



## Five Things Physicians and Patients Should Question

### 1. Don't perform preoperative medical tests for eye surgery unless there are specific medical indications.

For many, preoperative tests are not necessary because eye surgeries are not lengthy and don't pose serious risks. An EKG should be ordered if patients have heart disease. A blood glucose test should be ordered if patients have diabetes. A potassium test should be ordered if patients are on diuretics. In general, patients scheduled for surgery do not need medical tests unless the history or physical examination indicate the need for a test, e.g., the existence of conditions noted above. Institutional policies should consider these issues.

### 2. Don't routinely order imaging tests for patients without symptoms or signs of significant eye disease.

If patients do not have symptoms or signs of significant disease pathology, then clinical imaging tests are not generally needed because a comprehensive history and physical examination will usually reveal if eye disease is present or is getting worse. Examples of routine imaging include: visual-field testing; ocular coherence tomography (OCT) testing; retinal imaging of patients with diabetes; and neuroimaging or fundus photography. If symptoms or signs of disease are present, then imaging tests may be needed to evaluate further and to help in treatment planning.

### 3. Don't order antibiotics for adenoviral conjunctivitis.

Adenoviral conjunctivitis and bacterial conjunctivitis are different forms of infection that can be diagnosed by the ophthalmologist by clinical signs and symptoms, and if needed, by cultures. Antibiotics are useful for patients with bacterial conjunctivitis, particularly those with moderate to severe bacterial conjunctivitis. However, they are not useful for adenoviral conjunctivitis, and the overuse of antibiotics can lead to the emergence of bacteria that don't respond readily to available treatments. In cases of diagnostic uncertainty, patients may be followed closely to see if their condition resolves on its own, or if further treatment is required.

### 4. Don't routinely provide antibiotics before or after intravitreal injections.

The routine use of antibiotics before or after intravitreal injections is unnecessary because research has shown topical antibiotics don't prevent the occurrence of eye infection. The risks of antibiotic eye drops include allergic reactions. The overuse and repeated exposure to antibiotics can lead to the emergence of bacteria that don't respond readily to available treatments. Routine antisepsis is appropriate and important for prevention of eye infection.

### 5. Don't place punctal plugs for mild dry eye before trying other medical treatments.

Medical treatments to address dry eye are available, such as artificial tears, lubrication and hot, moist compresses. These medical methods, as well as ways to modify the environment, should be tried first to improve dry eye and normalize the tear film before using punctal plugs. If the patient's tear film and eyelids have been treated and dry eye symptoms persist, then punctal plugs can be added.

# How This List Was Created

The American Academy of Ophthalmology's Medical Director of Health Policy and Health Policy Committee led the Academy's list development process. Members of the Health Policy Committee initially identified potential recommendations based on relevance, appropriateness and potential for improvement and efficiency. Through society notifications and newsletter notices, other ophthalmic organizations and subspecialty societies and members were invited to offer feedback and recommend ideas to be included in the final recommendations. Health Policy Committee members and the Medical Director of Health Policy reviewed the ideas and supporting evidence, and ranked them in order of potential impact. The top five recommendations were presented to the Academy's Board of Trustees for approval.

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## Sources

Schein OD, Katz J, Bass EB, Tielsch JM, Lubomski LH, Feldman MA, Petty BG, Steinberg EP. The value of routine preoperative medical testing before cataract surgery. *N Engl J Med* [Internet]. 2000;342:168-75.

Keay L, Lindsley K, Tielsch J, Katz J, Schein O. Routine preoperative medical testing for cataract surgery. *Cochrane Database Syst Rev*. 2012, Issue 3. Art. No.: CD007293. DOI: 10.1002/14651858.CD007293.pub3.

Bartley GB, Narr BJ. Preoperative medical examinations for patients undergoing ophthalmic surgery. *Am J Ophthalmol* 1991; 112(6):725-7.

Keay L, Lindsley K, Tielsch J, Katz J, Schein O. Routine preoperative medical testing for cataract surgery. *Cochrane Database of Syst Rev*. 2009, Issue 2. Art. No.: CD007293. DOI: 10.1002/14651858.CD007293.pub2.

Imasogie N, Wong DT, Luk K, Chung F. Elimination of routine testing in patients undergoing cataract surgery allows substantial savings in laboratory costs. A brief report. *Can J Anesth* [Internet]. 2003; 50(3):246-8.

Bass EB, Steinberg EP, Luthra R, Tielsch JM, Jowitt JC, Shoukey PD, Petty BG, Feldman MA, Steinwachs DM. Do ophthalmologists, anesthesiologists and internists agree about preoperative testing in healthy patients undergoing cataract surgery? *Arch Ophthalmol* [Internet]. 1995;113(10):1248-56.

