

临床 医师 深造 双语读物  
《影像学诊断问答》系列

# 眼 病

## EYE DISEASES

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天津科技翻译出版公司出版

著作权合同登记号：图字：02-2001-214  
图书在版编目(CIP)数据

眼病／(英)维克托(Victor, H.)编著；齐立强译. —天津：天津科技  
翻译出版公司, 2002.4  
(影像学诊断问答系列)  
书名原文：Eye Diseases  
ISBN 7-5433-1505-X  
I . 眼… II . ①维… ②齐… III . 眼病—影像诊断—问答—汉、  
英 N .R770 .43-44

授权单位：Merit Publishing International  
出 版：天津科技翻译出版公司  
出 版 人：邢淑琴  
地 址：天津市南开区白堤路244号  
邮政编码：300192  
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印 刷：廊坊人民印刷厂  
发 行：全国新华书店  
版本记录：787×960 横 16 开本 8.5 印张 136 千字  
2002 年 4 月第 1 版 2002 年 4 月第 1 次印刷  
印数：3000 册 定价：12.80 元

(如发现印装问题，可与出版社调换)

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## PREFACE

## 前言

The eye is one of the smallest organs in the human body, yet its complexity is probably just second to the human brain. The transparency of its anterior segment allows a unique opportunity for the physician to visualize its microvasculature directly.

It is obviously of great interest to ophthalmologists, but eye disease affects many people. About 1 in every 50 visits to a general practitioner (family physician) is due to an ophthalmic condition. Over 75% of these complains are “painful red eyes”, with the remaining majority related to visual loss.

Furthermore, many patients with systemic diseases may present with an ocular complaint. Likewise, many patients under the care of other physicians might have ocular complications from their systemic disorders. A running knowledge of ophthalmic diseases is therefore important to most physicians.

眼睛是人体最小的器官之一，然而其复杂程度可能仅次于大脑。眼睛的前面部分是透明的，这为医生直接观察眼睛的微血管系统提供了绝无仅有机会。

很显然，眼科医生对眼睛疾病有很大的兴趣，但是眼病会累及很多人。在找内科医师（家庭医师）看病的人中，大约每 50 位就有一位是眼科问题。他们的主诉中，75%以上是“疼痛性红眼”，其余大多数主诉与视力丧失有关。

而且，很多患全身性疾病的人可能出现眼睛症状；许多在其他科室医生照顾之下的病人，也可能因全身性疾病而引起眼睛方面的并发症。因此，眼科疾病知识的普及对大多数医生都很重要。

In this book, there is a brief introduction to ophthalmic diseases, including the differential diagnosis of painful red eyes and the painless loss of vision. Ocular manifestations of some systemic diseases are also outlined. The case study series has a

本书简要介绍了眼科疾病，包括疼痛性红眼和无痛性视觉丧失的鉴别诊断；也描述了一些全身性疾病的眼科特征。病例的研究囊括了简单的和复杂的眼科病例。由于篇幅所限，本书不可能涵盖眼科学的所有内容，因此

mixture of simple and complex ophthalmic cases. It is not possible to cover all the topics in ophthalmology in a book of this size; a recommended reading list is, therefore, included.

Although the book is aimed for senior medical students, optometry students, family physicians, and physicians in other specialties, it would be a useful introduction to ophthalmic residents, optometrists and other allied ophthalmic professionals.

#### **Disclaimer**

In order to protect the identity of the patients, the history has been modified. The cases should, therefore, be considered as fictional and should not be cited as case reports. The management outlined in this book should be considered as suggestions, they should not be used to treat patients without prior consultation with the local ophthalmologist.

