

DEVELOPMENT OF COMMUNICATION SKILLS

DOWN SYNDROME ASSOCIATION

February 27, 2014

Questions

- ▣ What is speech?
- ▣ What is language?
- ▣ What is communication?

Speech

- ▣ The motor activity.
- ▣ The production of sounds, syllables, words. It is based on the coordinated movements of physical structures that are used for respiration, phonation, articulation and resonance.
- ▣ Requires adequate coordinated breath support (inhalation and exhalation), with vibration of vocal cords, soft palate muscles, tongue muscles, cheek muscles, jaw muscles, facial muscles and lips.

Language

- ▣ A **rule based symbolic system** that people use to represent ideas, thoughts and beliefs.
- ▣

Communication

- ▣ Communication: how one person gives or receives information about needs, desires, perception, knowledge or state of being.
- ▣ May be intentional, unintentional, involve conventional or unconventional systems, may take linguistic or non linguistic forms and may occur through numerous modes.

BASIS

Biological System

- ❑ One must have an intact biological system in order to become an effective communicator. This includes physical, sensorimotor, hearing, visual, etc...

Access to a Language Model

- ❑ One must have access to a language model as well as interaction in order for language to develop normally

Cognitive Development

- ❑ We communicate about our world and use language, both of which require cognitive functioning and awareness

Intent to Communicate

- ❑ Most communication serves to influence the actions or attitudes of others

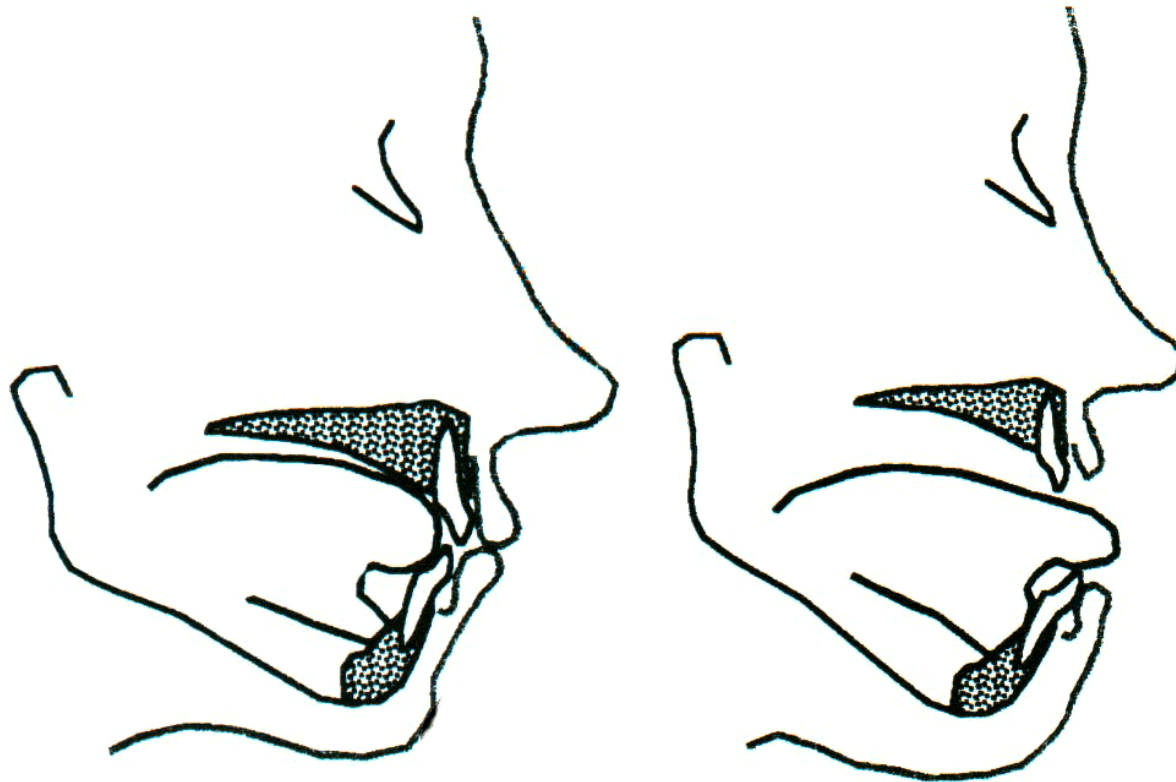
Social Development

- ❑ Communication is a social event

The Biological System

Anatomical, physiological differences

- ▣ Some differences might be:
 - Small and narrow upper jaw
 - High, arched narrow palate
 - causes tongue to protrude
 - Adenoids
 - Tonsils



Control
subject

Subject with
Down syndrome

Comparison of the position of oral structures at rest in a control subject and a subject with Down syndrome. Note that the mandible is lowered, the lips are parted, and the tongue assumes an anterior position over the lower teeth to allow free passage of air.