American Academy of Ophthalmology Preferred Practice Patterns Committee. Preferred Practice Pattern® Guidelines. Comprehensive Adult Medical Eye Evaluation [Internet]. San Francisco, CA: American Academy of Ophthalmology;2010 [cited 2012 28 Sep]. Available from: [one.aoa.org/CE/PracticeGuidelines/PPP\\_Content.aspx?cid=64e9df91-dd10-4317-8142-6a87eee7f517](http://one.aoa.org/CE/PracticeGuidelines/PPP_Content.aspx?cid=64e9df91-dd10-4317-8142-6a87eee7f517).

American Academy of Ophthalmology Retina Panel. Preferred Practice Pattern® Guidelines. Idiopathic Macular Hole [Internet]. San Francisco, CA: American Academy of Ophthalmology; 2008 [cited 2012 28 Sep]. Available from: [one.aoa.org/CE/PracticeGuidelines/PPP\\_Content.aspx?cid=6f2be59d-6481-4c64-9a3e-8d1dabec9ffa](http://one.aoa.org/CE/PracticeGuidelines/PPP_Content.aspx?cid=6f2be59d-6481-4c64-9a3e-8d1dabec9ffa).

American Academy of Ophthalmology Retina Panel. Preferred Practice Pattern® Guidelines. Age-Related Macular Degeneration [Internet]. San Francisco, CA: American Academy of Ophthalmology; 2008 [cited 2012 28 Sep]. Available from: [one.aoa.org/CE/PracticeGuidelines/PPP\\_Content.aspx?cid=f413917a-8623-4746-b441-f817265eafb4](http://one.aoa.org/CE/PracticeGuidelines/PPP_Content.aspx?cid=f413917a-8623-4746-b441-f817265eafb4).

American Academy of Ophthalmology Retina Panel. Preferred Practice Pattern® Guidelines. Diabetic Retinopathy [Internet]. San Francisco, CA: American Academy of Ophthalmology; 2008 [cited 2012 28 Sep]. Available from: [one.aoa.org/CE/PracticeGuidelines/PPP\\_Content.aspx?cid=d0c853d3-219f-487b-a524-326ab3cecd9a](http://one.aoa.org/CE/PracticeGuidelines/PPP_Content.aspx?cid=d0c853d3-219f-487b-a524-326ab3cecd9a).

Javitt JC, Canner JK, Frank RG, Steinwachs DM, Sommer A. Detecting and treating retinopathy in patients with Type 1 diabetes mellitus – A health policy model. *Ophthalmology*. 1990;97(4):483-95.

Khalaf SS, Al-bdour MD, Al-Til MI. Clinical biomicroscopy versus fluorescein angiography: effectiveness and sensitivity in detecting diabetic retinopathy. *E J Ophthalmol*. 2007;17(1):84–88.

McDonald HR, Williams GA, Scott IU, Haller JA, Maguire MA, Marcus DM. Laser scanning imaging for macular disease: a report by the American Academy of Ophthalmology. *Ophthalmology* [Internet]. 2007;114:1221-8.

Wilkinson CP. The clinical examination. Limitations and overutilization of angiographic services. *Ophthalmology*. 1986;93(3):401-4.

Wykes WN, Livesey S. Review of fluorescein angiographs performed in one year. *Brit J Ophthalmol* [Internet].1991;75(7):398–400.

Macular Photocoagulation Study Group. Argon laser photocoagulation for neovascular maculopathy. Five-year results from randomized clinical trials. *Arch Ophthalmol* [Internet]. 1991;109(8):1109-14.

Macular Photocoagulation Study Group. Laser photocoagulation of subfoveal neovascular lesions of age-related macular degeneration. Updated findings from two clinical trials. *Arch Ophthalmol* [Internet]. 1993;111(9):1200-9.

Macular Photocoagulation Study Group. Laser photocoagulation for juxtafoveal choroidal neovascularization. Five-year results from randomized clinical trials. *Arch Ophthalmol* [Internet]. 1994;112(4):500-9.

Early Treatment Diabetic Retinopathy Study Research Group. Photocoagulation for diabetic macular edema. Early Treatment Diabetic Retinopathy Study report number 1. *Arch Ophthalmol* [Internet]. 1985;103(12):1796-806.

Early Treatment Diabetic Retinopathy Study Research Group. Focal photocoagulation treatment of diabetic macular edema. Relationship of treatment effect to fluorescein angiographic and other retinal characteristics at baseline: ETDRS report number 19. *Arch Ophthalmol* [Internet]. 1995;113(9):1144-55.

American Academy of Ophthalmology Retina Panel. Preferred Practice Pattern® Guidelines. Conjunctivitis - Limited revision [Internet]. San Francisco, CA: American Academy of Ophthalmology; 2011 [cited 2012 Sep 28]. Available from: [www.aoa.org/ppp](http://www.aoa.org/ppp).

