



#### Congenital Rubella Syndrome

What are the ocular manifestations of congenital rubella syndrome (CRS)?



- 1) The uveitis is profiled
- 2) The profiled case is meshed
- 3) A differential diagnosis list is generated
- 4) Studies are obtained to identify the etiology
- 5) Treatment appropriate for the etiology is initiated



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What are the ocular manifestations of congenital rubella syndrome (CRS)? --Chorioretinitis

- --Cataracts
- --Cloudy cornea
- --Eye is small (microphthalmia)
- --Esotropia
- --Elevated IOP (glaucoma)

← Three 'Es'

Three 'Cs'

### Congenital Rubella Syndrome

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Congenital rubella: Cataracts

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#### Congenital rubella: Cloudy corneas

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 Which ocular manifestation is most common?

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What term is used to describe the classic appearance of CRS chorioretinitis?

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--Chorioretinitis!

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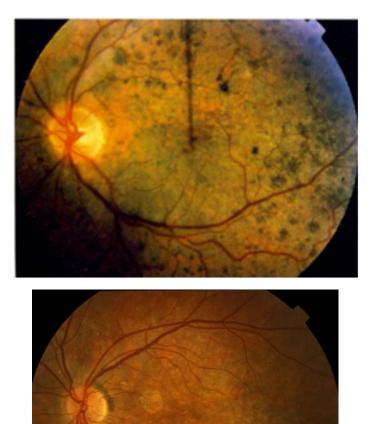
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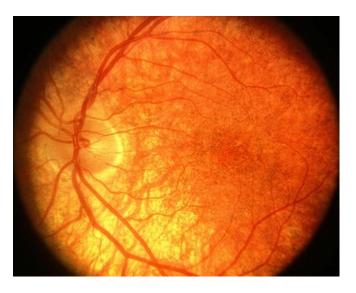
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Congenital rubella retinopathy

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A CRS pt with all the classic ocular findings has poor vision. Is it attributable to the chorioretinitis?

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A CRS pt with all the classic ocular findings has poor vision. Is it attributable to the chorioretinitis? No--the chorioretinal changes generally are not visually significant. Cataract and/or microphthalmos are the more likely culprits.

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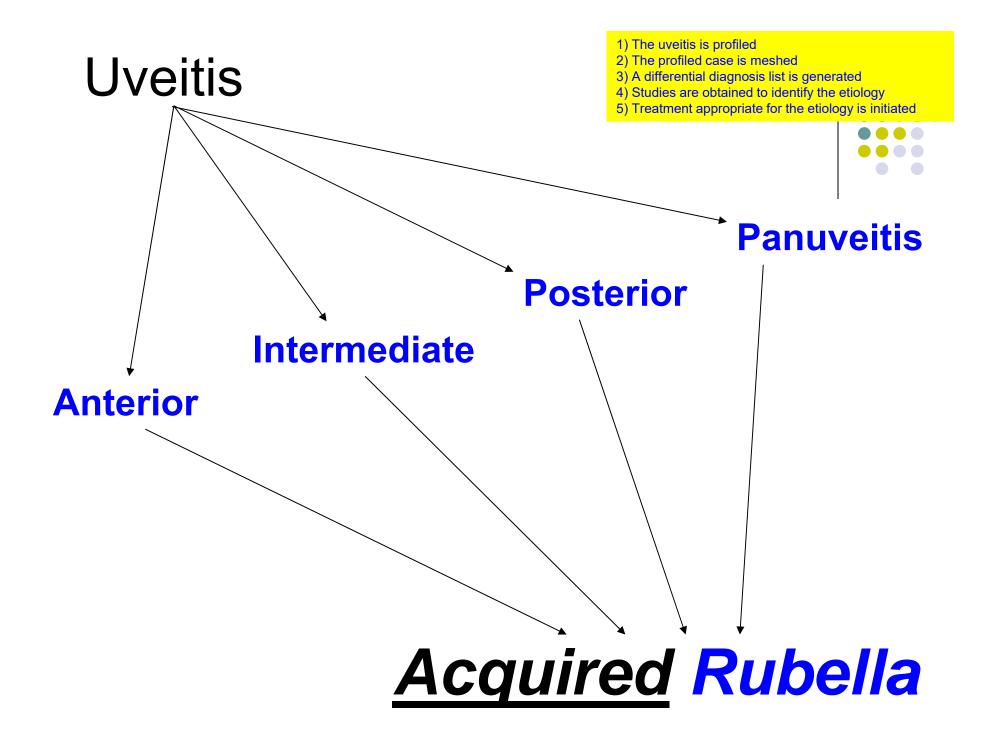
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What does TORCHES stand for (besides the R for rubella, duh)? Toxoplasmosis Other agents Rubella CMV Herpesviruses, including EBV Syphilis



