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Speech & Swallowing

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“Well, my sounds come out real slurred, almost like I was drunk. It’s like I can’t control my lips and tongue, and they’ll occasionally get in my way.”

62-year-old man with degenerative cerebellar disease



The Cerebellum and Movement

- Helps us with:
 - Coordination
 - Timing
 - Scaling the size of a movement
 - Planning
 - Incorporating feedback



When speech movements are
affected by cerebellar impairment

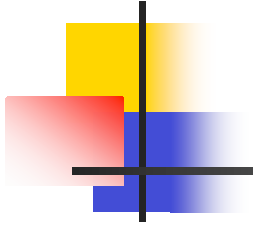
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“ataxic dysarthria”



General Characteristics of Ataxic Dysarthria

- “Slurred or drunken” quality
- Imprecise articulation
- Change to the “melody” of speech
- Slower rate of speech
- Trouble coordinating breathing with speaking

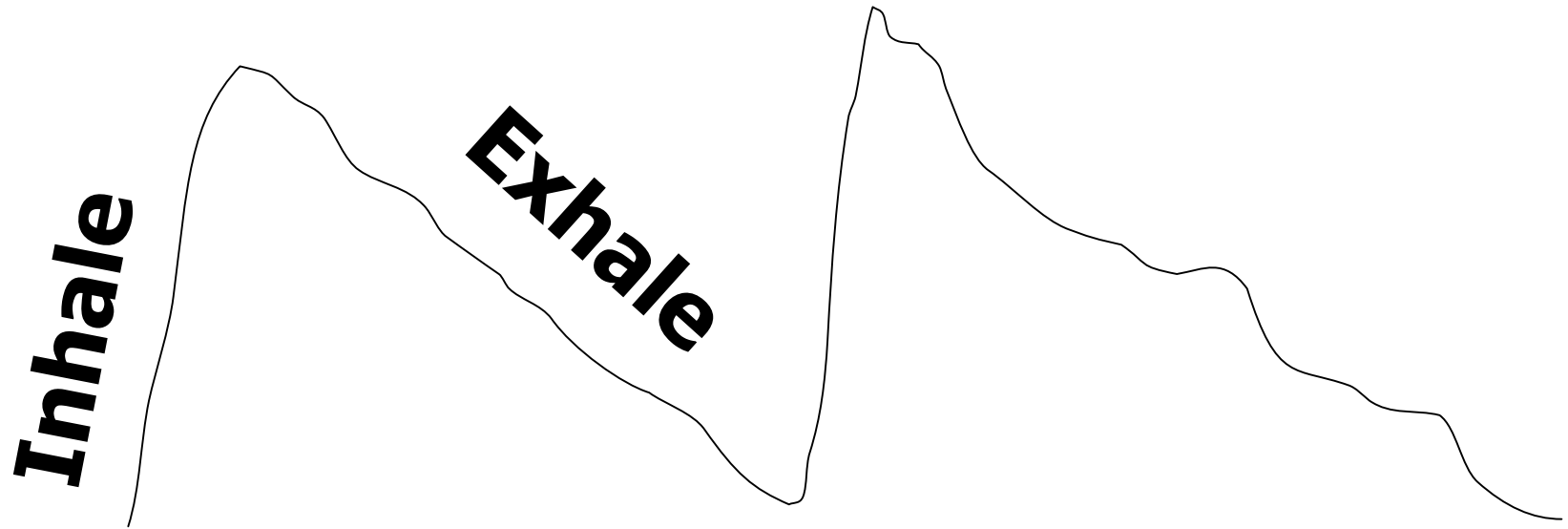


What treatments have been used to help improve ataxic dysarthria?



Coordinating Breathing with Speaking

- Biofeedback to help increase control over inhalation and exhalation



*Can practice with short phrases, then
move to longer sentences.*



Improving the Naturalness of Speech

- Can practice putting emphasis on certain words
 - Have listener guess which word you emphasized
 - Example:

“Mark is coming over at **8** pm on Monday.”
- Biofeedback of pitch, loudness, duration



Improving the Clarity of Pronunciation

- Best strategy?

