Pupillary Dilation in Clinical Practice

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Pupillary dilation facilitates examination of the ocular fundus and media. A dilated pupil not only permits ophthalmoscopic examination of the otherwise inaccessible regions of the peripheral fundus, but it also allows utilization of instruments which offer steropsis. An example of such an instrument is the binocular indirect ophthalmoscope. With this instrument the entire fundus from posterior pole to pars plana may be readily examined. The non-mydriatic adjustment available on some binocular indirect ophthalmoscopes brings the observation and illumination beams very close together to allow viewing through smaller pupils. This arrangement increases reflections, reduces stereopsis, and ophthalmoscopy is generally limited to the posterior funds.[1] As a rule, the larger the pupil the easier it becomes to view the peripheral fundus.

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Historicaly, optometrists have been prohibited by law from utilizing mydriatic agents in their practice, but this is changing. There are now six provinces in which optometrists use diagnostic pharmaceutical agents (DPAs): Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia and Ontario. Only two of the 50 United States still prohibit the use of DPAs by optometrists, and 20 states permit use of therapeutics.

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As the laws governing the practice of optometry change, it is important that each practitioner remain abreast of the indications, contraindications and potential adverse effects of each pharmaceutical being utilized. This paper reviews indications, precautions and protocol regarding the use of mydriatic agents.

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Indications

Pupillary dilation is a simple and safe clinical procedure which can be incorporated into routine optometric practice. One need not dilate every patient to derive the maximum benefit from this procedure, only those for whom the procedure is indicated. In general, every patient with either known or suspected intraocular disease should receive a dilated fundus examination. Included are patients that fall into so-called "at risk" populations for intraocular disease. Although by no means a comprehensive list, some of the more common and widely recognized indications for dilated fundus examination include.

1) Age. Many ocular diseases are more prevalent among the elderly.[2] Direct ophthalmoscopy is often more difficult in the aged because of cloudy media and miotic pupils. Consequently, many practitioners have adopted a policy of performing dilated fundus examinations on all first-time patients over a given age (such as 40 years of age) and then repeating the procedure on a routine basis every few years thereafter.

2) Myopia. The higher degrees of myopia are associated with an increased prevalence of a wide range of ocular disorders; included are vitreous and chorioretinal degenerations, posterior staphyloma, subretinal neovascularization, retinal detachment, glaucoma and cataract.[3] High magnification and poor image quality make examination by direct ophthalmoscopy extremely difficult. Regular examination of high myopes with indirect ophthalmoscopy is essential to the proper management of these patients.

3) Trauma. Patients presenting with trauma deserve a dilated fundus examination to rule out the presence of intraocular injury. Keep in mind that the external appearance of an eye after blunt trauma is not an accurate indicator as to whether or not intraocular injury has occured.[4]

4) Predisposing Systemic Disease. Individuals suffering from conditions known to produce fundus or lens changes should be dilated on a regular basis to facilitate disease detection and monitoring. Examples of such conditions include diabetes, hypertension, sickle cell disease, systemic lupus erythematosus, and sarcoidosis. In addition, patients taking medications with high ocular toxicity need to be closely monitored. Two major offenders in this area are the phenothiazines and chloroquine. Phenothiazines are used in the treatment of mental illness and chloroquine is used to treat rheumatory arthritis and other collagen-vascular diseases.

5) Symptomatic Patients. Dilated fundus examination is indicated whenever a patient presents with symptoms suggestive

of intraocular disease. Such symptoms would include photopsia, floaters, metamorphopsia, vision or field loss.

6) Mydriasis is indicated anytime careful examination of the ocular fundus or media is desired.

> Pupil dilation should not be performed if either angle-closure glaucoma, an iris-supported intraocular lens implant, a subluxated crystalline lens, or a subluxated posterial chamber intraocular lens implant is present.

