

Information Sheet 2 - Your Research (Science)

You want to carry out research to see if it's possible to re-connect a severed optic nerve, the nerve which carries signals from the eye to the brain, enabling us to see. If successful, your research could help to restore sight, and might also give us clues about how to repair other sorts of damage to the brain, nerves or spinal cord.

Your research would involve severing the optic nerve in rats, rejoining them, and looking at ways to encourage them to grow normally again. Following this surgery, you would study the rats over a period of months to assess this.

(For further detail see:

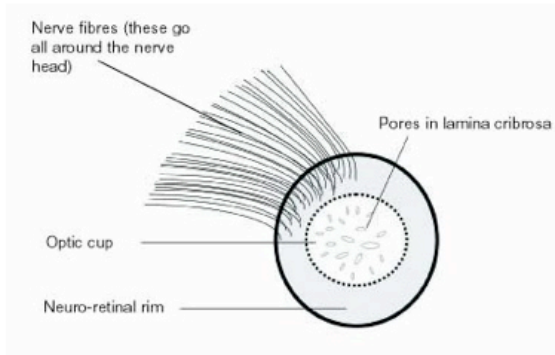
http://www.rds-online.org.uk/pages/headline_detail.asp?i_ToolbarID=6&i_PageID=771)

See Diagram of The Structure of the Eye on the following page

Structure of the Eye

The Optic Nerve

The *Optic Nerve*

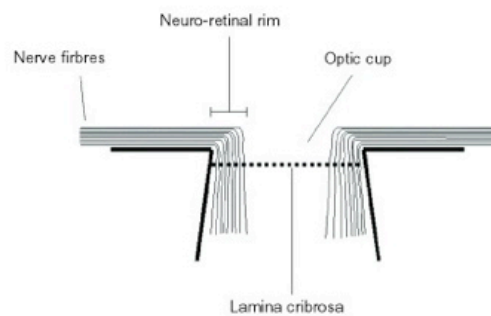


Structure of the *optic nerve* head (head on)

(holes) in the *lamina cribrosa*, a sieve-like structure in the optic nerve head. Blood vessels enter and leave the eye through the same structure. The nerve fibres form a rim around the edge of the *optic nerve* head (*neuro-retinal rim*), leaving a central indentation without nerve fibres called the *optic cup*.

Behind the *pupil*, the *lens* of the eye is suspended from the *ciliary body* by fine ligaments. The *cornea* and *lens* focus a picture of your surroundings on the *retina*, which is the light-sensitive layer that coats the inside of the eye. The picture of your surroundings is sent from the *retina* to the brain by nerve fibres, which derive from nerve cells in the *retina*. The *optic nerve* is formed by about one million of these nerve fibres collected together. The *optic nerve* starts at the back of the eye at the *optic nerve* head, which is also called the *optic disc*.

The nerve fibres leave the eye through pores



Structure of the *optic nerve* (side on)

[← back to previous page](#)

http://www.glaucoma-association.com/nqcontent.cfm?a_id=340&=fromcfc&tt=article&lan_site_id=176