Acquired Rubella: Overview

What is the layman's term for the common form of acquired rubella?

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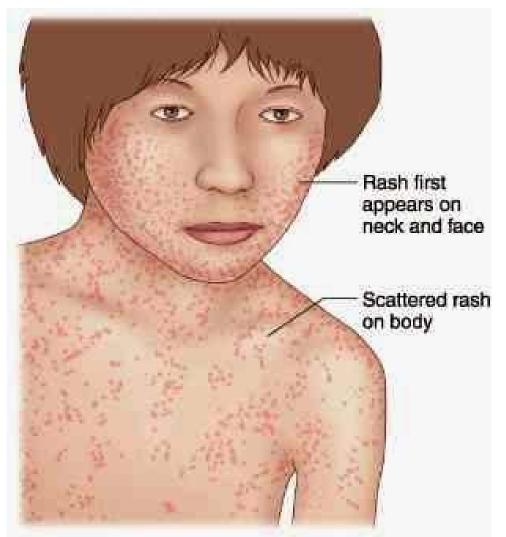
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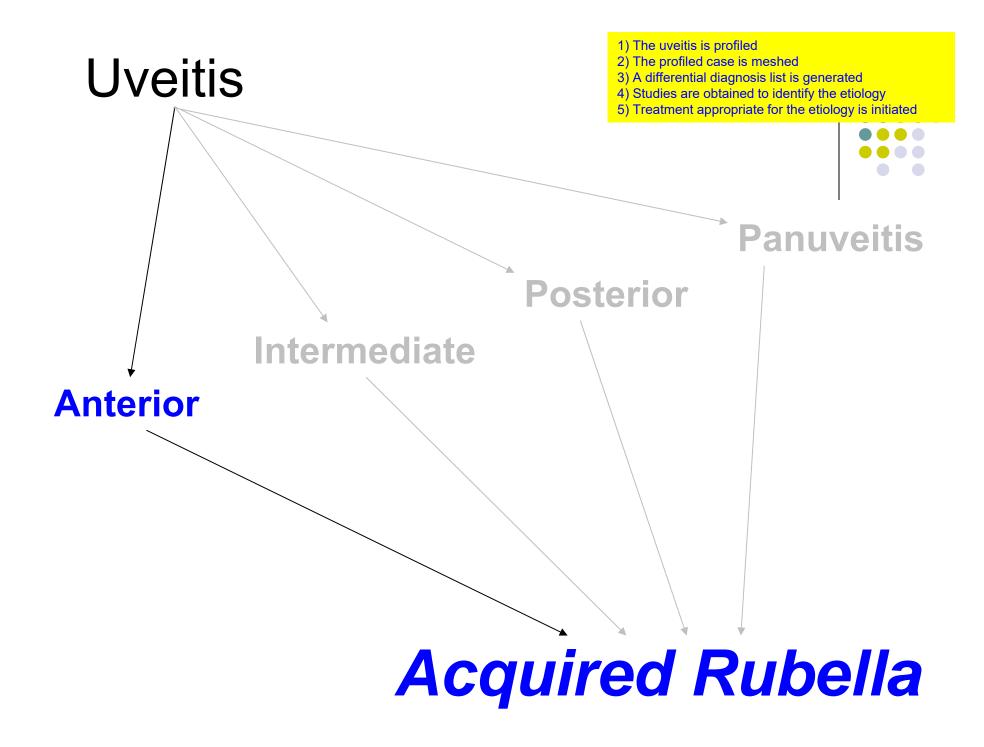
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What is the most common ocular manifestation of German measles? Conjunctivitis

