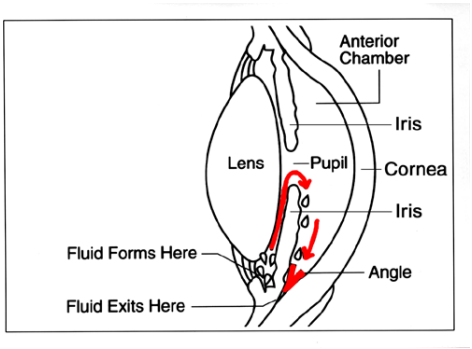
Gonioscopy

Most people with glaucoma will be aware that there are two major types of the condition, they are commonly referred to as chronic open angle glaucoma and acute closed angle glaucoma. But what does the term angle actually mean? It refers to an area of your eye which is probably best described as the plug hole out of which the fluid known as the aqueous drains.

It is actually a circular plug hole situated around the perimeter of your iris that is the coloured part of the eye. Another way of locating it is at the base of the cornea, the curved clear part at the front which is rather sensitive to touch. The angle is actually inside the eye and it is located between the iris and the cornea. The aqueous drains away into a circular canal referred to as the Canal of Schlemm and the Canal of Schlemm is covered by a sort of a grating just like over a drain, which is referred to as the trabecular meshwork.



Unfortunately this part of the eye is very difficult to see. Anybody who wants to examine it would normally be looking at it through an instrument called the slit-lamp but it can't be visualised directly. As soon as the optometrist or the ophthalmologist tries to look into the angle all of the light from that area undergoes what is called total internal reflection by the cornea. In other words the light from it can't actually leave the eye. This means that a direct view of the angle is impossible.

The reason it should be examined is because the condition of the angle determines the type of glaucoma and severity of the glaucoma as well as enabling decisions to be made regarding the likely future course of the disease, the sort of treatment required and whether or not that treatment is working. So all in all there are a number of reasons why it is important to have the angle examined in certain types of glaucoma.

From the patient's point of view having the angle examined is a rather unpleasant procedure. It involves the use of a thing called a gonio lens which looks a bit like a cross between a small egg cup and a thimble. The gonio lens or the gonio contact lens is placed directly onto the cornea and as already mentioned, the cornea is a rather sensitive part of the eye so it has to be anaesthetised first. In order that there be no air gaps, or no obstructions to the observer's vision, fluid has to bridge the gap between the contact lens and the cornea. This fluid has to be held in the gonio lens just before it is inserted and the gonio lens has to be put in quickly so that it doesn't all drain away. Unfortunately the fluid sometimes does dribble down the patient's face and feels rather unpleasant. It doesn't taste very good either! Never the less, if this is all accomplished successfully the little mirror inside the gonio lens enables the optometrist or ophthalmologist to see the angle in one location, to see the rest of the angle they simply have to rotate the gonio lens around to where they need to look. This should take about 2 or 3 minutes at the most and an assessment of the angle can be made. This is documented at the time and may be re-examined on subsequent occasions to see if there have been any changes or if anything needs to be altered regarding the treatment.

There are a variety of gonio lenses available. The ones described here are probably the most common but there are some others which look a little bit different but do essentially the same job. Understanding why your angles are being examined with gonioscopy might make it easier for you to tolerate this rather unpleasant examination experience!