#### **说明**

尽管本书是为高年级医学学生、验光术学生、家庭医师及其他专业的医师而编写,然而对眼科住院医生、验光师和其他有关的眼科职业人员,本书同样具有参考价值。

书后列有推荐阅读书目。

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## INTRODUCTION

### 导言

## Differential diagnosis of the painful red eye

The anterior segment of the eye includes the eyelids, the conjunctiva, episclera, sclera, cornea, and the anterior uveal tract (iris and the trabecular meshwork). Each of these structures can be affected by infection or inflammation leading to a painful red eye. By going through all these anatomical structures, a list of differential diagnosis can be obtained (Table 1).

### Eyelid

If there is any foreign body sensation, subtarsal foreign body should be excluded or removed by everting the upper eyelid even when there is no history of foreign body entry.

Blepharitis means inflammation of the eyelids. It is a common condition which affects patients, usually female in the 5th or 6th decades of life. Most patients present with foreign body sensation, ocular discharge, swollen lids, intermittent red eye and/or

## 疼痛性红眼的鉴别诊断

眼睛的前面部分包括眼睑、结膜、巩膜外层、巩膜角膜以及前面的眼色素层束(虹膜和小梁网)。这些结构都可能受到感染而导致疼痛性红眼。全面考虑所有这些解剖结构后,可以列出一个鉴别诊断表(表1)。

### 眼睑

如果病人有存在异物的感觉,即使没有异物进入的病史,你也应该用翻上眼睑的方法去除其睑板下异物。

睑炎就是眼睑的炎症。这种情况很常见,通常累及五六十岁的妇女。多数病人表现为眼睛有异物感,有排出物,眼睑水肿,间歇性红眼和(或)眼睛充满分泌液。检查中可发现眼睑边缘增厚、变红及发炎。睫毛上可能会

TABLE 1: DIFFERENTIAL DIAGNOSIS OF THE  
PAINFUL RED EYE BY ANATOMICAL STRUCTURES

	眼睑	结膜	巩膜外层和巩膜	角膜
<b>Eyelids</b>	<ul style="list-style-type: none"> <li>• Subsalaral foreign body</li> <li>• Blepharitis</li> <li>• Trichiasis</li> <li>• Chalazion</li> <li>• Entropion</li> <li>• Ectropion</li> </ul>	<ul style="list-style-type: none"> <li>• 眼板下异物</li> <li>• 眼炎</li> <li>• 倒睫</li> <li>• 眼板腺囊肿</li> <li>• 眼内翻</li> <li>• 眼外翻</li> </ul>	<ul style="list-style-type: none"> <li>• 感染性结膜炎</li> <li>• 过敏性结膜炎</li> <li>• 春季结膜炎</li> <li>• 大乳头结膜炎</li> <li>• 感染性翼状胬肉</li> </ul>	<ul style="list-style-type: none"> <li>• 角膜异物</li> <li>• 角膜磨损</li> <li>• 复发性角膜糜烂</li> <li>• 边缘性角膜炎</li> <li>• 感染性角膜炎</li> <li>• 树突状溃疡</li> </ul>
<b>Conjunctiva</b>			<ul style="list-style-type: none"> <li>• 角膜外层炎</li> <li>• 前巩膜炎</li> </ul>	<ul style="list-style-type: none"> <li>• 前色素层炎</li> <li>• 急性青光眼</li> </ul>
<b>Episclera and sclera</b>				
<b>Cornea</b>			<ul style="list-style-type: none"> <li>• 角膜异物</li> <li>• 角膜磨损</li> <li>• 复发性角膜糜烂</li> <li>• 边缘性角膜炎</li> <li>• 感染性角膜炎</li> <li>• 树突状溃疡</li> </ul>	<ul style="list-style-type: none"> <li>• 前色素层炎</li> <li>• 急性青光眼</li> </ul>
<b>Anterior uveal tract</b>				

有痂。眼睛本身可能是白色的，看起来正常。该病几乎是双侧均发生。一些恶性眼睑肿瘤可表现为单侧睑炎，一般在生命晚期出现。睑炎也常伴随于酒渣鼻而发生，这常见于男性，而且是年轻男性。

watery eyes. On examination, the lid margins appear thickened, red and inflamed. There might be crusting on the eyelashes. The eye itself might be white and looks normal. It is almost always bilateral. Some malignant lid tumors can present as unilateral blepharitis usually in late life. Blepharitis is also associated with acne rosacea, which is more common in men and tends to present at a younger age.

