Phonetic disorders - organic - neurological factors (something wrong with the brain or nerves)

Dysarthria - a motor speech disorder

definition: problems with the voluntary control over the speech muscles cause by damage to the central or peripheral nervous system

Central Nervous system

cerebrum (cortex)
  two "hemispheres (sides of the brain)
    right side - controls left side of the body
    left side - controls right side of the body - also very important for speech
  Divided into four major "lobes"
    frontal lobe
      motor production
      contains "Broca's area" - damage leads to expressive aphasia
    Homunculus - how the body is represented in the brain
    temporal lobe
      auditory lobe
      contains "Wernicke's area" - damage leads to receptive aphasia
    parietal lobe
      primarily involved in sensation (feeling)
    occipital lobe
      primarily a visual lobe
      damage can cause hallucinations (seeing things that are not there)
        or visual defects - seeing only PART of the field of vision

cerebellum - damage leads to problems with balance

brain stem - at the base of the brain

Peripheral Nervous System

cranial nerves
  12 of them
  begin in the brain stem
  carry information FROM the body to the brain or TO the body from the brain

spinal nerves
  protected inside out spinal column
  also carry information FROM the body to the brain or TO the body from the brain

Remember the following
  Upper Motor Neuron Damage - is damage in the Central Nervous System (BRAIN)
    spasticity (tightness)
    damage to the voluntary control of the muscles
Lower Motor Neuron Damage - damage OUTSIDE the brain
paralysis or weakness - can't move the muscle or muscle strength is weak
muscles will waste away (atrophy)

Dysarthria - speech problems are due to problems with muscles involved in speech
- might cause
  paralysis
  weakness
  spasticity
  incoordination
- specific speech problems depend on what part of the nervous system is damaged
- range from very mild to very severe
- can occur at any age
- may be born with the problem
- may happen to a person at any age
- maybe it won't change or maybe it will get worse

Types of dysarthria
  flaccid - causes either weakness of paralysis
  hypokinetic - too little movement - example Parkinson's disease
  mixed - example Amyotrophic lateral sclerosis, multiple sclerosis

Cerebral Palsy
caused by brain damage
usually born with it
stable - doesn’t’ get worse
may have learning problems
life-long disorder
problems with motor control
most common lifetime disability in the United States

What can cause cerebral palsy?
prenatal causes ( before birth)
  infection
  lack of oxygen
  brain bleed
  illness (diabetes) of the mother
  X-rays
during birth
  lack of oxygen
  trauma
  mother too small to deliver a baby
post natal (after birth)
  injury to the head
  diseases
  lack of oxygen
  jaundice
  abuse - shaken baby syndrome

Types of cerebral palsy
spastic
  most common type
  too much tension
  speech is slow, strangled voice quality
athetoid
  slow, uncontrolled motion
  difficulty especially with tongue sounds
ataxic
  balance problems
  speech sounds like they are drunk

Additional problems
  hearing loss
  problems with vision
  problems walking
  seizures
  social/emotional problems
  learning problems
  communication problems - may not be able to use speech at all

Augmented and Alternative Communication - AAC

Definition: Uses symbols, aids, strategies, and techniques to communicate. This may be combined with using gestures, speech, and/or writing or REPLACE using gestures, speech and/or writing altogether.

Terms
  augment - to increase or add to communication ability
  alternative - to use in place of speaking

Who might be helped by AAC?
  Anyone who cannot use speech as their main way to communicate
  8 per 1000 people in the US (if same proportion in China, that might be 1,400,000 people!)
  Might use if speech is slow to develop
  Might use as a back-up if speech is hard to understand
  Might use as the main way to communicate most of the time

Who uses AAC?
  People with Cognitive impairments
    Mentally challenged
    autism
  People with Sensory impairments
    Deaf
    Deaf-blind
  People with Structural impairments
    Glossectomy
    Laryngectomy
  Temporary problems
    Trach
Guillan Barre
People with neurological impairments (brain damage)
Cerebral palsy
Etc.

Low-Tech systems - things we all use when we can't speak out loud
Natural methods
  gestures and pointing
  mime (acting it out)
  facial expression
  body language
  eye gaze
Teaching object symbols
Using photos, drawings, or symbols

High tech devices
  Computer-generated speech
  Need certain skills to use high tech devices
    cognitive skills
    motivation
    at least some motor control

Team assessment is needed to see if AAC will work and which device is recommended
  SLP
  PT
  OT
  Educator
  Psychologist
  Social worker
  Vocational counselor
  Rehabilitation engineer
  Primary care giver (parents, grandparents)
  CLIENT