present, though not in large numbers.
Q

Re choroidal/Ciliary Body melanoma…

● Categorization by cytology is known as the **Callender classification system**
  ● Exclusively *spindle* A cells = **spindle cell nevus**
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Posterior uveal melanoma. Epithelioid melanoma cells resemble epithelium because of their abundant eosinophilic cytoplasm and enlarged round to oval nuclei. They lack cohesiveness and demonstrate marked pleomorphism, including the formation of multinucleated tumor cells (arrow).
Posterior uveal melanoma. Epithelioid melanoma cells resemble epithelium because of their abundant eosinophilic cytoplasm and enlarged round to oval nuclei. They lack cohesiveness and demonstrate marked pleomorphism, including the formation of multinucleated tumor cells (arrow). Note the balloon cells (arrowheads) with abundant foamy cytoplasm.
Re choroidal/Ciliary Body melanoma…

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Best prognosis

Worst prognosis
Re choroidal/Ciliary Body melanoma…

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Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is... easy to overlook, but very important
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is healthy enough to withstand treatment

---

**Choroidal Nevus vs Melanoma**
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is **healthy enough to withstand treatment**
  - In that regard, the COMS found that 10% of patients…

**COMS = Collaborative Ocular Melanoma Study**--we’ll touch on it later this slide-set.
(It also has its own set of review slides.)
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is... healthy enough to withstand treatment
  - In that regard, the COMS found that 10% of patients... harbored a second malignancy!
Re choroidal/Ciliary Body melanoma…

**Prior to treatment:**

- Make sure patient is **healthy enough to withstand treatment**
  - In that regard, the COMS found that 10% of patients… *harbored a second malignancy!*
- Must r/o whether patient is…

  *issue of concern with any malignancy*
Re choroidal/Ciliary Body melanoma…

**Prior to treatment:**

- Make sure patient is **healthy enough to withstand treatment**
  - In that regard, the COMS found that 10% of patients… harbored a second malignancy!
- Must r/o whether patient is… **already metastatic from their ocular melanoma**
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is...  
    healthy enough to withstand treatment
  - In that regard, the COMS found that 10% of patients...  
    harbored a second malignancy!
  - Must r/o whether patient is...  
    already metastatic from their ocular melanoma

- Pre-treatment evaluation:
  - Complete PE *(physical exam)*
  - [key imaging study]
  - [key lab study]
  - CT/MRI: routine?
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is… **healthy enough to withstand treatment**
    - In that regard, the COMS found that 10% of patients… **harbored a second malignancy!**
  - Must r/o whether patient is… **already metastatic from their ocular melanoma**

- Pre-treatment evaluation:
  - Complete PE
  - **CXR** *(chest X-ray)*
  - **LFTs** *(liver function tests)*
  - CT/MRI: Perform as indicated **(not as routine)**
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients harbored a second malignancy!
  - Must r/o whether patient is already metastatic from their ocular melanoma

- **Pre-treatment evaluation:**
  - Complete PE
  - CXR
  - LFTs
  - CT/MRI: Perform as indicated (not as routine)

*Note: Some experts disagree, arguing that imaging of the liver should be performed at the time of diagnosis as a matter of routine.*

**Choroidal Nevus vs Melanoma**
Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

Prior to treatment:

- Make sure patient is…
  healthy enough to withstand treatment
  - In that regard, the COMS found that 10% of patients…
    harbored a second malignancy!

- Must r/o whether patient is…
  already metastatic from their ocular melanoma

Pre-treatment evaluation:

- What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?
- CT/MRI: Perform as indicated (not as routine)
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is... healthy enough to withstand treatment
  - In that regard, the COMS found that 10% of patients... harbored a second malignancy!
  - Must r/o whether patient is... already metastatic from their ocular melanoma

- **Pre-treatment evaluation:**
  - What percentage of ocular melanoma have demonstrable metastatic
disease at the time of diagnosis?
    - Only 2%

- CT/MRI: Perform as indicated (*not* as routine)
Re choroidal/Ciliary Body melanoma…

**Prior to treatment:**

- Make sure patient is... healthy enough to withstand treatment
  - In that regard, the COMS found that 10% of patients... harbored a second malignancy!

- Must r/o whether patient is... already metastatic from their ocular melanoma

**Pre-treatment evaluation:**

- Complete PE
- CXR
- LFTs
- CT/MRI: Perform as indicated (*not* as routine)

What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?

