

Brachial Plexus Palsy

What to expect

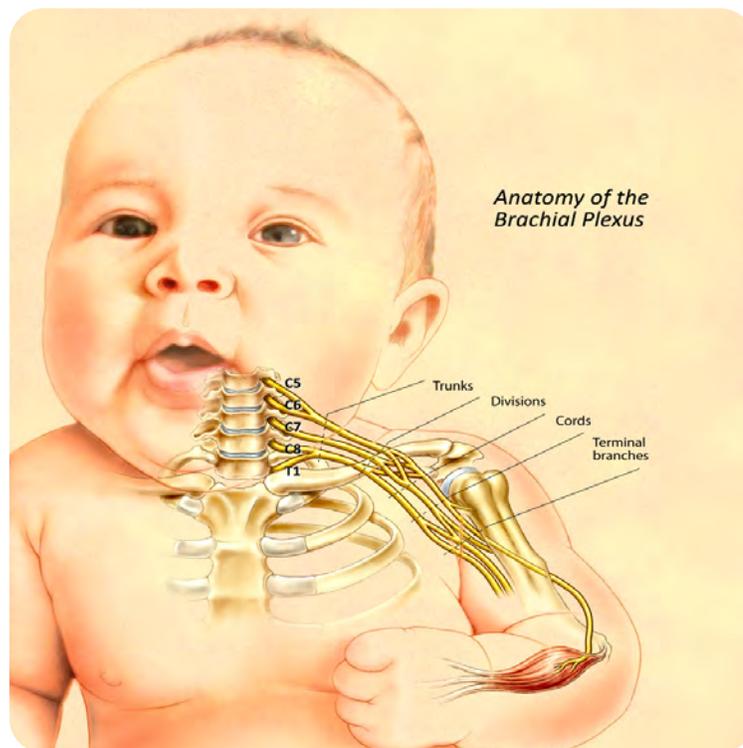
This flyer is about brachial plexus palsies and their treatment. If your child comes to the Brachial Plexus Program at Seattle Children's, your child's healthcare team will evaluate them and develop an individual treatment plan for your child.

What is the brachial plexus?

The brachial plexus (BRAKE-ee-uhl PLEKS-uss) is a set of nerves that controls the muscles of the arm.

Nerves are soft tube-like structures inside the body. They contain many small fibers (called filaments), like a telephone cable or a thick electrical cord. These small filaments carry signals from the brain to control the muscles. Nerves also carry signals from skin to the brain. This is how we feel things on our skin.

The nerves of the brachial plexus go out from the spinal cord under the collarbone and into the armpit. From there, they branch out into individual nerves that control the muscles in the shoulder, elbow, wrist and hand.



To Learn More

- Brachial Plexus Clinic
206-987-4680
- Occupational and Physical Therapy
206-987-2113
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

What is a brachial plexus palsy?

A brachial plexus palsy happens when the nerves of the brachial plexus have been damaged. Because signals cannot travel like usual from the brain to the muscles, some or all of your child's arm muscles may no longer work. When this affects only the shoulder and elbow muscles, it is called an Erb's Palsy. When it affects all of the muscles of the arm, hand and wrist, this is known as a Total Plexus Palsy.

Seattle Children's Hospital Brachial Plexus Program

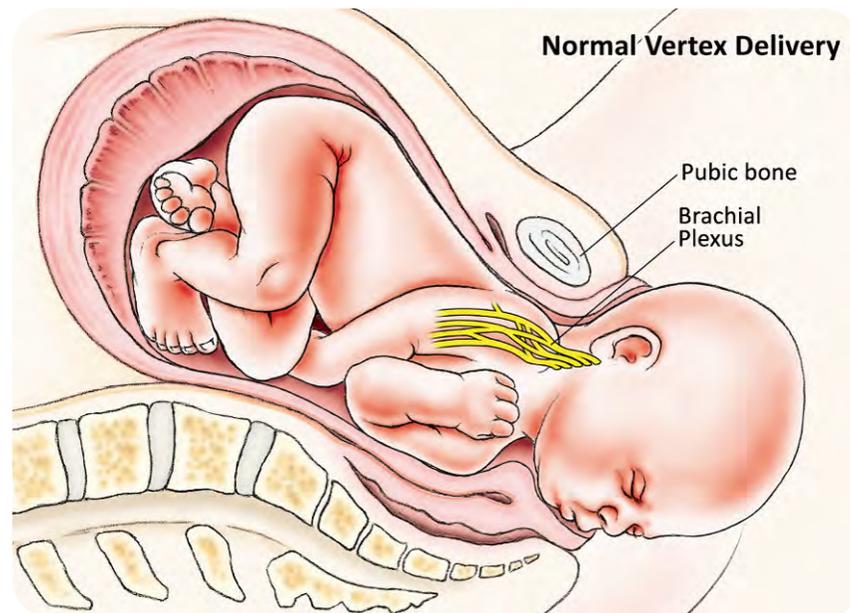
The Seattle Children's Brachial Plexus Program is a team of doctors, therapists, nurses and health professionals. If your child is referred to the program, the team will see them as soon as possible. Then, your child will come in for a clinic appointment every 3 months during their first year of life. You may also be asked to bring your child in every 4 to 6 weeks to see our therapist who will monitor your child's progress and help with therapy. If your child has a brachial plexus palsy, it is important that they get therapy early and often. After their first birthday, the team will continue to see your child in clinic every 6 to 24 months until they are an adult.