Pupil dilation should not be performed if either angle-closure glaucoma, an iris-supported intraocular lens implant, a subluxated cyrstalline lens, or a subluxated posterior chamber intraocular lens implant is present.[5] Eyes with iris-supported implants should not be dilated unless it is absolutely necessary, and then only after consultation with an implant surgeon. Patients with angle-closure glaucoma, lens subluxation, or a subluxed posterior chamber implant require surgical attention before they can be dilated safely.

Mydriatic Selection

A standard regimen for routine dilation is to instill a topical anesthetic followed by one drop each of 1.0% tropicamide and 2.5% phenylephrine.[6] The anesthetic serves to increase the permeability of the corneal epithelium while minimizing discomfort and reflex lacrimation during subsequent drop instillations. The anticholinergic activity of tropicamide relaxes the iris sphincter muscle (and also the ciliary body – causing cycloplegia) while the adrenergic activity of phenylephrine stimulates the dilator. Together these agents act synergistically to produce a rapid and full dilation of the pupil. Only rarely will additional instillations ever be needed to obtain a clinically effective (6 mm or greater pupillary diameter[7]) dilation. Bartlett[6] recommends against the use of tropicamide alone for routine dilation for the following three reasons:

a) The above combination produces a faster and more complete mydriasis.

b) Tropicamide alone often produces insufficient mydriasis in elderly patients.

c) Pupils dilated with tropicamide alone may constrict in response to the intense illumination of the binocular indirect ophthalmoscope.

Other agents are available for purposes of pupillary dilation. Atropine, homatropine, scopolamine and cyclopentolate are anticholinergic agents readily available for ophthalmic use. Although each agent has clinical applications, these drugs are not advisable for routine dilation primarily because their duration of action is too long.

Only hydroxyamphetamine is available as an alternative adrenergic agent. The mydriatic effectiveness of 1.0% hydroxyamphetamine is approximately equivalent to 2.5% phenylephrine.[6] It can be used as an alternative to phenylephrine in selected patients at risk for cardiovascular side effects.

Tropicamide is commercially available in 0.5% and 1.0% solution. Both provide approximately equal mydriasis. Although controversial[8], some believe that the 1.0% concentration may offer greater effectivity in darkly pigmented individuals.[9] No serious toxic effects have been associated with the topical use of tropicamide; in fact, tropicamide is considered to be one of the safest of all DPAs.[10, 11]

Phenylephrine is commercially available in 2.5% and 10% solution for purposes of pupillary dilation. The 2.5% concentration is recommended for routine mydriasis because the vast majority of reported systemic adverse effects, such as elevation of blood pressure, involve use of the 10% concentration.[12, 13] For routine pupillary dilation the risk of cardiovascular effects associated with the use of 10% phenylephrine outweigh its benefit of slightly greater effectivity.

Although the suggested regimen of choice for routine mydriasis is one drop each of 1.0% tropicamide and 2.5% phenylephrine, this may, as discussed below, be adjusted in patients with either a narrow anterior chamber angle or those at risk for the potentional cardiovascular effects of phenylephrine.

Suggested Protocol

1. Predilation Testing

Once it has been decided that a given patient shall be dilated, certain testing needs to be carried out before mydriatics can be instilled safely. Generally speaking, only the fundus examination and a post-dilation slitlamp examination should remain to be performed after mydriasis. An exception would be when a cycloplegic refraction is desired. In addition to a careful medical history, there are four test which may be routinely performed on all patients prior to mydriatic instillation: visual acuity, biomicroscopy, pupillary reflexes, and tonometry. The purpose for performing each is as follows:

> Generally speaking, only the fundus examination and a post-dilation slitlamp examination should remain to be performed after mydriasis.

a) Best corrected visual acuity. Acuity is usually assessed on every patient, if only for medico-legal reasons. Whenever the patient's corrected distance acuity is less than 6/6 – 6/7.5, a pinhole acuity or refraction is needed to determine whether uncorrected refractive error is the cause of the reduction. Any refractive analysis, near vision testing, or binocular vision assessment should be carried out prior to dilation.

