

## Presbyopia (the need for reading glasses)

The need for reading glasses is essentially universal. The most common age of onset is at 40 years of age. While some people seem to read without glasses into their late 40s or 50s, they too will need reading glasses under certain circumstances (they usually have a refractive error that gives them a built-in reading correction; see below).

As children we can usually focus quite closely, well within arms reach. As we age, this close focusing point (which is the ability to accommodate), recedes. Around age 40, it is at arm's length. This process continues into our 50s, at which point our accommodative powers are about zero. Typically, most people need a +1.00 diopter (D), a unit of focusing power, at age 40 in order to read, +1.50 at age 45, +2.00 at age 50, and perhaps +2.25 or +2.50 after age 55.

Early symptoms of beginning presbyopia are blurred distance vision after prolonged reading, fatigue and sleepiness after reading---especially when tired, complaining about the lights being too dim, and finally, the most common: holding objects farther away to see them (or having someone else hold them even farther still). If you are experiencing any of these symptoms, you may need reading glasses.

Our accommodation is also affected by our distance correction; an example may help. If someone aged 45 is wearing their full distance correction, they will need around +1.50 in addition to their distance correction to focus at near. The exact amount they will need for reading depends upon their distance correction. If their distance correction is a +1.50, their full reading correction is  $+1.50 + (+1.50) = +3.00$ . This person may not always wear a distance correction (even though they are far-sighted; also known as *hyperopia*), but they will need a +3.00 reader to see clearly within arm's length.

However, if their distance correction is a -1.50 D, their effective reading power is:  $+1.50 + (-1.50) = 0$ . In this latter situation, the person is what we call near-sighted (also known as *myopia*): they can read without glasses. But they will wear glasses for distance.

Both hyperopic and myopic individuals can use combination glasses that correct both near and far distances. Such prescription glasses are known as bifocal or progressive (multifocal) glasses. It is not unusual for a hyperopic patient to get their first glasses as a pair of reading glasses in their late 30s or early 40s and then also need glasses for distance correction (bifocals or multifocals, aka progressive glasses) once they are in their 50s. The opposite is true of myopic patients: no glasses until into their 50s and then maybe only for driving and watching TV.

One common question by patients: "if I start using these reading glasses, will I become more dependent upon them?" The fact that the need for a reading correction is a normal aging process and is attained without wearing glasses should dispel this idea. Glasses are not causal with respect to presbyopia. We all get there by having too many birthdays. So don't strain and punish yourself, wear your reading glasses if you need them.