



Treatment of Eye Problems due to Facial Palsy

Treatment of eye problems is important to prevent the sight threatening complications of a facial nerve palsy.

The primary goal is to protect the cornea. Commonly, sight threatening conditions relate to a condition called corneal exposure in which the front of the eye, normally lubricated and protected by blinking of eyelids, can become dry, ulcerated and scarred when eyelids are unable to close. This may lead to a deterioration in vision, which can sometimes be irreversible. The primary concern of an ophthalmologist (eye doctor) is to ensure that adequate protection and lubrication is provided to prevent these sight threatening complications. Once these serious risks to a patients vision have been addressed and controlled, the secondary goal of cosmetic issues, preventing troublesome excessive watering, and reducing asymmetry of the face can be addressed.

The problems of exposure of the cornea are even more serious in those patients that lose sensation from the eyeball due to the effects of the acoustic neuroma or surgery. In such cases, patients are unable to tell when the eye is dry, ulcerated or has sustained injury through simple rubbing of the eye, or through damage when sleeping if the eyelids are not fully closed. Damage may occur unnoticed in these cases. Often a red eye in these situations will alert the patient to problems that are occurring to the cornea. If the eye becomes red then you should consult your Doctor as soon as possible.

A facial palsy is usually graded as being mild, moderate or severe depending on how much the eyelids are able to close on blinking. If most of the eye is covered then the palsy is mild. If some of the eye can be covered on forced blinking, then the palsy is moderate. If the eyelids can cover none of the front of the eye during forced blinking, then the palsy is graded as being severe.



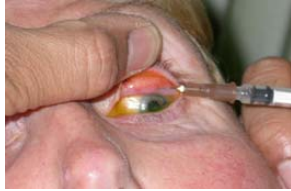
a



b



c



d



e



f



g

A series of photographs demonstrating exposure keratitis and a left brow ptosis (a) in a patient with Bell's palsy. There is significant lagophthalmos (b) and slight left lid retraction (c) once the eyebrow ptosis has been manually neutralised. The patient underwent a supertarsal botulinum toxin injection (d) to induce a ptosis (e). The slight lagophthalmos present with the right eye fully open disappears with relaxation of the lids (f), thus, protecting the cornea (g).

In the first instance, corneal exposure is managed with very frequent instillation of artificial tear drops in the day time and lubricant ointment at night time. Ointment can be used in the day time also, but this does cause a lot of blurring of the vision. If the eye does not close at night time, it can be taped shut. This can be difficult to do if the eyelid skin is greasy from ointment application. Cutting and applying cling film around the bones surrounding the eye creates a 'moist chamber' when sleeping. This helps to prevent the drying of the eye at night, and adds a little protection against damage caused by rubbing of the eye against the sheets or pillow.

The tears (and instilled eyedrops) normally drain through the puncta into the tear duct. A silicone plug can be inserted into the punctum to seal the entry into the tear duct, thus retaining the tears and eyedrops in the eye for longer. If successful, the eye with the punctal plug is more comfortable, and lubricants are required less frequently.

The corneal exposure can be treated surgically if conservative measures fail. The aims of surgery of the eyelids is to increase the wetting of the cornea, improve the position of the lower eyelid which maybe lax, and to elevate the eyebrow which has dropped due to the facial palsy.

As long as there is no damage to the eye from exposure, I would advise the patient that it is better to wait at least six months before embarking on surgery to allow spontaneous recovery of the facial nerve. In my



A punctal plug on the end of a specially designed inserter.

experience, if there has been little recovery 6 months after acoustic neuroma surgery, then there is unlikely to be full recovery in the future. However, having said this, I have come across several patients who had recovery starting several years after acoustic neuroma surgery (e.g. patient in photographs above).

Treatment is often in a staged approach. This is very useful as those with mild palsies require less complicated procedures and those with more severe palsies may require a greater number and complexity of eyelid operations.

Some eyelid operations narrow the length of the eyelids horizontally; this is termed a tarsorrhaphy and may be performed at the inner or outer corner of the eyelids. The tarsorrhaphy does not give a good cosmetic appearance and can affect the side vision. For these reasons, I rarely perform this procedure. However, it may be useful as a temporary procedure as it may be reversed, especially when the sensation to the front of the eye is reduced.