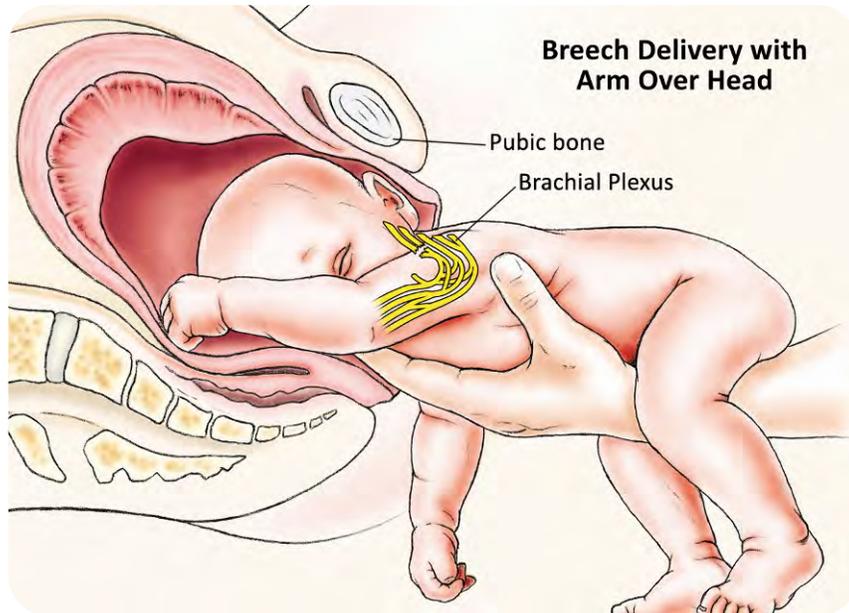
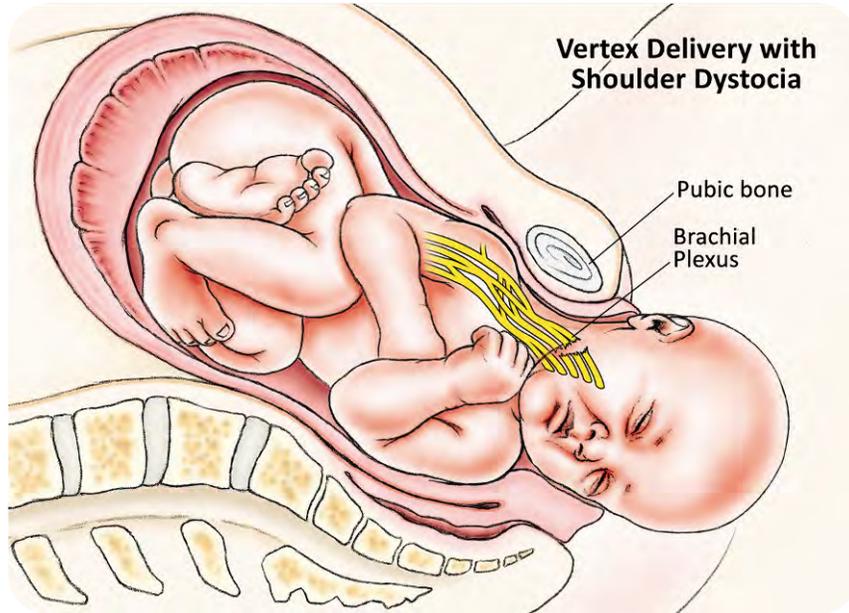
What causes brachial plexus palsies?

Brachial plexus palsies usually happen because of a stretch injury to your child's head, neck, and shoulder. This can happen during birth, especially when the birth is difficult or complex. Sometimes a child's shoulder will get stuck against the mother's pelvis, which can result in a stretch injury as your child is being delivered. In older children, a brachial plexus palsy can occur because of an accident where the neck and shoulder get stretched.

The pictures below show some of the ways this can happen during birth.

