

**“He speaks fine; he doesn’t need
speech therapy!”**

What is speech and language?

Presented by:

D’Anna Nowack M.S. CCC/SLP

Speech-Language Therapy

- Dysarthria
- Apraxia
- Aphasia
- Dysphagia
- Cognitive/Linguistic
- A speech problem
- A speaking problem
- A language problem
- A swallowing problem
- A thinking problem

Speech

- Speech output is comprised of individual sounds or phonemes
- Breath Support
- Volume
- Vocal quality
- Articulation
- Rate
- Prosody

Dysarthria

- Flaccid - LMN lesion
- Spastic - Bilateral UMN lesion
- Mixed - Combined spastic & flaccid
- Ataxic - Cerebellar
- Hypokinetic - Extrapyramidal lesion
- Hyperkinetic - Extrapyramidal lesion

Assessment

- Single words, multisyllabic, sentences, conversation
- Intelligibility - the degree to which the speaker's intended message is understood by the listener
- Context dependent

Apraxia

- Effortful, groping articulatory movements, attempts at self-correction
- Difficulty initiating utterances
- Highly inconsistent - on repetition of same utterance

Oral & Verbal Apraxia

Oral

- Difficulty producing oral movements

Verbal

- Difficulty producing words

Dysarthria versus Apraxia

	<u>Dysarthria</u>	<u>Apraxia</u>
<u>Movements</u>	Normal	Affected
<u>Articulation</u>	Inconsistent errors	Consistent errors
<u>Prosody</u>	Intentional slow rate, even stress	Slow rate

What is Language?

- an organized set of symbols used for communication
- a combination of the reception, integration, and expression of information
- an accepted, symbolic system that expresses thoughts, intentions, experiences, and feelings

Language Modalities

Expressive

- Verbal
- Written

Receptive

- Auditory
- Reading

What is Aphasia?

- A communication impairment that affects comprehension or production of language
- Difficulty in interpretation and formulation of language symbols
- Expressive vs. Receptive
- Fluent vs. Nonfluent



Types of Aphasias

- Broca's
- Wernicke's
- Conduction
- Anomic
- Transcortical Sensory
- Transcortical Motor
- Global

	<u>Conversation</u>	<u>Comprehension</u>	<u>Naming</u>	<u>Repetition</u>
Broca's	Nonfluent	Intact	Disturbed	Disturbed
Wernicke's	Fluent	Disturbed	Disturbed	Disturbed
TC Sensory	Fluent	Disturbed	Disturbed	Good
TC Motor	Nonfluent	Intact	Disturbed	Good
Global	None	Severe	Severe	Severe

Neuroanatomy

- Broca's
 - Posterior third frontal convolution, immediately anterior to primary motor cortex
 - Brodmann's area 44
- Wernicke's
 - Posterior part of superior temporal gyrus, first temporal convolution
 - Auditory association cortex

Neuroanatomy

- Conduction
 - posterior sylvian region
- Transcortical Motor
 - anterior cerebral artery territory of dominant hemisphere, rostral part of Broca's area
- Transcortical Sensory
 - Posterior temporal-parietal junction area of dominant hemisphere

Neuroanatomy

- Anomic
 - Widely variable - 60% have dominant hemisphere parietal-temporal junction lesions
 - angular gyrus or posterior part of second temporal convolution
- Global
 - Extensive territory of supply of middle cerebral artery

Fluent vs. Nonfluent

Fluent

- continuous flow of words
- grammatical
- appropriate inflection
- content can contain meaning or be full of paraphasias and circumlocutions

Nonfluent

- halting, effortful output/production that results in incomplete, fragmented sentences

Expressive vs. Receptive Deficits

Expressive

- impairment of production of output

Receptive

- disturbance in the perception and understanding of language

Expressive Errors

- Paraphasic errors:
 semantic/verbal
 phonemic/literal
- Circumlocutions
- Neologisms vs. jargon

