

Advocating & Innovating for People with Pill Dysphagia

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Summaries within the Learner Objectives:

1. Discuss why we should be concerned about polypharmacy, adverse drug reactions, and how the SLP can help and not hinder the process of an individual taking and absorbing medications adequately. Common solution to difficulty swallowing so many pills is to recommend crushed in applesauce. Warnings provided to "not rush to crush," as many medications cannot be crushed. Additionally, crushing medications into a thickened liquid can affect dissolution rates and bioavailability. Thickening liquid medications is also NOT recommended. See references and resources below.
2. Discuss pill dysphagia & how it can occur at all phases of swallowing. Drug remnants can be found in oral, pharyngeal, and esophageal cavities. Talk presents images & references on drug-induced esophagitis and other issues.
3. Describe how to screen and *evaluate* for pill dysphagia - at the bedside & through instrumental evaluations (using two case examples). See PILL-5 information & reference to screen for pill dysphagia. Instrumental evaluations can provide clear evaluation of the causes of pill dysphagia, providing information on: oral transit, bolus propulsion, pharyngeal dysfunction, airway protection on the thin liquid while swallowing a pill, pill stasis, retrograde flow with liquid and/or pill, and esophageal clearance. Two cases presented: one showed fear/hesitancy swallowing pill after prolonged hospital to rehabilitation course and prolonged NPO. The second showed how pill dysphagia is common in individuals with neurogenic dysphagia. Multiphase issues are common, with these cases showing: holding in the mouth, pill sticking in the valleculae, pill stasis in the esophagus, and use of a pill swallowing gel to mitigate pill dysphagia.
4. Analyze dysphagia management strategies for pill dysphagia, including:
 - a. Safer swallowing strategies for pill dysphagia across the oral, pharyngeal, and esophageal phases to:
 - o Reduce the fear of swallowing pills.
 - o *Mitigate* risks, as we cannot hope to provide the "safest" option to "prevent" risk 100%. SLP can provide ideas on pill swallowing and advocate and communicate with the medical team, not forgetting the pharmacist. Don't provide recommendations on alterations of solid dosage forms until referring to the pharmacist and medical team. Potentially some medications can be changed to prevent side effects like dry mouth or delivered in different format for ease of swallowing (e.g., oral disintegrating tablets, chewable, or liquid medications, but check viscosity with IDDSI Flow Test and Fork Drip Test for these liquid meds - see new research listed below from Australia by K. Steadman & colleagues, 2022).
 - o Minimize pill injury - pills that get stuck in the esophagus can cause erosive esophagitis and ulcers
 - b. Products and novel technologies, such as 3D printed pharmaceuticals (Aprecia). A look into the future...

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Beers Criteria:

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Screening Tool of Older People's Prescriptions (STOPP) or the Screening Tool to Alert to Right Treatment (START) criteria. STOPP and START criteria:

- O'Mahony D. (2020). STOPP/START criteria for potentially inappropriate medications/potential prescribing omissions in older people: origin and progress. *Expert review of clinical pharmacology*, 13(1), 15–22. <https://doi.org/10.1080/17512433.2020.1697676>
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Resources:

- ISMP.org (Institute for Safe Medication Practices): <http://www.ismp.org/tools/DoNotCrush.pdf>
- Don't Rush To Crush 4th Edition Updates: <https://www.shpa.org.au/publications-resources/drtc/drtc-4-updates>
- MUST = Medication Use Safety Training (TM): *BeMedWise.org*
 - <https://www.bemedwise.org/wp-content/uploads/2019/11/mustbooklet.pdf>
- Apps/Devices for Medication Reminders: Go beyond pill boxes. Examples: CareZone App, Medisafe App, MedMinder, PillPack, TabTime Timer, e-pill Timecap. <https://www.healthline.com/health/best-medication-reminders>
- **Phazix**® Pill Swallowing Gel Recommended References & White Papers: <https://www.phazix.com/resources/clinical-articles/>
<https://www.phazix.com/resources/clinical-white-papers/>
- 3D Printed Pharmaceuticals: <https://www.aprecia.com/>
- **NEW**: Liquid Medications: Steadman, K.J., Weng, M.T., Malouh, M.A., Symons, K. & Cichero, J.A.Y. (2022). Swallowing safety of oral liquid medications: Assessment using the International Dysphagia Diet Standardisation Initiative framework. *Journal of Pharmacy Practice and Research*, 52, 283–293. <https://doi.org/10.1002/jppr.1818> Appendix chart of IDDSI Flow Test viscosities of many common liquid medications. Shows that most liquid medications are IDDSI Levels 0, 1, or 2. Encourages individual testing of products with Flow Test and Fork Drip Test. Some small liquid doses could be mixed in with applesauce or Phazix/Gloup to provide a thicker option.

More SwallowStudy.com Resources:

1. <https://swallowstudy.com/trouble-swallowing-pills-what-to-do-for-pill-dysphagia/>
2. <https://swallowstudy.com/abas-drug-induced-dysphagia/>
3. <https://www.swallowstudy.com/drug-induced-dysphagia-resources-safe-practices/>
4. <https://swallowstudy.com/20-reasons-choose-fees-proof-pudding/>
5. <https://swallowstudy.com/think-outside-the-pill-box-3d-printed-pharmaceuticals/>
6. <https://www.swallowstudy.com/hard-pill-swallow/> - DO NOT put crushed medications in a thickened liquid (reduced dissolution rates and potentially decreased bioavailability – per work by Cichero, 2013; Manrique, et al., 2014 & 2016). See #1 blog above for work by Crinó, 2015 & Malouh, et al., 2018 re pill swallowing gels).