Anatomical, physiological differences

- ▣ Low muscle tone (hypotonia)
- ▣ Weak oral or facial muscles
- ▣ Range of motion
- ▣ Speed of motion
- ▣ Coordination
- ▣ Dissociation (ability to move tongue, lips and jaw independently of each other)
- ▣ Hypersensitive
- ▣ Hyposensitive

The biological System
can have an impact on the

- ▣ Access to language Model

Hearing

- ▣ Conductive loss:

Most common is Chronic Middle Ear

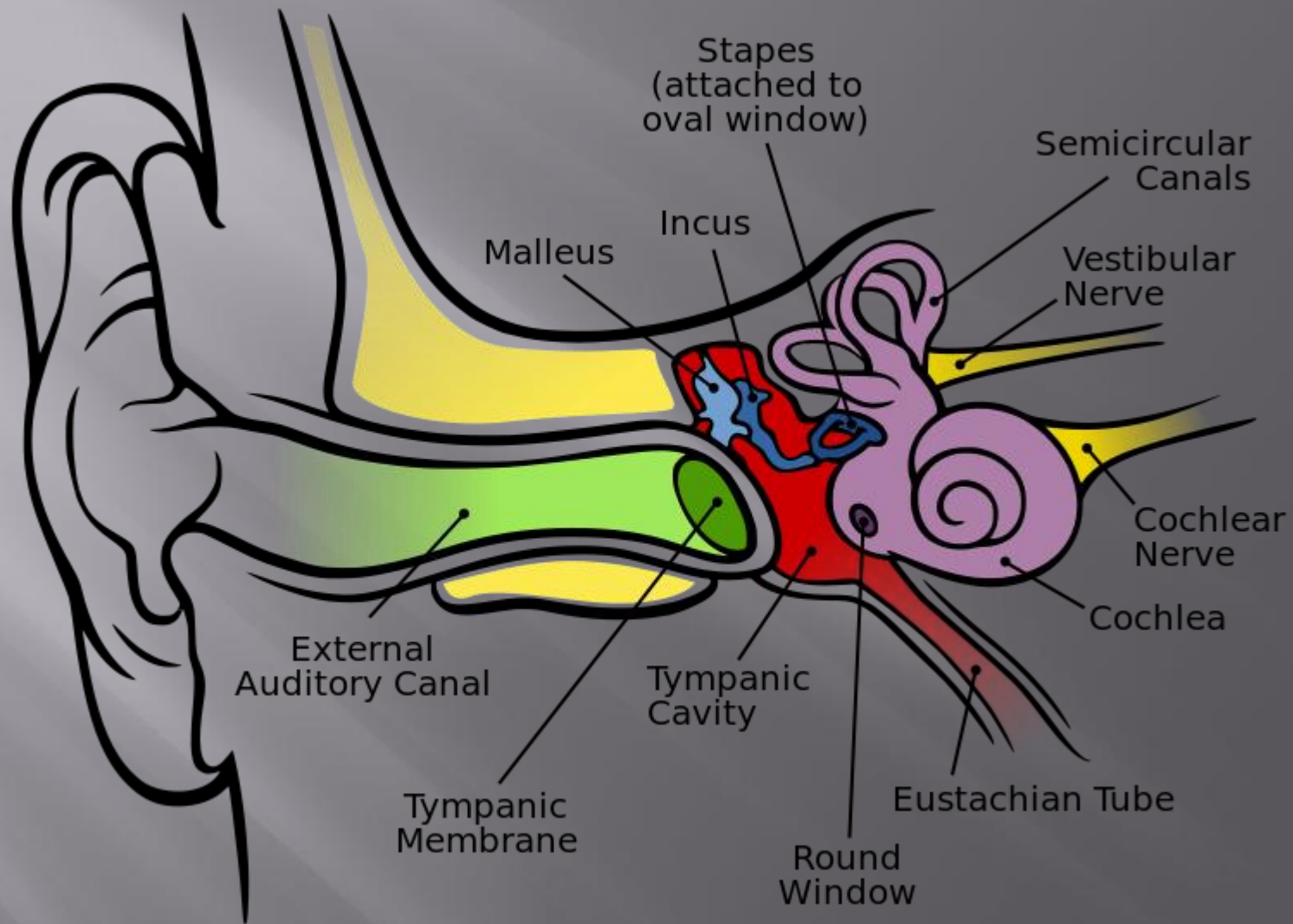
-Increased incidence of upper respiratory tract infection, which predispose chronic ear infections