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Uveitis: **Anterior** Basic division used by the *Uveitis* book

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Basic division used by the *Uveitis* book

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Nongranulomatous

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### Uveitis: Anterior

Granulomatous



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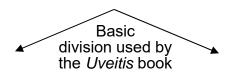
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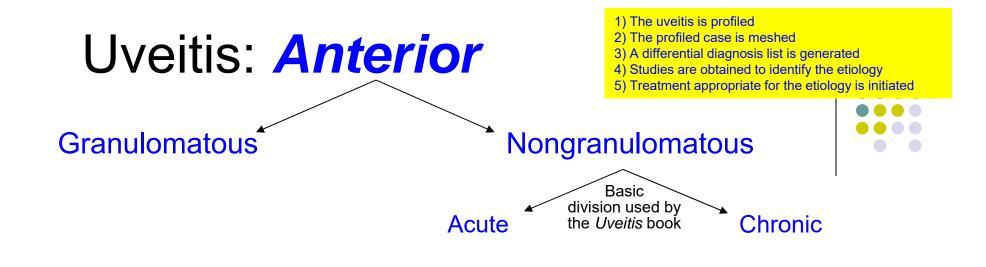
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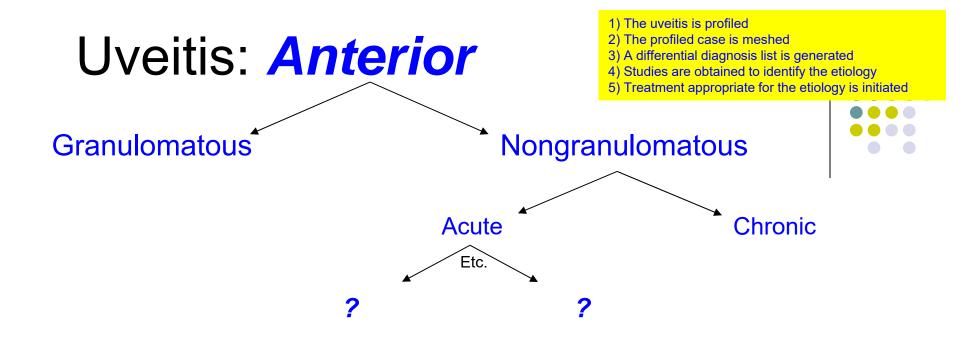
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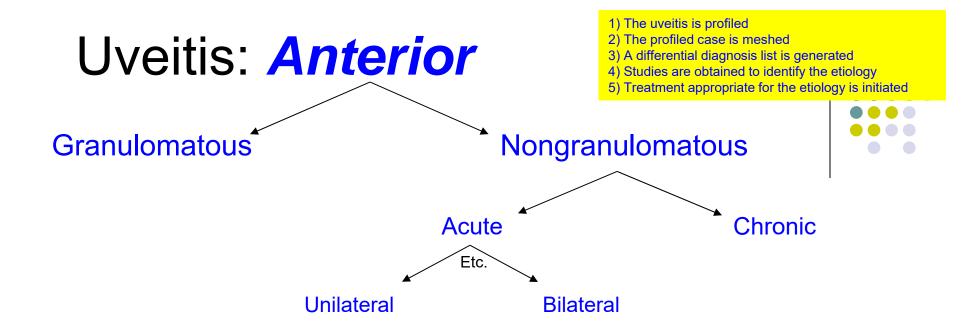
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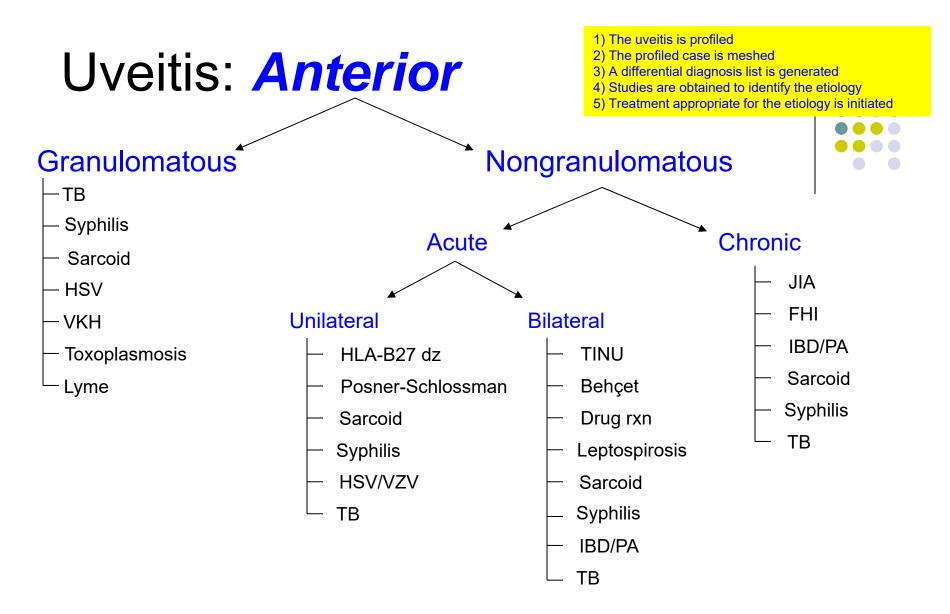


