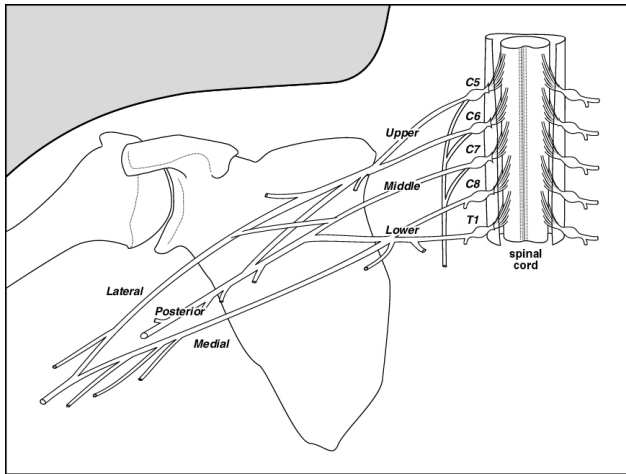


Brachial Plexus Injury in Infants

What is the brachial plexus?

The brachial plexus is a group of nerves that begins in the neck and gives feeling and movement to the shoulder, arm, forearm, and hand. Signs of damage in this area include: a limp arm or an arm with no muscle control in the shoulder, arm, or hand. Infants may also lack feeling in their hand and arm. These kinds of injuries in infants are not painful.



What is a brachial plexus injury?

These injuries are caused when these nerves are stretched during the birth of a child. Most infants get much of their function back by three months of age when treated with therapy. This is a good sign that these infants will do well in the future. These children likely will not need surgery.

How is it treated?

A small number of infants with this type of problem will need surgery. Therapy before and after surgery will improve long term results.

How do you measure the extent of the damage?

The tests listed below may be done before, during, or after surgery to show the extent of the child's nerve damage.

EMG (electromyography) measures how the nerve and muscle work together.

SSEPs (somatosensory evoked potentials) measures how the nerve between the spinal cord and brain link.

NAPs (nerve action potentials) tests for nerve conduction across the injured site.

Myelogram CT (myelogram computer tomography) measures spinal cord and nerve root damage by taking x-rays after a dye is injected into the spinal cord.

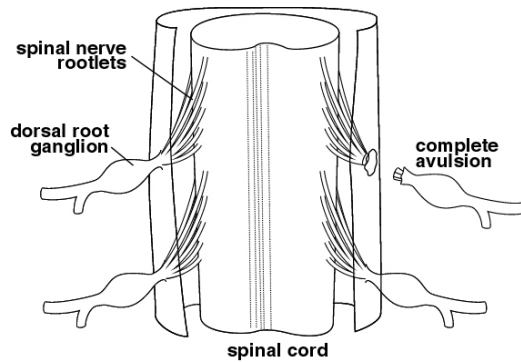
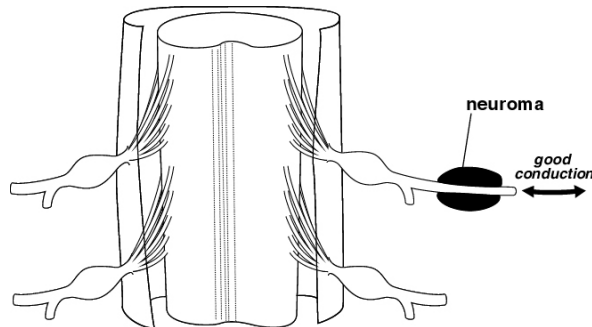
MRI (magnetic resonance imaging) provides a detailed picture of the spinal cord and nerve roots.

What type of brachial plexus injury can occur?

A stretch injury may cause three types of damage. Your child may have one or more types of damage.

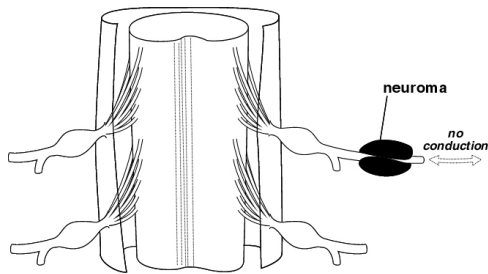
Avulsion

Avulsion means the nerve root separates from the spinal cord. This problem will not repair itself without surgery.



Neuroma-In-Continuity with Good Conduction

This means that though the nerves are damaged, a message can still travel through it. The nerve will grow back over time.



Neuroma-In-Continuity Without Conduction

This means that a message cannot travel through the damaged nerve. The nerve will need to be repaired with surgery.

In most cases, it is only during surgery that we can tell if a message can travel through damaged nerves or not.

Types of Repair

External Neurolysis

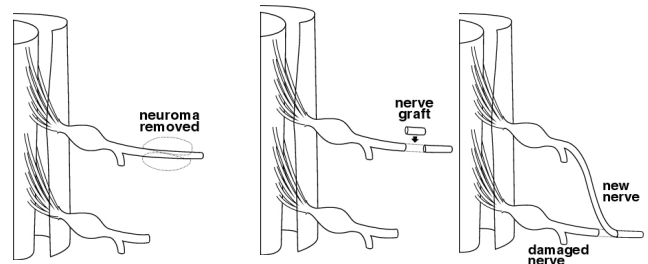
The surgeon removes the scar tissue around the nerve.

Nerve Grafting

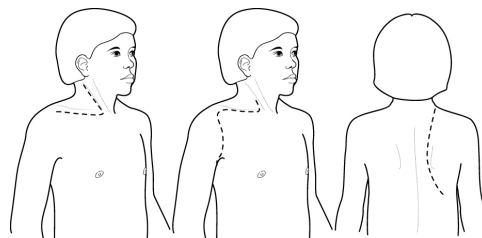
The damaged part of the nerve is removed or bypassed and replaced with a nerve graft. A nerve graft is taken from the leg, arm, or neck.

Neurotization

A nerve from another place in the body, such the diaphragm, the neck, or the chest wall, is used to repair the damaged nerve.



We may cut away scar tissue, reconnect two ends of a nerve, or make a nerve bypass or a graft around the injured nerve. An incision is made from the neck to the armpit. In some cases, an incision is made on the back near the shoulder blade.



Before Surgery

You will be taught how to prepare your child for surgery at a clinic visit.

After Surgery

Your child will stay in the hospital a few days. The arm will be fastened to the chest with an ace wrap or sling for a couple of weeks so that it cannot be moved. Therapy will begin in 2 weeks and may last from a few months to a year. The nerve grows back about one inch per month.

When to Call

Call us if your child has any of these signs or symptoms.

- Redness, pain, swelling, or drainage at the incision site
- Fever greater than 100.5°F
- Change in color, temperature, or feeling in the arm or hand

Who to Call

AFCH Brachial Plexus Clinic Coordinator
(608) 263-6420 option #3

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright ©1/2020 University of Wisconsin Hospitals & Clinics Authority, All Rights Reserved. Produced by the Department of Nursing. HF#5470