**Jacob's Condition**

Cerebral palsy is a term used to describe a group of chronic conditions affecting body movements and muscle coordination. It is caused by damage to one or more specific areas of the brain, usually occurring during fetal development or infancy. It also can occur before, during or shortly following birth.

"Cerebral" refers to the brain and "Palsy" to a disorder of movement or posture. If someone has cerebral palsy it means that because of an injury to their brain (cerebral) they are not able to use some of the muscles in their body in the normal way (palsy). Children with cerebral palsy may not be able to walk, talk, eat or play in the same ways as most other children.

Cerebral palsy is neither progressive nor communicable. It is also not "curable" in the accepted sense, although education, therapy and applied technology can help persons with cerebral palsy lead productive lives. It is important to know that cerebral palsy is not a disease or illness. It isn't contagious and it doesn't get worse. Children who have cerebral palsy will have it all their lives.

Referenced from http://www.about-cerebral-palsy.org/definition/index.html

**Jacob's Treatment - Selective Dorsal Rhizotomy**

A rhizotomy is a term chiefly referring to a neurosurgical procedure that selectively severs problematic nerve roots in the spinal cord, most often to relieve the symptoms of neuromuscular conditions such as spastic diplegia and other forms of spastic cerebral palsy. The selective dorsal rhizotomy (SDR) for spastic cerebral palsy has been the main use of rhizotomy for neurosurgeons specialising in spastic CP since the 1980s; in this surgery, the spasticity-causing nerves are isolated and then targeted and destroyed. The sensory nerve roots, where spasticity is located, are first separated from the motor ones, and the nerve fibres to be cut are then identified via electromyographic stimulation. The ones producing spasticity are then selectively lesioned with tiny electrical pulses.

In spasticity, rhizotomy precisely targets and destroys the damaged nerves that don’t receive gamma amino butyric acid, which is the core problem for people with spastic cerebral palsy. In this case, those nerves which, due to not receiving GABA, generate unusual electrical activity during the testing phase are considered to be the source of hypertonia, and are eliminated, while the remaining nerves and nerve routes carrying the correct messages remain fully intact and untouched.