Information for patients
Watery eyes

The information provided here focuses upon eyes that are running with an essentially **watery fluid** (tears) for some time (months / years) and not eyes that have become suddenly watery, sticky or mucousy (e.g. a simple infective process such as conjunctivitis). Some patients with watery eyes may also report some stickiness, discharge and mattering, particularly of the inner corner of their eye.

There are a lot of causes of watery eyes by far the most common of which are ocular surface inflammatory disorders such as blepharitis or paradoxically a condition termed “dry eye disease”. Other common causes include disorders which affect the eyelid position such as ectropion or entropion. Occasionally overhang eyelid skin can also result in tear wicking. Other rarer conditions including viral infections can also produce watery eyes.

It is useful to consider what abnormal watering is as it is usual for eyes to water in the cold and in the wind. It is also normal to experience watering if you have a face-cold as your nose may be congested and the tear drainage blocked.

In general the following features of watering are likely to be abnormal; constant watering, watering affecting vision, watering that causes soreness of the skin around the eye and watering associated with a lump or discharge from the inner corner of the eye.

Here we will talk about abnormalities of tear drainage system but before doing so some idea of where tears are produced and how they are removed under normal circumstances is required.

Tears are produced by a number of glands situated beneath the lining layers of your eye which is called the conjunctiva. The largest of these glands is called the lacrimal gland which is located under the upper outer aspect of the upper eyelid in the front of the eye socket. The lacrimal gland contributes to tear production but is most active when crying and if you get something in your eye.

The tears produced flow over the surface of the eye with each blink and are moved towards the inner corner of the eye where there are 2 tiny holes (one in each lid) from where the tears leave the eye en-route to the nose. Blinking of the eyelids is important for tear clearance as most tears are removed by a complex pumping mechanism that relies upon normal eyelid muscle function.

These tiny holes near the inner corner of each eyelid connect via narrow channels to the tear sac which is located immediately behind the inner corner of the eye in a bony recess in the front of the eye socket.

The tear sac then empties through the tear duct into the outer wall of the inside of the nose where the tears are either swallowed or absorbed.

Causes and treatments

As mentioned, mal-position or dysfunction of the eyelids may mean that tears cannot enter the drainage pathway or that they cannot be pumped away. Similarly, if the tiny holes become blocked or tight (stenosed) then tears cannot entire the drainage pathway. The treatment of these sorts of problems is usually directed at the local cause / eyelids. However, it is worth stressing that watering due to facial muscle weakness can be very difficult to address per-se and particularly by eyelid surgery alone.

Blockages of the pathways can occur in a variety of forms;

- congenital - due to failure of complete development at the time of birth. Frequently the passages spontaneously open in the first year of life and symptoms disappear.
- viral – usually due to a herpes virus and usually affecting the narrow channels in the eyelid.
- involutional / age related changes – this is by far the most common cause and is presumed to be due to cumulative damage as a result of minor infections and inflammation over many years. Sometimes incomplete blockages can be relieved by syringing saline through the tear drainage system but long-term results are unpredictable.

Blockages by location

Blockage or narrowing of the tiny holes on the eyelid that mark the entrance to the tear drainage system may occur over time from inflammation of the eyelids (blepharitis). If the tear drainage system otherwise appears to be normal, then enlarging the openings by performing a punctoplasty under a local anaesthetic may be helpful.

Blockage of the narrow channels in the eyelids is uncommon, usually viral or traumatic, and cannot usually be addressed by eyelid surgery alone. By-pass surgery in the form of a modified type of dacryocystorhinostomy (DCR – details elsewhere) where a tiny Pyrex glass tube is passed directly from the corner of the eye into the nose is possible but does not come without its limitations (this is not discussed here).

Blockage of the entrance to the tear sac can be addressed by performing a DCR but with a more guarded outcome than for blockages further down the tear drainage system.

Blockage of the tear duct can be relieved by performing a DCR operation which is designed to bypass the obstructed tear duct and frequently results in an improvement in symptoms, particularly symptoms related to stickiness and discharge if present.

Watering without obvious blockage / cause - functional epiphora.

Unfortunately it is quite common to have a watering eye for which there is no obvious apparent cause despite of investigation. Under such circumstances it is assumed that the tear drainage system simply does not have the capacity needed to remove the tears that are being produced with the result that the excess spill over. Such a mechanism is supported by the fact that such patients frequently experience significant variability of their symptoms as the demand placed upon clearance varies. In spite of there being no detectable cause a DCR operation can by increasing tear flow sometimes be of benefit, but results are unpredictable.

Dacryocystorhinostomy (DCR) operations

These operations create a new passage for tears to flow from the tear sac to the nose. There are a number of minor variations depending upon the cause of watering which needs to be addressed. DCR operations are often performed by ENT surgeons (endoscopically operating up the nose) and usually under a general anaesthetic (with the patient asleep). The procedure and its limitations are described in more detail elsewhere.

Investigations

In order to assess the tear drainage pathways the following methods of clinical and imaging assessments may be required:

- ophthalmic assessment of the surface of the eye, the eyelids, eye-drop dye tests and syringing of the tear drainage pathways
- an assessment of the inside of the nose is usual in specialist clinic using an endoscope (small telescope)

- CT scan of the sinuses with a contrast dye instilled into the tear pathways
- Scintigraphic scan tracing the passage of a radio-labelled (small dose) eye-drop through the tear drainage system

Is there anything else that you can do to help relieve the symptoms:

- Avoid the wind
- Avoid the cold
- Wear goggle type glasses or glasses with side piece protection
- Keep your eyelids clean and healthy – see blepharitis information
- Consider using artificial tears to ensure that your tear film is as stable and comfortable as possible