Conservative management includes cleaning of the eyelashes with sodium bicarbonate of baby shampoo and hot compression twice daily. If there is also foreign body sensation, the tear film might be weak, topical applications of artificial tears might be beneficial. The long-term use of topical antibiotics is probably unnecessary in most cases, however, a short course (one week) of topical antibiotics might be useful if the conjunctiva is also affected. In problematic blepharitis and those associated with acne rosacea, oral tetracycline is beneficial.

该病的保守性治疗包括用碳酸氢钠或婴儿香波清洗睫毛，以及每日热敷 2 次。如果还存在异物感，眼泪薄膜就可能变弱，那么局部应用人工眼泪可能有好处。对大多数病人来讲，长期局部应用抗生素可能没有必要，但如果结膜也受累及，短期（一周）局部应用抗生素会有帮助。对于疑难的睑炎和并发于酒渣鼻的睑炎，口服四环素有益处。

Trichiasis is the misdirection of the eyelashes causing irritation, it is often associated with blepharitis, chemical burns, and conjunctival scarring diseases. Epilation for mild diseases while permanent destruction of the eyelash roots, cryotherapy, laser, or electrolysis can be performed.

Chalazion is an inflamed meibomian gland (eyelid glands),

睑板腺囊肿（霰粒肿）是迈博姆睑腺（睑板腺）的炎

倒睫是眼睫毛的方向错误从而引起了刺激，它常与睑炎、化学性烧伤以及结膜瘢痕性疾病有关。轻度的疾病可采用脱毛法治疗，而要永久性地破坏睫毛根，则应实行冷冻、激光或电解法治疗。

which is often caused by staphylococcal infection. It can be presented at any age but commoner in young adults. In the acute phase, the whole lid might be swollen and very tender. The use of systemic antibiotics is usually unnecessary unless there is an associated cellulitis. Hot compression can often reduce the lid swelling. Once the inflammation settles, a small nodular cystic lesion might remain, this can then be removed by incision and curettage. As many lid tumors can be presented as chalazion, it is prudent to send the material for histopathology examination especially in atypical and recurrent cases.

Entropion is the rolling in of the lid margin and the eyelashes, whilst ectropion is the eversion of the lid margin with part exposure of the palpebral conjunctiva. Both of these conditions are common in middle to late life and often bilateral. The lower lid is more commonly affected. In entropion, the eyelashes rub on the surface of the cornea causing irritation and occasionally corneal ulcers. In mild medial ectropion, the lower punctum is inverted leading to watery eyes. Exposure of the palpebral conjunctiva can also cause ocular irritation. Simple surgical procedure can correct most of the lower lid problems, while upper lid surgery is often more complex.

睑内翻是指睑板边缘和眼睫毛向内转动，而睑外翻是指眼睑边缘外翻，部分暴露出睑结膜。这两种情况在老年人群中都很常见，并且常常是双侧均发生。下眼睑更易受累及。睑内翻时，眼睫毛摩擦角膜表面引起刺激，偶尔会造成角膜溃疡。轻度睑内侧外翻的病人，下方点反转，导致眼睛充满分泌液。睑结膜的暴露也能刺激眼睛。多数下眼睑的问题可以通过简单的外科手术纠正，而上眼睑的手术常常比较复杂。

