

## Patient information leaflet

### Facial nerve palsy

The facial nerve is the 7<sup>th</sup> cranial nerve. It is responsible for innervating the muscles of facial expression including the muscle that closes the eyelids (orbicularis oculi muscle), as well as stimulating tear production from the lacrimal gland and saliva from the salivary glands. It is also responsible for the sensation of taste on the front two-thirds of the tongue.

Facial nerve palsy occurs when the facial nerve is not working properly. In most cases (up to 70%), no specific cause is found and it is termed Bell's palsy (idiopathic facial nerve paralysis). Other potential causes include trauma, infection with the shingles virus (varicella zoster virus), inflammatory disease such as sarcoidosis and a tumour.

Signs of facial nerve palsy typically include weakness of one side of the face, laxity of the muscle around the eyes with sagging or out-turning of the lower lid (ectropion) and elevation of the upper lid (upper lid retraction due to the unopposed action of the eyelid elevator muscles, levator palpebrae aponeurosis and Muller's muscle). This can mean that the eyelids are unable to fully close (lagophthalmos) and lead to a dry eye.

The eye may be red and feel sore, tired, gritty and dry, or even watery due to reflex tearing as a result of irritation of the ocular surface.

Sometimes a CT or MRI scan is needed to help to determine the cause.

### Treatment

This is dependent on the cause and may include: ocular lubricants, punctal plugs, and closing the eyelids temporarily (with tape) or surgically with a temporary or permanent tarsorrhaphy to improve eye comfort and prevent ocular surface disease secondary to evaporative dry eye. Botulinum toxin injections to the lacrimal gland may be used to treat so-called 'crocodile tears' (tearing when eating), which can occur as a result of mis-wiring when the facial nerve regenerates.

A gold weight may sometimes be surgically inserted into the upper lid to facilitate blinking. Surgery to tighten the lower lid and correct ectropion may also be recommended to relieve symptoms and improve and restore the normal appearance of the eyelids.