Food for Thought: Self-Awareness, Diagnosis, and Management of SWALLOWING PROBLEMS in Parkinson’s Disease
Nearly ALL people with PD develop swallowing problems (dysphagia)

- Unaware until later stages
- **Goal = self-awareness**
Normal Swallowing

- 1000’s of times per day
- Nutrition & hydration

Metal ball (food/liquid)
- Spring-loaded button (tongue)
- Series of flippers (valves) to guide the ball (food/liquid)
Disordered Swallowing (Dysphagia)

- Coughing/choking
- Holding food, liquid, or pills in the mouth before swallowing
- Lengthy meal times (>30 minutes)
- Avoiding certain foods/liquids
- Malnutrition (weight loss)
- Drooling
- Wet, gurgly voice
- Avoiding eating in public
- Aspiration pneumonia - leading cause of death in PD
Let’s find out!

- Prison Swallow Test
  - Cup of water
  - Dry, crunchy pretzel

- Questionnaire
Water Swallow Test

• Drink a cup of water as quickly and safely as possible

• Keep the cup to your mouth at all times

• **STOP** if you experience any difficulty (coughing or choking)

• It’s okay if you can’t finish
Water Swallow Test

Video Demonstration...
Water Swallow Test

Remember your finish time

Count your swallows

CUP UP....READY......SET.....GO!
Water Swallow Test

Remember your finish time

Count your swallows
Water Swallow Test

Longer than 10 seconds?

More than 6 swallows?

Possible dysphagia
Water Swallow Test

Which one are you?

Time to Empty Cup

Seconds

Healthy Young (<60 years)  Healthy Old (≥60 years)  PD
Water Swallow Test

Which one are you?

Number of Water Swallows to Empty Cup

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<th>Healthy Young (&lt;60 years)</th>
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Water Swallow Test

Easy
Little energy or effort

Hard
Lots of energy or effort

Possible dysphagia
Water Swallow Test

Liquid left in the cup?

Which one are you?

1/2 FULL? 1/2 EMPTY?

Possible dysphagia
Water Swallow Test

Coughing or choking?
Throat clearing?

Possible dysphagia
Water Swallow Test

Wet, gurgly voice?

Possible dysphagia
Pretzel Swallow Test

• Put a whole “pretzel bite” into your mouth

• Chew and swallow as you typically would

• Take a sip of water ONLY IF ABSOLUTELY NEEDED

• **STOP** if you experience any difficulty (coughing or choking)
Pretzel Swallow Test

Video Demonstration…
Pretzel Swallow Test

Time to 1st Swallow?

00

Number of Chews?
Pretzel Swallow Test

Longer than 20 seconds?

More than 30 chews?

Possible dysphagia
Pretzel Swallow Test

Which one are you?

![Graph showing time from first chew to first swallow for different groups: Healthy Young (<60 years), Healthy Old (≥60 years), PD.](image-url)
Pretzel Swallow Test

Which one are you?

Number of Chews before the 1st Swallow

- Healthy Young (<60 years)
- Healthy Old (≥60 years)
- PD

Bar chart showing the average number of chews before the first swallow for Healthy Young (<60 years), Healthy Old (≥60 years), and PD groups.
Pretzel Swallow Test

Easy

Little energy or effort

Hard

Lots of energy or effort

Possible dysphagia
Pretzel Swallow Test

Leftovers?

Possible dysphagia
Pretzel Swallow Test

Coughing or choking?
Throat clearing?

Possible dysphagia
Questionnaire

Homework Assignment

Why I didn't do my homework, Vol. 1.

Remember when Mom and Dad told you it was for your own good?

Well, it's kinda like that.

Just do it!
I think I have dysphagia….

Now what?

• Talk to your Doctor

• Referral to see a swallow specialist – Speech-Language Pathologist (SLP)
Swallow Tests

• **X-Ray**
  Most common

• **Endoscope**
X-Ray Swallow Test

Videofluoroscopic Swallow Study (VFSS)
Modified Barium Swallow (MBS)
X-Ray Swallow Test

Normal Swallowing
X-Ray Swallow Test

Dysphagia
I definitely have dysphagia....

Now what?
Swallow Therapy....

Resistance Exercises

![Chart showing tongue strength comparison between Healthy Young (<60 years), Healthy Old (≥60 years), and PD (Parkinson's Disease).]
Swallow Therapy....

Breathing Exercises

Expiratory Muscle Strength Trainer (EMST)

**BENEFITS:**
- Louder / clearer speech
- Safer swallowing
- Stronger cough
- Reduced aspiration risk
Swallow Therapy....

Range of Motion Exercises
Swallow Therapy....

Neuromuscular Electrical Stimulation (NMES)
Swallow Therapy....

Learn to:

✓ SWALLOW harder, faster, and more often!
✓ COUGH harder & louder
GOALS

✓ Prevent:
  – Malnutrition
  – Dehydration
  – Aspiration pneumonia
  – Hospitalization

✓ Stay on a normal diet longer
✓ Live a longer, healthier, and happier life
Help US help YOU….

by participating in dysphagia research at Mizzou

✓ Visit our Participant Recruitment Booth
✓ Respond to our Flyer
Thank you!