- Only 2%

What percentage have occult metastatic disease at the time of diagnosis?
Re choroidal/Ciliary Body melanoma…

- **Prior to treatment:**
  - Make sure patient is healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients harbored a second malignancy!
  - Must r/o whether patient is already metastatic from their ocular melanoma

- **Pre-treatment evaluation:**
  - Complete PE
  - CXR
  - LFTs
  - CT/MRI: Perform as indicated (*not* as routine)

*What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?*
- Only 2%

*What percentage have occult metastatic disease at the time of diagnosis?*
- Unknown, but is certainly far higher than 2%
Re choroidal/Ciliary Body melanoma…

● **Management**
  
  ● *Observation alone* is acceptable if:
  
  ● Tumor <\text{mm} thick
Re choroidal/Ciliary Body melanoma…

**Management**

- Observation *alone* is acceptable if:
  - Tumor <1mm thick
Re choroidal/Ciliary Body melanoma...

**Management**

- Observation alone is acceptable if:
  - Tumor <1mm thick
  - Patient unable to
Re choroidal/Ciliary Body melanoma…

**Management**

- *Observation alone* is acceptable if:
  - Tumor $<1\text{mm}$ thick
  - Patient unable to tolerate treatment
Re choroidal/Ciliary Body melanoma…

**Management**
- *Observation alone* is acceptable if:
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  *Surgery* is treatment of choice for all large tumors and many medium tumors
Re choroidal/Ciliary Body melanoma…

**Management**

- *Observation alone* is acceptable if:
  - Tumor *<1mm* thick
  - Patient unable to tolerate treatment
- **Enucleation** is treatment of choice for all large tumors and many medium tumors
Re choroidal/Ciliary Body melanoma…

- **Management**
  - *Observation alone* is acceptable if:
    - Tumor \(<1\text{mm}\) thick
    - Patient unable to tolerate treatment
  - *Enucleation* is treatment of choice for all large tumors and many medium tumors
  - What are the three modalities of radiation therapy commonly employed?
Re choroidal/Ciliary Body melanoma…

**Management**

- *Observation alone* is acceptable if:
  - Tumor *<1mm* thick
  - Patient unable to tolerate treatment

- **Enucleation** is treatment of choice for all large tumors and many medium tumors

- What are the three modalities of radiation therapy commonly employed?
  - External-beam (XBRT)
  - Plaque therapy
  - Charged-particle
Re choroidal/Ciliary Body melanoma…

**Management: Radiation therapy:**

- **XBRT**
  - Used as monotherapy? yes vs no

- **Plaque RT**
  - Tumor control rate? Good
  - Adverse effects are posterior:
    - RT retinopathy
    - Optic neuropathy

- **Charged-particle RT**
  - Tumor control rate? Good
  - Adverse effects are anterior:
    - Cataracts
    - NVG
Re choroidal/Ciliary Body melanoma...

- **Management: Radiation therapy:**
  - **XBRT**
    - Used as monotherapy? **Never**
  - **Plaque RT**
    - Tumor control rate? **Good**
    - Adverse effects are **posterior:**
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? **Good**
    - Adverse effects are **anterior:**
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Re choroidal/Ciliary Body melanoma…

Management: Radiation therapy:

- **XBRT**
  - Used as monotherapy? **Never**
  - COMS looked at pre-enucleation XBRT…
    - Effect on overall survival rate? significant vs not significant

- **Plaque RT**
  - Tumor control rate? Good
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Re choroidal/Ciliary Body melanoma…

**Management: Radiation therapy:**
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Re choroidal/Ciliary Body melanoma…

**Management: Radiation therapy:**

- **XBRT**
  - Used as monotherapy? **Never**
  - COMS looked at pre-enucleation XBRT…
    - Effect on overall survival rate? **Not significant**
    - Effect on rate of orbital recurrence? **significant vs not significant**

- **Plaque RT**
  - Tumor control rate? **Good**
  - Adverse effects are *posterior*:
    - RT retinopathy
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- **Charged-particle RT**
  - Tumor control rate? **Good**
  - Adverse effects are *anterior*:
    - Cataracts
    - NVG
Re choroidal/Ciliary Body melanoma…

**Management: Radiation therapy:**

- **XBRT**
  - Used as monotherapy? *Never*
  - COMS looked at pre-enucleation XBRT…
    - Effect on overall survival rate? *Not significant*
    - Effect on rate of orbital recurrence? *Significantly reduced*

- **Plaque RT**
  - Tumor control rate? *Good*
  - Adverse effects are *posterior*:
    - RT retinopathy
    - Optic neuropathy

- **Charged-particle RT**
  - Tumor control rate? *Good*
  - Adverse effects are *anterior*:
    - Cataracts
    - NVG
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**Choroidal Nevus vs Melanoma**
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    - specific adverse f/x 2
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Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- Location: Anterior
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- Location: **Anterior**
Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: Anterior
  - So-called *melanoma* particularly poor
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- Location: Anterior
- So-called *ring melanoma* particularly poor
Q

Re choroidal/Ciliary Body melanoma…

- **Poor** prognostic factors:
  - Location: **Anterior**
    - So-called *ring* melanoma particularly poor

Do uveal melanomas tend to be anterior to the globe equator, or posterior?
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**
- Location: **Anterior**
- So-called **ring melanoma** particularly poor

*Do uveal melanomas tend to be anterior to the globe equator, or posterior?*
A whopping big % are anterior to the equator.
Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: **Anterior**
  - So-called *ring melanoma* particularly poor

*Do uveal melanomas tend to be anterior to the globe equator, or posterior? A whopping 85% are posterior to the equator*
Re choroidal/Ciliary Body melanoma...

