

# January Newsletter: Glaucoma

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## HEALTHCARE CLINIC HOURS:

Monday-Wednesday, Friday

8:00 a.m. to 5:00 p.m.

Thursday

9:00 a.m. to 5:00 p.m.

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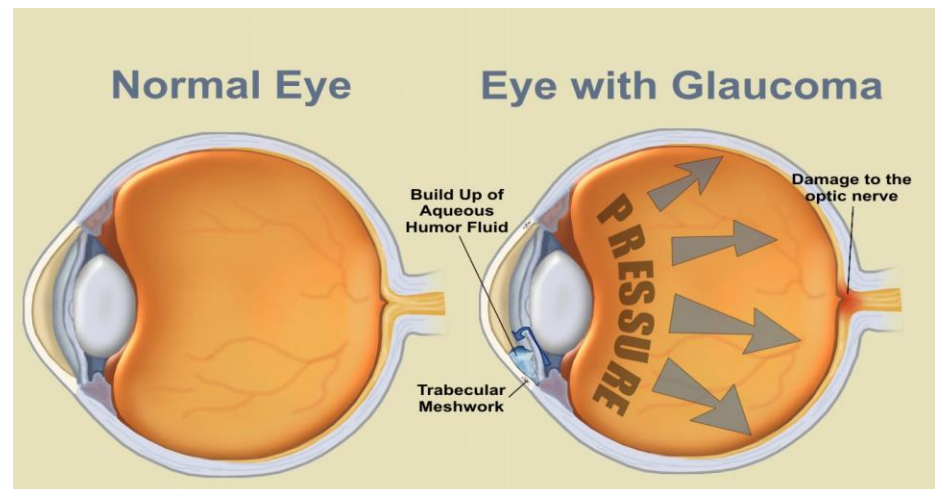
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## January is Glaucoma Awareness Month!

Glaucoma is an eye disorder that affects the optic nerve in the eye. Abnormalities of the optic disk can lead to permanent vision loss if pressure in the eye(s) is not treated properly.

The eye makes fluid that flows into the front of the eye. From the front of the eye, the fluid drains by a patch of meshwork. When the drainage system doesn't work appropriately or is blocked, fluid builds up in the eye putting pressure on the lens. The pressure then causes damage to the optic nerve and can lead to vision loss.

There are 2 types of glaucoma: open-angle and closed-angle. Open-angle glaucoma (OAG) is the 2<sup>nd</sup> leading cause of blindness. Closed-angle glaucoma (CAG) is less prevalent than OAG, accounting for about 1/3 of all glaucomas. Diagnosis is made after the optic disk and retinal nerve are evaluated and after the intraocular pressure (IOP) is measured.



## Prevalence

OAG is the most prevalent glaucoma in North America affecting 2-3 million Americans. Glaucoma incidence increases with age, and is primarily seen in those 50 years of age and older.

CAG is most prevalent in individuals of Inuit, Chinese, and Asian-Indian descent. It has been estimated to occur in 1-4% of these populations. Primary CAG accounts for a minority of primary glaucomas in North America, and is more likely to occur in individuals who have crowded structures in their eyes, making them more prone to blockages.

## Drugs that affect Glaucoma

Some drugs can cause or worsen glaucoma including:

- **Corticosteroids**
  - Fluticasone
  - Hydrocortisone
  - Prednisone
  - Triamcinolone
- **Anticholinergics**
  - Atropine
  - Homatropine
- **Sympathomimetics**
  - Epinephrine
  - Pseudoephedrine
- **Antidepressants**
  - Venlafaxine
  - Citalopram
- **Antihistamines**
  - Diphenhydramine
  - Loratadine

## Are you at risk?

### OAG risk factors

- Family history of glaucoma
- Increased age
- Sensitivity to steroids
- Nearsightedness
- African American descent
- High blood pressure
- High intraocular pressure
- Diabetes

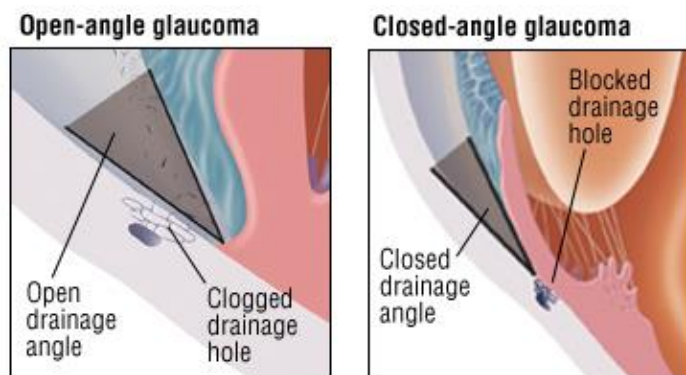
### CAG risk factors

- Family history of glaucoma
- Increased age
- Women
- Smaller eyes
- Far-sightedness
- Asian decent

## Brief Comparison

**OAG:** Typically slow and progressive. May or may not present with increased pressure in the eye. OAG is known as the “sneak thief of sight” because patients often experience no symptoms. The first symptom is typically loss of eyesight.

**CAG:** Can be slow and progressive, but can also be intermittent and acute. Slow progressive symptoms: loss of eyesight with normal or increased eye pressure. Acute symptoms: cloudy sight, eye pain, nausea, and vomiting with increased eye pressure.