b) Biomicroscopy. The depth of the anterior chamber angle must be established prior to dilation if angle-closure is to be avoided. van Herick and associates[14] have devised a very useful slitlamp estimation technique for this purpose (Table 1). Gonioscopy is performed whenever the estimation technique indicates that an angle is capable of closure. If the angle appears dangerously narrow on gonioscopy, the patient should be evaluated for the presence of angle-closure glaucoma. In addition to evaluating anterior chamber depth during biomicroscopy, search for any other contraindications to pupillary dilation, such as an iris-supported implant or a subluxed lens.

c) Pupillary testing. Naturally, once the pupils have been dilated it is not possible to examine their reflexes. If you wish to examine the pupils, do so prior to mydriatic instillation.

d) Tonometry. Intraocular pressure (IOP) is normally not significantly affected by pupillary dilation.[6] In some patients

TABLE 1

Van Herick Estimation Procedure

1. Position the narrowest possible slitbeam at an angle almost perpendicular to the peripheral corneal surface at a point just anterior to the limbus.
2. View the chamber opening at a 60° angle to the light beam.
3. The corneal section width is used for estimating the anterior chamber angle depth as follows:

   Grade 4 (Incapable of closure)-The distance between the posterior corneal surface and the iris (corneal-iris space) is equal to or greater than the section width of the cornea.

   Grade 3 (Incapable of closure)-The space is equal to one half the width of the corneal section.

   Grade 2 (Closure possible)-The space is equal to one fourth of the corneal section width.

   Grade 1 (Closure probable)-The distance is less than one fourth of the width of the corneal section.
4. To avoid errors in estimation keep the slitlamp beam as narrow as possible and use the area just before the point of disappearance of the corneal-iris space at the periphery for measurement.
5. If the angle is grade 1 or 2, gonioscopy is indicated to rule out potential closure.

From Van Herick, W., R. Shaffer, A. Schwartz: Estimation of Width of Angle of Anterior Chamber. AM. J. Ophthalmol. 68(4): 626 - 29, 1969.

TABLE 2

Guidelines for the Clinical Use of Topical Ophthalmic 2.5% Phenylephrine

1. Use is contraindicated in:
   A) Some low birth weight infants
   B) Patients with known cerebral aneurysms
   C) Elderly adults with severe arteriosclerotic, cardiovascular, or cerebrovascular disease
2. Monitor blood pressure in geriatric patients with known cardiac disease
3. Careful supervision and adjustment of dosages are required when monoamine oxidase inhibitors or tricyclic antidepressants are administered simultaneously or with 21 days.
4. Use caution in infants with known cardiac anomalies.
5. Be aware that concomitant use of topical ocular phenylephrine in patients given atropine can encance pressor effects and induce tachycardia in some patients, especially infants.

From Fraunfelder, F.T., S.M. Meyer; Possible Cardiovascular Effects Secondary to Topical Ophthalmic 2.5% Phenylephrine. AM. J. Ophthalmol. 99(6): 362 - 63, 1985.

with open-angle glaucoma anticholinergic mydriatics can produce a substantial but transient rise in IOP.[10] Consequently, measurements of ocular tension should be made prior to dilation rather than afterwards to avoid artificially elevated readings in these patients. Furthermore, baseline tonometric readings are useful whenever the possibility of angle-closure glaucoma is a concern.

2. Drug instillation

A popular and effective eyedrop instillation technique is illustrated in Figure 1. Ideally, 3-5 minutes should elapse between drop instillations in a given eye because of tear volume considerations. Once the drops have been instilled, effective mydriasis (pupillary diameter ≥ 6 mm) is usually achieved within 15-25 minutes.[6] While waiting for the pupils to dilate, patients may be permitted to select their frames, sit in the waiting room, or remain in the examination chair. The optometrist can take advantage of the time required for dilation by starting on his next patient.

