Useful contacts

Facial Palsy UK is a national charity dedicated to helping those affected by facial palsy, regardless of the cause of the palsy. Their mission is to promote access to the best information, treatment and support available.

https://www.facialpalsy.org.uk/

Email: info@facialpalsy.org.uk

Enquiries: 0300 030 9333

The Facial Palsy UK Cheshire and Mersey Support Group is held every other month in Liverpool – for further details go to:

https://www.facialpalsy.org.uk/support/local-groups/cheshire-mersey-facial-palsy-group/ or call the number above.

Plastic surgical secretaries:

Vanessa Baron, secretary to Mr Benson 0151 430 1864

Maria Naylor, secretary to Mrs Harper Machin 0151 430 1044

Anne Topping, secretary to Mr McArthur 0151 430 1664

Lisa Eustace, secretary to Mr Iqbal 0151 430 1998

Whiston Hospital
Warrington Road,
Prescot, Merseyside, L35 5DR
Telephone: 0151 426 1600

St Helens Hospital
Marshall Cross Road,
St Helens, Merseyside, WA9 3DA
Telephone: 01744 26633

/sthknhs @sthk.nhs

www.sthk.nhs.uk

NHS
St Helens and Knowsley Teaching Hospitals
NHS Trust

Cross Face Nerve Graft +/- Free Muscle Transfer

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Na żądanie ta ulotka może zostać udostępniona w innych językach/formatach.

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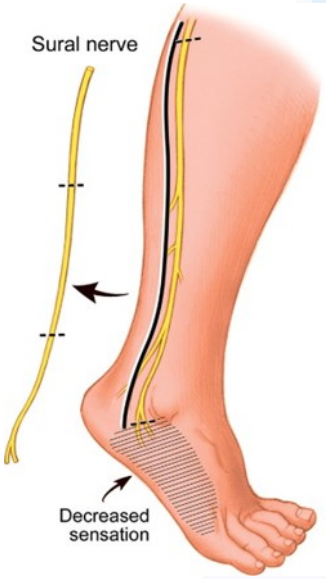
Introduction

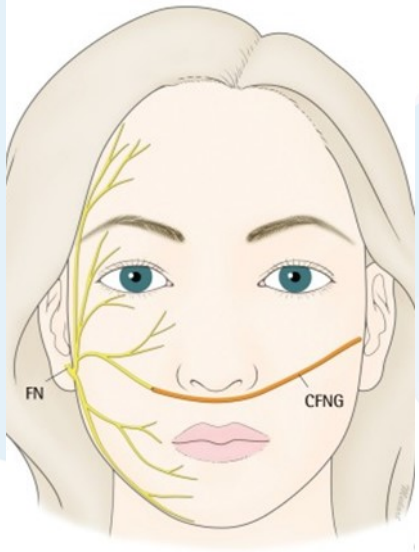
You have had discussions with the facial palsy team and have decided that a cross face nerve graft (CFNG) or cross face nerve graft with free muscle transfer is the preferred surgical method to allow you to move the affected corner of your mouth and create a more balanced smile.

Single Stage

Sometimes, if the paralysis has occurred quite recently and tests show the facial muscles supplied by the affected facial nerve are in good health, a single stage cross face nerve graft may be suggested.

This is where a donor nerve, usually the sural nerve taken from the side of the lower leg is joined to a branch or branches of the facial nerve on the unaffected side of the face and passed through to the affected side of the face. The donor nerve creates a passage through which facial nerve cells can grow.





Unaffected side **Affected side**

Space for your notes

If your facial palsy occurred recently and you are only having a cross face nerve graft without a muscle transfer your physiotherapist will see you at approximately 6 weeks after surgery then at around 3 months, 6 months and 9 months after surgery to check the progress of your nerve growth from the unaffected into the affected side, ensure your facial tissues remain soft and supple and to teach you how to create balanced facial movements once movement is detected on the affected side.

If you have had a cross face nerve graft as the first stage of a 2 stage procedure, your physiotherapist will still see you between the first and second stages.

Post-operative physiotherapy (after second stage surgery)

Your surgeon will only undertake the second stage when he / she are confident that the nerve cells have grown across through the nerve graft sufficiently well to power the muscle flap. This will be a minimum of 6 months after the first stage but can be up to 12 months.

Even though the nerve graft is then joined to the nerve attached to the muscle flap, the nerve cells still need to then grow into the muscles nerve in sufficient number to power the muscle. This takes an average of around 3 months.

Once movement in the muscle flap is seen, physiotherapy is needed to not only exercise the muscle but learn balanced movement between the unaffected and affected sides of the face.

Scar management

The scars can appear red for over a year (in some people up to 2 years) and may go through a phase of raised and lumpy. Your therapist or surgeon can advise you on scar massage once the wounds have healed.

