

# Pediatric Plastic Surgery

## Facial Palsy

### **What is facial palsy?**

Facial palsy is a deformity that can be congenital (from birth) or acquired. Facial motion starts in the brain and travels through the facial nerves to the muscles in the face. Diseases or injuries affecting the brain, the facial nerve, and/or the muscles of the face can cause facial palsy.

### **What causes facial palsy?**

A variety of things can cause facial palsy. Congenital facial palsy is present at birth. In most cases the exact cause of congenital palsy is uncertain. Most congenital palsies involve one side of the face, but it can also affect both sides. A large number of cases of facial palsy develop when a weakness or complete palsy occurs later in life despite normal facial movement at birth. This is called acquired palsy. Causes of acquired palsy include trauma to the facial nerve and muscle, certain inflammatory or infectious diseases, and tumors in and around the regions of the head and neck.

### **Does facial palsy ever improve?**

In most congenital palsy cases the condition does not improve very much. With acquired facial palsy, patients may experience improvement over the course of several months. The amount of recovery varies from patient to patient, and may be partial or complete.

### **What are problems caused by facial palsy?**

With children there are no immediate effects. With adults, however, the sudden onset of facial palsy generally results in a significant loss of tone in the tissues with considerable facial sagging. One of the most important functions of the facial nerves and muscles is helping the eyelid to close. If the eyelid does not close, the eye is more prone to injury such as scratches. Injury to the eye can result in scarring and visual loss. It is critical for young children with this condition to be evaluated by an ophthalmologist so that appropriate eye protection and lubrication can be started.

Facial palsy can cause problems with normal sucking and chewing. Drooling may also be a problem. Appearance is a major concern. Asymmetry of the face can cause the face to be significantly distorted. Occasionally a child discovers that smiling frequently causes facial imbalance. For that reason, he may avoid smiling altogether.

### **What can be done surgically to correct this condition?**

For infants with newly diagnosed facial palsy, eye protection is the primary concern. Lubricants are usually sufficient to prevent injury to the eye. When lubrication is not adequate, surgical options, such as eyelid weights, will be considered.

A watchful, conservative approach is usually best for a child with facial palsy. Since many children with acquired palsy improve, treatment should not start for 18-24 months after the palsy occurs. In congenital palsy cases, treatment is usually started at age three or four because of the need for cooperation with the care team, except in the case of the eye as mentioned above. Once the child has reached the age of three or four, there are several treatment options available. Most treatments focus on restoring the lost ability to smile.

Surgical options to improve smile include either a one-or two-stage procedure.

There are two options for one-stage procedures:

- The typical one stage procedure involves transferring muscles using microsurgical technique. The muscles are then connected to nerves that normally control the biting motion. The ability to smile can be restored, but the patient must bite in order to activate the muscles. If both sides of the face are involved, this is usually done one side at a time.
- An alternative one stage procedure involves direct transfer of a muscle normally used for chewing. This muscle is moved from its normal attachments, and reconnected to the mouth in order to restore the ability to smile. Although this option has numerous benefits, the scars may be more visible than with the typical one stage procedure.

The first stage of the two-stage procedure involves transferring nerves from “the good side of the face” to the paralyzed side of the face. Then, nine months later, a muscle transfer using microsurgical technique is performed to reproduce a spontaneous smile effect. The muscle is then hooked up to the previously transferred nerves. If this is successful, nerve activity from “the good side of the face” travels instantly through the transferred nerves to the new muscle on the opposite side. This can return the ability to smile. However, the smile motion is, at best, unrefined because a few nerves and one muscle are being asked to take the place of many muscles that work together during normal facial expression.

### **How successful are the surgeries?**

The success of the operations varies from patient to patient. The success is dictated by the severity of the facial weakness. Normally, facial motion depends on multiple facial muscles and nerves working together to produce a full spectrum of motion. Presently, procedures result in a replacement of a portion of this facial activity. Complete normalization of the facial motion is rarely possible. Due to the many microscopic techniques, there is a chance that nerve growth may not be complete or that circulation to the transferred muscle may fail. This can result in no marked improvement.

### **If my child needs surgery, when is the best time?**

Generally, early surgery is not necessary unless eye exposure is a problem. The one and two-stage procedures to restore facial motion require a high degree of patient cooperation. This is true during the surgery and the rehabilitation process. For that reason, these procedures are best accomplished if started after the age of three or four.

### **If my child needs surgery, what is the recovery period?**

After both the one and two-stage facial reanimation procedures using microsurgical technique, your child will spend at least 48 hours in the ICU (intensive care unit). This is so they will have very close (hourly) post-op observation including surgical site checks and attention to pain control. You will spend 5-7 days total in the hospital. After you are discharged, your child will require another week or two of rest at home. You can anticipate your child needing at least one month off from school and we can assist with homebound paperwork as needed.

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