3. Postexamination considerations

It is good practice to advise each patient prior to mydriatic administration of the potential consequences of pupillary dilation and how long it will be before the effects wear off.[5, 15] The most commonly encountered symptoms after mydriasis are blur, glare and photophobia. Blur is often greatest at near, but some distance blur may also be experienced due to the optical effects of a large pupil. The presence of refractive error can greatly influence how much blur a given patient will experience. For example, an uncorrected hyperope who habitually accomodates for distance will under cycloplegia find her entire visual environment blurred; whereas, the uncorrected myope may not notice any significant change in her vision at all. Glare can be very bothersome, especially at night and in patients with cataract or other media disturbances. Photophobia is a natural reaction to bright light. This problem is best managed with sunglasses; disposable post-mydriatic sunglasses are available for this purpose.[a] Using tropicamide and phenylephrine in combination, pupil size will return to normal in approximately 6 hours,[9] and cycloplegia lasts about 60 minutes.[10] Whenever it is anticipated that a patient may have difficulty driving home following the examination, suggest that she have someone accompany her to the office who can drive her home afterward. The use of pilocarpine to reverse pupillary dilation for symptomatic purposes is potentially dangerous and usually ineffective.[16]

Figure 1.
Fraunfelder technique for applying topical solutions to the eye.
A. The lower lid is gently pulled away at right angles to the plane of the head by the examiner's fingers.
B. The drop is placed in the conjunctival sac without touching tissue or lashes.
C. After waiting a moment to allow gravity to deliver the drop to the most dependent area of the fornix, the lid is then moved parallel to the plane of the head until it comes into contact with the globe.
D. A portion of the drop is entrapped under the eyelid.

From Fraunfelder FT: "Extraocular Fluid Dynamics: How Best to Apply Topical Ocular Medication". *Trans Am Ophthalmol Soc.*, 74: 457 - 487, 1976.

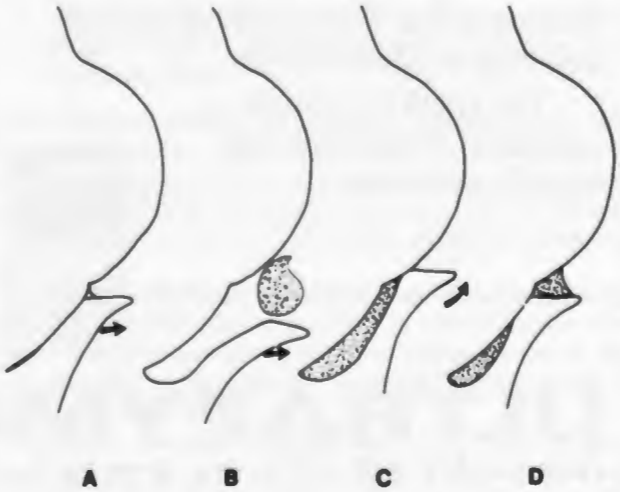

TABLE 3

Drugs that can Potentiate the Pressor Effects of Topical Ocular Phenylephrine

Tricyclic antidepressants

Amitriptyline HCL	Elavil
Amoxapine	Asendin
Clomipramine HCL	Anafranil
Desipramine HCL	Norpramin, Pertofrane
Doxepin HCL	Sinequan, Triadapin
Imipramine HCL	Tofranil
Maprotiline HCL	Ludiomil
Nortriptyline HCL	Aventyl
Protriptyline HCL	Triptil
Trimipramine	Surmontil

Monoamine Oxidase Inhibitors

Isocarboxazid	Marplan
Phenelzine sulfate	Nardil
Tranylcypromine sulfate	Parnate

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Special Considerations

When properly performed, pupillary dilation is a safe procedure with relatively few potential complications.[17] The following circumstances, however, require that special precautions be taken: a) patients with a history of cardiovascular or cerebrovascular disease, b) the presence of a shallow anterior chamber angle, and c) the presence of an intraocular lens implant.