The vertical opening of the eyelids can be narrowed also. One way is to weaken the muscle that lifts the eyelid (the levator muscle by performing a levator recession). This can be repeated if further lowering of the upper lid is required. It is reversible in case there is recovery of the facial palsy. Again, this is often used in combination with other eyelid operations. Temporary lowering of the upper lid can be produced by an injection of Botulinum toxin. This can effectively close the upper eyelid, but the injection will only last for 3 months. It is good as a temporary measure and allows the eye to be easily examined, and for drops to be inserted during the times that the injection is still working.

If the upper lid needs to be lowered further, adding a gold weight into the middle of the eyelid can do this. The weight of the eyelid allows the eye to blink. Problems associated with this are that the weight is a foreign material and may try to be rejected by the eyelid.



Colour photograph of gold weight with 3 bored holes for suture attachment.

The drooping of the lower eyelid can be improved by tightening the tendon in the corners of the eye, hence lifting the lower eyelid so that it touches the eyeball. The inner corner tightening (medial canthoplasty) can leave a rounded appearance; however it is a very effective operation. The outer corner tightening is called a lateral tarsal strip.

The blink can be improved by the insertion of a material such as springs and slings. However, as these are foreign materials, they may also be prone to being rejected by the eyelid.

The drooping of the brow can be improved by excising some of the forehead skin above the eyebrow (via a cut in the skin just above the eyebrow hairs), or by lifting the eyebrow with sutures. Over time the brow may drop again due to the affect of lack of tone in the forehead muscle and the affect of gravity.

In summary, many patients will manage well with lubrication and instillation of artificial tears and ointment alone. Most patients with a permanent palsy will require additional help with eyelid closure in the form of eyelid surgery. The aims of surgery are to protect the front of the eye, to improve the function and position of the eyelids, improve cosmesis and reduce asymmetry between the two sides. However, as this is a lifelong problem, patients with a facial palsy may need multiple eyelid operations over time.



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Ahmed's career

Ahmed qualified from the University of London in 1987, and started training in Ophthalmology in London in 1989. He was a registrar and a fellow in Nottingham, and was appointed as Consultant Ophthalmic Surgeon specialising in phacoemulsification and oculoplastics at the Manchester Royal Eye Hospital in December 1998. He has over 40 publications, more than 40 presentations, and a DM (thesis on endonasal laser DCR).

Ahmed's roles at the Manchester Royal Infirmary & University

Ahmed interviews for the Medical School, and teaches medical and optometry students. He examines medical students, and for the MOptom. He is a member of the Local Negotiating Committee on behalf of the Manchester Royal Eye Hospital, and is a North West Representative of the Hospital Consultants and Specialists Association. He has raised money for the New Children's Hospital by arranging sponsored events. Ahmed has drafted a new mobile telephone use policy for the Trust which will become part of the hospital's policies.

Ahmed's roles outside CMMC

Ahmed is a nominated representative of the Royal College of Ophthalmologists (RCOphth) on the General Optical Council (GOC). He is a Member of The RCOphth and a Founder Member of The British Oculoplastic Surgery Society. He is an examiner for the RCOphth as well as part of the Training The Trainers and Microsurgical Skills faculties. He has an interest in facial palsy management and is a medical adviser to the British Acoustic Neuroma association. He used to work as an Ophthalmic Medical Practitioner whilst a registrar, is a member of the Ophthalmic Qualifications Committee of the British Medical Association, and is involved with the Education Visitor Panel of the GOC.

He is active in research, a journal editor and reviewer. He is a committee member of the British International Doctors Association. He is a medical member of the Appeal Panel of The Postgraduate Medical Training and Education Board. As well as a journal reviewer, he is a reviewer for Research for Patient Benefit and Map of Medicine.

Outside medicine, Ahmed is a school governor, is involved with medical charities and community finance initiatives, and is co-chair of the Manchester Christian-Muslim Forum.

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