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<p>Incidence of cataract, diabetic retinopathy, macular degeneration, and glaucoma will significantly increase by 2050. Visual impairment can increase morbidity and mortality in nonocular disease. There are different patterns of vision loss in cataract, diabetic retinopathy, age-related macular degeneration, and glaucoma. Internists and medical subspecialists play an important role in prevention, detection, and early treatment of eye disease. Awareness of screening guidelines for eye disease as well as a basic ocular history and simple penlight examination can decrease incidence of vision loss and its impact. Visual impairment places a significant financial burden on society.</p>	
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<p>Primary care physicians see nearly half of all clinical visits, and 2% to 3% of those are for eye complaints. Taking a good ocular history is essential to establishing the diagnosis. Patient complaints fall into several categories including visual change, redness, and pain. Primary care physicians can screen for patients at risk of vision loss from glaucoma, diabetes, and toxic medication and ensure that patients have appropriate eye evaluations. Examination techniques such as direct ophthalmoscopy, evaluation of the red reflex, eversion of the upper lid, checking pupillary response, and using fluorescein to stain the cornea are helpful in evaluating patients' ocular complaints.</p>	
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<p>When prescribing medications, it is important to consider the ocular side effects of common systemic therapy as well as potential systemic side effects of ocular medications. Although not an exhaustive list of medications/classes of medications, this article does include many commonly used drugs and also provides information on some topical therapies commonly used by ophthalmologists. These ocular medications may result in systemic effects and/or alter patients' management of systemic conditions.</p>	

Vision Restoration: Cataract Surgery and Surgical Correction of Myopia, Hyperopia, and Presbyopia

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Sonia H. Yoo and Mike Zein



Video content accompanies this article at <http://www.medical.theclinics.com>.

Cataract surgery is one of the most common surgical procedures performed in the United States. The decision to remove a cataract is determined by the patient's ability to perform activities of daily living, such as reading, driving, and watching television. Cataract surgery also offers the potential of spectacle independence with a wide array of premium intraocular lens options. In addition, with the continuing advances in ophthalmology, patients now also have the option of selecting between traditional approaches and femtosecond laser-assisted procedures. Cataract surgery continues to be an effective and ever-improving procedure for vision restoration.

Diabetic and Retinal Vascular Eye Disease

455

Hong-Gam Le and Akbar Shakoor

The retinal vasculature is the only neurovascular system directly visible to the human eye, easily evaluated by fundoscopy and many imaging modalities. This window allows physicians to diagnose and treat retinal pathologies and detect systemic diseases including diabetes, hypertension, hypercoagulable/hyperviscosity syndromes, and vasculitis. Diabetic retinopathy is the most common retinal vascular disease, followed by retinal vein and artery occlusion. Patients with these conditions require medical optimization to prevent further damage to the eyes and to the other organs. Both the internists and medical subspecialists play a crucial role in the prevention, detection, evaluation, and management of vision-threatening retinal vascular diseases.

Age-Related Macular Degeneration

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Catherine J. Thomas, Rukhsana G. Mirza, and Manjot K. Gill

Age-related macular degeneration (AMD) is a leading cause of blindness. The main risk factor is advancing age, with the severity of vision loss ranging from mild to severe. There is a 25% risk of early AMD and 8% risk of late AMD in patients over the age of 75, with the number of cases expected to increase because of the aging population. Diagnosis of the disease requires a dilated fundus examination. Physicians should be aware of the symptoms, risk factors, and treatment options for AMD to refer appropriately for ophthalmologic evaluation. Early detection can be helpful to prevent disease progression.

Glaucoma

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Jessica Minjy Kang and Angelo P. Tanna


Glaucoma is the leading cause of irreversible blindness worldwide. The global prevalence of glaucoma in people aged 40 to 80 years is estimated to be 3.5%. With the growing number and proportion of older persons in the population, it is projected that 111.8 million people will have glaucoma in 2040. Currently available treatments cannot reverse glaucomatous

damage to the visual system; however, early diagnosis and treatment can prevent progression of the disease. In most cases, glaucoma is a chronic condition that requires lifelong management. This article reviews the pathophysiology, classification, clinical manifestations, diagnosis, and management of glaucoma.

Neuro-Ophthalmology for Internists

511

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 Video content accompanies this article at <http://www.medical.theclinics.com>.

Neuro-ophthalmology is the study of the neurologic underpinnings of vision and includes a fascinating variety of disorders that span the broad spectrum of ophthalmic and neurologic disease. This subspecialty relies heavily on accurate neuroanatomic localization and examination. This article discusses neuro-ophthalmic complaints that frequently present to the internist, including acute vision loss, double vision, and unequal pupils. It focuses on pertinent clinical features of the most common causes of these chief complaints and additionally highlights salient points of history, diagnosis, examination, and management with special emphasis on the signs and symptoms that should prompt expedited evaluation.

Ocular Oncology—Primary and Metastatic Malignancies

531

Basil K. Williams Jr. and Maura Di Nicola

Several neoplastic processes can involve the eye, either primarily or secondary to a systemic malignancy. The most common primary tumors of the eye include conjunctival and uveal melanoma, retinoblastoma, conjunctival and intraocular lymphoma, and ocular surface squamous neoplasia. Metastatic spread from systemic malignancies, especially of the breast and lung, also can involve the eye. A combination of ophthalmologic examination, ancillary testing, and cytologic/histopathologic evaluation leads to accurate diagnosis. Management consists of surgery, radiotherapy, chemotherapy, and immunotherapy delivered in various forms.

Diseases of the Eyelids and Orbit

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Emily Li and Christopher B. Chambers

The eyelids and orbit encompass intricate bony and soft tissue structures that work harmoniously in concert to protect, support, and nourish the eye in order to facilitate and maintain its function. Insult to periorbital and orbital anatomy can compromise orbital and ocular homeostasis. This article provides a foundational overview of eyelid and orbital anatomy, as well as common and key disorders that may confront internists and medical subspecialists.

Inpatient Ophthalmology Consultations

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Dilraj S. Grewal and Hesham Gabr

Comprehensive patient care requires an integrated approach that often includes different specialties. Of these specialties, Ophthalmology stands out with its variable pathologic conditions, unique tools, and special

examination techniques, which are not part of the standard training of internal medicine or other specialties. The authors review prior studies focused on inpatient ophthalmology consultations, common reasons for inpatient ophthalmology consultation, and the recommended approach to the most common ocular complaints that could present to the inpatient provider. They also shed light on the basic ocular history and eye examination that should be obtained before requesting an ophthalmic evaluation.