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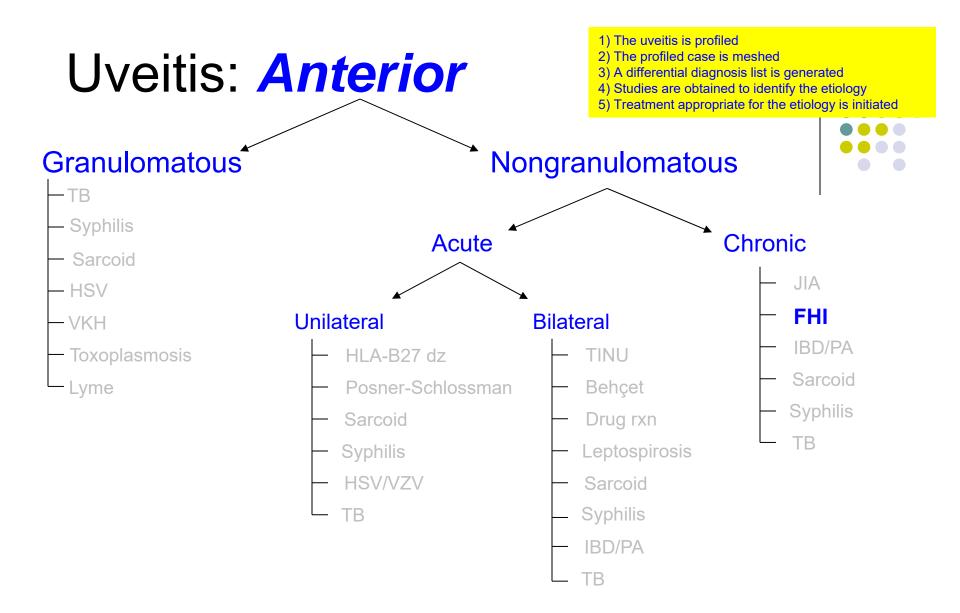




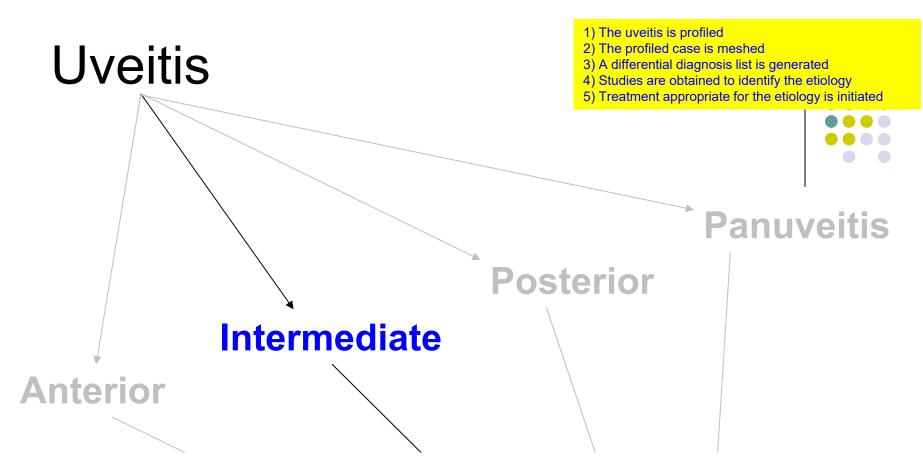




Chronic rubella infection has been implicated (not proven) as the cause of which of these uveitides?