Expressive Deficits

Semantic

Fork/Knife

Brush/Comb

Phonemic

Nuzzle/Muzzle

Prograther/Protractor

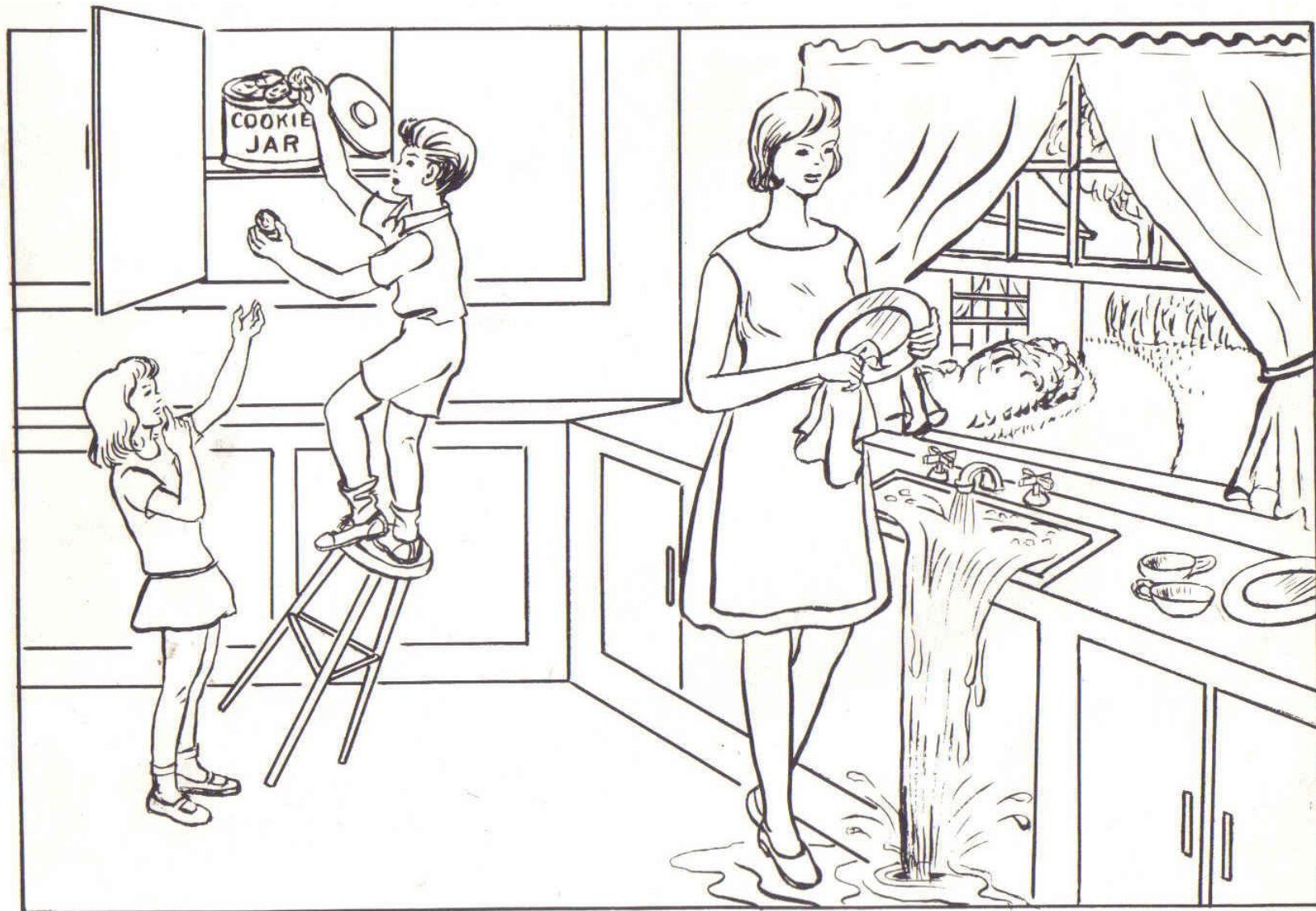
Receptive Deficits

- Auditory comprehension
 - 2-unit
 - 3-unit
 - multi-unit
- Reading comprehension
 - oral
 - comprehension

Levels of Auditory Comprehension

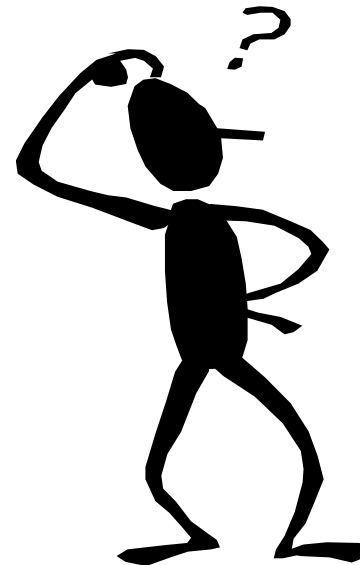
	2- unit	3-unit	Multi-unit
Commands	Turn over the cup	Turn over the cup and the card	Touch your nose, raise your hand, and close your eyes
Yes/No ?s	Do houses walk?	Are bricks made of wax?	Will tools rust if they are left out in the rain?

Cookie Theft



What is Cognition?

- knowledge of the world
- information stored, retrieved, and used



Cognitive/Linguistic Areas

- Orientation
- Memory
- Attention
- Impulsivity
- Disinhibition
- Carry-over
- Self-monitoring
- Problem-Solving
- Reasoning
- Organization/Planning
- Attention to detail
- Judgment
- Insight