

# What Is Pigment Dispersion Syndrome?

Pigment dispersion syndrome is a condition in which increased amounts of pigment, the material that gives your iris its color, circulate in other parts of the eye. The tiny granules of pigment can clog your eye's drainage system, causing eye pressure problems.

To maintain a constant healthy eye pressure, your eye continually produces a small amount of aqueous humor, the clear liquid in your eye, while an equal amount of this fluid flows out of your eye. If the aqueous humor does not flow out of the eye properly, fluid pressure in the eye (intraocular pressure, or IOP) builds up and, over time, causes damage to the optic nerve fibers. This condition is called [glaucoma](#). When pigment dispersion syndrome has progressed to this stage, it is called pigmentary glaucoma. Not everyone who has pigment dispersion syndrome will develop pigmentary glaucoma.

## Pigment Dispersion Syndrome Symptoms and Risk

Many people with pigment dispersion syndrome do not have any symptoms but some may have blurring of vision or see halos. Even if you have pigmentary glaucoma, you may not notice any symptoms.

In time, as the optic nerve becomes more damaged, you may notice that blank spots begin to appear in your field of vision. You usually won't notice these blank spots in your day-to-day activities until the optic nerve is significantly damaged and these spots become large. If all of the optic nerve fibers die, blindness results.

### Who Is At Risk for Pigment Dispersion Syndrome?

Pigment dispersion syndrome is more likely to be diagnosed at a relatively young age, when people are in their 20s or 30s. Other types of glaucoma are more commonly diagnosed after the age of 40. The disease is more common among males and Caucasians and may be inherited. People with [myopia \(nearsightedness\)](#) are also more likely to be diagnosed with pigment dispersion syndrome.

## Pigment Dispersion Syndrome Diagnosis

Because there are no symptoms, pigment dispersion syndrome is usually diagnosed during a regular eye exam. That is why it is so important to have an eye exam with your ophthalmologist.

During a thorough [eye exam](#), your [ophthalmologist \(Eye M.D.\)](#) will test your eye pressure and may conduct other tests, such as gonioscopy, which allows him or her to get a clear look at the drainage angle of your eye and determine if anything is preventing the fluid from draining properly. These tests are the same used for [glaucoma diagnosis](#) and will determine if you have pigmentary glaucoma. Your Eye M.D. will be looking for tell-tale signs of pigment floating in the eye (including at the back of the cornea) or small sections of pigment missing from your iris.

## Pigment Dispersion Syndrome Treatment

If you have pigment dispersion syndrome, you should have your Eye M.D. monitor your condition to reduce your risk of developing pigmentary glaucoma.

Treatment for pigmentary glaucoma is the same as [open-angle glaucoma treatment](#), including medications, laser therapy, or surgery.

## Medicated eyedrops for pigment dispersion syndrome

Medicated eyedrops may be used to treat pigment dispersion syndrome. These medications lower your eye pressure in one of two ways — either by slowing the production of aqueous humor or by improving the flow of fluid.

## Surgery for pigment dispersion syndrome

Surgery is another way to improve the flow of fluid out of the eye, resulting in lower eye pressure.

### Laser trabeculoplasty

A surgery called laser trabeculoplasty is often used to treat open-angle glaucoma. There are two types of trabeculoplasty surgery: argon laser trabeculoplasty (ALT) and selective laser trabeculoplasty (SLT).

During ALT surgery, a laser makes tiny, evenly spaced burns in the trabecular meshwork. The laser does not create new drainage holes, but rather stimulates the drain to function more efficiently.

With SLT, a low level energy laser targets specific cells in the mesh-like drainage channels using very short applications of light. The treatment has been shown to lower eye pressure at rates comparable to ALT.

Even if laser trabeculoplasty is successful, most patients continue taking glaucoma medications after surgery. For many, this surgery is not a permanent solution. Nearly half who receive this surgery develop increased eye pressure again within five years. Many people who have had a successful laser trabeculoplasty have a repeat treatment.

Laser trabeculoplasty can also be used as a first line of treatment for patients who are unwilling or unable to use glaucoma eyedrops.

### Laser iridotomy

Laser iridotomy is recommended for treating people with closed-angle glaucoma and those with very narrow drainage angles. A laser creates a small hole about the size of a pinhead through the top part of the iris to improve the flow of aqueous fluid to the drainage angle. This hole is hidden from view by the upper eyelid.

### Peripheral iridectomy

When laser iridotomy is unable to stop an acute closed-angle glaucoma attack, or is not possible for other reasons, a peripheral iridectomy may be performed. Performed in an operating room, a small piece of the iris is removed, giving the aqueous fluid access to the drainage angle again. Because most cases of closed-angle glaucoma can be treated with glaucoma medications and laser iridotomy, peripheral iridectomy is rarely necessary.

### Trabeculectomy

In trabeculectomy, a small flap is made in the sclera (the outer white coating of your eye). A filtration bleb, or reservoir, is created under the conjunctiva — the thin, filmy membrane that covers the white part of your eye. Once created, the bleb

looks like a bump or blister on the white part of the eye above the iris, but the upper eyelid usually covers it. The aqueous humor can now drain through the flap made in the sclera and collect in the bleb, where the fluid will be absorbed into blood vessels around the eye.

Eye pressure is effectively controlled in three out of four people who have trabeculectomy. Although regular follow-up visits with your doctor are still necessary, many patients no longer need to use eyedrops. If the new drainage channel closes or too much fluid begins to drain from the eye, additional surgery may be needed.

### **Aqueous shunt surgery**

If trabeculectomy cannot be performed, aqueous shunt surgery is usually successful in lowering eye pressure.

An aqueous shunt is a small plastic tube or valve connected on one end to a reservoir (a roundish or oval plate). The shunt is an artificial drainage device and is implanted in the eye through a tiny incision. The shunt redirects aqueous humor to an area beneath the conjunctiva (the thin membrane that covers the inside of your eyelids and the white part of your eye). The fluid is then absorbed into the blood vessels. When healed, the reservoir is not easily seen unless you look downward and lift your eyelid.