



Barbara Rinehart

BOOK CHAPTER MACULAR DEGENERATION

My responsibilities were:

- Worked with book publisher to identify content
- Researched macular degeneration
- Wrote chapter for trial lawyers working in medical malpractice

§ 22.00	THE EYE	22-2
§ 22.63	Fluorescein Angiography	
§ 22.64	Visual Field Testing	
§ 25.65	Differential Diagnosis	
§ 22.70	Treatment	
§ 22.71	Laser Therapy	
	(1) Types of Lasers Used	
	(2) Success of Laser Surgery	
	(3) Complications	
§ 22.72	Diet Therapy	
§ 22.80	Low Vision Aids	
§ 22.81	Magnifiers	
	(1) Hand-Held Mag	
	(2) Stand Magnifie	
	(3) Loupe	
	(4) Electronic Mag	
	(5) Portable System	
§ 22.82	Telescopes	
§ 22.83	Closed Circuit Tele	
§ 22.84	Miniature Televisio	
§ 22.85	Other Aids	
§ 22.90	Prevention	
§ 22.100	Bibliography	

§ 22.00 Introduction

Macular degeneration is a progressive disease that typically affects aging adults. It is a portion of the retina that is responsible for central vision and color vision. Degeneration of this area results in loss of central vision, while peripheral vision usually remains intact. There are several types of this disease.

Macular degeneration is one of the leading causes for loss of sight in the elderly. According to the National Eye Institute, the National Center for Preventing Blindness estimates that macular degeneration is responsible for 17 percent of blindness each year. It is the leading cause of existing blindness, responsible for 10 percent of those over 70 (Sawyer, 1991).



22-3 MACULAR DEGENERATION

§ 22.10 Anatomy and Physiology

The eye is composed of many structures that function to direct light to the back of the eye. Light is detected, translated and transmitted to the brain by way of the optic nerve. Any of these structures affected can result in vision loss.

The pupil is the center opening of the eye. The pupil has the ability to dilate and contract by way of the muscles in the iris. The amount of light that enters the eye is called dilation.

The normal lens is a biconvex lens located behind the iris. The lens focuses light on the retina. The lens also absorbs ultraviolet light, preventing it from reaching the retina.

§ 22.11 Retinal Structures

The retina is the inner layer of the eye. It is composed of sensitive nervous tissue. Behind the retina is the multilayered choroid. Because of the presence of pain receptors, retinal diseases are usually painful.

Cones and rods are contained in the retina. Cones are light sensitive cells or photoreceptors. There are about 6 million cones and 100 million rods in the retina (D'Alonzo, 1991). These cells interact with the optic nerve about objects in the line of vision. This information is transferred into electrical impulses by the retina and sent to the brain, by way of the optic nerve. The brain then translates the electrical impulses into images.

Rods react to faint light, movement, shape and night vision. Cones distinguish color and detail. They require higher levels of light to work effectively.

The macula is the central portion of the retina. It is located directly behind the pupil. The macula lutea is the central most part of the macula and is seen as a yellow spot. The macula is responsible for clear central vision.

¹ See also ch. 21.

CHAPTER 22	
Macular Degeneration	
SCOPE	
Macular degeneration is a progressive disease of the retina that results in a loss of central vision. It can have a genetic origin, but most frequently is related to aging. Treatment options are limited for the majority of people with macular degeneration. Macular degeneration caused by bleeding blood vessels may be treated with laser surgery but the disease typically reoccurs. The use of many different types of vision aids can enhance the quality of life for people suffering from macular degeneration. Improved diagnostic techniques and a better understanding of the etiology of this disease may suggest measures to prevent its occurrence in the elderly.	
SYNOPSIS	
§ 22.00	Introduction
§ 22.10	Anatomy and Physiology
§ 22.11	Retinal Structures
§ 22.12	Normal Aging of the Retina
§ 22.20	Etiology
§ 22.21	Heredity
§ 22.22	Age
§ 22.23	Breakdown in Blood Supply
§ 22.24	Drug Use
§ 22.30	Types of Age-Related Macular Degeneration
§ 22.31	Wet or Exudative Macular Degeneration
§ 22.32	Dry or Nonexudative Macular Degeneration
§ 22.40	Risk Factors
§ 22.50	Symptoms
§ 22.60	Diagnosis
§ 22.61	Drusen
§ 22.62	The Amsler Grid