1. Phenylephrine Guidelines

Phenylephrine – even at the 2.5% concentration – should be used with caution in patients at risk for developing cardiovascular side effects from its use. It has been reported that patients with a history of cardiovascular or cerebrovascular disease; those using atropine, tricyclic antidepressants, or monoamine oxidase (MAO) inhibitors; and infants are at risk.[13] Guidelines for the use of topical 2.5% phenylephrine are presented in Table 2. A listing of tricy-

a. Post-mydriatic spectacles are available from Bernell Corporation, 750 Lincolnway East, South Bend, Indiana 46634-4637. Telephone (219) 234-3200.

TABLE 4

How to Perform the Prone Dark Room Provocative Test (PDRP)

1. You need a room which can be made completely dare, a table, bench or other support for the patient's head, and a tonometer (preferable a Perkins' hand-held instrument).
2. Instruct the patient on test protocol: emphasize the importance of staying awake during the test and explain the need to rapidly obtain pressure measurements at the conclusion of the test.
3. Obtain baseline IOP readings with the same tonometer that you will be using at the end of the test.
4. Seat the patient with his head down on a cushioned table, his face should be parallel to the floor (prone position) with the weight of his head supported on his forehead; no pressure should be placed on the eyes. A loose blindfold may be placed over the eyes if the room cannot be made completely dark, but it is probably best to simply have the patient keep his eyes closed. Arrange your instruments so that they are at the ready for the second set of readings.
5. Turn off the lights. The patient should remain in the dark, face down, for one hour. A radio and frequent calls through the closed door will help to keep the patient awake.
6. Return to the darkened room after one hour and allow yourself to dark adapt.
7. Perform tonometry as quickly as possible after the patient raises his head without exposing the patient to any unnecessary light. Because the IOP will start to fall once the head is elevated and the eye is exposed to light, it is very important to take the readings in the dark and as quickly as possible. The value of patient instruction, instrument preparation prior to reentering the dark room and examiner dark adaptation cannot be overemphasized.
8. Once the readings have been obtained the room lights may be turned on.
9. A rise in pressure of 8 mmhg or more in one or both eyes constitutes a positive result. Asymmetric rise in pressure between the two eyes is also suggestive of angle-closure.
10. The PDRP is the most physiologic, the most easily reversed, and hence the safest of all provocative tests for angle-closure glaucoma. Usually the pupil becomes miotic and the angle opens as soon as light strikes the eye.[19]

clic antidepressants and MAO inhibitors (both are used in the treatment of depression) is presented in Table 3. Because of sympathetic denervation hypersensitivity in patients with idiopathic orthostatic hypotension, insulin-dependent diabetes, and those taking adrenergic blocking agents, Bartlett[6] suggest using either tropicamide alone or in combination with 1.0% hydroxyamphetamine in these individuals to avoid potential cardiovascular effects. He also cautions against the use of any adrenergic agent in patients with hyperthyroidism due to their increased sensitivity to circulating catecholamines.

2. Shallow anterior chamber angle

When a patient has an anterior chamber angle of van Herick grade 2 or less, special precautions are needed to avoid inducing angle-closure glaucoma. Although dangerously narrow anterior chamber angles are rare, with reports ranging between less than 2% up to about 6% of the population[18], they should be identified as occludable before mydriatics are instilled. One approach to the management of such patients is as follows:

Figure 2.
Diagramatic representation of angle grading.
A. The iris is pushed forward completely occluding the chamber angle. This is the appearance during pupillary block angle-closure glaucoma.
B. This angle is narrow yet open, and at 10° would be grade 1. An angle this narrow would be susceptible to closure.
C. A safer angle, open to approximately 20°, this angle would be grade 2. Angles of grade 2 or less are considered capable of closure.
D. This is the most common anatomic appearance, a wide open angle. Angles of this configuration are grade 3 or 4 and are judged to be incapable of closure.

