

# **UNDERSTANDING CEREBRAL PALSY**

When your loved one is diagnosed with CP

# My Child has Cerebral Palsy

- When you first were told that your child had Cerebral Palsy you most likely were devastated and full of questions.
- You are not alone.
- I also have cerebral palsy. I will be sharing some of my life experiences.

# What is Cerebral Palsy?

- Cerebral palsy (CP) is a developmental disorder that affects the brain and muscles.
- Cerebral means having to do with the brain.
- Palsy means weakness or problems using the muscles.

# What Causes CP?

- The cause of CP is still a mystery.
- It can be a result of abnormal brain development during pregnancy, a result of trauma during delivery, or other conditions that affect the brain in infancy.

# The Most Common Disability in Children

- CP is the most common motor disability in children in the world.
- Globally, there are 17 million persons that have CP.
- Every year, another 10,000 children are born with CP

# Symptoms of CP/ Warning Signs

Symptoms of CP vary in each individual and may include:.

- Lack of muscle control
- Intellectual and cognitive problems
- Seizures
- Vision or hearing loss
- Speech difficulties
- Excessive drooling or problems with swallowing
- Bladder or bowel problems

Early signs of CP that were noticed in me:

My parents thought something was wrong as I slept on my back as an infant. At first they did not think anything of it, but then I continued sleeping on my back much longer than they expected.

A lack of muscle control is one of the signs of cerebral palsy.



# How is CP diagnosed?

- CP is diagnosed during a child's first 2 years of life (NIH).
- Diagnostic testing can include different brain scanning, such as:
  - Ultrasound
  - Computed tomography (CT),
  - Magnetic resonance imaging (MRI)
  - Electroencephalogram (EEG)
- Observation is the most common means of identifying that a child has CP, such as:
  - Developmental delays, Abnormal muscle tone, Abnormal posture

When I was diagnosed:

- My parents noticed that I was slow to develop. They put me into a Montgomery County Toddlers program.
- They ran MRI's and tested the spasticity in my muscles.
- I was diagnosed with CP at 17 months.

# Different Types of CP

There are 4 main types of CP:

- Spastic Cerebral Palsy
- Dyskinetic/ Athetoid Cerebral Palsy
- Ataxic Cerebral Palsy
- Mixed Cerebral Palsy



# Spastic Cerebral Palsy

- Spastic hemiplegia is when one side of the body is more affected than the other side.
- Spastic quadriplegia is when all of the limbs are affected, including the torso and face.
- Spastic diplegia is when the legs are more affected.
- People with Spastic CP have trouble speaking and may have seizures.
- Spastic quadriplegia is the most serious case out of all types of spastic CP.
- Spastic Cerebral Palsy affects about 80 percent of people that have CP.

# Spastic Cerebral Palsy

- At 17 months, I was diagnosed with spastic diplegia. I have trouble balancing by myself. As a child, my core was weak. I spent time strengthening my core as I got older.
- My legs are both affected, but my right leg is weaker than my left. My left leg is the leg that learns how to do things first before the right side, such as walking or playing sports. My mother says in order for me to do anything it's like creating a map in my mind. I have to go through all the motions slowly so that I can do it. Once, the map is created I am able to do whatever I set my mind to!



# Dyskinetic/Athetoid Cerebral Palsy

- Dyskinetic Cerebral Palsy is also known as Athetoid Cerebral Palsy and is a non-spastic CP.
- Dyskinetic CP is when the muscle tone is either too loose or too tight. The body movements lack control and the mouth or facial muscles may also be affected.
- Dyskinetic CP has involuntary muscle contradictions that can affect either one side of the body or the entire body.
- There are three types of Dyskinetic CP:
  - Athetoid CP- movements are generally unintentional or abnormal.
  - Choreoathetoid CP - movements lack control with difficulties in balancing or coordination.
  - Ataxic CP - person appears clumsy with body movements that are jerky and lack coordination. People who have this type of CP have trouble picking up objects. This type is rare.

# Ataxic Cerebral Palsy

- Ataxic CP is diagnosed later than spastic or dyskinetic. Symptoms take longer to show.
- Ataxic CP is a rarer form of CP. It affects voluntary movements and causes problems with balance and coordination.
- Additional symptoms of Ataxic CP can include problems of depth perception, shakiness and spreading feet apart when walking.

# Mixed Cerebral Palsy

- Mixed CP is the last type of cerebral palsy.
- Mixed CP is when a person shows symptoms of more than one type of cerebral palsy.
- Only one part of the brain is damaged.
- Less than 10 percent of persons with CP have mixed CP.

# Diet and Nutrition

- People with CP need calcium, vitamin D and phosphorus.
- Calcium is needed for bone growth; calcium rich foods include: milk, cheese and yogurt.
- Foods high in vitamin D are fish and fish liver oil.
- Foods high in phosphorus are meat, fish, eggs, nuts, and seeds.
- I did not know that there was a specific diet for people with cerebral palsy. However, it makes sense.
- I feel better when I eat yogurt and fish as opposed to red meats.
- I'm glad I discovered this information as I have become more aware of what I eat and put into my body.

# Feeding and Digestive health

The following symptoms may be experienced when a person has CP:

- Oral- motor dysfunction - people experience difficulties controlling the lip, tongue and jaw muscles (85%)
  - Gastroesophageal reflux- people may have gastroesophageal reflux disease (GERD) (75%)
  - Chronic constipation- people tend to experience chronic constipation (74%)
  - Swallowing disorders- dysphagia is a swallowing disorder that affects many people with CP (60%)
  - Abdominal pain- people experience pain between the chest and pelvic regions (32%)
- I have oral motor dysfunction which makes it hard for me to lift my tongue to the roof of my mouth for long periods of time. This leads to swallowing problems and drooling.
  - As a child, I would get so embarrassed when I drooled and wanted to make it stop. My drooling has decreased as I got older. Now, I have more control over my mouth and don't get as embarrassed as before.

