Lighthouse International is a leading resource worldwide on vision impairment and vision rehabilitation. Through its pioneering work in vision rehabilitation services, education, research, prevention and advocacy, Lighthouse International enables people of all ages who are blind or partially sighted to lead independent and productive lives. Founded in 1905 and headquartered in New York, Lighthouse International is a not-for-profit organization, and depends on the support and generosity of individuals, foundations and corporations.

Aries Arditi, PhD, is Senior Fellow in Vision Science, Lighthouse International; this brochure is based on studies conducted at the Arlene R. Gordon Research Institute and other research centers.

Lighthouse International has a companion brochure entitled "Effective Color Contrast: Designing for People with Partial Sight and Color Deficiencies."

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Making Text Legible

Designing for People with Partial Sight

by Aries Arditi, PhD

This brochure contains basic guidelines for making effective legibility choices that work for nearly everyone.

How does impaired vision affect reading?

Impaired vision often makes reading difficult by:

- **Reducing the amount of light that enters the eye**

- **Blurring the retinal image**

- **Damaging the central portion of the retina best suited to reading**

Light reduction and blurring reduce the effective contrast of the text, while central retinal damage impairs the ability to see small print and to make eye movements that are crucial to reading.

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basic guidelines

1. Contrast

Text should be printed with the highest possible contrast. There is good evidence that for many readers who are older or partially sighted, light (white or light yellow) letters on a dark (black) background are more readable than dark letters on a light background. However, the traditional dark on light may be aesthetically preferable.

Effective

Not as effective

2. Type Color

Very high contrasts are difficult to achieve with color combinations other than black and white. Printed material, generally, is most readable in black and white. Different colors may be important for aesthetic or other reasons, but it is better to use such combinations only for larger or highlighted text, such as headlines and titles.

Effective

Not as effective

3. Point Size

Type should be large, preferably at least 16 to 18 points, but keep in mind that the relationship between readability and point size differs somewhat among typefaces.

This type size is effective.

This type size is not as effective.

This type size is effective.

This type size is not as effective.

4. Leading

Leading, or spacing between lines of text, should be at least 25 to 30 percent of the point size. This is because many people with partial sight have difficulty finding the beginning of the next line while reading.

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Effective leading

Leading, or spacing between lines of text, should be at least 25 to 30 percent of the point size. This is because many people with partial sight have difficulty finding the beginning of the next line while reading.

Not as effective leading

5. Font Family

Avoid complicated, decorative or cursive fonts and, when they must be used, reserve them for emphasis only. Standard serif or sans-serif fonts, with familiar, easily recognizable characters are best.

Seriffed typefaces are effective.

Decorative typefaces are not as effective.

Sans-serif typefaces are effective.

Condensed typefaces are not as effective.

6. Font Style

While there is little reliable information on the comparative legibility of typefaces, there is some evidence that a roman typeface is more readable than italic, oblique or condensed type.

Roman type is effective.

Italic type is not as effective.

Roman type is effective.

Italic type is not as effective.

7. Letter Spacing

Text with close letter spacing often presents difficulties for readers who are partially sighted, especially those with central visual field defects. Where possible, spacing should be wide. Monospaced fonts rather than proportionally spaced fonts seem to be more legible for these readers because they have inherently wider spacing.

This letter spacing is effective.

This letter spacing is not as effective.

This letter spacing is effective.

This letter spacing is not as effective.

8. Margins

Extra-wide binding margins are especially helpful because they make it easier to hold the volume flat. Many visual devices, such as stand- and video-magnifiers, are easiest to use on a flat surface. Spiral binding can be helpful as well.

Effective

Extra-wide binding margins are especially helpful because they make it easier to hold the volume flat.

1"

Many visual devices, such as stand- and video-magnifiers, are easiest to use on a flat surface. Spiral binding can be helpful as well.

.5"
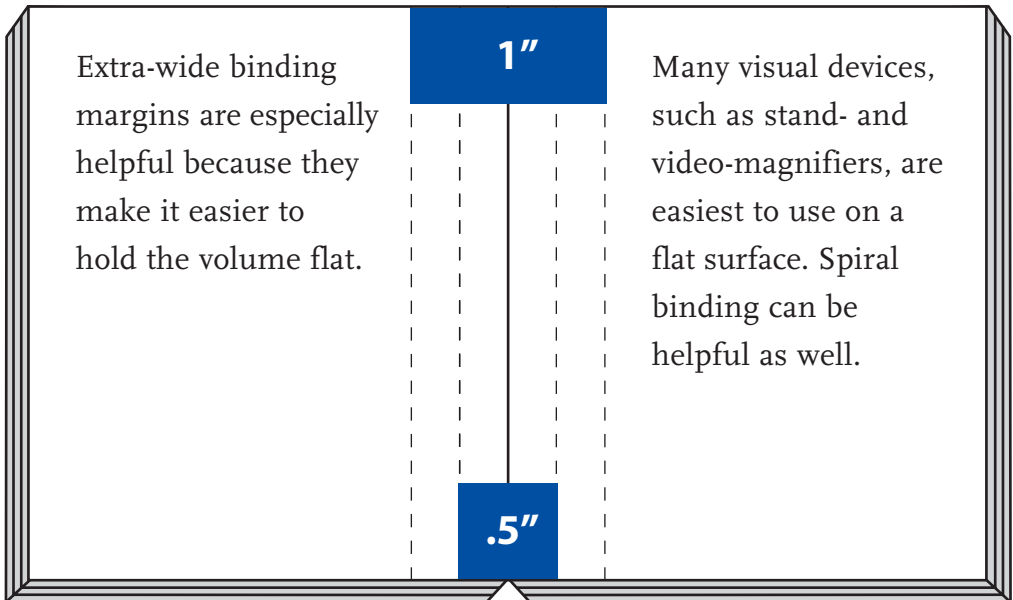
Not as effective

9. Paper Finish

Paper with a glossy finish can lessen legibility because many people who are older or who have partial sight also have problems with glare.

A non-glossy finish is effective.

A glossy finish is not as effective.

10. Distinctiveness

Visual impairment often makes it difficult to find a book or other document that is buried among similar publications, especially for sets with volumes that differ only in title or number. Use of distinctive colors, sizes and formats on the covers can be especially helpful to older individuals and those who are partially sighted.

Volume 1

Volume 2

Volume 3

Designers can help compensate for the difficulty experienced by readers who are partially sighted by following the guidelines in this brochure.