From Lichter PR: "Gonioscopy", Clinical Ophthalmology. Ed., T.D. Duane. Philadelphia: Harper & Row, 1986, Volume 3, Chap. 44.

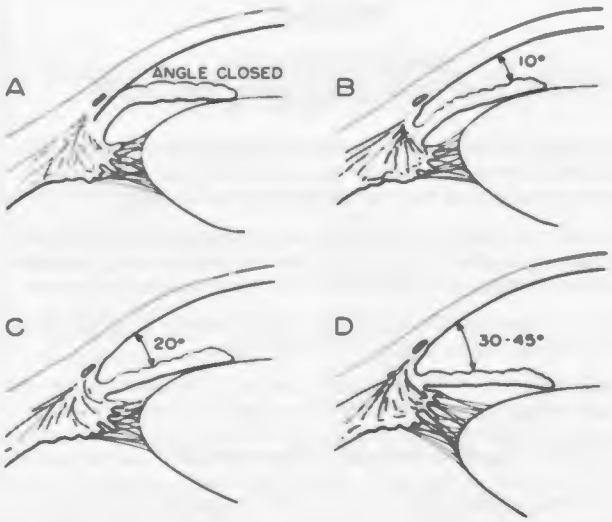
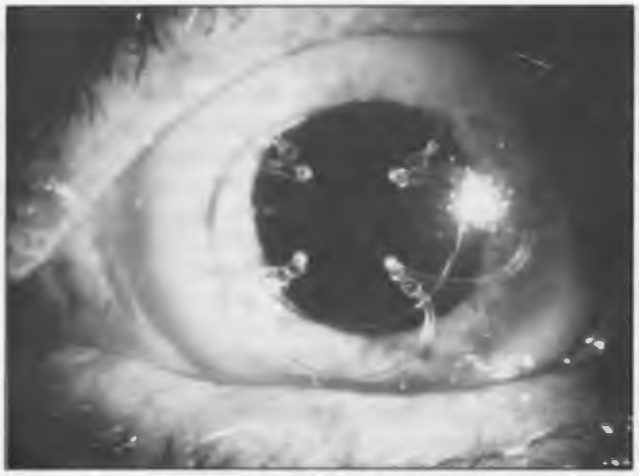


Figure 3.
Iris-supported implants.

A. This iris-supported implant is attached to the anterior surface of the iris.

B. The same implant in figure 3a at higher magnification.

C. Typical presentation of a 4-loop implant. Note the square-shaped pupil which this lens produces.



D. A 4-loop implant dislocated into the anterior chamber. Surgery is required to correct this condition.

TABLE 5

Medical Treatment of Acute Angle-closure Glaucoma

1. The goals of medical treatment of acute angle-closure glaucoma are two-fold: first to lower the intraocular pressure and second to open the anterior chamber angle.
2. Pilocarpine is capable of achieving both of the above stated goals. If the ocular tension is relatively low (less than 40 mmhg) and there are no complicating factors, such as posterior or peripheral synechia, then pilocarpine alone may be sufficient to break the attack.[26] This should be the case in mose iatrogenic attacks where a narrow angle has been recognized prior to pupillary dilation and the development of angle-closure is quickly recognized.
3. When the intraocular pressure is above 50 - 60 mmhg, measures must be taken to first lower the intraocular pressure before pilocarpine can be used to open the angle. Systemic osmostic agents such as glycerol and isosorbide are recommended for this purpose due to their ability to lower even the highest intraocular pressure to an acceptable level in a very brief period of time, because osmotics have a relatively short duration of action, other agents, such as acetazolamide (diamox) and topical beta-blockers (eg. timolol), may be used in combination with osmotics to maintain normal intraocular pressure until pilocarpine can successfully open the angle.
4. Agents and their recommended dosages for acute angle-closure glaucoma: [19,20]

   2% pilocarpine
   Instill 2 drops initially, then 1 drop every 15 - 30 minutes until the attack is broken.