Poor prognostic factors:
- Location: Anterior
- So-called ring melanoma particularly poor
- Documented change
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**
- Location: Anterior
  - So-called ring melanoma particularly poor
- Documented growth
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**
- Location: **Anterior**
  - So-called *ring melanoma* particularly poor
- Documented *growth*
- **size**
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- Location: **Anterior**
  - So-called *ring melanoma* particularly poor
- Documented **growth**
- **Larger** size
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**
- Location: **Anterior**
  - So-called *ring melanoma* particularly poor
- Documented growth
- Larger size
- Extension
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- Location: Anterior
  - So-called *ring melanoma* particularly poor
- Documented growth
- Larger size
- Extraocular extension
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**

- **Location:** Anterior
  - So-called *ring melanoma* particularly poor
- **Documented growth**
- **Larger size**
- **Extraocular extension**
- **Local** here we go again…
Re choroidal/Ciliary Body melanoma...

**Poor prognostic factors:**
- Location: Anterior
  - So-called *ring* melanoma particularly poor
- Documented growth
- Larger size
- Extraocular extension
- Local recurrence
Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
Re choroidal/Ciliary Body melanoma…

Poor prognostic factors:

- Location: Anterior
  - So-called ring melanoma particularly poor
- Documented growth
- Larger size
- Extraocular extension
- Local recurrence
- Cell type: Epithelioid
Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
  - The greater the extent of tumor contact with the ocular structure, the worse the prognosis
Re choroidal/Ciliary Body melanoma…

**Poor prognostic factors:**
- Location: Anterior
  - So-called *ring melanoma* particularly poor
- Documented growth
- Larger size
- Extraocular extension
- Local recurrence
- Cell type: Epithelioid
- The greater the extent of tumor contact with the sclera, the worse the prognosis
Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: **Anterior**
    - So-called *ring melanoma* particularly poor
  - Documented **growth**
  - **Larger size**
  - **Extraocular extension**
  - **Local recurrence**
  - **Cell type:** **Epithelioid**
  - The greater the extent of tumor contact with the **sclera**, the worse the prognosis

Which two of these are the most important prognostic factors?
A

**Re choroidal/Ciliary Body melanoma...**

- **Poor prognostic factors:**
  - Location: Anterior
    - So-called *ring* melanoma particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
  - The greater the extent of tumor contact with the *sclera*, the worse the prognosis

*Choroidal Nevus vs Melanoma*

Which two of these are the most important prognostic factors? Cell type and scleral contact
Re choroidal/Ciliary Body melanoma…

- **Metastases**

  - Mechanism of spread:
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: [ ]
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: **7 years**
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: **7 years**
    - …diagnosis of mets to death:
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: **7 years**
    - …diagnosis of mets to death: **6 months**
Re choroidal/Ciliary Body melanoma...

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from...
    - ...treatment to diagnosis of mets: **7 years**
    - ...diagnosis of mets to death: **6 months**
  - Most common site of mets:
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: **7 years**
    - …diagnosis of mets to death: **6 months**
  - Most common site of mets: **Liver**
Re choroidal/Ciliary Body melanoma…

- **Metastases**
  - Mechanism of spread: **Hematogenous**
  - Median duration from…
    - …treatment to diagnosis of mets: **7 years**
    - …diagnosis of mets to death: **6 months**
  - Most common site of mets: **Liver**
    - % of fatalities have liver mets
Re choroidal/Ciliary Body melanoma...

- **Metastases**
  - Mechanism of spread: Hematogenous
  - Median duration from...
    - ...treatment to diagnosis of mets: 7 years
    - ...diagnosis of mets to death: 6 months
  - Most common site of mets: Liver
    - 95% of fatalities have liver mets
Re choroidal/Ciliary Body melanoma…

**Metastases**

- Mechanism of spread: **Hematogenous**
- Median duration from…
  - …treatment to diagnosis of mets: 7 years
  - …diagnosis of mets to death: 6 months
- Most common site of mets: **Liver**
- **95%** of fatalities have liver mets
  - **%** of fatalities have only liver mets
Re choroidal/Ciliary Body melanoma…

**Metastases**

- Mechanism of spread: *Hematogenous*
- Median duration from…
  - …treatment to diagnosis of mets: 7 years
  - …diagnosis of mets to death: 6 months
- Most common site of mets: *Liver*
  - 95% of fatalities have liver mets
    - 33% of fatalities have **only** liver mets