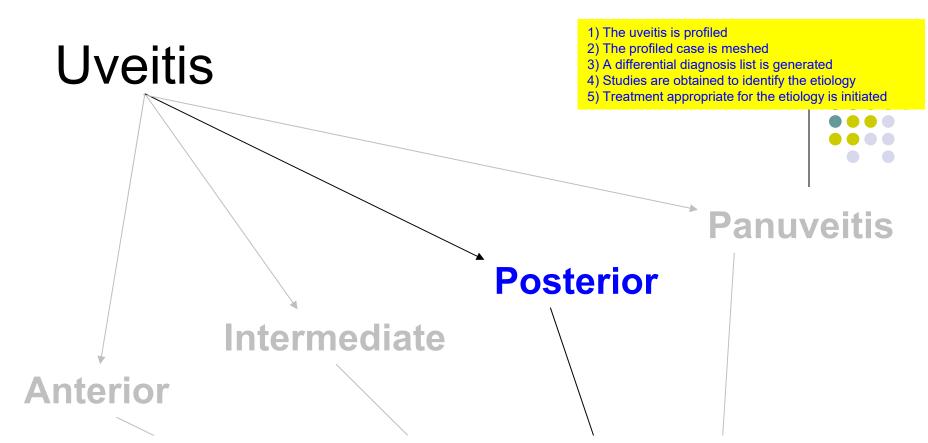


Chronic rubella infection has been implicated (not proven) as the cause of which of these uveitides? Fuchs heterochromic iridocyclitis



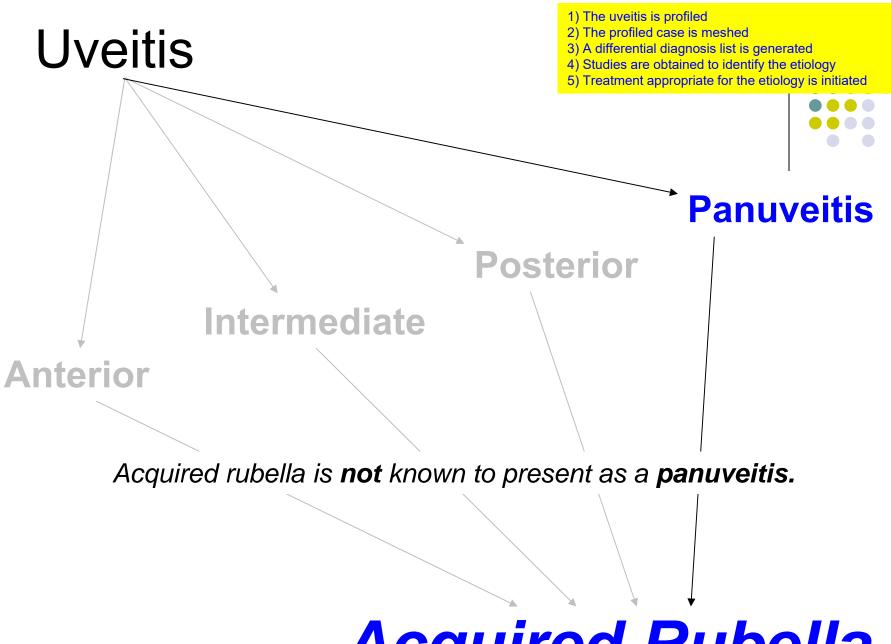
Acquired rubella is not known to present as an intermediate uveitis.

# **Acquired Rubella**



There are reports of acquired rubella causing a **posterior uveitis** (specifically, a multifocal chorioretinitis with serous RD) in adults. However, as this entity is not common (it isn't mentioned in the BCSC Retina book), we will not dwell on it here.