   Systemic osmotics
   a) Glycerol 50% solution 1 ml/lb body weight. Served over ice with fruit juice. Entire dose should be consumed within 5 minutes. Nothing by mouth for at least 2 hours thereafter. Glycerol should not be given to diabetics.
   b) Isosorbide 45% solution 1.5 ml/lb body weight. may be used in lieu of glycerol.
   c) IV mannitol 20% solution 1.5% g/kg body weight, may be substituted if the patient is too nauseated to accept oral medication.

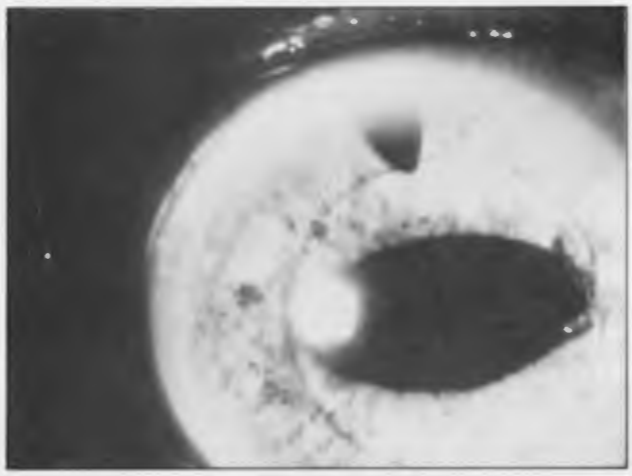
   Acetazolamide 500 mg
   May be administered PO, IM, OR IV

   0.5% timolol
   Instill 1-2 drops initially, then 1 drop every 12 hours until surgery.

A. *Perform gonioscopy* to confirm that the angle appears occludable (Figure 2). If the angle appears incapable of closure (grades 3 and 4) then proceed with dilation. If, on the other hand, gonioscopy confirms the presence of a narrow angle, dilation is deferred until a prone dark room provocative test is performed.

B. *The prone dark room provocative test* (PDRP) is a useful means of determining whether or not a given patient is at risk for developing angle-closure glaucoma[19] (Table 4). A positive PDRP indicates the need for a prophylactic laser iridotomy to guard against angle-closure glaucoma.[20] If the PDRP is negative, dilation may be performed using 0.5% tropicamide.[6] When the results are "borderline", consider dilating only one eye initially. Once it is clear that the first eye is not going to develop angle-closure, the second eye may be dilated. To insure that appropriate treatment is promptly instituted should angle-closure occur, have the narrow-angle patient remain in the office until the risk has

Figure 4.
Pupil capture phenomenon.
This posterior chamber implant has become totally entrapped by the pupil such that only the haptics remain in the posterior chamber. The pupil assumes a "cat's eye" configuration. Pupil capture is rare now that most posterior chamber implants have angulated haptics.



passed. Mapstone[21] reports that when angle-closure secondary to tropicamide-induced mydriasis occurs, it does so within one hour of drop instillation. The medical treatment of acute angle-closure glaucoma is summarized in Table 5.

3. Intraocular Lens Implants

Most patients with modern intraocular lens implants (IOLs) may be safely dilated.[22] Many early lens design, however, use the iris for support and require a normal-sized pupil for proper positioning.

> Because mydriasis may cause iris-supported lenses to dislocate, pupillary dilation is not routinely performed in these eyes.

