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Clinician Narrative
Speech Language Pathology
Advanced Clinician

My name is Rebecca Inzana, and I am in my seventh year as a Speech-Language Pathologist on the MGH adult inpatient team.

Hope was one of the very first patients to convalesce on the newly opened Lunder 7 unit, admitted to MGH CMF Neurology in the Fall of 2011. At 87, Hope was widowed and lived independently at home, and loved going out to eat, singing, chatting, and was known for her feisty and loveable personality. Overall she was in decent health, with a history of hypertension and hyperlipidemia, and had a very rich, active existence. In true matriarch form, she had a large family who revolved around her, and she reportedly had quite an impressive volume to her voice. With four children, their loving spouses and many grandchildren living nearby, she had little peace and quiet- which is how she liked it. Ironically, no one happened to be with her when she stroked.

Hope was last seen well at 7pm that Monday night. Her eldest daughter, Nancy, called at 11pm to wish her goodnight, as she did every night, but this time there was no answer...and when Nancy arrived 10 minutes later, she found her mother slumped over in a chair, coughing on her own vomit and unable to speak. Nancy activated EMS, and her mom was brought to MGH. Unfortunately, while it was clear that she had suffered a stroke, she was not a candidate for tPA because she was outside the time window, and the clot in her left middle cerebral artery had already done the damage it was going to do.
I met Hope during her second day at MGH, responding to a consult from the CMF Neurology service to assess communication and swallow function, with the specific question posed: "Does patient need a PEG?"

During neurology rounds that day, the resident-directed topic of conversation was that the patient had aspiration pneumonia, she wasn't going to be able to swallow, and pontifications on whether or not the patient would want a gastrostomy tube vs. shift of care to CMO. I had not yet met Hope, but I had read through her chart, looked at her neuroimaging and chest x-ray, and had determined that her stroke was large, involving the entire left basal ganglia, internal capsule and corona radiata, along with territory at risk that may well infarct with time including the left middle temporal gyrus, medial temporal lobe, and scattered areas in the left frontal and parietal lobes. The cortical and subcortical involvement she endured would certainly leave her with significant aphasia, though it would remain to be seen how her swallow mechanism was functioning, as the site of lesion opened up potential for motor, sensory and timing deficits. Her CXR showed infiltrate and mild pulmonary edema, and she was being treated with antibiotics for 'pneumonia,' but the reality was we knew she had aspirated her vomit and she did not have any signs of infection; therefore she most likely had an aspiration pneumonitis, not a true pneumonia.

I shared during multidisciplinary team rounds that I would be seeing the patient that morning, and, without refuting their concerns about her swallow, told them that it appeared a bit premature to go down that PEG vs. CMO route just yet, especially as it hasn't even been 48hrs post stroke and exam may change. I was encouraged by the fact that she was managing her secretions according to the nurse. I agreed to share my findings as soon as I completed her evaluation.

After touching base with the nurse, Lauren, who had cared for her the day prior as well, I entered Hope's room and introduced myself to her and four visiting family members. They appeared anxious, and I explained to Hope and her family that I was there to assess Hope's swallowing function in order to determine how long it might be before we could give her something to eat. Hope's son in law was quick to share with me that Hope loves to talk, sing, and eat, and that he was concerned about her quality of life. I acknowledged how talking and eating are such integral part of our lives and family interactions, and Tony and his wife began to ask questions about prognosis. I acknowledged but deferred these questions until my exam was completed. It was obvious to me that this was a very involved family, and a family who wanted and needed lots of explanation and information.
I turned my full attention to Hope, who was lying in bed, looking exhausted. The first thing I noticed was how quickly and audibly she was breathing. She was on 3L 02 via nasal canula, but her monitor was not reading her respiratory rate. By my count she was about 28-32 (elevated from normal ~16-20) confirming that she was working to breathe. She was wheezing on exhalation and had an intermittent dry cough, though her 02 saturations were adequate on supplemental oxygen. I asked her family if she was exhibiting a typical breathing patter for her. They endorsed she does wheeze sometimes, but not anywhere near this severely.

Narrating my actions and intentions for Hope and her family, I began the examination. She was non-fluent, though could occasionally phonate on command. She tried to follow commands like smile, but instead she opened her mouth, demonstrating oral apraxia, again consistent with site of lesion. While her right face and tongue were moderately weak, her palate was symmetric, and she had good pharyngeal sensation, telling me that upper motor neuron pathways to & from her brainstem appeared to have been largely spared; a good prognostic indicator. Her voice was strong, and cough was sharp, telling me at least one branch of CN X (RLN) was intact. I observed as she spontaneously swallowed her saliva throughout our session, also an excellent prognostic indicator of preserved swallow function. As Hope was still breathing heavily, I elected to only give her one ice chip, just to see how she would orally manipulate it and how long it would take her to trigger a swallow. A calculated risk, where I knew that if she did aspirate it, the quantity was no more than her own saliva, and being water it would be benign and therefore a minimal threat to her pulmonary status. She actually did beautifully with it, swallowing it promptly, giving me another glimpse of hope that her swallow mechanism was functional. She did get increasingly out of breath with the activity, however, and had a dry cough before and after this trial.

