

## FIVE THINGS TO KNOW ABOUT ...

## Glaucoma

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See also [www.cmaj.ca/lookup/doi/10.1503/cmaj.140685](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.140685)**Glaucoma is the most common cause of irreversible blindness in the world**

Glaucoma affects 400 000 Canadians and 67 million people worldwide. Nevertheless, for 50% of patients with glaucoma in developed countries, the condition remains undiagnosed.<sup>1</sup>

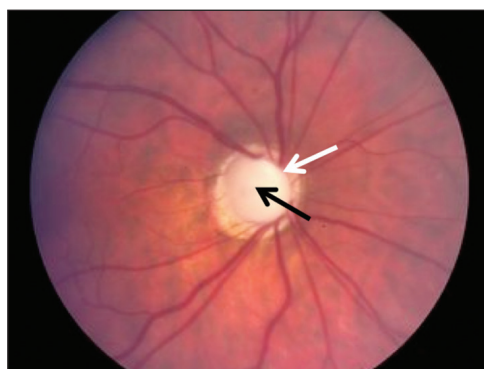
**Primary open-angle glaucoma is a slow and silent thief of vision**

Primary open-angle glaucoma is the most common type of glaucoma in developed countries (85%–90% of cases).<sup>3</sup> It is characterized by slow, painless loss of the visual field, with sparing of the central vision until the late stages, which explains why patients often present late.<sup>2</sup> Routine eye examinations are important for early detection of glaucoma, before irreversible loss of vision, especially for those at higher risk (e.g., older people and those with a family history of glaucoma).<sup>4</sup> Black people and those with myopia are also at greater risk.<sup>5</sup>

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**Glaucoma is an optic neuropathy with characteristic damage to the optic nerve leading to loss of visual field**

Glaucoma causes the death of retinal ganglion cells by apoptosis, which leads to the loss of optic nerve axons.<sup>2</sup> It is most often associated with, but is not defined by, high intraocular pressure and is diagnosed by characteristic fundoscopic findings (Figure 1) and visual field defects.<sup>2</sup>



**Figure 1: Fundoscopy showing glaucomatous optic disk (white arrow) with severe cupping (black arrow) from loss of neuroretinal rim.**

**Patients require timely therapy to slow the progression of open-angle glaucoma**

In most cases, glaucoma eye drops (e.g., latanoprost, a prostaglandin analogue) effectively slow progression of the condition.<sup>6</sup> However, patient education is critical: in one multicentre survey, 61.7% of patients were either non-compliant with their medication or had improper administration technique.<sup>7</sup> Laser therapy or surgical interventions (e.g., trabeculectomy) are other options, if required.<sup>6</sup>

**Acute angle-closure glaucoma is a medical emergency requiring prompt referral to an ophthalmologist**

Primary angle closure is generally bilateral, although 90% of acute attacks are unilateral, caused by iris bombe leading to a closed angle. During an acute crisis, the patient presents with severe eye pain; red eye; blurred vision; edematous cornea; a fixed, mid-dilated vertically oval, nonreactive pupil; and high intraocular pressure.<sup>8</sup> After the pressure is lowered with drops and medications, laser iridotomy is performed to relieve the pupil block.<sup>8</sup> Prophylactic laser iridotomy or lens extraction that widens the angle can be used to prevent pupil block.<sup>8</sup>

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