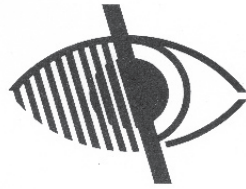


The Partially Sighted Society



Information Sheet

MAKING THE MOST OF MAGNIFICATION

The vast majority of visually disabled people retain a degree of useful sight. Even amongst those who are registered blind, it is estimated that more than 85% can benefit from aids and equipment to enhance their impaired vision.

The worry that used to exist about using impaired vision has been shown to be incorrect. It used to be thought that using poor vision would hasten its loss but there is now considerable evidence to show that sight - however poor, can, and should, be used to the full.

The purpose of this information sheet is firstly to help visually disabled people to acquire the most appropriate low vision aid (LVA) to meet their needs and secondly to offer some general advice on how to use an aid in the most effective way.

The first step for anyone experiencing a visual problem is to consult an optician or ophthalmologist. This is just as important for someone with a long history of visual impairment as it is for the person who has recently suffered a visual loss. Simply because an individual has experienced a long term impairment, does not mean that they cannot develop other visual disorders. Therefore, before obtaining an LVA, check that the disorder cannot be corrected by conventional spectacles or other treatment.

In some areas of the country it may be possible for an ophthalmologist to refer patients to a nearby Low Vision Aid Clinic where a visual assessment can be carried out and, in appropriate cases, an LVA can be prescribed on long term loan through the Hospital Eye Service. Ideally, all visually disabled people should have a

low vision assessment in order to determine the particular type of aid which is going to be the most suitable for them. It may in fact be necessary to have more than one aid to do different visual tasks. For example, one aid to help with reading, another one for watching television and even a third for seeing bus numbers, street signs, etc.,

There are two optical systems used in low vision aids. They are simple magnifying lenses and telescopic devices. Both types of aid can be provided in hand-held, stand or spectacle-mounted arrangements. The choice will depend on the visual task to be undertaken and the individual user's preference.

Both optical systems have their advantages and disadvantages. Simple magnifying lenses have a relatively short working distance, for example some high powered magnifiers have to be used at a distance of little more than 3 or 4 cms. However, they do have a fairly wide field of view. On the other hand, a telescope of the same magnification will have a considerably longer working distance but a more restricted field of view. The choice of design will largely depend on what the user wishes to be able to do. If the user wishes to work at a bench where the hands will be used between the eye and the object to be seen, then a spectacle-mounted telescope will almost certainly be required. If, on the other hand, the aid is required for reading only, then a short working distance may not be a problem. Therefore a simple magnifier (either hand held, stand or spectacle mounted) with its much wider field of view would probably be more appropriate. Obviously aids for watching television or for seeing in the distance will have to be of the telescope design.

Having thought about the type of low vision aid which is going to be the most suitable, it is just as important to pay attention to the level of magnification required. It is essential that when selecting a low vision aid, the lowest magnification needed to perform the desired visual task should be chosen. The reason for this is that as magnification increases, the working distance decreases, as does the field of vision. This is irrespective of whether the aid is a simple magnifier or a telescope. Low vision aids for close work range in magnification from approximately 1.5x up to 20x. Those which have a magnification of 10x and above may require their own built-in illumination owing to the difficulty in ob-

taining adequate levels of lighting at the very short working distances involved. Another point to be considered when choosing a low vision aid is that in general the larger the lens, the lower the magnification. In other words, a lens of around 12 cms (5 inches) diameter will have a magnification of between 1.5x - 3x and a lens of 6 cms (2- 21/21 inch) diameter will have a magnification of around 10x. Therefore, much to the dismay of many visually handicapped people, it is not possible to obtain a high power lens to cover a whole page.

To maximise the benefit of magnifiers, it is important that if both distance spectacles and reading spectacles are normally used that an up-to-date pair of distance correction spectacles are worn in order to judge the value and effect of hand magnifiers and that reading spectacles are used with stand magnifiers.

Whatever type of aid is finally chosen, there are likely to be a number of problems to be overcome in using it. For example, it is important that the book or object is held at a steady and fixed distance. The depth of focus (the distance between the lens and the object or book) of low vision aids is very limited. For example, if the magnifier is held slightly too close or slightly too far away from the book or object, the image will appear blurred. The working distance therefore needs to be carefully maintained. In addition to this, it is essential that the lighting is good and is correctly positioned. It is important to have lighting falling onto the page and not directly into the reader's eye. A reading lamp with a fluorescent tube (to eliminate uncomfortable heat) or a filament bulb of about 40 watts, carefully shaded to avoid glare as well as to prevent reflections on the lens of the magnifier, will prove much more suitable than relying on a high wattage pendant lamp positioned in the centre of the ceiling.

Another problem commonly experienced by people who are using low vision aids for the first time is concerned with developing new reading techniques. Those people who have previously been fully sighted will attempt to read using the scanning techniques learned over the years. This will almost certainly result in reading being virtually an impossible task because attempts will be made to see whole sentences or phrases as they are printed, which will prove extremely difficult with the restricted field of vision which can be seen through a low vision aid.

It is essential, therefore, that as a first step each individual letter of each word is identified and then the word built up as the eye moves from one letter to the next in the way we were taught as young children. It may also be necessary to develop techniques such as looking slightly above or slightly below, or to the side of the word, rather than directly at the word in order to see it more clearly. Another method of improving reading speeds when using low vision aids is to focus on to the first word of the line of print until it is seen at its clearest and then to slide the page steadily in front of the aid whilst holding the head and eye steady in its best position of view.

Initially, then, learning to use a low vision aid will be a very laborious task but with practice, considerable reading speeds can be developed. It is well worthwhile practicing a little each day until, eventually, reading becomes less tiring and more and more pleasurable. The level of achievement will depend on a number of factors, for example:-

- the correct choice of aid for particular tasks (telescope, simple magnifiers either hand held, stand or spectacle mounted);**
- the correct level of magnification (the minimum needed to read the required print size);**
- the correct levels and arrangement of lighting and finally, the most important of all;**
- the individual's own level of motivation and willingness to practice frequently.**

Remember, you cannot harm your eyes by using them - so make the most of your vision.

**©The Partially Sighted Society
7/9 Bennetthorpe
Doncaster
DN2 6AA**