# Acquired Rubella



## **Acquired Rubella**

Rubella: Diagnosis

How is CRS diagnosed?

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#### Rubella: Diagnosis

*How is CRS diagnosed?* By the constellation of findings coupled with a history of maternal exposure

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Rubella: Treatment

What is the preferred antiviral treatment for rubella?

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#### Rubella: Treatment

What is the preferred antiviral treatment for rubella? There is none

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What is the common name for rubeola?



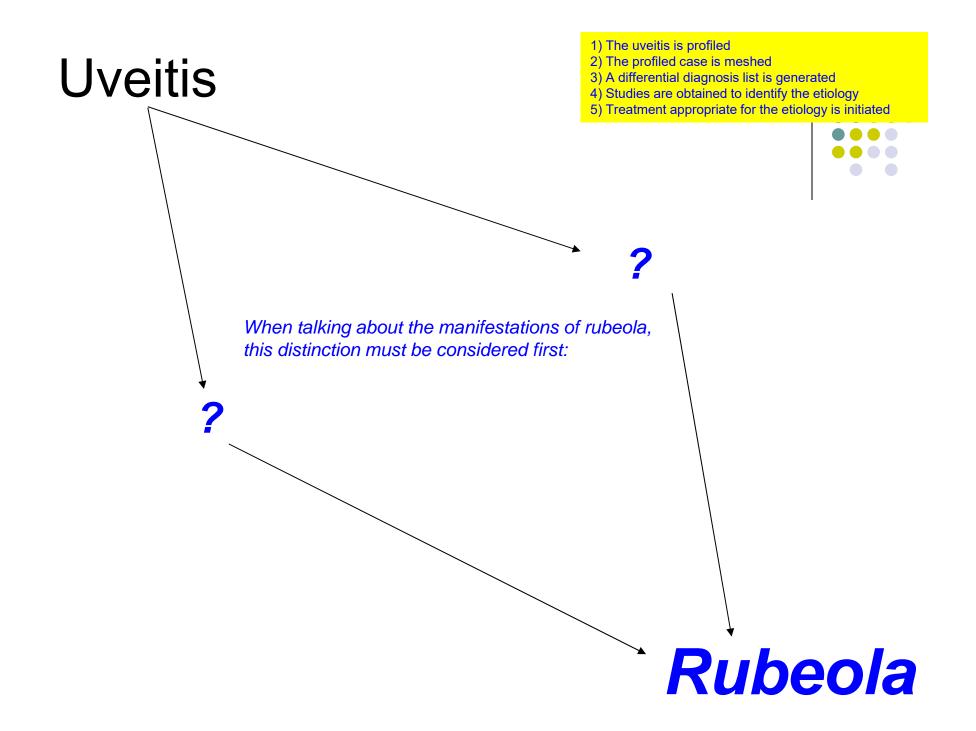


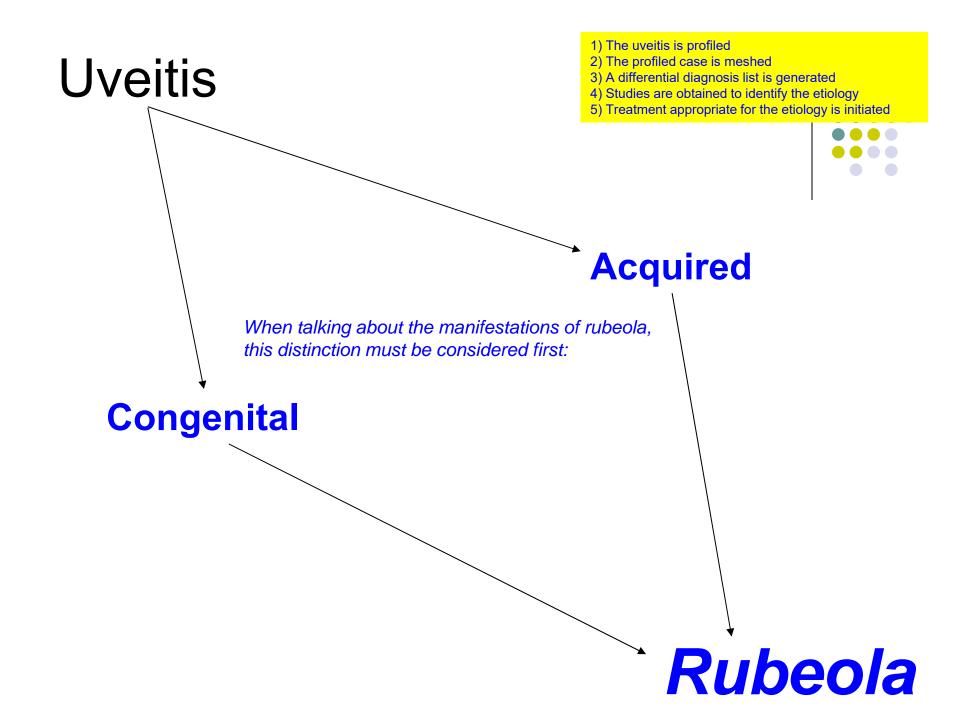
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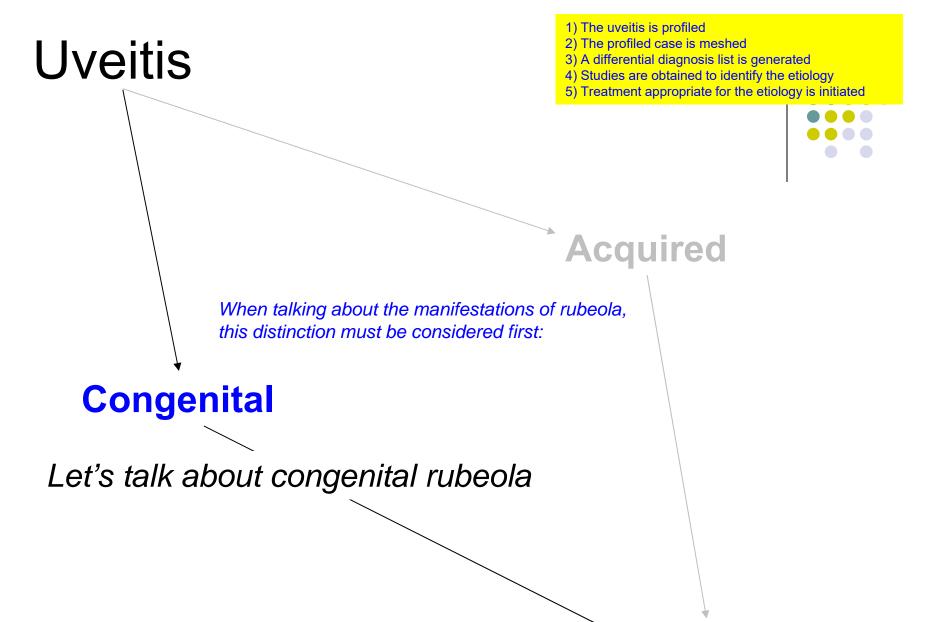


> What is the common name for rubeola? Measles (**not** German measles--remember, that's acquired rubella!)











#### **Congenital Measles**

What are the ocular manifestations of congenital measles?

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- --Bilateral widespread pigmentary retinopathy
- --Cataracts
- --Optic nerve head drusen

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Should it be considered as one of the Other Agents in the TORCHES differential?

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Early



Late

Acquired rubeola (measles): Rash

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Which three mucosal surfaces are commonly affected?

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- --The conjunctiva
- --The respiratory tract
- --The oral cavity

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--The oral cavity

How would you characterize the conjunctivitis (eg, mild/severe; papillary/follicular; watery/purulent)?

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How would you characterize the conjunctivitis (eg, mild/severe; papillary/follicular; watery/purulent)? It is typically a mild, watery, papillary conjunctivitis

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How does the respiratory-tract mucosal disease manifest?

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How does the respiratory-tract mucosal disease manifest? As a cough

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	How small?