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## Conjunctiva

Infection or allergy can cause conjunctivitis. The clinical history

## 结膜

感染或过敏可引起结膜炎。要确诊该病，病史往往

is often more useful than the clinical examination in establishing a diagnosis. Bacterial infections are usually associated with a mucopurulent discharge while viral and allergic conjunctivitis are associated with watery discharge. In viral conjunctivitis, an associated “flu-like” illness is common. Follicular changes in the palpebral conjunctiva (follicular conjunctivitis) can be associated with bacterial, viral, chlamydial and some chronic allergic/toxic conditions. Chlamydia is the most common cause of neonatal conjunctivitis, but it can affect young adults. In young adults, it is often associated with urinary and genital infections and is believed to be a sexual transmission disease. In acute allergy cases, there is often an obvious cause, such as new contact lenses solution, topical ocular therapy, eye cosmetics and so on. In vernal conjunctivitis (seasonally recurrent allergy), most patients present with itching, burning sensation, foreign body sensation, watery eyes and photophobia. There are cobblestone papillae, usually on the upper tarsal conjunctiva, and discrete or confluent papillary hypertrophy on the limbal conjunctiva. Similar clinical picture is also seen in contact lens related giant papillary conjunctivitis (GPC).

Conjunctival swab for culture is important for suspected bacterial infection. This is then treated with a broad spectrum topical antibiotic such as chloramphenicol or fusidic acid. The theoretical risk of aplastic anemia with topical chloramphenicol is extremely

比临床检查更有用。细菌感染常伴有黏液脓性分泌物，病毒性和过敏性结膜炎则伴有水样分泌物。病毒性结膜炎还常伴有“流感样”表现。睑结膜的滤泡状改变(滤泡状结膜炎)可与细菌、病毒、衣原体感染和一些慢性过敏性/中毒性疾病有关。衣原体感染是新生儿结膜炎最常见的原因，但它也可累及年轻人。年轻病人经常伴有泌尿系和生殖器感染，因而被认为患有性传播疾病。急性过敏性病例常常有明显的病因，例如新用的隐形眼镜片溶液、眼睛局部治疗、眼部化妆品等等。大多数春季结膜炎(季节性复发的过敏反应)病人会有痒感、灼热感、异物感以及眼睛充满分泌液和畏光。还可有大鹅卵石样乳头，一般位于上睑结膜，可单个分布或在结膜缘处融合成乳头肥大。类似的临床表现也可见于与隐形眼镜有关的大乳头结膜炎(GPC)。

对于可疑细菌感染的病例，用拭子取结膜标本进行培养很重要。然后局部应用广谱抗生素，如氯霉素或夫西地酸。局部应用氯霉素治疗引起再生障碍性贫血的危险性理论上非常小。滤泡状结膜炎的病例应除外衣原体

small. In follicular conjunctivitis, chlamydial infections should be excluded. In neonates, it is best treated with erythromycin and in adults (except pregnant women) with tetracycline. Viral infection is usually self-limiting and simple contact allergic response is best treated by avoidance of the offending substance. Mild vernal conjunctivitis can be treated with topical sodium cromoglycate or loodoxamide. Severe disease would require topical steroid and ophthalmic referral. GPC is treated as vernal conjunctivitis with temporary avoidance of contact lens wear.

Pterygium is a degeneration of the conjunctiva, associated with sun exposure and a warm climate. It is uncommonly seen in areas of colder climates, such as England and certain northern states in the US. If the visual axis is not threatened, treatment is not required. However, it might become inflamed causing a painful red eye. Although a short course (two weeks) of topical steroid and antibiotic resolves the problem in most cases, topical steroid should not be used if there is any doubt in the diagnosis.

感染。该病在新生儿最好采用红霉素治疗，在成人(孕妇除外)最好用四环素治疗。病毒感染一般是自限性的，单纯的接触性过敏反应最好的治疗方法是避免刺激物。轻度的春季结膜炎可局部应用色甘酸钠或洛草氨酸治疗。严重的病例需要局部应用类固醇，并且求助于眼科医生。大乳头结膜炎的治疗方法同春季结膜炎，暂时免戴隐形眼镜。

翼状胬肉是结膜的退行性变，与暴露于日光下和温暖的气候有关。该病很少发生于气候寒冷的地区，如英格兰和美国北部的某些州。如果疾病未危及视轴，则不需要治疗。然而该病可能会发炎而造成疼痛性红眼。尽管短期(2周)局部应用类固醇和抗生素能解决大多数病人的问题，但是如果诊断可疑，不应该局部应用类固醇。

## Episclera and Sclera

Episcleritis is a self-limiting condition which affects only one sector of the eye at any one time. If it becomes nodular, topical steroid is required. On its own it is rarely associated with any systemic disorders.