Injuries to the Brachial Plexus





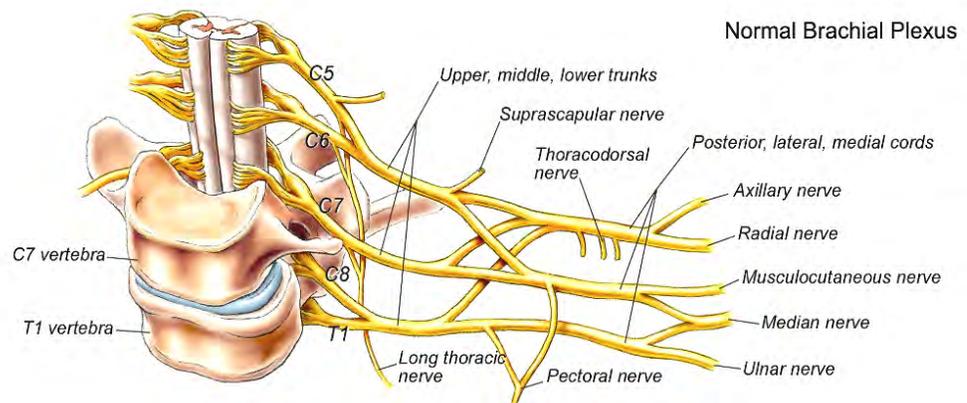
Different Kinds of Brachial Plexus Palsies

Are some kinds of brachial plexus palsies more serious than others?

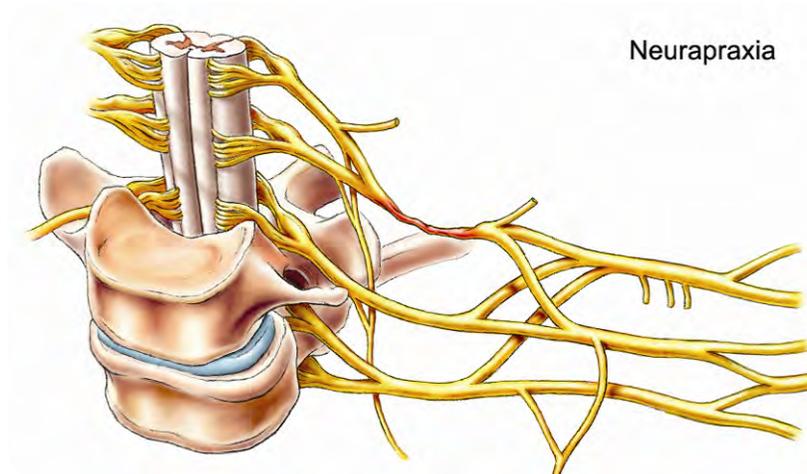
Yes. For some children, the nerves only get stretched. For others, they are torn or disconnected.

- If your child's nerves are stretched, the brachial plexus palsy tends to be only short-term. It usually gets better quickly on its own.
- If your child's nerves are torn, the brachial plexus injury is more serious. If they are torn partially, they may be able to grow back. But if the injury is too serious or if it scars a lot, the nerve fibers may not re-grow to reach the muscle. Without treatment, your child may not have enough strength to use their arm muscles in the future.
- If your child's nerves are completely torn, or if nerves are torn away from the spinal cord, they will not be able to use their arm muscles without getting treatment.