Sheikh A, Hurwitz B. Antibiotics versus placebo for acute bacterial conjunctivitis. *Cochrane Database Syst Rev* 2006 Issue 2. Art No: CD001211. DOI: 10.1002/14651858.CD001211.pub2.

American Academy of Ophthalmology, Practicing Ophthalmologists Learning System. Intravitreal injections [Internet]. San Francisco: American Academy of Ophthalmology, 2008 Nov. [cited 2012 Sep 28]; Available from: [one.aoa.org/CE/PracticeGuidelines/ClinicalStatements\\_Content.aspx?cid=404813e9-b3dc-4d6d-a2c5-d1f1e78a926b#section4](http://one.aoa.org/CE/PracticeGuidelines/ClinicalStatements_Content.aspx?cid=404813e9-b3dc-4d6d-a2c5-d1f1e78a926b#section4).

Bhavasar AR, Googe JM, Stockdale CR, Bressler NM, Brucker AJ, Elman MJ, Glassman AR. Diabetic Retinopathy Clinical Research Network. Risk of endophthalmitis after intravitreal drug injection when topical antibiotics are not required. The Diabetic Retinopathy Clinical Research Network Laser-Ranibizumab-Triamcinolone Clinical trials. *Arch Ophthalmol* [Internet]. 2009 Dec;127(12):1581-3.

Scott IU, Flynn HW. The role of topical antibiotic prophylaxis for intravitreal injections. *Arch Ophthalmol* [Internet]. 2007 Jul;125(7):974-6.

Bhatt SS, Stepien KE, Joshi K. Prophylactic antibiotic use after intravitreal injection: Effect on endophthalmitis rate [Internet]. *Retina*. 2011 Nov;31(10):2032-6.

Kim SJ, Toma HS, Midha, Cherney EF, Recchia FM, Doherty TJ. Antibiotic resistance of conjunctiva and nasopharynx evaluation study: A prospective study of patients undergoing intravitreal injections. *Ophthalmol* [Internet]. 2010 Dec(12):117-2372-8.

Kim SJ, Toma KS. Ophthalmic antibiotics and antimicrobial resistance. A randomized, controlled study of patients undergoing intravitreal injections. *Ophthalmol* [Internet]. 2011 Jul(7);118:1358-1363.

Cheung CSY, Wong AWT, Kertes PJ, Devenyi RG, Lam WC. Incidence of endophthalmitis and use of antibiotic prophylaxis after intravitreal injections. *Ophthalmol* [Internet]. 2012 Aug;119(8):1609-14.

Milder E, Vander J, Shah C, Garg S. Changes in antibiotic resistance patterns of conjunctival flora due to repeated use of topical antibiotics after intravitreal injections. *Ophthalmol* [Internet]. 2012 Jul;119(7):1420-4.

American Academy of Ophthalmology Retina Panel. Preferred Practice Pattern® Guidelines. Conjunctivitis - Limited revision [Internet]. San Francisco, CA: American Academy of Ophthalmology; 2011 [cited 2012 Sep 28]. Available from: [www.aoa.org/ppp](http://www.aoa.org/ppp).

Ervin AM, Wojciechowski R, Schein O. Punctal occlusion for dry eye syndrome. *Cochrane Database Syst Rev*. 2010, Issue 9. Art. No.: CD006775. DOI: 10.1002/14651858.CD006775.pub2.

Altan-Yaycioglu R, Gencoglu EA, Akova YA, Dursun D, Cengiz F, Akman A. Silicone versus collagen plugs for treating dry eye: Results of a prospective randomized trial including lacrimal scintigraphy. *Am J Ophthalmol* [Internet]. 2005 Jul;140(1):88-93.

Nava-Castaneda A, Tovilla-Canales JL, Rodriguez L, Tovilla Y Pomar JL, Jones CE. Effects of lacrimal occlusion with collagen and silicone plugs on patients with conjunctivitis associated with dry eye. *Cornea* [Internet]. 2003 Jan;22(1):10-4.

Tai MC, Cosar CB, Cohen EJ, Rapuano CJ, Laibson PR. The clinical efficacy of silicone punctal plug therapy. *Cornea* [Internet]. 2002 Mar;21(3):135-9.

Horwath-Winter J, Thaci A, Gruber A, Boldin I. Long-term retention rates and complications of silicone punctal plugs in dry eye. *Am J Ophthalmol* [Internet]. 2007 Sep;144(3):441-4.

Mazow ML, McCall T, Prager TC. Lodged intracanalicular plugs as a cause of lacrimal obstruction. *Ophthal Plast Reconstr Surg* [Internet]. 2007 Mar-Apr;23(2):138-42.

SmartPlug Study Group. Management of complications after insertion of the SmartPlug punctal plug: a study of 28 patients. *Ophthalmology* [Internet]. 2006 Oct;113(10):1859.

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