

Thank you Justin. This lesson discusses care for patients with Congenital, Neurological, and Sensory Disabilities and is in three parts.

Part A covers Genetic and Congenital disabilities you may encounter. We will review down syndrome, cerebral palsy, cleft lip and palate, and congenital heart disease.

Next, In Part B, we go over neurological disabilities including developmental and intellectual debilities, autism spectrum disorder and age-related conditions.

We finish with Part C covering sensory disabilities

including visual, hearing and speech impairments.

Good Studying

Down Syndrome

- Genetic chromosomal defect during fetal development
- Causes mild to severe intellectual impairment
- Physical abnormalities:
  - ✓ Round head with flat occiput
  - ✓ Enlarged, protruding tongue
  - ✓ Slanted, wide-set eyes
  - ✓ Short, wide hands
  - ✓ Small face and features



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According to the CDC, Down syndrome is a condition in which a person has an extra copy of chromosome 21. Hence, the condition is also referred to as Trisomy 21. This extra copy changes how the baby's body and brain develop, which can cause both mental and physical challenges.

People with Down syndrome usually have an IQ in the mildly-to-moderately low range and are slower to speak than other children.

Please read through some of the common physical features of these patients.

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- A flattened face, especially the bridge of the nose
- Almond-shaped eyes that slant up
- A short neck
- Small ears
- A tongue that tends to stick out of the mouth
- Tiny white spots on the iris (colored part) of the eye
- Small hands and feet
- A single line across the palm of the hand (palmar crease)
- Small pinky fingers that sometimes curve toward the thumb
- Poor muscle tone or loose joints, and lastly the patient may be
- Shorter in height as children and adults

Down Syndrome | Care Considerations

- Increased risk for medical complications
  - ✓ 40% may have heart conditions and hearing and vision problems
- Intubation may be difficult due to large tongues and small oral and nasal cavities
  - ✓ Mask ventilation can be challenging
  - ✓ Jaw-thrust or nasopharyngeal airway may be necessary.
  - ✓ Management of seizures is the same as for any other patent
  - ✓ The atlantoaxial joint is unstable in approximately 15% of patients



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Down Syndrome patients have an Increased risk for medical complications when they experience trauma.

- Statistically, 40% may have heart conditions as well as hearing and vision problems.
- Due to their physical characteristics, Intubation may be difficult due to large tongues and small oral and nasal cavities.
- As a result, when dealing with airway emergencies, keep in mind that Mask ventilation can be challenging and that a jaw-thrust or nasopharyngeal airway may be necessary.

- Management of seizures is the same as for any other patient.
- Finally, If dealing with neck or cervical spine issues, the atlantoaxial joint is unstable in approximately 15% of these patients

Please read through the additional conditions these patients may experience.

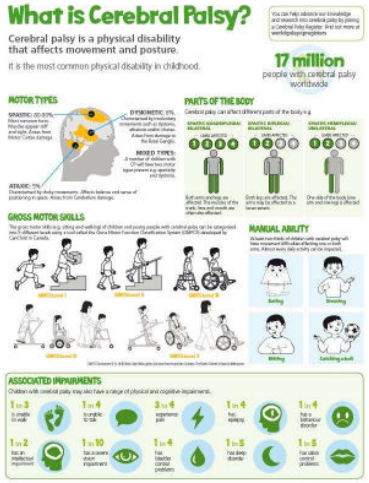
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Down syndrome patients may also experience brachycephaly, congenital heart disease, excess skin on the back of the neck, flaccid muscles, immune deficiency, mouth breathing, obesity, obstructive sleep apnea, polycythemia, seborrheic dermatitis, thickening of the skin of the palms and soles, and thyroid disease.

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Cerebral Palsy

- Group of disorders characterized by poorly controlled body movement
- Symptoms include exaggerated reflexes, floppy or rigid limbs, and involuntary motions. These appear by early childhood
- Long-term treatment includes physical and other therapies, drugs, and sometimes surgery



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Cerebral Palsy is a Group of disorders characterized by poorly controlled body movement. According to the Mayo Clinic, Cerebral palsy is due to abnormal brain development, often before birth.

Symptoms include exaggerated reflexes, floppy or rigid limbs, and involuntary motions. These appear by early childhood.

Long-term treatment includes physical and other therapies, drugs, and sometimes surgery.

