Information for Patients with Facial Palsy

What does facial palsy mean?

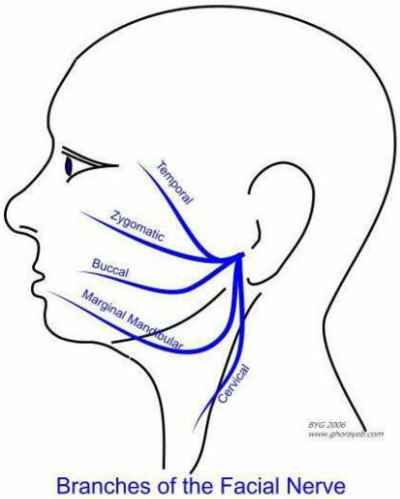
Facial Palsy is a general medical term which means weakness of the facial muscles, usually on one side of the face, as a result of damage to the facial nerve caused by swelling or pressure on the nerve.

How does the facial nerve work?

There is a facial nerve on each side of the face. If you damage it on the left side it will affect the left side of the face and if damaged on the right it will affect the right side of your face. Each nerve leaves the brain through a tiny channel in the skull and enters the face in front of the ear. It then divides into 5 branches to supply the different muscles for facial expression.

The facial nerve is also responsible for the production of tears, saliva and taste for part of the tongue.

The diagram shows the five branches coming out in front of the ear and going to the muscles in the forehead, eye and cheek, lips, chin and neck. These branches are responsible for facial movement.



Branches of the Facial Nerve

What causes facial palsy?

Facial palsy can be caused by a number of different things some of which are listed here;

- Viral infection is a common cause of a facial palsy known as Bells Palsy.
- The Herpes Zoster virus can cause a more aggressive form of facial palsy known as Ramsay Hunt Syndrome. This is the same virus which causes Chicken Pox and Shingles (not cold sores).
- Surgery to remove a facial nerve or acoustic nerve tumour can cause facial palsy. The acoustic nerve lies very close to the facial nerve so in the process of removing these tumours the facial nerve can become damaged.
- Surgery to the parotid gland. The facial nerve runs through this salivary gland and so can be damaged during surgery.
- Bacterial causes (e.g. Lyme Disease or following a middle ear infection).
- Neurological conditions (e.g.Guillain-Barre syndrome or Neurofibromatosis).
- Traumatic injury such as fractures to the brain, skull or face, as might be suffered in an accident.
- Congenital condition, which means an abnormality of the facial nerve you are born with.
- Stroke can cause facial palsy as a result of damage in the brain but this is slightly different to the causes above, which directly affect the nerve after it leaves the brain.

Are there different degrees of injury?

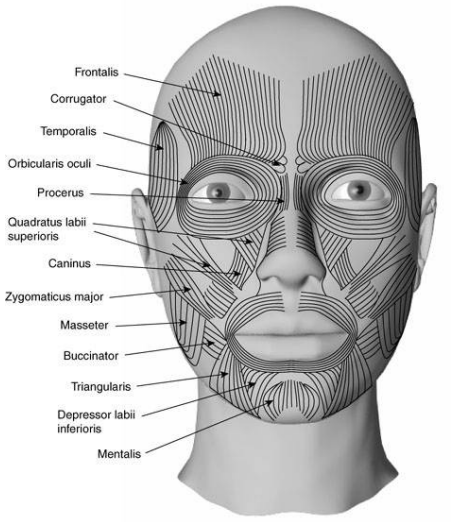
Yes. Facial nerve injuries can be classified into three groups;

1. First degree injury – the nerve is "concussed or bruised" and recovers within 8 weeks.
2. Second degree injury – the nerve is more severely damaged but the nerve's outer layer is still intact. It recovers at the rate of up to 1mm per day, with first signs of recovery usually at 4 months.
3. Third degree injury – the nerve is severely damaged and requires surgical repair. Recovery from this is very slow and always incomplete. If the nerve is severed and not repaired in any way there will be no natural recovery and surgery will be required to help restore facial function.

What movements do the facial muscles make?

The main movements that the facial muscles perform are as follows:-

- Raising the eyebrows (frontalis)
- Wrinkling nose (procerus/nasalis)
- Pouting (orbicularis oris)
- Lifting top lip (levator labii)
- Open and closed mouth smiling (zygomaticus and risorius)
- Closing the eye (orbicularis oculi)
- Frowning (corrugator)
- Pulling lower lip down (depressor labii)
- Sticking bottom lip out (mentalis)
- Pulling jaw and corners of mouth down gently down (platysma)



What happens once you have damaged your facial nerve?