# Oral Hygiene

- Oral health is most important.
- People with CP have trouble:
  - Chewing and swallowing
  - Brushing teeth and flossing
  - With the lip, tongue, biting and chewing
  - Food in mouth for long periods of time



# Seizures

- Chronic seizures are associated with CP.
- Chronic seizures are known as epilepsy.
  - Epilepsy or seizure disorder- recurrent seizures that are not caused by metabolic disturbance or other known causes
- More common with people who have spastic quadriplegia and hemiplegia.
  - Less common in people with spastic diplegia
- Children who have seizures range 30-50 percent.
- Seizures are suspected when showing signs of lost consciousness or abnormal movement .

# Care for Cerebral Palsy

- There is no official treatment for cerebral palsy.
- Therapy helps:
  - Physical therapy
  - Speech Therapy
  - Occupational Therapy

# Therapies I have had

- I had occupational therapy around 5 years old to help develop fine-motor skills
  - buttoning
  - zipping
  - and other school activities
- I had physical therapy from 18 months until third grade to help with my core muscles.
  - My core was weak and made it harder for me to maintain balance.
- I had speech therapy from 18 months until high school.
  - Ex. I did the Beckman method that helped with lifting my tongue.
- I was diagnosed with dyslexia.
  - I had tutoring from 8th-11 grade
- I continued to do physical therapy throughout high school and until now.

# Physical Therapy

- I had a hard time figuring out what to do with developing a program. Then, I decided to create a physical therapy program.
- Physical therapy is really important to me. It's something that I will need for the rest of my life. My idea is to create a program with easy exercises that everyone can do.
- The diagram is from the University of Michigan that explains the most efficient exercises for people with cerebral palsy.

EXERCISING WITH CEREBRAL PALSY		
TYPE OF EXERCISE	TIPS TO GET STARTED	EXERCISE/TOOLS
<b>MUSCLE</b> <b>Boosting strength and endurance</b>	<p>Think about building muscle strength and working on muscle endurance.</p> <p>Gradually increase weight used to increase muscle strength.</p> <p>Gradually up the time or repetitions you do an exercise to help endurance.</p> <p>Rest your muscles in between exercise days.</p>	<p>Resistance bands</p> <p>Free weights</p> <p>Weight machines for upper and lower body</p> <p>Arm exercisers, especially if you have a hard time using your legs</p> <p>Water exercise</p> <p>Yoga fitness class</p>
<b>CARDIO</b> <b>Raising your heart rate during extended exercise</b>	<p>Work on exercising at your target rate (see fact sheet to calculate yours).</p> <p>Exercise for a duration (recommended minimum is 10 minutes) to keep the heart beating at an increased level.</p> <p>Gradually build volume instead of pushing yourself to the limit right away.</p>	<p>Stationary bike</p> <p>Regular bike or adapted tricycle</p> <p>Climbing stairs</p> <p>Water exercise/swimming</p> <p>Cardio fitness class</p>
<b>FLEXIBILITY</b> <b>Keeping the bones and joints in motion</b>	<p>Incorporate stretching and flexibility into normal resistance exercises.</p> <p>Always stretch before and after exercising.</p> <p>Work on full range of motion stretches.</p> <p>Switch up your exercise routine to keep your bones and joints guessing.</p>	<p>Stretches</p> <p>Resistance bands</p> <p>Yoga fitness class</p> <p>Dance fitness class</p>

# Physical Therapy

- I decided to create a physical therapy program. I have been taking physical therapy since I was a kid. I want to create a 5 to 10 exercise program that teaches how to do certain exercises that helped me as a child. Although I am more affected in my legs, I want to include upper body exercises for strengthening. Some of these exercises include resistance bands or weights. It depends on what people have available.
- It's important to stretch because people with CP need to stretch out the spasticity in their muscles. The spasticity does not immediately go away. Stretching everyday helps to make the muscles grow. I sometimes incorporate stretching while doing other activities like studying. It is less pressure to do stretching with another activity than to have a scheduled time for it.
- The following are some examples:



Standing calf stretch

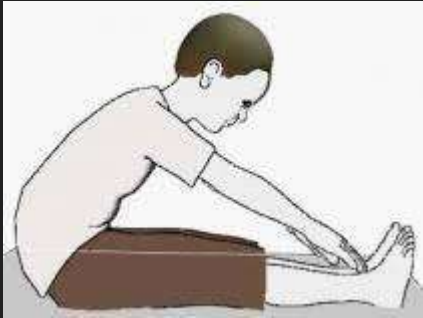


Balancing exercise –  
about 10 seconds



Abductors exercise with  
resistance band

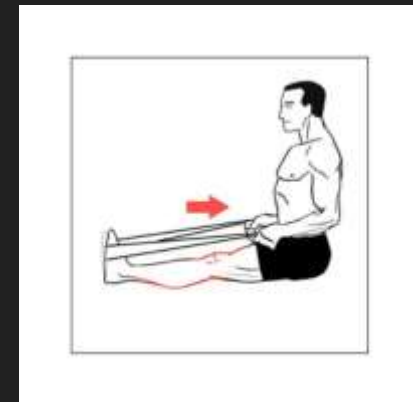
# Exercises!



Hamstring Stretches- Hold about 20 seconds



Arm Stretch - Hold about 20 seconds



Exercise band stretch

# Support Has Many Faces

- Everyone needs support from their family or friends especially people who have CP. The world is not made for people with disabilities. We have to adapt to our circumstances.
- The people who really guided me and supported me are my friends and family. They told me to keep going and never give up. It's been a hard road. I would not have it any other way.

# References

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