People also may experience Muscular, Developmental,

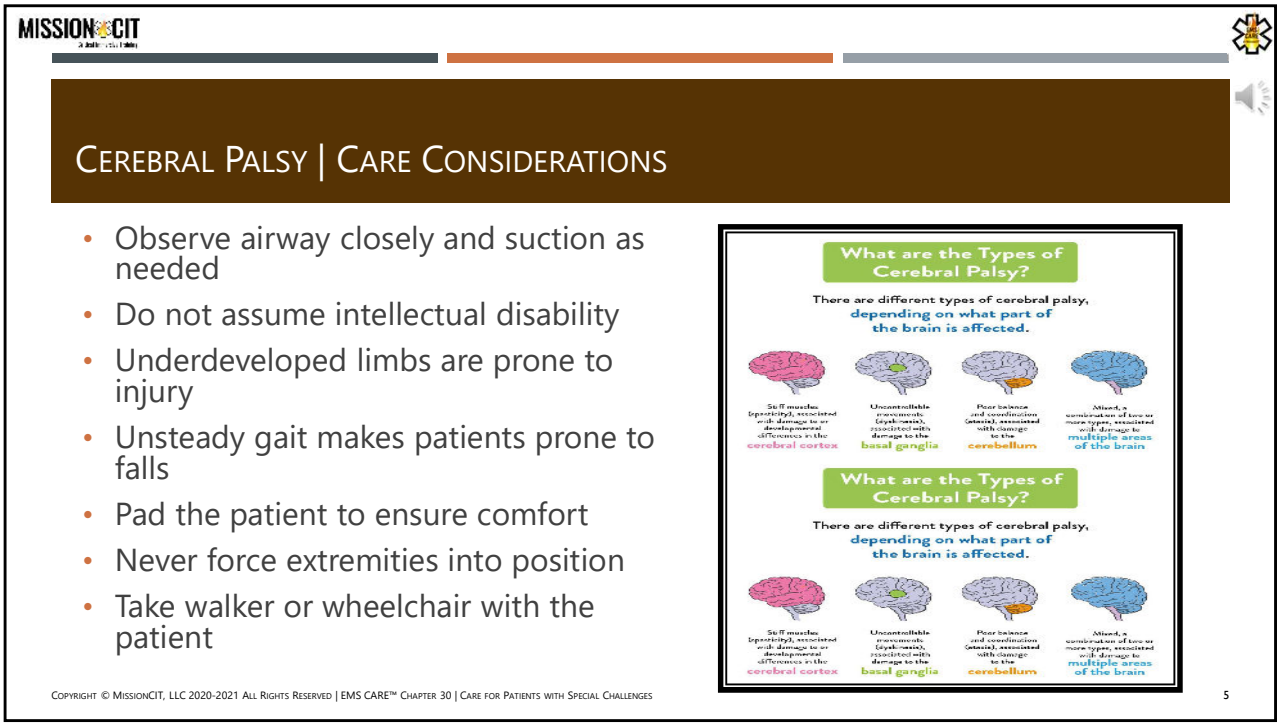
and other significant issues. Please read through the details in the following text.

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Muscular issues include: difficulty walking, difficulty with bodily movements, muscle rigidity, permanent shortening of muscle, problems with coordination, stiff muscles, overactive reflexes, involuntary movements, muscle weakness, muscle spasms, or paralysis of one side of the body

Developmental issues include failure to thrive, learning disability, slow growth, or speech delay in a child

Also common are: stuttering, constipation, difficulty swallowing, drooling, hearing loss, leaking of urine, paralysis, physical deformity, scissor gait, seizures, spastic gait, teeth grinding, tremor, or difficulty raising the foot



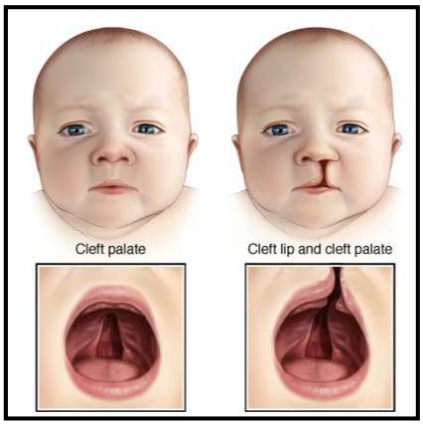
When responding to a call for a cerebral palsy patient, do the following:

- Observe the patient's airway closely and suction as needed.
- Do not assume intellectual disability.
- Remember that underdeveloped limbs are prone to injury.
- And the likely Unsteady gait makes patients prone to falls.
- Hence, be sure to Pad the patient when transporting to ensure comfort.