Because mydriasis may cause iris-supported lenses to dislocate, pupillary dilation is not routinely performed in these eyes (Figure 3). Dislocation is not a problem with anterior or posterior chamber implants[23], but posterior chamber lenses may become entrapped within the dilated pupil.[24] This so-called "pupil capture" phenomenon refers to a condition wherein the implant straddles the pupil, partially in the anterior chamber and partially in the posterior chamber (Figure 4). This is primarily a cosmetic problem, rarely causing significant visual effects.[24, 25] To minimize the risk of entrapment, Barlett [6] suggests reversing the mydriasis with pilocarpine while the patient remains in office until the pupil is smaller than the optic of the IOL, and hence the risk of entrapment has passed. Pupil capture is rare now that most posterior chamber IOLs have haptic loops inclined 10 degrees forward from the optic.[25] These lenses position deep in the posterior chamber well away from the pupillary margin. Should pupil capture occur, the eye may be redilated and the patient placed in a prone position while the mydriasis is again reversed with pilocarpine.[6] In this way gravity will usually prevent re-entrapment.

Summary

A complete examination of the ocular fundus and media requires a widely dilated pupil. A standard predilation protocol should include a careful medical history and testing of visual acuity, biomicroscopy, pupils and tonometry. If neither the history nor the predilation testing contraindicate their use, 1.0% tropicamide in combination with 2.5% phenylephrine are suggested as the mydriatic agents of choice. Special consideration must be given to those patients who are at risk for the potential cardiovascular effects of phenylephrine, patients with shallow anterior chamber angles, and those with intraocular lens implants.

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THE CJO * RCO IS NOW SEEKING A SENIOR EDITOR

The *Canadian Journal of Optometry* * *la Revue canadienne d'optométrie* is now seeking a **Senior Editor** to assume full content responsibility for the publication, effective March 1, 1989.

Presently a quarterly publication, the *CJO * RCO* is the official published "voice" of the Canadian Association of Optometrists (CAO), with a circulation of approximately 3,500 copies per issue.

The ideal candidate for the position of **Senior Editor** is an optometrist with widely diverse interests and an established network of contacts covering current clinical, academic, historical, political, professional and administrative aspects of Optometry in Canada. He or she will report to CAO's National Publications Committee and, through it, to the President and Council of CAO, who have the final authority and responsibility for the publication of the Journal.

The position of **Senior Editor** is not a full-time salaried appointment. Rather, an honorarium is offered upon the completion of each of the *CJO * RCO*'s quarterly issues.

Interested applicants are invited to forward a letter and resumé by Tuesday, January 3, 1988 to the President, Canadian Association of Optometrists, Suite 301, 1785 Alta Vista Drive, Ottawa, ON, K1G 3Y6.

LA RCO * CJO EST À LA RECHERCHE D'UN RÉDACTEUR EN CHEF

La *Revue canadienne d'optométrie* * *Canadian Journal of Optometry* est à la recherche d'un **rédacteur en chef** qui assumera l'entière responsabilité du contenu de cette publication dès le 1er mars 1989.

La *RCO * CJO* est un trimestriel, organe officiel de communication de l'Association canadienne des optométristes (ACO). La revue est tirée à environ 3 500 exemplaires.

Le candidat idéal au poste de **rédacteur en chef** est un optométriste aux intérêts très diversifiés et possèdant un réseau bien établi de contacts à jour sur les aspects cliniques, universitaires, historiques, politiques, professionnels et administratifs de l'optométrie au Canada. Le **rédacteur en chef** relève du Comité national des publications de l'ACO et, par lui, du président et du Conseil de l'Association, qui ont l'autorité définitive et la responsabilité de la publication de la Revue.

Le poste de **rédacteur en chef** n'est pas un poste à plein temps et rémunéré. Son titulaire reçoit plutôt des honoraires lorsqu'il a terminé chacun des numéros trimestriels de la *RCO * CJO*.

Les candidats intéressés sont invités à faire parvenir leur demande et leur curriculum vitae au plus tard le mardi 31 janvier 1989 au Président de l'Association canadienne des optométristes, Pièce 301, 1785, promenade Alta Vista, Ottawa (Ontario) K1G 3Y6.