Occasionally, a thickened scar can form and it may need other, non-surgical, treatments such as silicone gel.

Over a period of a few months, these nerve cells will reach the facial muscles to which the donor nerve was attached on the affected side.

When the cells have grown in sufficient number, nerve signals from the unaffected facial nerve can travel from one side of the face to the other within the donor nerve graft. When the signals are of sufficient strength they will cause the smile muscles to contract and lift the corner of the mouth.

This single stage procedure must be performed soon after the original paralysis to ensure the affected facial muscles do not waste away before the nerve cells have grown across.

Harvesting the sural nerve leaves an area of permanent numbness on the outer border of the foot.

Two - Stage procedure with free muscle transfer

More commonly, a cross face nerve graft forms part of a bigger procedure that is performed on patients who have had their facial paralysis for more than 12 months.

In this instance, the passage of time means the facial muscles on the affected side are unlikely to be healthy enough to be able to generate movement even if a nerve supply is restored.

A piece of healthy muscle with nerve and blood vessels can be moved into the affected cheek and attached to the corner of the mouth. The blood vessels of the muscle are joined to blood vessels in the face.

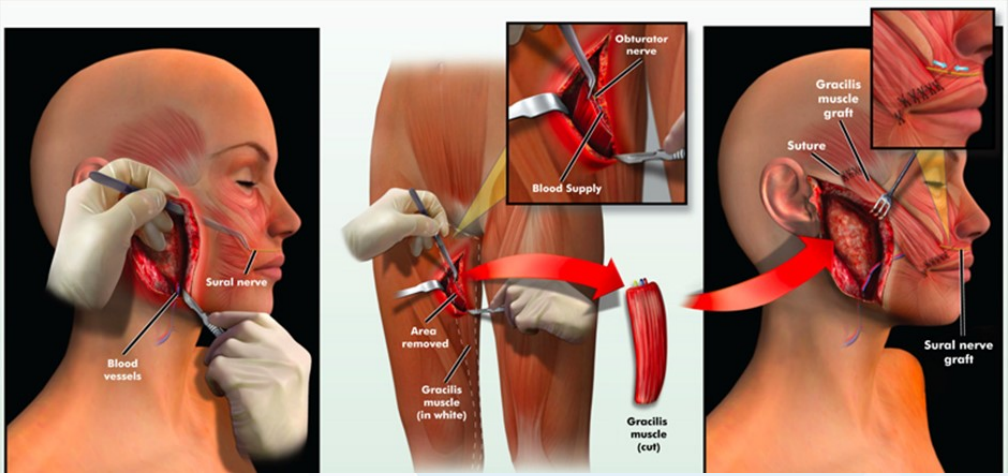
The cross face nerve graft is joined to the muscle's nerve. Once the facial nerve cells within the nerve graft grow across and communicate with the muscle, the muscle will contract when you smile, allowing you to lift both corners of the mouth.

The procedure is performed in 2 stages separated by approximately 6 to 12 months.

The **first stage** is the harvesting of the donor nerve from the side of the lower leg and joining it to the appropriate facial nerve branch(es) on the unaffected side of the face (see previous diagram on page 1).

The **second stage** is the moving of a piece of muscle from elsewhere in the body (usually a small segment of gracilis muscle from the inner thigh) and attaching it within the affected cheek to its new blood and nerve supply. One end of the muscle is stitched near the temple and the other end to the inside of the corner of the mouth.

Harvesting the muscle segment from the inner thigh does not cause any lasting weakness in the leg.



Harvesting and in setting of segment of gracilis muscle

(Right side of face is affected side in this diagram)

Physiotherapy

Pre-operative physiotherapy (before surgery)

Ideally, you will have been seen by a specialist facial physiotherapist pre-operatively.

You will have pre-operative photographs and possibly video footage taken too to provide baseline images so your progress after surgery can be monitored.

Physiotherapy can help to ensure the tissues of your face are as supple as they can be and that you are not over-working the unaffected side of the face before you have surgery. You will be taught to massage both sides of the face and possibly perform specific stretches before surgery.

(You will need to **stop** massage and stretches after surgery for **6** weeks).

Physiotherapy also provides another opportunity to learn about the surgery and what is required afterwards to get the best results available to you.

Post-operative physiotherapy (after first stage surgery)

It is important that you do **not** stretch nor firmly massage the face for the first **6** weeks after surgery. This is to ensure that the join between the facial nerve branch(es) and the nerve graft are allowed to heal and not accidentally pulled apart.

You are able to gently wash and moisturise the skin of your face after surgery as directed. The care required for the stitch lines by the ears will be explained by your surgical / nursing team.

You will be encouraged to avoid exaggerated movements in the unaffected side of the face and you might have had botulinum toxin in the unaffected facial muscles to help them to relax as mentioned earlier in this leaflet.