## 巩膜外层和巩膜

巩膜外层炎是一种自限性疾病，在同一时间仅累及眼睛的一部分。如果该病有结节形成，则需要局部应用类固醇。该病本身很少伴发任何全身性疾病。

In anterior diffuse and nodular scleritis, the eye is red and tender. The patient presents with severe pain, photophobia and tearing. Although it can present on its own, it is often associated with other conditions such as rheumatoid arthritis and other connective tissue disorders, ankylosing spondylitis, and herpes zoster ophthalmicus. In mild cases, non-steroidal anti-inflammatory drugs (NSAIDs) such as flurbiprofen or indometacin are beneficial. In severe cases, systemic corticosteroids and/or immunosuppressive therapy might be required.

### Cornea

There is almost always a history of foreign body entry if a corneal foreign body is to be found. Similarly, corneal abrasion is associated with a history of trauma. A short course of antibiotic eye ointment might be useful in either condition but eye patching is possibly unnecessary.

### 角膜

如果想要发现角膜异物，几乎总有异物进入眼睛的病史。同样，角膜磨损也伴随有创伤史。短期应用抗生素眼膏对这两种情况都有帮助，但可能没有必要行眼睛修补。

Recurrent corneal erosion is often associated with previous corneal abrasion. It is believed to be caused by an incomplete healing of the corneal epithelium. The unstable epithelium breaks down easily leading an epithelial defect and pain. The patient presents with a sudden onset of ocular pain, usually within an hour of waking up. If present bilaterally and without a history of previous trauma, it might be associated with one of the hereditary corneal dystrophies. It is treated as corneal abrasions.

复发性角膜糜烂常常发生于角膜磨损之后。人们认为该病是由于角膜上皮的不完全愈合造成的。不稳定的角膜上皮很容易破裂从而导致上皮缺损和疼痛。病人表现为突然发作的眼睛疼痛，一般在起床后一小时内发生。如果发生于双侧并且没有前在的创伤史，那么可能与某种遗传性角膜营养不良症有关。该病在急性期的治疗同角膜磨损。一旦角膜上皮表面愈合，于晚上应用单纯起润滑作用的眼膏可以预防将来复发。

sion in the acute phase. Once the epithelial surface is healed, application of a simple lubricant eye ointment at night might prevent future attacks.

Marginal keratitis is often associated with blepharitis. There is often more than one lesion but might be confluent. They appear pale in color indicating mild corneal infiltration, and their surface stains with fluorescein suggesting an epithelial defect and they are located in the limbus and almost always near the lid margins and there is an associated ciliary injection of the nearby conjunctiva. Treatment includes conservative management of blepharitis, and a short course (two to three weeks) of combined topical steroids and antibiotics. However, topical steroids should not be used if there is any doubt in the diagnosis.

Bacterial keratitis is almost exclusively associated with corneal lens wear in otherwise healthy individuals. With the onset of the disease process, patients may complain of pain, blurred vision, photophobia, tearing, blepharospasm, and foreign body sensation. Corneal ulcer can be easily seen as a white opacity in the cornea with surface fluorescein staining. Anterior chamber activity is often present. The incidence of Acanthamoeba keratitis is increasing among contact lens wearers and the diagnosis is often difficult. One should consider this diagnosis if the ocular pain seems out of proportion to the keratitis and degree of inflammation.