- Also, never force extremities into position, and finally
- Take the walker or wheelchair with the patient.

Cleft Lip & Palate

- Cleft lip and cleft palate are openings or splits in the upper lip, the roof of the mouth (palate) or both
- Cleft lip and cleft palate may appear as:
  - ✓ A split in the lip and roof of the mouth (palate) that affects one or both sides of the face
  - ✓ A split in the lip that appears as only a small notch in the lip or extends from the lip through the upper gum and palate into the bottom of the nose
  - ✓ A split in the roof of the mouth that doesn't affect the appearance of the face

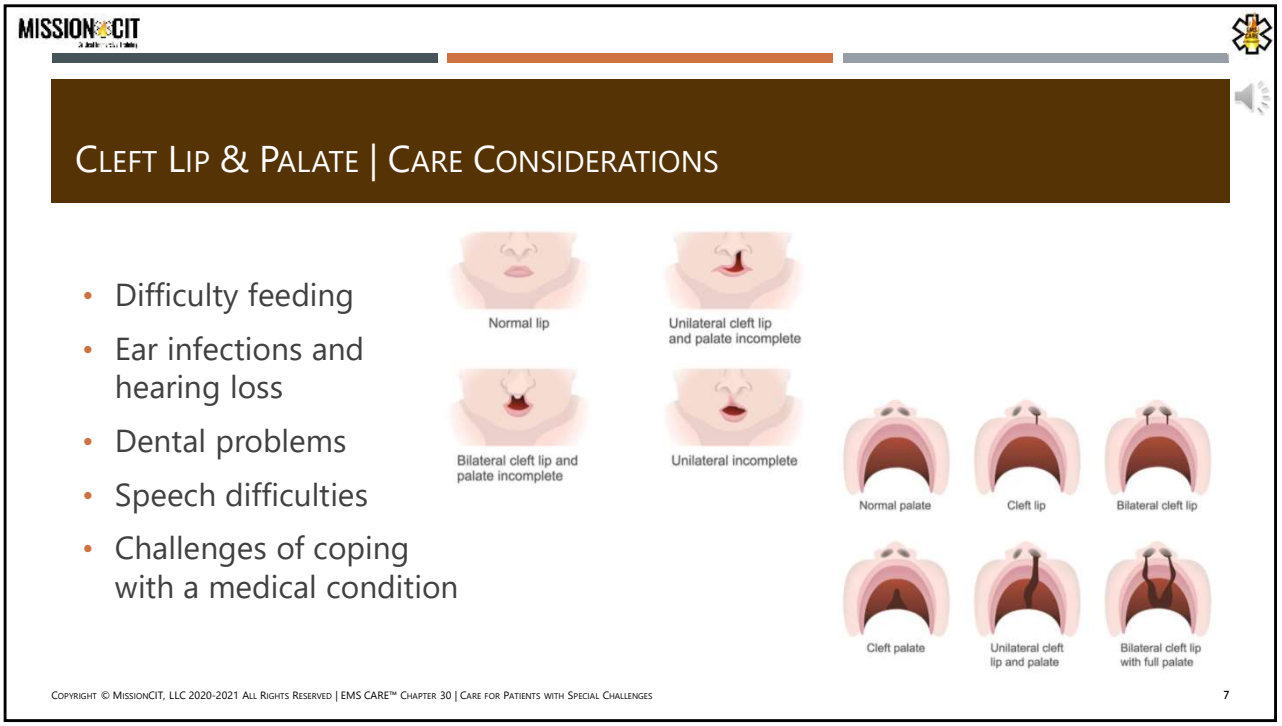


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Cleft lip and palate are openings or splits in the upper lip, the roof of the mouth or both.

The condition may appear in different ways.

- First, as a split in the lip or palate that affects one or both sides of the face.
- Next, as a split in the lip that appears as only a small notch in the lip, or extends from the lip through the upper gum and palate into the bottom of the nose.
- Or finally, as a split in the roof of the mouth that doesn't affect the appearance of the face.



