



Brachial Plexus Injuries at Birth

The brachial plexus is a network of nerves that provide movement and feeling to the upper and lower arm and hand. In approximately two of every one thousand births, the brachial plexus suffers some degree of damage, most commonly due to an overstretching of these nerves during the birth process. An injury to the C5/ C6 nerve roots is classified as Erb's palsy, and is the most common form of brachial plexus injuries.

There are certain risk factors that can increase a child's chance of suffering a brachial plexus injury, including:

1. large-sized babies or larger babies being born to petite women;
2. shoulder dystocia (when the infant's shoulder gets stuck in the pubic bone);
3. breech deliveries;
4. and midpelvic deliveries.

When this injury occurs, it affects either part or all of the brachial plexus, and causes either temporary or permanent paralysis or weakness to the injured arm. This injury can be a stretch to the nerve (neuropraxia), a torn axon (results in a neuroma), a torn nerve, or an avulsed nerve root.

In order to determine the extent of the nerve damage, an EMG and/or an MRI are performed shortly after birth and again at 3-4 months of age to evaluate recovery. It is also common for the doctor to order a chest x-ray to rule out damage to the phrenic nerve, which is involved in breathing. Unfortunately, a brachial plexus injury is not always noticeable at birth, and not discovered until days, weeks, and sometimes, months after the birth. As a parent, how can you know if your child may have a brachial plexus injury? There are a variety of signs to look for, including:

1. weakness or lack of movement in one arm;
2. scapular (shoulder blade) winging on one side;
3. decreased feeling to touch on one arm.

There are many treatment options for brachial plexus injuries, the first and foremost being physical therapy. A physical therapist will work with your physician to help you learn how to position your baby and how to exercise the injured arm. Early intervention is critical at the early stages of this injury. Surgery is also performed if there is no motor improvement in the first two months of age or if the child is unable to lift his arm up at six months of age. Neurosurgery is performed anywhere between 4 months of age to 18 months of age. Surgery is not successful after 18 months of age because nerves are not as receptive to change.

Physical and occupational therapy are extremely beneficial to these injuries, and often continue for years. Therapy involves range of motion, stretching, positioning, splinting, and gross and fine motor skill development. If your child has been diagnosed with a brachial plexus injury, or you suspect that your child may have this injury, speak to your pediatrician. You can also contact Theraplay, Inc. or your local early intervention office to begin physical and occupational therapy for your child.