Are there alternatives to this surgery?

Yes.

No surgery

This surgery aims to provide a functioning smile movement but you should not feel any pressure to have surgery. Some people decide surgery is not for them and this is a matter of individual choice. It is your face.

Physiotherapy can often help you to achieve better resting symmetry, maximise the suppleness of your face and improve the balance in your facial movements. It cannot, however, provide you with more movement in muscles that do not have a functioning nerve supply.

If you do decide that you want to consider surgery to rebalance your face during movement and / or at rest, surgery falls into two main categories.

Static surgeries

These procedures improve the symmetry of your face at rest but will not provide you with more movement. These usually, however, require less time in theatre, fewer surgical interventions and your recovery is generally quicker.

Dynamic surgeries

These procedures aim to improve both the position at rest and provide you with movement on the affected side so you can produce expressions such as a smile.

A cross face nerve graft +/- a gracilis transfer is a dynamic procedure.

Your surgeon will be able to talk you through your options in more detail. Some surgeries are suitable for one person but not for another and there are a number of factors that need to be considered.

Some people require botulinum toxin injections in muscles on the unaffected side of the face before the 1st or 2nd stages or both.

These injections help to quieten any large movements so the surgery has time to heal without too much tension pulling from the unaffected side. This will be explained further if this is something you require.

It can take a few months to start to see a movement at the corner of the mouth. Attending your physiotherapy appointments is very important to ensure that you learn to use your surgery effectively and that the soft tissues remain supple. Stiff tissues do not move well.

Another nerve that supplies a chewing muscle on the affected side can sometimes be joined to the new muscle too to boost the power of your smile effort. Your surgeon and physiotherapist will discuss this with you if this is thought to be appropriate for you.

Where will the scars be?

In a single stage procedure you will have small horizontal scars on the outside of the lower leg where the donor nerve was taken.

There will be scars around the front and back of the ear on one or both sides of the face depending on the surgeon’s technique.

In a two stage procedure, there will be small horizontal scars on the outside of the lower leg where the donor nerve was taken, scar lines around the front and back of the ear and down towards the neck on both sides of the face. The scar on the affected side of the face will be slightly longer to allow the surgeon to inset the muscle in the second stage.

There will be a scar on the inner thigh where the segment of the gracilis muscle was harvested

How long is the surgery and hospital stay?

Only approximate times can be provided.

The harvesting and connecting of the cross face nerve graft takes around 2-3 hours.

The second stage of a two stage procedure is a longer operation as it requires delicate surgery to harvest the muscle section (also known as a muscle flap) to ensure the muscle is the correct size, to join the blood vessels and nerves together and to inset the muscle in the best alignment within the cheek. It is not unusual for the second stage to take between 6-8 hours.

Usually you are admitted to the plastics ward on the day of surgery. A preoperative assessment will have been performed previously to ensure you are fit enough for surgery. In this assessment, you will be asked about any other medical problems that you have and a record made of any medications that you take. Advice will be given on which medications, if any, you should stop before surgery.

These operations are performed under general anaesthetic. You will need to avoid any food in the six hours before surgery. You may drink plain water up until two hours before surgery.

Your surgical team will assess your smile and may make temporary drawings on your face while you are awake to ensure the surgery provides the best match for your smile on the unaffected side.

On your return to the ward after surgery, it is common to have a small plastic tube (drain) behind your ear. It is normal to have a bit of fluid around the area of surgery and the drain allows this to find a route out of your body. You do not go home with the drain – it is removed while you are on the ward.

Salivary leak

This is a rare complication. The surgical procedure is performed close to one of your salivary glands and the duct that allows saliva to flow into the mouth. Damage to these structures could cause a leak of saliva under the skin of the cheek. This can require a further surgical procedure in the unlikely event it occurs.

Your surgeon would discuss this with you if necessary.

How long is the recovery?

Everyone recovers from surgery differently. Recovery is both physical and psychological.

This is complex surgery and you will need recuperation time.

If you live alone or are a carer for someone else, it is important to address this in advance of your surgery so a friend or relative can be available to help you.

If this is not feasible, please discuss this with your surgical team so you can, if possible, be helped to find a solution.

Including your hospital stay, it is recommended you plan for a minimum of **3** weeks off work if you have a non-physical job.

If your job or any caring responsibilities involve heavier physical exertion, you are advised to take a minimum of **5-6** weeks off and plan for a graduated return so you can pace yourself.

Any sports should be avoiding for **4-6** weeks.

Remember the advice provided earlier in this leaflet relating to smoking.

If you are expecting an Outpatient appointment and do not receive it, please contact your Consultant's secretary.

Failure of the muscle flap

It is estimated that there is a 1 in 20 to 1 in 50 chance of muscle flap failure (2-5% risk). A flap fails when its blood supply is compromised.