-Facial anatomy predisposes to chronic ear infections

-Middle ear problems account for 83% of hearing loss with DS (Balkany, T.J. et al)

Hearing

- ▣ Stenotic ear Canals (narrow ear canals) occur in up to 40-50%
- can make diagnosis of middle ear difficulties difficult
- ear canals grow and may no longer be a concern by the age of 3
- middle ear effusion or infections with children generally last up to 90 days (acute phase will be shorter). This means the child does not have a consistent auditory model or label



Speech and Language Characteristics

- ▣ Difference in timelines for language acquisition
- ▣ Difference in acquisition rate
- ▣ Stronger visual skills
- ▣ Receptive language stronger than expressive
- ▣ Relatively good social interactive skills
- ▣ Strong gesture skills, facial expressive skills
- ▣ Because of difficulty with speech sound production, there is a delay in early spoken words and connected words (sentences) are more difficult
- ▣ Varying levels of degrees and abilities with each individual

Cognitive Development

Cognitive Skills

- ▣ Object permanence
- ▣ Cause and effect
- ▣ Means to an end
- ▣ Anticipation
- ▣ Eye gaze with adult
- ▣ Joint attention to object with another
- ▣ Social awareness
- ▣ Imitation

Pre-requisites

- ▣ Attention
- ▣ Joint attention
 - visual attention
 - auditory attention

INTENT TO

COMMUNICATE

Intent to communicate

- ▣ Early Categories (birth to 2 years, Rowland & Schweigert)
 - Refuse (emotional response)
 - Obtain
 - Social
 - Information

Intent to Communicate

- ▣ Get attention
- ▣ Greeting
- ▣ Choosing
- ▣ Protesting
- ▣ Escaping
- ▣ Requesting
- ▣ Labelling
- ▣ Commenting
- ▣ Giving information
- ▣ Getting information (question)
- ▣ Self directing

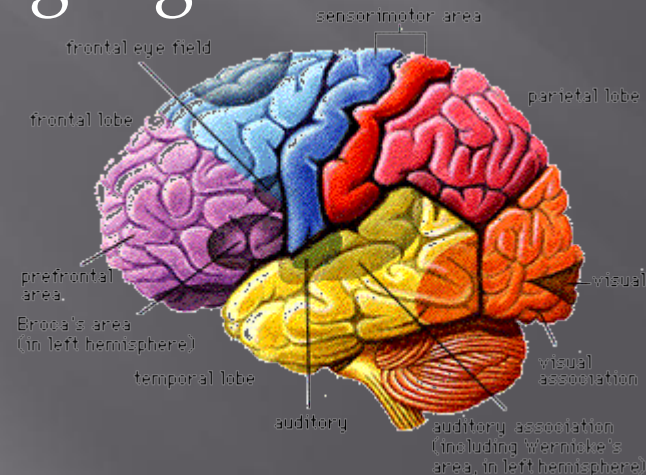
SOCIAL INTERACTION

Social Interaction

- ▣ Joint attention with another
- ▣ Preferred adults
- ▣ Preferred peers or other
- ▣ Taking turns
- ▣ Parallel play/interactive play

What else we know

- ▣ Visual skills are stronger than verbal
- ▣ Natural gestures to communicate is a strength
- ▣ Vocabulary may be understood in some contexts, it develops slowly and may become a strength
- ▣ Delay in spoken language often due to motor processing issues
- ▣ Processing deficits

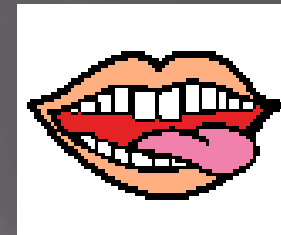


This means?

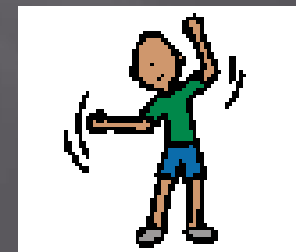
-a delay in development as compared to some
with relative receptive and expressive language
social/emotional



-speech sound production
hearing loss
apraxia (motor programming)

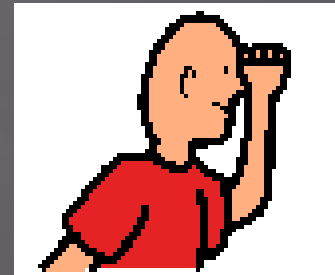


-processing information
sensory
motor planning/programming
short term auditory memory
attention

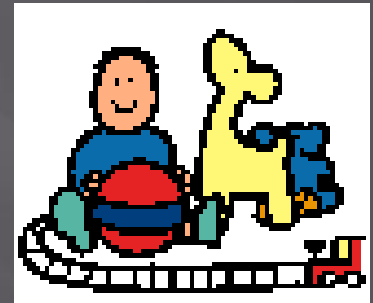


!!!VISUAL LEARNERS!!!