Slow down your speaking rate

- Tough to do!
- May already feel too slow



Slowing down

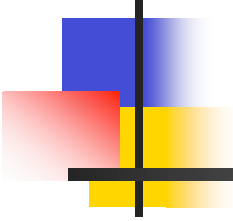
- May prevent “undershoot” to increase clarity of speech
- Helps to coordinate speech components (lungs, larynx, lip, tongue, jaw, palate)
- Allows extra time for listener to process what you are saying



Slowing down

- Several studies have reported reduced rate of speech to be effective in increasing the understandability of speakers with ataxic dysarthria (Berry & Goshorn, 1983; Yorkston et al., 1977, 1981, 1990)

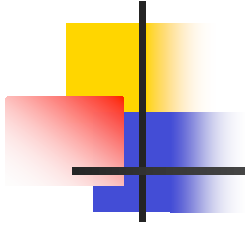
Ask to see a speech-language pathologist if you feel you might benefit from some of these techniques.



**University of Washington
Speech & Hearing Clinic**

Voice & TTY: (206) 543-5440

<http://shclinic.washington.edu>



Suggestions for improving communication interactions



Strategies YOU can use

- If using a wheelchair, have your communication partners sit beside you (rather than stand above you) so you can communicate face to face
- Keep track of situations where communication was unsuccessful or difficult and try to find a creative solution
 - Example: woman who could no longer order at drive-through window



Strategies YOU can use (if your speech is particularly hard to understand)

- Get your listener's attention 1st
- Identify the topic
 - Don't shift topics abruptly
- Use gestures
- Talk about important issues when your energy level is the highest
- Tell listeners to give you prompt and honest feedback if they're not understanding you



Strategies YOU can use (if your speech is particularly hard to understand)

- Optimize the environment
 - Reduce noise/distractions
 - Make sure lighting is adequate
 - Avoid communication over long distances
 - Has everyone's hearing been checked?
- If not understood after repeating your message, try to rephrase it
- Have a handy backup system ready

Example of an alphabet board





Strategies for spouses, friends, etc.

- Make sure you know the general topic of conversation
- Give your undivided attention
- Watch the speaker
- Piece together cues
- Avoid communication over long distances



Strategies for spouses, friends, etc.

- Decide on and incorporate strategies for resolving communication breakdowns
 - Signal as soon as you don't understand
 - Let the speaker know the parts of the message that you did understand
 - If you still don't understand, ask the speaker to go to a predetermined "backup" plan (rephrasing, verbal spelling, writing)



Strategies for spouses, friends, etc.

- Establish some rules of the game
 - Guess or not?
 - Finish sentences or not?
 - Translate misunderstood messages to others?