When facial palsy initially occurs the affected side(s) of your face will feel and look floppy as there are no nerve signals telling the muscles to contract. Once your face starts to recover you will notice that;

- Muscles in some areas begin to work again earlier than other areas.
- In some areas you may notice different things about your face;
    - The eye may seem smaller and the corner of the mouth may seem raised on the affected side.
    - The cheek may feel tight and stiff. Don't panic, you haven't had a facial palsy on the other side.
- The cheek branches of the nerve tend to recover first but aren't balanced out by the forehead and chin branches of the nerve which take longer to get working again. So the face muscles are unbalanced.
- As all the nerve branches recover you can help get balance back in the face with lots of slow, careful exercises in front of the mirror.
- At first movements may be asymmetrical and difficult but slow repetitive practice will eventually wake up your brain's memory of how the movement used to work. This is a slow process but worth persevering with as small improvements add up to a big overall change.
- Exercises done at this stage must be done on a relaxed face and should concentrate on tiny, precise movements.

Synkinesis.

- Synkinesis can occur in the later stages of recovery.
- The more severe your nerve injury is the more likely it is that you will develop synkinesis.
- Synkinesis is a medical term that means 'unwanted movement'. Having synkinesis means that different parts of the face move together outside your control.
- It happens because as the nerves begin their recovery, if one branch of the nerve is activated all the others join in to try and help, e.g. you want to smile and the eye shuts.
- This situation will improve as recovery continues as long as you get into the habit of stopping the unwanted movements from happening when you don't want them to (your therapist will advise you how to achieve this).
- Synkinesis also means some facial muscles act against each other in a 'tug of war' which can stop parts of the face from moving even though the nerve has recovered. The affected muscles have to be gently re-taught when to move and when to stay relaxed and then this has to be practised over and over again. It is important not to practice incorrectly as this can make the situation worse.
- If you put too much effort into a facial movement it can spill over to stimulate all the nerves and you will get unwanted activity in other areas. This is why facial exercises have to be slow, gentle and careful, stopping just before you get unwanted activity.
- Techniques like looking in the mirror, touching your face and focused relaxation can all help your movement to become more refined.
- The amount of muscle effort needed to do these exercises is very low, only approximately 10%, pushing your face to work harder will not make you get better more quickly.
- One exercise done perfectly is better than many done with poor control.

What else may be a problem when you have facial palsy?

- A muscle in the ear (stapedius) can be affected causing sounds to appear louder on that side.
- Eating and drinking can be harder due to weakness of the cheek and lip seal.
- Food can collect in the affected cheek and be difficult to remove.
- Some people complain because they bite the inside of their cheek or lip.

What can be done to help?

In therapy

- Assessment and treatments using Electromyography (EMG). Electrodes are attached to the skin and measure how much energy your muscles are creating when you relax and when you try to contract them. A muscle can only contract if the nerve to that muscle is intact and working.
- Advice and education.
- Monitoring of progress.
- Reassurance and motivation.
- Advice on eye care and taping the eye closed.
- Advice on mouth care and dry mouth management.
- Advice on eating, drinking and speech improvement.
- Massage to keep the muscles mobile and healthy.
- Stretches to lengthen muscles which have become short or tight.
- Exercises to help relearn and develop balanced facial movements.

- Relaxation of your facial nerve and muscles.
- Exercises to reduce involuntary, unwanted movements.
- Teaching of home exercise programmes to enable you to be independent with your recovery.
- Patients should allow up to 2 hours for therapy sessions and expect to return every 3 - 6 months.

By the rest of the facial palsy team

- Some people in a small number of cases may be appropriate for specialist surgeries.
- Some people may require a course of Botox injections to help facilitate their recovery. These will be repeated approximately every 4-6 months whilst required and are carried out by doctors and specially trained therapists.
- Some people may undergo a course of social interaction skills retraining to regain confidence.
- Some people may be referred to the eye specialists for advice and monitoring.

Where can I get further support and information?

Facial Palsy Support Group – meets at the Queen Victoria Hospital
For information email: vanessa.venables@qvh.nhs.uk

Changing Faces, The Squire Centre, 33-37 University Street, London, WC1E 6JN.
Email: info@changingfaces.org.uk
Website: www.changingfaces.org.uk
Website for young people: www.iface.org.uk

The British Acoustic Neuroma Association (BANA), Oak House, Ransom Wood Business Park, Southwell Road West, Mansfield Nottinghamshire, NG21 0HJ
01623 632143
www.bana-uk.com

Bells Palsy Association (BPA) - www.bellspalsy.org.uk

Bells Palsy Information Site – www.bellspalsy.ws

Facial Palsy Multidisciplinary Clinic, Queen Victoria Hospital NHS Foundation Trust, East Grinstead, West Sussex, RH19 3DZ.
Contact catriona.neville@qvh.nhs.uk or vanessa.venables@qvh.nhs.uk

Face Place, Wessex Neurological Centre University Hospital, Southampton.
Contact lorraine.clapham@uhs.nhs.uk

Sally Glover, Clinical Specialist Physiotherapist, University Hospitals Birmingham NHS Foundation Trust, Queen Elizabeth Hospital, Edgbaston, Birmingham, B15 2TH.
Contact sally.glover@uhb.nhs.uk