

# **Cataracts and Surgery**

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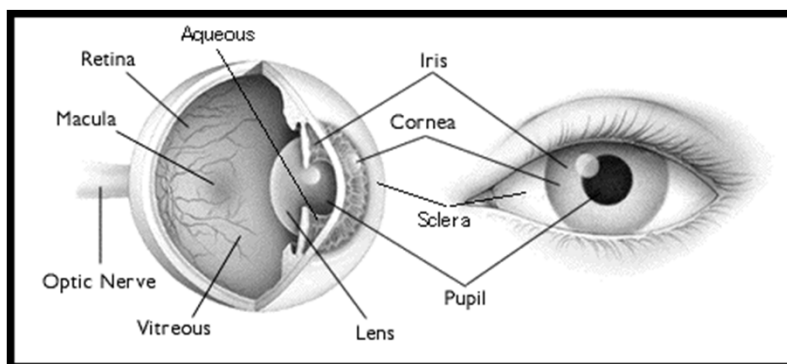
## **Epidemiology**

- **Leading cause of blindness in the world**
- **17 million reversibly blind – expected to increase**
- **In US – 3 million patients undergo cataract surgery each year**
- **Medicare spends \$3.4 billion per year on cataract surgery**

## Impact of Decreased Vision

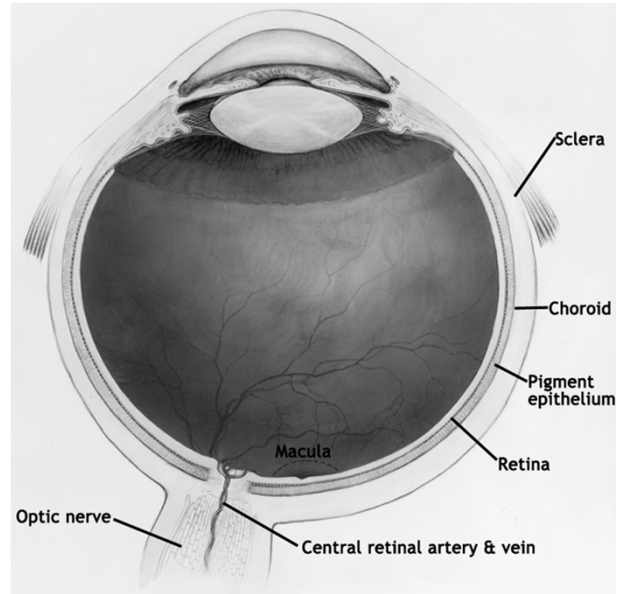
- Increasing difficulty with ADLs
- Decreased earning potential
- Limited Participation and Social Isolation
- Anxiety and Depression
- Increasing dependence on others
- Impacts on other members of the family – childcare, transportation, etc.

## Anatomy



[http://see.eyecarecontacts.com/eye\\_anatomy.gif](http://see.eyecarecontacts.com/eye_anatomy.gif)

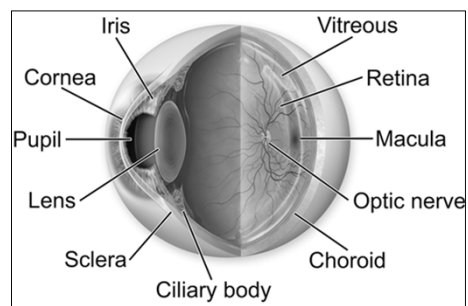
# Anatomy



National Eye Institute, National Institutes of Health

# Anatomy

- **Crystalline Lens**
  - 9mm across
  - 5mm depth at center
- **No blood supply**
- **No innervation**
- **Refracts light**
- **Performs accommodation**



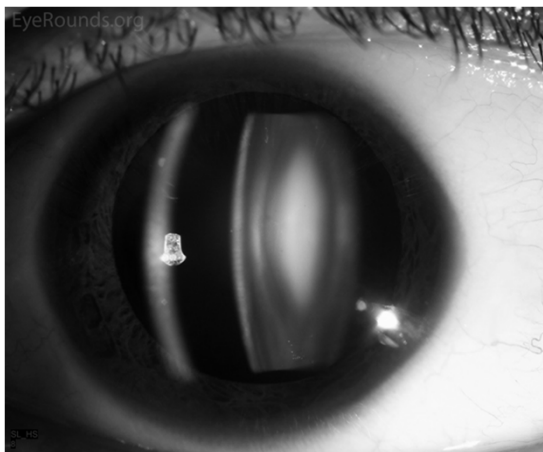
<http://www.retina-doctors.com>

# Aging Crystalline Lens

- Increase in weight
- Increases in thickness
- Decrease in ability to accommodate
- Loss of clarity

# Types of Cataract

- Nuclear
  - Typical age related change
  - Slow, gradual
  - Overall decreased vision, color, contrast
  - Induced myopia



# Types of Cataract

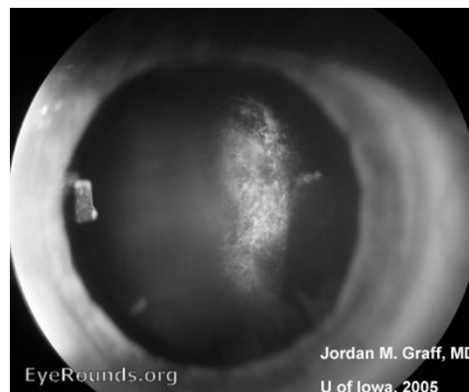
- **Cortical**
  - Asymmetric
  - Spokes
  - Glare
  - Double vision
  - Can become symptomatic quickly