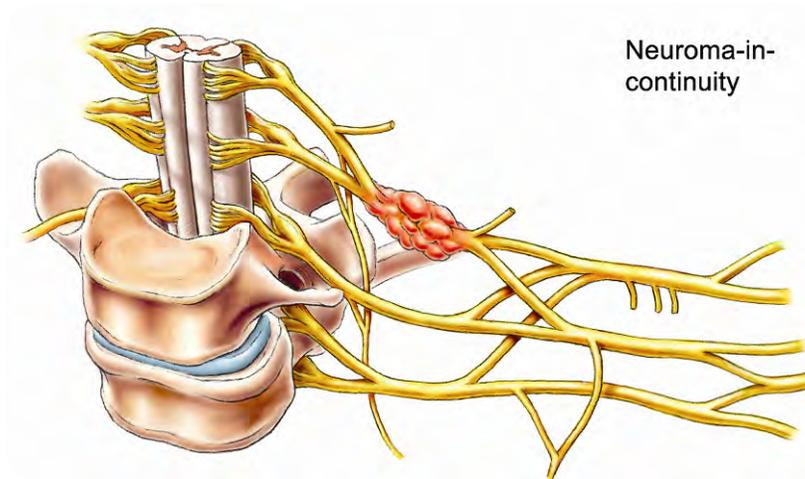
Normal Nerve



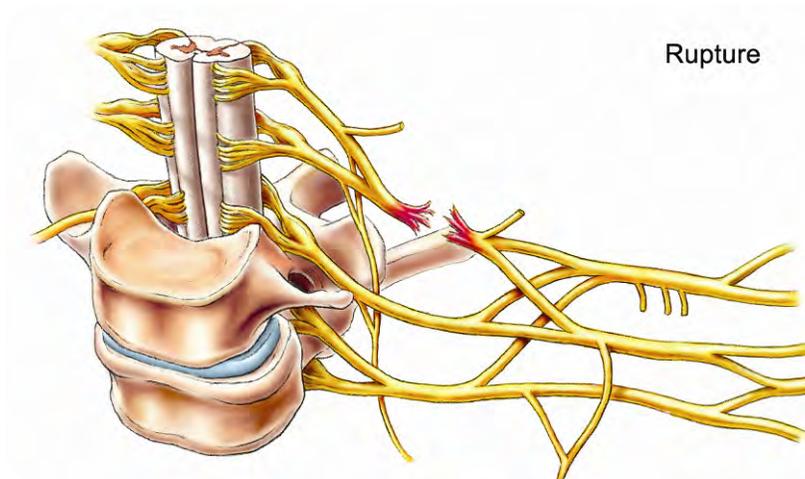
Stretched nerve



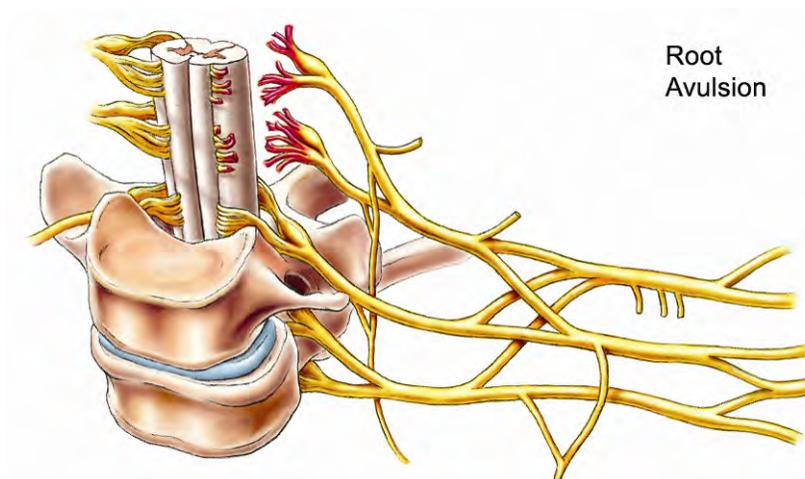
Scarred nerve



Torn nerve



End of nerve torn from spinal cord



How do you know how serious my child's brachial plexus palsy is?

There is no single test that can tell us how serious it is. The brachial plexus team will do different tests and will also examine your child over time. This can help them know more about where the injury is and how serious it is. If your child gets better quickly, they probably have a less serious injury. If they do not get better quickly, they may have a more serious injury.

How well will my child be able to use their arm?

There is no way to know this in advance. Some children regain full function while other children keep having problems.

Most recovery happens during the first year after an injury. The injury might keep getting a little better during the second year. During this time of recovery, it is important to continue with therapy. This helps to prevent stiffness and to strengthen the arm over time.

Most children will regain good function and ability to use their arm. However, they will usually still have some weakness, especially around the shoulder and the shoulder blade.

If your child is treated with surgery, it also takes a few years for them to recover. How well they are finally able to use their arm after surgery depends on many things. Most children will regain good function and be able to use their arm. But most children usually will still have some weakness.

What is the treatment for brachial plexus palsy?

The brachial plexus team will develop an individual course of treatment and therapy. Over time, the team will learn more about your child's injury. Then, the brachial plexus team will be able to recommend what seems to be the best treatment to improve your child's arm. The team might suggest that the best option for your child is to recover on their own. Or, the team might suggest that your child will do better with surgery. If they do, you will get a flyer called Brachial Plexus Surgery to tell you about what to expect.

All children should have therapy to prevent their joints from becoming stiff. A therapist from the brachial plexus team can help with therapy and teach you how to do it at home. Family members can provide ongoing, frequent, and constant therapy for the times between appointments with Children's therapists. Therapy does not help the nerves to recover faster but is important to prevent problems like stiff joints and delays in development.

If your child is older and has problems with brachial plexus palsy, they may also benefit from surgery. Ask us what procedures are best.

An Occupational Therapist or Rehabilitation specialist can help your child find ways to adapt. This will help your child to do daily tasks and to make the best use of their abilities.

Your questions

This space is left open for you to write down your questions so that you can ask them on your next visit.

A special thanks to Howard Clarke, Christine Curtis, and Emily Ho of The Toronto Hospital for Sick Children Brachial Plexus Clinic for their assistance.

Seattle Children's offers interpreter services for Deaf, hard of hearing or non-English speaking patients, family members and legal representatives free of charge. Seattle Children's will make this information available in alternate formats upon request. Call the Family Resource Center at 206-987-2201. This handout has been reviewed by clinical staff at Seattle Children's. However, your child's needs are unique. Before you act or rely upon this information, please talk with your child's healthcare provider.

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