## Treatment

- Eye drops are the most common form of drug therapy prescribed for glaucoma because they stay in the eye.
- They are designed to either reduce production of aqueous humor (fluid that regulates pressure in the eye) or promote its outflow.
- Beta-blockers (BB) or prostaglandin analogs (PA) are commonly used first because they reduce IOP better than other agents and are cheaper.
- Other drug classes include miotics, carbonic anhydrase inhibitors, and alpha-2 agonists.

# MEDICATIONS

Drug	Dosing	Side Effects/Comments
<b>Beta Blockers:</b> Reduce aqueous humor production		
Timolol (Timoptic®) Levobunolol (Betagan®) Carteolol (Ocupress®) Metipranolol (OptiPranolol®) Betaxolol (Betoptic®)	One drop twice a day	Burning, stinging, or itching of the eyes/eyelids; vision changes; sensitivity to light; bradycardia &/or bronchospasm  Avoid use in asthma, COPD, bronchitis, emphysema, or advanced cardiac disease  Some contain sulfite that may cause allergic reaction
<b>Prostaglandin Analogs:</b> Increase aqueous outflow		
Latanoprost (Xalatan®) Travoprost (Travatan®) Bimatoprost (Lumigan®) Tafluprost (Zioptin®)	One drop every night	Gradual changes in eye color, eyelash growth, darkening of skin around eyelids  Store unopened bottles in refrigerator
<b>Carbonic Anhydrase Inhibitors:</b> reduce aqueous humor production		
Drops: • Dorzolamide (Trusopt®) • Brinzolamide (Azopt®) Oral: • Acetazolamide (Diamox®) • Methazolamide (Neptazene®)	Drops: • One drop 2-3 times per day Oral: • 125-500 mg 2-4 times per day	Allergic reactions, burning, bitter/metallic taste, confusion, loss of body movement control, light sensitivity, rash, anorexia, and nausea  Oral products can have systemic effects
<b>Alpha-2 Agonists:</b> Increase aqueous humor outflow, reduce production		
Brimonidine (Alphagan P®) Apraclonidine (Iopidine®) Dipivefrin (Propine®)	One drop 2-3 times daily	Blurred vision, retina swelling, irritation, and eyelid inflammation
<b>Miotics:</b> Increase aqueous humor outflow		
Carbachol (Miostat®) Pilocarpine (Pilopine HS®)	One drop 2-3 times per day	Burning, irritation, low blood pressure, narrowing airway, stomach cramps  Use with caution in history of retinal detachment or corneal abrasion

## Proper Eye Drop Administration

1. Wash your hands.
2. Shake your bottle a few times
3. Bend your neck back so that you're looking up
4. Use one finger to pull down your lower eyelid
5. Without letting the tip of the bottle touch your eye or eyelid, squeeze one drop of the medicine into the space between your eye and lower eyelid
6. Close your eye, and then press a finger on your tear duct at least one full minute (this keeps the medicine in your eye with less chance for side effects).
7. Remove any excess liquid from the eyelid with a facial tissue



## References

1. Fiscella RG, Lesar TS, Deepak EP. Glaucoma. In DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A pathophysiologic approach. 9th ed. New York: McGraw-Hill Medical; c2014. Chapter 75. P 1525-1540.
2. Cioffi, GA, Van Buskirk EM. Glaucoma Basics and Frequently Asked Questions. American Glaucoma Society. Available from <http://www.americanglaucomasociety.net>
3. Abel SR, Sorensen SJ. Eye Disorders. In: Koda-Kimble MA, Young LY, Alldredge BL, Corelli RL, Guglielmo BJ, Kradjan WA, Williams BR, editors. Applied Therapeutics: The Clinical Use of Drugs. 10th ed. Philadelphia: Wolters Kluwer Health; c2012. P 1301-1322.



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**CALL FOR AN  
APPOINTMENT  
TODAY!**

**(334) 263-8470**

## State Wellness Center

101 S. Union Street  
Montgomery, AL 36104

All active employees, covered spouses of active employees, non-Medicare retirees and covered non-Medicare spouses of retirees that use the State Employees' Health Insurance Plan (Group 13000) as their primary insurance plan are eligible for a wellness premium discount. Each wellness plan year is November 1 through October 31.

SEIB and Local Government employees along with SEIB retirees are able to use the State Wellness Center Pharmacy. The pharmacy offers various over the counter products at discounted prices and a **free medication delivery service**. Delivery can be provided to the patients located in Montgomery. Please designate which site you would like your medication delivered to, and if it is to your residence someone must be available at the home to receive the delivery.

## State Wellness Center Healthcare Clinic

The SEIB clinic has a quality healthcare **TEAM** that includes nurse practitioners, an ambulatory care pharmacist, a physician, and nurses who work closely together to take care of your health and wellness needs.

### Services Include:

- Treat minor illnesses
- Provide health education & monitoring
- Check health progress between appointments
- Share information with your physician
- Monitor efficacy & safety of every medication
- Evaluate out of pocket medication expense
- Smoking cessation & weight loss services
- Diabetes education program
- Immunizations & injectable medications
- Develop a personalized medication plan
- Monitor control of chronic illnesses
- Medication check-ups
- Medication therapy management