I explained to Hope and her family that while she had multiple positive prognostic indicators to return to oral feeding, before I could further assess her, we needed to get

Hope breathing more comfortably. I explained in basic terms how airway protection during swallowing works, and how, if someone is working harder to breathe, then there is an agonist/antagonist struggle going on to keep airway open vs. close it during swallowing, and her aspiration risk would be increased. I also briefly discussed her communication deficits and assured them that we would look at this more closely when she was feeling a little better, but to please continue to chat with her, share information, and tune into her body language and gestures. By this time Hope had fallen back asleep, but her family was both encouraged and appropriately concerned, and very thankful for the explanations.
I left the room and sought out the lead resident caring for Hope. Before I could share my findings, Dr. D. reiterated "I'm not sure how this is going to work, because family says she wouldn't want a feeding [gastrostomy] tube." I explained to Dr. D how the site of the patient's stroke and her current swallow function at bedside were actually quite encouraging for return to oral feeding, but that her primary barrier at this point was her respiratory status. I found myself reiterating, in more medical lingo, the conversation I had just had with Hope's family, so that this new resident could best understand my concerns and the relationship between her breathing and swallowing. I asked why the patient had an increased respiratory rate and why she was wheezing as she was, and the resident explained this was due to her PNA. She felt confident that the antibiotics were working. We discussed a Modified Barium Swallow Study to further assess the patient's swallow function and rule out silent aspiration given the potential sensory impairment from her stroke, but that this wouldn't be viable until her breathing was more comfortable. Fortunately the team had placed a nasogastric tube the night of admission in order to get her essential blood pressure medications, and this could be used for nutrition while her pulmonary status improved.

The next morning, I was paged by Hope's nurse, telling me that the patient had pulled out her NG tube overnight and that she had essential BP medications to take, and she wasn't sure what to do. I hurried over and reassessed the patient, who was more alert than the day prior, and was breathing a little more comfortably. Together, the nurse and I delivered the patient's essential medication orally, was a relief so that we could avoid replacing the NG with hope of return to po over the next 1-2 days.

Later that morning, the patient's respiratory status further worsened, and her wheezing was extremely audible, and her cough remained dry. The nurse and I discussed the patient's status and I requested that the MD come an reassess the patient, as we were moving in the wrong direction. The family was also in the room, and as the new resident shared that the patient's lungs sounded clear and the wheezing was minimal, I carefully and diplomatically asked the family to chime in on how her breathing now compared to her norm. Her daughter was clear that Hope was working a lot harder to breathe than normal. We thanked the family and stepped outside, as I was cautious to discuss our professional difference of opinion out of earshot of the family, so as not to endanger the relationship they had with the MD or myself or to make them lose confidence in our ability to work as a team caring for their mother. In private, I asked the MD if perhaps she would consider getting another CXR, and I wondered aloud if it were possible that the patient had any pulmonary edema or another etiology that could be causing her symptoms in absence of any clinical findings suggesting her status was from PNA. The resident agreed to get

another CXR, which demonstrated a significant increase in pulmonary edema. The patient was diuresed and by the next morning she was breathing comfortably and had stopped wheezing, aided also by her first good night's sleep since admission.

Hope's RN called me that next morning as planned to help administer her essential po meds since she was still without an NG tube. The patient did well again and given that she was breathing comfortably and was interacting, we scheduled a Modified Barium Swallow for that afternoon to determine safety for starting an oral diet. I completed the MBS which demonstrated a mild sensory dysfunction but overall very functional swallow, which was consistent with the site of her neuro injury and bedside exam.

Both Hope and her family were elated when they were told she could begin eating, and I shared the techniques needed for safe feeding at that juncture. We spent a little time that afternoon doing some basic language testing as well. I was able to stimulate Hope to sing "Happy Birthday," which brought tears to the eyes of Hope, her visiting daughter, and to me! It was a wonderful moment. We wrapped up our session with some education on how Hope's output is improving, and activities they could do together as a family that had both therapeutic and feel-good benefits. We also discussed how to ask Hope questions, recognizing that she doesn't always understand everything, and she may sometimes mean to nod/indicate Yes but really means No due to her apraxia.

The next day at rounds, the multidisciplinary team agreed that Hope was ready for rehab. She was alert, breathing comfortably, eating well, and participating in therapies. I swung by Hope's room to find her sitting up in her chair, glasses on, newspaper in front of her, sipping on some juice, and interacting with her family. I was greeted with a loud "Hi Rebecca!" in unison from her family, and a left-handed wave from Hope. We chatted for a bit, and I answered the family's questions about rehab goals for Hope. We discussed that her communication deficits were going to be likely long-term frustrations for Hope, but that I did anticipate she would make some nice gains in therapy. Hope's daughter gave me a hug, thanked me for everything, and Hope squeezed my hand, clearly communicating her appreciation as well. Hope left for rehab the next day with a pretty decent prognosis for meaningful recovery. I can't help but wonder what Hope's outcome would've been had the neurology team not consulted our service to help guide her care.

SAMPLE QUESTIONS

**Clinician-Patient/Family Relationship:**

1. In your narrative, you mention that Hope had a very large and involved family who appeared anxious at the bedside. What techniques do you use to establish a trusting relationship with patients and families to involve them in the care plan?

**Clinical Knowledge and Decision Making:**

1. In your narrative you describe the need for Hope to have a modified barium swallow study to further assess swallow function and rule out silent aspiration given the

potential for sensory impairment from her stroke. After Hope pulled her NG tube, and before the swallowing study was completed, you worked with the RN at the bedside to administer cardiac meds by mouth. Was this a clinical risk? Can you walk us through your process of gauging risk versus benefit in a clinical bedside versus instrumental swallowing assessment in a patient who is at risk for silent aspiration?

**Teamwork and Collaboration:**

1. Stroke patients benefit from multi-disciplinary care, with a rehabilitation focus during the acute care admission. Can you tell us how you work with RN, PT and OT to help inform other professionals how to work with a patient, such as Hope, that has apraxia and language impairments?