Swallowing

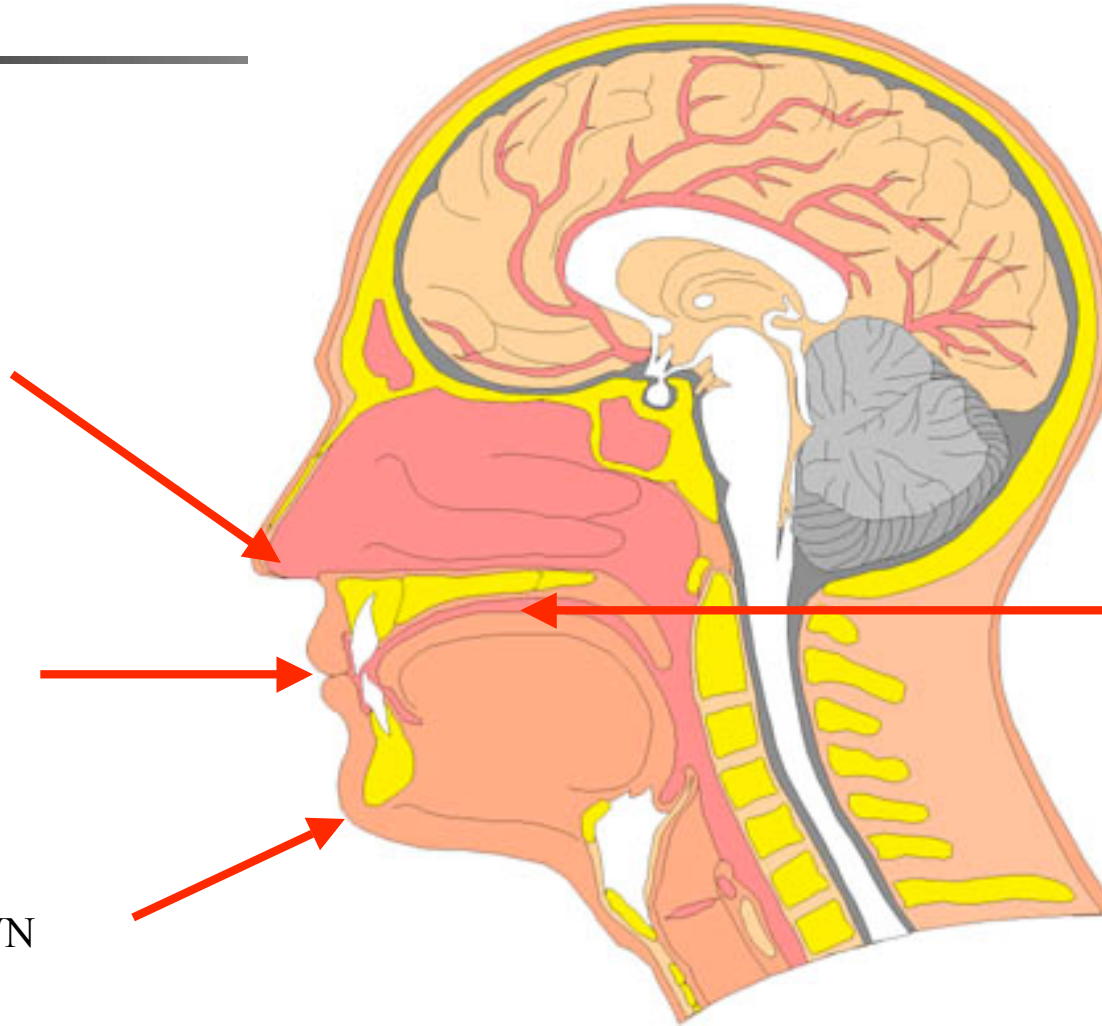
Conditions for optimal swallowing



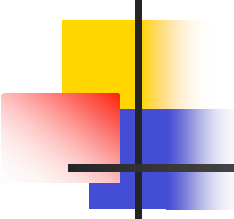
NASAL
PASSAGES
OPEN

LIPS SEALED

CHIN DOWN



MOISTURE IN
ORAL CAVITY



Signs of a possible swallowing problem (“dysphagia”) from ataxia

- Variable choking and coughing, especially when tired or distracted
- Variable “sticking” sensation
- Variable drooling
- Greater difficulty with liquids than solids
- Excessive time to eat
- Fatigue during meals
- Food/liquid coming through nose

See a speech pathologist for
evaluation and management of
swallowing problems!





Some possible ways to compensate for swallowing problems from ataxia

- Chin tuck
- Head stabilization
- Weighted equipment
- Special drinking cups



Dietary considerations: Cautions

- Mucus thickening (e.g., dairy, chocolate)
- Sticky food (e.g., white bread)
- Crumbly (e.g., cookies, crackers)
- Leafy material (e.g., lettuce)
- Particulates (e.g., nuts, seeds)
- Tough or bulky (e.g., steak)
- Mixed textures (e.g., vegetable soup)



Thank you!

Questions?