

Common Myths About Pediatric Videofluoroscopic Swallow Studies (VFSS)

Myth #1: VFSS Exposes Patients to High Radiation Risks

Fact: Studies indicate that VFSS results in low radiation exposure. For both pediatric and adult populations, the radiation dose during a VFSS is well below the annual radiation exposure dose limit.

-  The effective dose is comparable to or even lower than the radiation exposure from a **six-hour airplane flight**.
0.2 to 1.0 mSv in infants and is estimated at 0.0826 ± 0.0544 mSv in pediatrics
-  The benefits of identifying a feeding or swallowing impairment outweighs the risk of minimal radiation

Myth #2: Frame Rate Doesn't Affect VFSS Results

Fact: The choice between 15 frames per second (fps) and 30 fps significantly impacts how swallowing function is interpreted.

-  15 fps may be sufficient for detecting aspiration or residue, but it may not capture the precise physiology causing these problems, which is needed to select appropriate interventions.
-  Inaccurate clinical decision-making based on low frame rate can lead to dangerous misdiagnoses and is an avoidable problem.
-  The difference in radiation exposure between 15 fps and 30 fps is minimal because exposure is primarily determined by total exposure time and imaging techniques (e.g., pulsed vs. continuous fluoroscopy)

Myth #3: Pulsed Fluoroscopy Should Always Be Used to Reduce Radiation Exposure

Fact: While pulsed fluoroscopy reduces radiation, it can impact visualization quality

-  Bolus motion appears less fluid and choppy, making it harder to detect airway compromise and swallowing pathophysiology
-  Continuous fluoroscopy at 30 fps improves accuracy in identifying swallowing impairments.
-  Pulsed fluoroscopy should be used selectively, ensuring infant studies remain under 2 minutes and pediatric studies under 3 minutes.

To promote radiation safety, the **ALARA** principle (As Low As Reasonable Possible) recommends:

Time – Limiting exposure duration

Distance – Increasing space between patient and radiation source

Shielding – Protecting body parts not involved in imaging

Citations Links:

[Bonilha 2014](#)

[Bonilha 2017](#)

[Gosa 2020](#)

[Lefton-Greif 2016](#)

[Bonilha 2019](#)

[Cohen 2009](#)

[Martin-Harris 2020](#)

[Arvedson 2017](#)

[Bonilha 2013](#)