边缘性角膜炎常常伴发睑炎。常存在一个以上的病变，但可融合。颜色苍白的外观提示有轻度角膜湿润，表面见荧光素染色提示有上皮缺损，这些病变常位于角膜缘，几乎总是靠近睑边缘，并且伴有附近的结膜纤毛充血。治疗包括睑炎的保守性治疗，以及短疗程(2~3周)局部合并应用类固醇和抗生素。然而当诊断尚有疑问时，不应局部应用类固醇。

细菌性角膜炎几乎无一例外地发生于佩戴隐形眼镜而在其他方面均健康的人群。随着疾病的进展，病人可能有疼痛、视物模糊、畏光、流泪、脸痉挛、异物感等主诉。角膜溃疡时，用表面荧光染色法很容易看到角膜上有白色不透明区。常可见到前房活动的表现。棘阿米巴角膜炎的发生率在佩戴隐形眼镜的人群中不断上升，诊断常常很困难。如果眼睛疼痛的程度看起来与角膜炎和炎症程度的表现不合比例，则诊断时应考虑该病。



tion present.

Dendritic ulcer is caused by the herpes simplex virus. The characteristic branching pattern is well recognized and can be seen clearly with fluorescein. The ulcer can be singular or multiple. Topical acyclovir is the treatment of choice in most cases. Topical corticosteroids can aggravate the condition and should not be used without ophthalmic supervision.

### Anterior uveal tract

Anterior uveitis is the preferred term comparing with iritis or iridocyclitis as the entire anterior uveal tract is affected in most cases. Patients present with pain, blurred vision, photophobia and tearing. It is usually unilateral at presentation but the other eye might be affected at a later date. Recurrence is very common. There is a ciliary injection of the conjunctiva, the pupil might be small and irregular, and the iris detail appears hazy, as there are inflammatory cells in the anterior chamber. These cells can be seen in slitlamp examination. It is often idiopathic but can be associated with ankylosing spondylitis and other systemic conditions. It is important to distinguish those with only anterior uveal tract involvement and those with panuveitis. The former carries a good prognosis and can be treated by a short course (four to six weeks) of topical steroids. The latter is often associated with systemic disease such as sarcoidosis and the vi-

树突状溃疡是由单纯疱疹病毒引起的。该病的特征性表现——分支型很容易被认出，可借助于荧光素清楚地看到。溃疡可为单个，也可为多个。对大多数病人首选局部应用阿昔洛韦治疗。局部应用皮质类固醇会使病情加重，如果没有眼科医生的监督，不应使用。

### 前眼色素层束

因为多数病人的整个前眼色素层束都受到累及，因而称这种病为前色素层炎(前葡萄膜炎)较虹膜炎和虹膜睫状体炎更贴切。病人可表现为疼痛、视物模糊、畏光和流泪。疾病发作时常常为单侧的，但在以后的一段时期，另一只眼也可能受累及。该病复发特别常见。可能存在结膜纤毛充血，瞳孔可变小和不规则，并且因为前房有炎性细胞，虹膜的细微结构会变得模糊不清。这些炎性细胞可以用裂隙灯检查发现。该病常常是特异性的，但也可能随于关节强直性脊椎炎和其他全身性疾病而发生。鉴别仅有前色素层束受累还是有全色素层炎(全葡萄膜炎)非常重要。前者预后很好，可以用短疗程(4~6周)局部类固醇治疗。后者常伴有全身性疾病如结节病，并且视力预后较差，需要选择性地应用全身性皮质类固醇和(或)免疫抑制治疗。

sual prognosis is worse. Systemic corticosteroids and/or immunosuppressive therapies might be required in selective cases.

Acute glaucoma is a rare condition affecting patients in late life. Patients present with sudden onset of severe pain and severe loss of vision in one eye. Halos of light might be seen in preceding evenings. Acute glaucoma is more common in hypermetropic patients and Oriental races. On examination, the cornea is cloudy and the pupil is often oval, fixed and mid-dilated. Also, the intraocular pressure is very high. The patient should be referred to the ophthalmologist as an emergency. Topical antiglaucoma therapy, topical pilocarpine and systemic acetazolamide can reduce the intraocular pressure but laser or surgical iridotomy is required. The other eye should be prophylactically treated with topical pilocarpine initially and then by laser iridotomy.