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	<i>What do Koplik spots look like?</i> Small whitish lesions with a red ring
	<i>How small?</i> Think 'grain of sand' or 'grain of salt'
	<i>Where are they typically found?</i> On the buccal mucosa adjacent to the lower molars



Acquired rubeola: Koplik spots



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	Are Koplik spots pathognomonic for measles?

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What is the classic triad of measles (think '3 C's')?

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What is the classic triad of measles (think '3 C's')? Cough, coryza and conjunctivitis, all of which precede the skin eruption

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What is coryza?

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*What is* coryza? A stuffy/runny nose

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What is the most common cause of severe vision loss in measles?

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Can the retina be affected?

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What is the most common cause of severe vision loss in measles? Corneal complications

*Can the retina be affected?* Yes but only rarely so

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Acquired Rubeola: Overview

What is the rare-but-dreaded complication of measles?

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Acquired Rubeola: Overview

*What is the rare-but-dreaded complication of measles?* Subacute sclerosing panencephalitis (SSPE)

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Acquired Rubeola: Overview

What is the rare-but-dreaded complication of measles? Subacute sclerosing panencephalitis (SSPE)

*When does it appear?* Late childhood to adolescence (usually 6-8 years after the child had the measles). Essentially all will be symptomatic by age 20.

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*How does it present?* With cognitive/behavioral deterioration, eventually resulting in spasticity, dementia and death

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What are the ocular findings?

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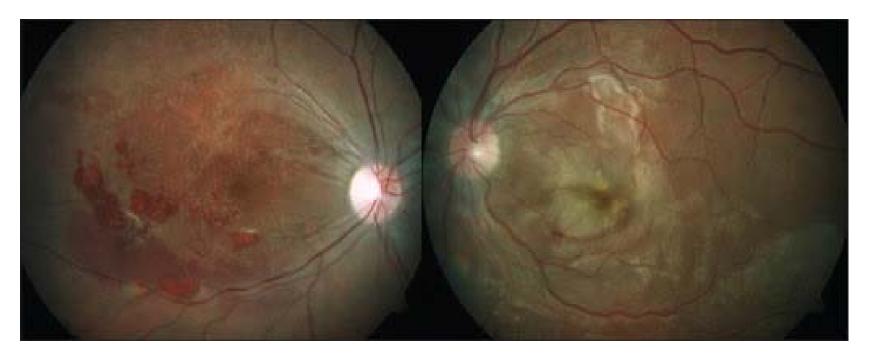
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*What are the ocular findings?* Inflammatory lesions of the retina, RPE and ONH. These lead to retinal edema, retinal infiltrates, disc edema, serous RD, and other complications.

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Subacute sclerosing panencephalitis

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With cognitive/behavioral deterioration, eventually resulting in spasticity, dementia and death

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Are the ocular findings commonly seen in SSPE?

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Are the ocular findings commonly seen in SSPE? Yes--a third to a half of SSPE pts will manifest them

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Do the ocular symptoms come early or late in the disease process?

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Are the ocular findings commonly seen in SSPE? Yes--a third to a half of SSPE pts will manifest them

Do the ocular symptoms come early or late in the disease process? Early. They precede the neurological manifestations by at least weeks, and can be by years

#### Rubeola: Diagnosis

How is measles diagnosed?

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#### Rubeola: Diagnosis

*How is measles diagnosed?* By the constellation of clinical findings

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#### Rubeola: Diagnosis

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Are serologic tests useful in diagnosing measles?

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#### Rubeola: Diagnosis

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Are serologic tests useful in diagnosing measles? Immunoglobulin studies can be, specifically IgG and IgM

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#### Rubeola: Treatment

What is the preferred antiviral treatment for rubeola?

- 1) The uveitis is profiled
- 2) The profiled case is meshed
- 3) A differential diagnosis list is generated
- 4) Studies are obtained to identify the etiology
- 5) Treatment appropriate for the etiology is initiated



#### Rubeola: Diagnosis

*How is measles diagnosed?* By the constellation of clinical findings

Are serologic tests useful in diagnosing measles? Immunoglobulin studies can be, specifically IgG and IgM

#### Rubeola: Treatment

What is the preferred antiviral treatment for rubeola? There is none

- 1) The uveitis is profiled
- 2) The profiled case is meshed
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