▣ Learn by seeing

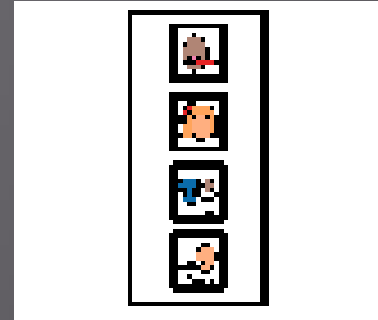


▣ Learn by doing

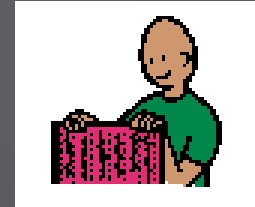


What to do

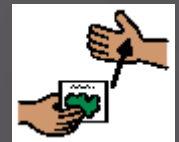
Visual supports- photos, pictures, objects
routine schedule, dressing schedule,
job schedule, manipulatives, concrete
materials



Transitions- Warnings (visual-verbal),
Behaviour- First-Then (visual-verbal), clear
expectations (visual-verbal)



Language-Scripts, within level of understanding

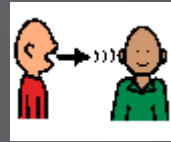


Total Communication-use everything and the
kitchen sink!!! **VISUAL LANGUAGE**

What is Total Communication?

- Any combination of (depending on need of individual):

- Speech and vocalizations



- Signs



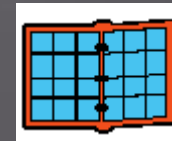
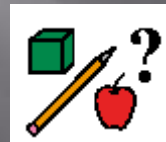
- Gestures



- Body language



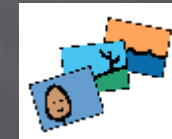
- Objects



- Photos, picture symbols or other graphics

- Text

- Non-electronic communication aids



- Speech generation devices



Total Communication

gestures, signs, pictures, simple or more complex devices

- ▣ May want to and have something to communicate but can't do it easily
- ▣ TC will allow the gap to be bridged so that the child can communicate even if speaking is not possible
- ▣ Visual and hand-eye are often earlier developed than verbal
- ▣ Reduces frustration and possible behaviour
- ▣ Research indicates that if signs are paired with words and sounds, the child will develop sounds earlier and more easily
- ▣ Child learns to use communication and language skills

- ▣ Reduces frustration and possible behaviour
- ▣ Research indicates that if signs are paired with words and sounds, the child will develop sounds earlier and more easily
- ▣ Child learns to use communication and language skills even if speech is delayed
- ▣ Child learns to initiate and participate in conversation

Does total communication stop speech?

- ▣ The philosophy of total communication is that the method should be fitted to the child, instead of the other way around
- ▣ Several reviews have found that the use of TC does not impede the development of speech in individuals with autism or developmental disabilities, and in fact may result in modest gains being observed
- ▣ A 2006 research review of 23 AAC intervention studies found gains in speech production in 89% of the cases studied, with the remainder showing no change
- ▣ A descriptive review looking specifically at one AAC intervention, studies found that several studies reported an increase in speech, often during later phases, while one noted little or no effect

The answer is no

- ▣ Researchers hypothesize that using TC relieves the pressure of having to speak, allowing the individual to focus on communication and language learning
- ▣ Researchers hypothesize that using TC relieves the pressure of having to speak and that the reduction in stress makes speech production easier
- ▣ Others speculate that in the case of speech generating devices, the model of spoken output can lead to an increase in speech production

handouts

- ▣ What is your child doing?
- ▣ What can you do?