<http://webeye.ophth.uiowa.edu/eyeforum/atlas/photos-earlier/immature-senile-cortical-cataract-OD.jpg>

# Types of Cataract

- **Posterior Subcapsular**
  - Can grow quickly
  - Glare
  - Reading problems
  - Steroids
  - DM
  - Younger



Jordan M. Graff, MD  
U of Iowa, 2005

[http://webeye.ophth.uiowa.edu/eyeforum/atlas/photos-earlier/PSC\\_01242005zoom2.jpg](http://webeye.ophth.uiowa.edu/eyeforum/atlas/photos-earlier/PSC_01242005zoom2.jpg)

# Changes in Vision

- **Blur**
- **Decreased contrast**
- **Decreased color**
- **Glare**
- **Halos**
- **Poor night vision**
- **Myopic shift**



<http://www.eyeconsultantsde.com/images/cataracts-vision.jpg>

# Improving Vision

- **Updating glasses**
- **Improved lighting for reading**
- **Magnification**
- **Anti-glare lenses / coatings**

## **When is the “Right” Time for Surgery?**

- **Vision is having negative impact on ADLs**
  - **Reading**
  - **Driving**
  - **Socializing**
  - **Living independently**
- **Often the input of a family member or loved one is very insightful**

## **When is the “Right” Time for Surgery**

- **Benefits outweigh risks**
- **Almost never an emergency**
- **A decision to be made together with your eye care provider**
- **Need to monitor other eye diseases**

## **Role of the Primary Care Provider**

- **Encourage regular eye exams**
  - Birth / Infancy
  - Preschool
  - School Years
  - 20's x 1; 30's x 2
  - Baseline again at 40
    - Every 2-4 years until 54
  - Every 1-2 until 64, then yearly
  - More often at all ages if systemic disease

## **Role of the Primary Care Provider**

- **Encourage eye exams:**
  - Systemic diseases (DM, HTN, medication toxicity)
  - Vision changes / complaints
- **Discuss vision impact on ADLs at regular exams**
- **Pre-op testing**
  - More evidence that little to no testing needed for routine patients
  - Some patients may require pre-operative clearance



# **Cataracts and Surgery**

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**Ohio State Eye and Ear Institute**  
**The Ohio State University Wexner Medical Center**

## **Pre-Op Consultation**

- **Outpatient clinic visit**
  - **1 hour**

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  - **Measure Corneal Curvature**

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- **Full dilated eye exam**
- **Determine Lens Implant Strength**
  - **Measure Axial Length**
  - **Measure Corneal Curvature**
- **Discuss Risks and Outcomes**
  - 1/1000 significant complication risk
  - 50-75% will use no glasses for distance vision after (if no astigmatism)

## **Pre-Op Considerations**

- **Anesthesia**
  - **Topical**
  - **MAC with Retrobulbar Block**

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- **Anesthesia**
  - **Topical**
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- **Blood Thinners**
  - **Coumadin**
  - **Plavix, Aspirin etc...**

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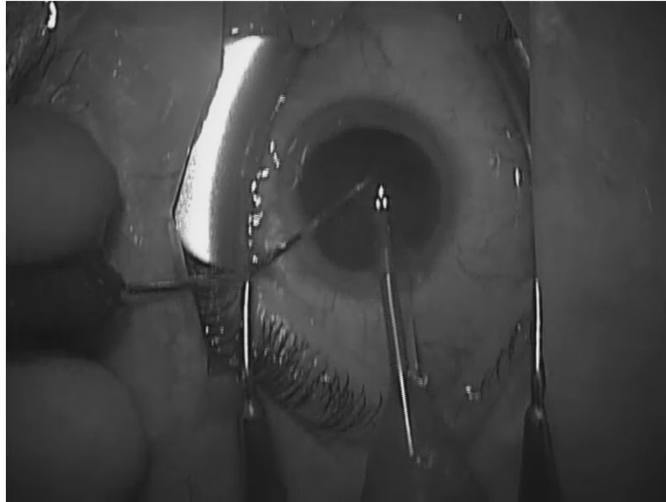
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- **“Out of balance” between the surgeries**

# Cataract Surgery



## Post Op Surgery

- Follow up typically POD#1, POW#1 and POM#1
- Vision usually improved POD#1 or by POW#1
- Eyedrops for 1 month after the surgery
  - Antibiotic
  - Steroid
  - Optional NSAID
- Limitations for 1 week after surgery
  - No heavy lifting
  - No swimming
  - Wear eye patch when sleeping at night

## **Lens Implant Options**

- **Monofocal lens**
  - Covered by insurance
  - Will improve vision at either distance or up close without glasses (not both)
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- **Premium Lens Implant**
  - Not covered by insurance (Out of pocket expense)
  - Lens implants to correct astigmatism
  - Lens implants to correct presbyopia
    - Accommodative lens
    - Multifocal lens