

Our eyes have our own flexible lens. This enables us to change our focus to near or far objects. The lens is surrounded by a ring muscle called the ciliary muscle. This relaxes to allow the lens to contract changing its refractive power. Light is refracted to focus as it passes through the lens

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Short sightedness results in blurred distance vision. You will have difficulty looking at distance objects but close objects won't be a problem. People with short-sightedness can see well because when they look into near objects the light gets bent slightly outward. Concave prescription lens are used when you are short sighted because these are used to bend light rays slightly outward. The light ray will be at a greater angle to bend back to focus when it travels through the eye lens

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If you are long sighted you will have difficulty seeing objects that are close up. This happens when the length from the front to the back of the eye is too short. Some people have this because the cornea lens does not have enough curvature. Convex lenses are used to treat long sightedness, because they bend light so the retina can focus, and these kinds of lenses are thinner at the edge than at the centre.

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Adjustable lenses can change the refractive power. The power of the lens is changed whether you pump in or pump out fluid because it changes the curvature. When fluid is pumped out it reduces the power of the lens and this is suitable for short sightedness and when fluid is pumped in, this increases the power of the lens and this is good for long-sightedness.

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