How to help develop language

- ▣ Create a communication need be creatively stupid
- ▣ Reduce questions
- ▣ Turn taking activities....model
- ▣ Practice
- ▣ Play

Expand language through play

- ▣ Play is a child's job
- ▣ Be at the child's level
- ▣ Agenda-play is for fun
- ▣ Model and practice:
 - joint attention
 - Turn taking
 - Practicing skills through repetition
 - Motor skills
 - Social skills

Match then model

- ▣ Match your child's utterance by:
 - use appropriate vocabulary and familiar words
 - rate of speech
 - sentence length

Then

- ▣ Model the next level
 - new vocabulary
 - phrase

Reduce questions

- ▣ If you must, provide a 2 choice question which will provide a model and vocabulary development
- ▣ Use open ended questions rather than yes/no
- ▣ Allow 10 to 15 seconds for a response for language processing (it also shows that we really are interested in **what** they have to say...not how or when)
- ▣ When possible provide comments

Create a communication need

- ▣ Stop a song half way through in order to encourage request for continuance
- ▣ Use routine activities and make a mistake or forget something

Speech sounds

- ▣ Look at development, where is your child at?
- ▣ Some sounds develop earlier because they are easier to see and feel
- ▣ **USE A MIRROR**-your child may not feel oral motor...build up the sensory loop with the visual strength
- ▣ Play with sounds, whistles, straws
- ▣ Play with food (when appropriate) with mouth
- ▣ Use cues to remind for the sound
- ▣ Don't interrupt...later you can imitate, rehearse, practice and model

Steps to teaching

How to Teach a Skill or a Behavior

Instruct



Teach the skill or behavior to the student. Explain carefully, using age and developmentally appropriate language, with proper pacing. Give examples, use visuals, help the child understand what you mean.

Model



Show the student the skill or behavior in action, demonstrate exactly what you mean in steps and from start to finish. Then you start and let the child finish or vice versa. Let the student see/experience how it is done.

Practice



Give the student many opportunities to practice the new skill or behavior with fading support. Remember it can take up to and over 1000 trials for some students to learn a new skill or behavior. Be patient and allow the child all the time and support he or she needs.

Praise



Praise the child through out this process for the effort he or she is making in the endeavor. Learning is hard work! Be sure to focus both on the progress and also on how much hard work the student is putting into learning. Learning to learn is as important as learning the skill!

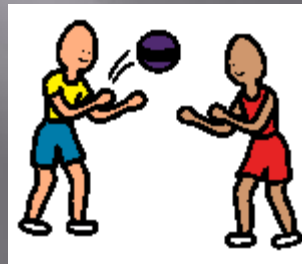
Repeat as needed!

and then

The 4 steps to learning a new skill

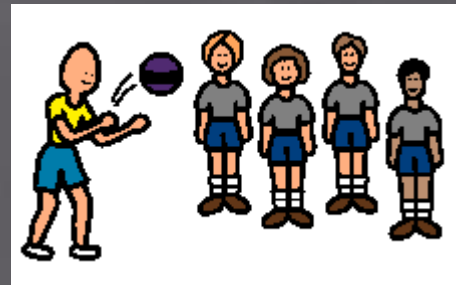
▣ 1.Rehearse

Repeat the skill in a safe setting. Have fun.
Repeat



▣ 2.Practice

Practice the skill in different ways, different settings and with different people.



▣ 3.Model

In a natural setting provide the child/student an opportunity to use the new skill. If the child/student forgets to use the skill, model the skill and provide an opportunity for another chance



▣ 4.GO!

In a natural setting, support the child/student in using the new skill. Provide opportunities to use skill in a variety of settings.



repeat

apps

- ▣ Joint attention

Do the activity with your child

Take turns

Model language

Conversation

- ▣ Cause and effect/sensory
- ▣ Music
- ▣ Photos for
 - routine
 - transitions
 - vocabulary training
 - speech training

How to pick an app

- ▣ What do you want to do?
- ▣ Look at apps
- ▣ Reviews
- ▣ Most recent updates
- ▣ Lite versions

Some favs.....

monica's pinterest

Material and information for Power Point sourced from:

- Patricia Olwein, Teaching Reading to Children with Down Syndrome.
- LANGUAGE AND COMMUNICATION
- DEVELOPMENT IN DOWN SYNDROME
- Joanne E. Roberts,^{1,2,3,*} Johanna Price,¹ and Cheryl Malkin¹
- Language Development Milestones
- Edited by Nicole Sax and Erin Weston
- Source: Sander, Eric K. "When Are Speech Sounds Learned?" JSHD, 37 (February 1972).
- Libby Kumin: Helping Children with Down Syndrome Communicate Better
- Libby Kumin: Early Communication Skills for Children with Down Syndrome
- Shott. S.R., Common Pediatric Ear, Nose and Throat Problems (2000) Down Syndrom Quarterly
- Balkany, T.J., Meschede, R.E., Downs, M.P, Jafee, B.W. (1979) Ossicular abnormalities in Down's Syndrome (otolaryngology, Head and Neck Surgery)
- Buckley Bud: Speech Development for Children with Down Syndrome
www.downsyndrome.org/reviews
- and many collected materials