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Potential Ocular Side Effects of Select Systemic Drugs

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Potential Ocular Side Effects of Select Systemic Drugs

Description
The purpose of this poster is to serve as a handy reference for current and future eye care providers. It summarizes the ocular side effects that are potentially seen in patients who are on select systemic medications.

Keywords
Ocular Side Effects; Systemic Drugs

Disciplines
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## Potential Ocular Side Effects of Select Systemic Drugs

### Accutane (isotretinoin)

- **Indications:** This retinoid (a form of vitamin A) is used to treat psoriasis, cystic acne, and various other skin conditions.
- **Ocular Side Effects:** Keratopathy, optic neuropathy, and phthisis.
- **Comments:** Annual eye exam recommended. See [accutane](http://www.drugs.com)

### amiodarone (Cordarone or Pacerone)

- **Indications:** Antiarrhythmic
- **Ocular Side Effects:** Whorl keratopathy, optic neuropathy, and phthisis.
- **Comments:** Seen with 400-1,400 mg/d. DDx: Fakry’s disease, indomethacin, chlorprophamazine

### Avanda/Actos (rosiglitazone maleate)

- **Indications:** Diabetes. Increases sensitivity to insulin.
- **Ocular Side Effects:** Macular edema
- **Comments:** DDx from CSME. Cardiovascular events are also seen.

### contraceptives estrogen and/or progesterone

- **Indications:** Pregnancy prevention
- **Ocular Side Effects:** Optic neuritis, pseudotumor cerebri, dry eyes.
- **Comments:** Retinal thrombosis, cardiovascular events

### Coumadin (warfarin sodium)

- **Indications:** Prevents clot formation in atrial fibrillation and thrombosis.
- **Ocular Side Effects:** Retinal and subconjunctival hemorrhage. Also seen with ginkgo use.
- **Comments:** INR > 5 prone to bleed (normal 1-3)

### digoxin (Digitek)

- **Indications:** Congestive heart failure
- **Ocular Side Effects:** Red-green color defects, flickering or flashes of light, and colored spots.
- **Comments:** Visual field defects. Also seen with crack cocaine/drug abuse

### ethambutol (Myambutal)

- **Indications:** Tuberculosis
- **Ocular Side Effects:** Optic neuropathy
- **Comments:** Monthly exam is suggested for doses >15mg/kg/day. Elderly, children, and diabetics. Baseline exam should include VF, color vision, and optic nerve analysis.

### Flomax (tamsulosin)

- **Indications:** Benign prostate hyperplasia
- **Ocular Side Effects:** Loss of tone in iris dilator smooth muscle causing poor pupil dilation/prolapse during cataract surgery.
- **Comments:** Selective alpha-1A antagonist

### Fosamax (alendronate/bisphosphonates)

- **Indications:** Osteoporosis treatment/prevention
- **Ocular Side Effects:** Blurred vision, hypereaesthesia, anterior uveitis, episcleritis, and scleritis.
- **Comments:** A thorough dilated exam is recommended due to the multiple side effects that may occur.

### Interferons (Intron A/Avonex/Pegasys)

- **Indications:** Used to treat hepatitis & MS
- **Ocular Side Effects:** Ocular pain, conjunctivitis, cotton wool spots, optic neuritis, and pronounced dry eye.
- **Comments:** Eye exam prior to treatment and 2-4 weeks after treatments.

### levotyroxine (Synthroid)

- **Indications:** Replaces thyroid not produced by thyroid
- **Ocular Side Effects:** Diplopia, ptosis, and paralysis of EOMs
- **Comments:** Patient may experience symptoms similar to myasthenia with excess hormone.

### Lipitor/Zocor (atorvastatin/simvastatin)

- **Indications:** Hyperlipidemia
- **Ocular Side Effects:** Pseudo-cystoid macular edema
- **Comments:** Most commonly occurs in men between the ages of 30-50. Also seen with Niacin (vitamin to lower cholesterol).

### phenothiazines (Thorazine, Mellaril)

- **Indications:** Treats depression and anxiety
- **Ocular Side Effects:** Night blindness (Nyktalopia, "Brown Vision"), anterior subcapsular cataract, and salt/pepper fundus.
- **Comments:** Doses around 800 mg/d increase risk of toxicity.

### Plaquenil (hydroxychloroquine)

- **Indications:** Treats malaria, rheumatoid arthritis, SLE, and lupus erythematos.
- **Ocular Side Effects:** Bull’s-eye maculopathy, and corneal deposits.
- **Comments:** Baseline eye exam including HVF-10, Amster grid, and color vision. Yearly therapy.

### prednisone (steroids)

- **Indications:** Lupus, rheumatoid arthritis, and other immune-mediated conditions.
- **Ocular Side Effects:** Posterior subcapsular cataract, high IOP
- **Comments:** 25-80 mg/d; Intravitreal injections and implants need regular monitoring.

### Prozac/antidepressants (fluoxetine/SSRIs)

- **Indications:** Antidepressant
- **Ocular Side Effects:** Dry eye, blurred vision, myopia, photophobia, diplopia, conjunctivitis, and ptosis.
- **Comments:** Commonly prescribed generic drugs in US.

### tamoxifen citrate (Nolvadex)

- **Indications:** Breast cancer
- **Ocular Side Effects:** Crystalline retinopathy
- **Comments:** Normal dosage levels (20 mg/d) are unlikely to induce retinopathy.

### Topmax (topiramate)

- **Indications:** Seizures. Also off label for migraine headaches.
- **Ocular Side Effects:** Acute myopia, bilateral angle closure glaucoma.
- **Comments:** Ultrasonography has also shown choroidal effusion, choroidal detachment, and ciliary body edema.

### Viagra/Levitra/Cialis (sildenafil)

- **Indications:** Erectile dysfunction
- **Ocular Side Effects:** Rushing tinge to vision (nyktalopia). NAION, and macular edema.
- **Comments:** Visual side effects occur in 11% of men taking 100-mg doses.

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**References:**
- [Accutane](http://www.drugs.com)
- [Amiodarone](http://www.drugs.com)
- [Avandia/Actos](http://www.drugs.com)
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- [Coumadin](http://www.drugs.com)
- [Flomax](http://www.drugs.com)
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- [Prozac/antidepressants](http://www.drugs.com)
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