There are a number of reasons the blood supply to the flap can be affected. Bleeding and haematoma development (see earlier) is one reason and requires an urgent return to theatre.

Smoking will reduce the oxygen available to the flap and will significantly increase the risk of flap failure and delayed healing.

Smoking must be stopped well in advance of your surgery. You will not be considered for this surgery if it is suspected you are still smoking. After surgery, smoking should be avoided for a minimum of 6 weeks but for the health of your surgery and your general health, it is advised you remain a non-smoker.

Sometimes all looks well and it is not known that the flap has failed until months have passed and still no movement is seen. Your surgeon will discuss the options in partnership with you if this is the case.

Loss of muscle 'anchor'

To generate an effective smile movement, the muscle flap needs to be stitched at both ends so when it tenses, it can lift the corner of the mouth. Uncommonly, some of the stitches break and the muscle loses its secure attachment. An abnormal smile movement will be seen. This loss of attachment does not always happen in the early days and can occur further down the line.

It is important to follow the advice to avoid stretching the flap for 6 weeks after surgery. This allows the flap to heal more securely in its new location.

If the muscle flap does lose attachment, a smaller operation may be needed to reposition and re-secure the muscle within the cheek.

Your face will swell up on the operated side and some bruising is expected. This is normal and can get worse over the first 48 hours after surgery and then reduce over the following week. Initially the swelling may make it harder to eat and speak as you would normally.

Sleeping propped up on a number of pillows at night will help the swelling subside more quickly and in turn reduce any pain caused by swelling. Any residual swelling will slowly go over the next few months.

After the surgery, some pain is normal. Painkillers will be provided to you to minimise your pain. It is usual for pain to increase slightly before it subsides after about 72 hours (3 days).

It is important that your pain is controlled as higher pain levels can cause your body stress and potentially affect the health of the muscle segment in the early days. Do let the surgical / nursing staff know if you require more pain relief and they can advise you further.

A soft diet is used for 1-2 weeks post-operatively. You are advised to rinse your mouth out after eating so food particles do not sit around your surgical sites within the cheek.

You will be discharged home after a few days when you are mobile, comfortable and your surgeon is happy that there are no complications.

You will be given appointments to return to have your wounds checked by nurses in a dressing clinic.

If other procedures are required later on to optimise the outcome of your surgery, your surgeon will talk these through with you at the appropriate time.

What is the intended benefit?

This surgery uses the nerve signals from the unaffected facial nerve to drive movement in the side affected by the facial paralysis.

The intention is to generate movement at the corner of the mouth to create a smiling motion.

It is very important to remember that a smile is a co-ordinated movement involving many facial muscles. Using one muscle transfer cannot replicate this co-ordinated movement.

Physiotherapy will help you to learn a new smile that balances the movement in your unaffected cheek with that generated by the muscle transfer.

The surgery will also help to reduce any drooping in the affected side of the face - your surgeon will discuss this further with you because additional surgical methods may also be needed to optimise the symmetry of the two sides of your face.

What are the risks?

No surgery is free of risks but in suggesting the operation, your surgeon will have considered that the benefits of the procedure outweigh any disadvantages.

Anaesthetic

The operation is performed under general anaesthetic, which means that you are asleep throughout. Your Anaesthetist will go through the risks relating to the general anaesthetic with you before the operation.

Other possible side effects, risks and complications include:

Wound issues

Occasionally, the edges of the skin where they have been stitched together can be slow to heal and this might lead to slightly wider scars.

Bleeding and haematoma

Inevitably, some bleeding of the tissues occurs during surgery. The surgical team are careful to ensure this is kept to a minimum.

Occasionally, after surgery some ongoing bleeding may occur and start to collect into a clot (haematoma).

If the bleeding is minor, it can be controlled or monitored. However, sometimes it can cause problems with health of the flap and you may need to return to theatre for the surgeon to resolve this promptly.

Infection

The risk of infection is low and is generally less than 2-5%. In most cases, infection will be treated successfully by a course of oral antibiotics. Occasionally, it is necessary to have antibiotics straight into a vein via a drip. If a drip is required you would need to stay in or return to hospital.

Asymmetry

Your surgeon will take considerable care to provide, over time, the best match between the right and left sides of your face both at rest and during smiling.

As noted previously, this surgery cannot fully restore the facial anatomy or complexity of the smile and so some degree of asymmetry is to be expected.

When a section of muscle is moved from e.g. the inner thigh and placed into the face, careful sizing of the muscle is performed.

However, the extra volume can make the face look slightly fuller on that side at rest and / or on movement. Some of this fullness reduces over time.

There is also an approximately 20% risk of persistent bulk to the face requiring a minor revision procedure around 12 months after surgery.