急性青光眼是累及老年人的一种少见的疾病。病人可表现为突然发生剧烈疼痛，并且有一只眼睛的视觉严重丧失。在临近傍晚时，可见到光晕。急性青光眼在远视患者和东方人中更常见。检查时可发现角膜呈云雾状，瞳孔常呈椭圆形、固定且中度扩张，同时眼内压非常高。病人应该作为急诊病人转诊至眼科治疗。局部抗青光眼治疗，局部应用匹鲁卡品和全身应用乙酰唑胺可以降低眼内压，但仍需激光或手术行虹膜切开术。另一只眼应先局部应用匹鲁卡品预防性治疗，然后行激光虹膜切开术。

## Differential diagnosis of painless loss of vision

Management of visual loss is obviously one of the most important aspects of ophthalmology. It is unfortunate that some conditions are untreatable and the visual loss is permanent. It is, however, essential to identify those which are reversible and of utmost importance to prevent the same condition affecting the other.

视觉丧失的治疗显然是眼科学中最重要的方面之一。遗憾的是,有些疾病尚无法治疗,视觉丧失会是永久性的。然而确诊那些可逆性的疾病是必须要做的,同时预防相同的疾病累及另一只眼睛是极其重要的。现根据解剖结构和视觉丧失的速度列出了鉴别诊断表(表2和

eye. The differential diagnosis can be listed by anatomical structures and by the rate of visual loss.

TABLE 2: DIFFERENTIAL DIAGNOSIS OF PAINLESS VISUAL LOSS BY ANATOMICAL STRUCTURES

<b>Lens</b>	<ul style="list-style-type: none"> <li>• Cataract</li> <li>• Retinal vein occlusion</li> <li>• Retinal artery occlusion</li> <li>• Diabetic retinopathy</li> <li>• Vitreous hemorrhage</li> <li>• Age-related macular degeneration</li> <li>• Retinal detachment</li> <li>• Posterior uveitis</li> <li>• Outer retinal dystrophies</li> </ul>
<b>Inner retina and optic nerve</b>	<ul style="list-style-type: none"> <li>• Glaucoma</li> <li>• Optic neuritis</li> <li>• Optic atrophy</li> <li>• Anterior ischemic optic neuropathy</li> </ul>

表3。

表2 根据解剖结构对无痛性视觉丧失鉴别诊断

<b>晶状体</b>	<ul style="list-style-type: none"> <li>• 白内障</li> </ul>
<b>外视网膜和脉络膜</b>	<ul style="list-style-type: none"> <li>• 视网膜静脉脉闭塞</li> <li>• 视网膜动脉闭塞</li> <li>• 糖尿病性视网膜病</li> <li>• 玻璃体出血</li> <li>• 年龄相关性黄斑变性</li> <li>• 视网膜剥离</li> <li>• 后色素层炎</li> <li>• 外视网膜营养不良</li> </ul>
<b>内视网膜和视神经</b>	<ul style="list-style-type: none"> <li>• 青光眼</li> <li>• 视神经炎</li> <li>• 视神经萎缩</li> <li>• 前段缺血性视神经病</li> </ul>

### **晶状体**

Cataract remains one of the leading causes of blindness in the world. In developed countries, cataract extraction with intraocular implantation is the most commonly performed surgical procedure in ophthalmology. Most patients present with progressive loss of vision. The lens opacity can be seen with direct ophthalm-

### **晶状体**

在世界上造成失明的原因中，白内障始终是最主要的原因之一。在发达国家，眼科最常做的手术是白内障摘出眼内移植术。多数白内障病人表现为进行性视觉丧失。用直接检眼镜和裂隙灯检查，可看到晶状体浑浊。

