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NI VII Meeting Four – Capstone Presentation
Cohort Five: Program/Education

Radiation Exposure, Reduction Techniques, and Standardization of Swallow Study Evaluations

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Q1. What did you hope to accomplish?

- Retrospectively establish a fluoroscopic radiation exposure baseline
 - > Analyze past swallow study procedures performed by a single resident as proxy measure for interprofessional team exposure rates
- Interventions
 - > Provide proper radiation safety equipment for all team members
 - > Implement a standardized swallow study evaluation flowchart to promote efficiency and organization
- Monitor prospective radiation exposure reduction techniques
 - > Analysis of swallow study procedures performed by that same resident after implementations
 - > Compare retrospective and prospective data in order to assess relative success of implementations

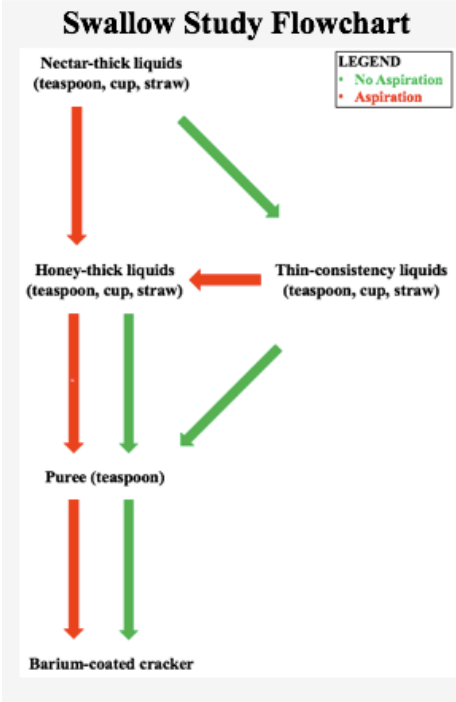


Q2. What were you able to accomplish?

- **Baseline:** Obtained and analyzed retrospective radiation exposure data
 - > Calculations for patient radiation exposure (time, dosage, # of imaging runs)
 - > Resident radiation exposure data over a 4-week rotation extrapolated (time, dosage)
- **Interventions:** Proper equipment provided to all team members
 - > Shared radiation safety glove for speech pathology
 - > Shared radiation safety goggles with cleaning supplies for fluoroscopic techs
- **Findings:**
 - > Protective equipment unused by interprofessional team members
 - > Identified safety issues with badge-dosimetry monitoring
 - Deficient collection/reporting by the physics department
 - Inconsistent usage
 - Incorrect monthly badge updates/turn-ins



Swallow Study Flowchart and Results



	Prior to Implementations			After Implementations				
	Time (minutes)	Radiation (mGy)	Runs		Time (minutes)	Radiation (mGy)	Runs	
Patient Radiation Exposure	Average	1.9	7.9	13.5	Average	1.8 ↓	8.3 ↑	14.1 ↑
	Median	1.8	7.2	13	Median	1.9 ↑	7.8 ↑	15.5 ↑
	Range	0.3 – 4.3	1.5 – 24.3	1 – 26	Range	0.4 – 3.3 ↓	1.9 – 21.8 ↓	4 – 27 ↑
Resident Radiation Exposure		Time (minutes)	Radiation (mGy)*		Time (minutes)	Radiation (mGy)*		
	Extrapolated Exposure per 4-week Rotation	183.7	21.2	Extrapolated Exposure per 4-week Rotation	174 ↓	22.3 ↑		

Q3. Knowing what you know now, what might you do differently?

- Interventions:

- > Educate team re: repeated radiation exposure effects on their long term health (*just because do not immediately experience it...*)
- > Periodic reinforcement essential

- Metrics

- > Obtain proper badge-dosimetry data – it's standardized radiation exposure reporting system
- > Compare baseline results with badge-dosimetry data



Q4. What surprised you and why?

- Assumed providing radiation safety goggles to fluoroscopic technologists and gloves for speech pathologists would result in their use
- Team members rarely if ever chose to wear them - “inconvenient”



Q5. Cohort Five – Sustainability and next steps

- *What does your CEO need to know to help keep your work sustainable?*
 - > Need to improve badge-dosimetry reporting/documentation
 - > Proper use of radiation safety equipment needs to be hospital priority