Care considerations for children with a cleft lip or palate include difficulty feeding, ear infections or hearing loss, dental problems, speech difficulties, and general coping with medical issues.

One of the most immediate concerns after birth is feeding. While most babies with cleft lip can breast-feed, a cleft palate may make sucking difficult.

In addition, Babies with cleft palate are especially at risk of developing middle ear fluid, and hearing loss.

Plus, If the cleft extends through the upper gum, tooth

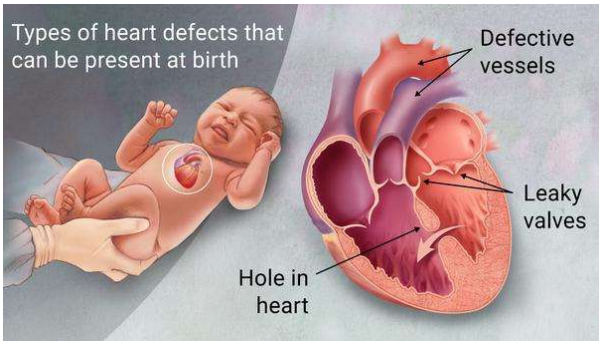
development may be affected.

However, Because the palate is used in forming sounds, the development of normal speech can be affected.

And, Children with clefts may face social, emotional and behavioral problems due to differences in appearance and the stress of intensive medical care.

Congenital Heart Disease

- Common types of birth defects
- Abnormal heart rhythms, blue-tinted skin, shortness of breath
- Treatments include medications, heart devices, catheter procedures, and surgery
- Serious cases may require a heart transplant



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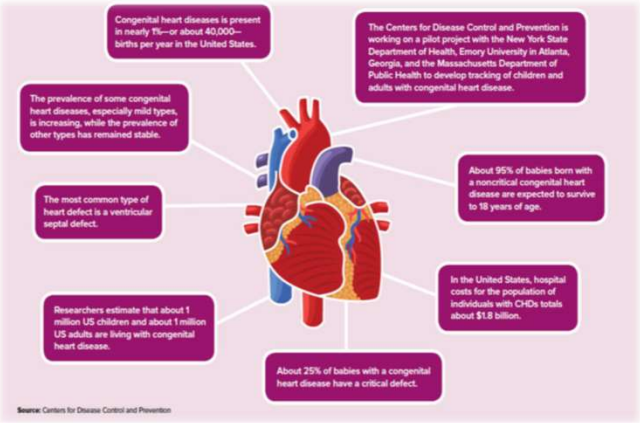
A Congenital heart defect is one of the most common types of birth defects.

Symptoms include abnormal heart rhythms, blue-tinted skin, shortness of breath, failure to feed or develop normally, and swollen body tissue or organs.

Treatments include medications to lower blood-pressure, and control heart rate. Other interventions may include heart devices, catheter procedures, and surgery. The most serious cases may require a heart transplant.

Congenital Heart Disease | Care Considerations

- Irregular heartbeats (arrhythmias)
- Heart infection (endocarditis)
- Stroke
- Pulmonary hypertension
- Heart failure (congestive heart failure)



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Congenital heart defects may present themselves early in life or be diagnosed later as a teen or adult.

Complications from Congenital heart disease may also develop years after a patient receives initial treatment. A patient may experience Arrythmias, endocarditis, stroke, pulmonary hypertension, or congestive heart failure.

Please read more about these conditions in the following text.

So, that's it for part A of this lesson. I will be back with you shortly for Part B – Neurological Challenges and

Disabilities.

Good studying

Arrythmias occur when the electrical signals that coordinate the heartbeat don't work properly. In some people, severe arrhythmias can cause stroke or sudden cardiac death if not treated.

Heart infection or endocarditis occurs in the inner lining of the heart or endocardium. Untreated, endocarditis can damage or destroy heart valves or trigger a stroke.

A congenital heart defect can allow a blood clot to pass through the heart and travel to the brain, where it reduces or blocks blood supply creating a stroke.

Pulmonary hypertension affects the arteries in the lungs. Some congenital heart defects send more blood to the lungs, causing pressure to build. This eventually causes the heart muscle to weaken and sometimes to fail.

Finally, Congestive heart failure occurs when the heart can't pump enough blood to meet the body's needs. Some types of congenital heart disease can lead to heart failure.