

INFANTS AND YOUNG CHILDREN GAGGING ON TEXTURES: DYSPHAGIA OR A SENSORY PROBLEM?

By Jean Ashland

A mother complains to her pediatrician that little Johnnie is gagging and vomiting when she offers stage III baby foods. Johnnie fusses and arches when solid foods are offered, turning away and refusing to accept the spoon. His mother is exasperated and has tried everything including toys and videos to distract her son during mealtime; even feeding him while in the bathtub. Johnnie was born at 28 weeks gestation and has a history of gastroesophageal reflux. He had several different formulas as a young infant because of vomiting issues. Neocate was tolerated the best. He is now 10 months old and demonstrating weight loss. Respiratory status has been stable with no reported pneumonias or respiratory distress. Johnnie is developmentally on target. During examination Johnny demonstrates facial grimacing when touched about the face. His mother reports that he fusses when food gets on his hands and that he will gag sometimes when she approaches his mouth with a spoonful of food. Johnnie drinks from a bottle without any difficulties. Does Johnnie have a swallowing problem? Not likely. Does Johnnie have an oral sensory problem? Probably.

Etiologies of pediatric dysphagia

Dysphagia or swallowing dysfunction with children occurs more frequently with neurological, respiratory, or anatomical problems (Arvedson, 1996; Kosko, Moser, Erhart, & Tunkel, 1998). Dysphagia can occur during the **oral stage** of swallowing that involves moving the food from the front to the back of the mouth before swallowing. For example, children with low muscle tone may have weak or uncoordinated tongue movements resulting in prolonged mealtimes or even choking with liquids because food spills in the airway before the swallow has been initiated. Or perhaps they have difficulty chewing because of weak mastication muscles (Arvedson). Dysphagia can also occur during the **pharyngeal stage** of swallowing as food is transiting from the hypopharynx to the upper esophageal sphincter. There are many components of the pharyngeal stage that can potentially be disrupted and result in risk for aspiration. For example, while the larynx is elevating, the vocal cords are closing to protect the airway, or the pharyngeal muscles are moving in a wave like motion to move food into the esophagus. Low muscle tone can impact the muscles in the pharynx (pharyngeal constrictors) creating weak peristalsis and solid foods may be more difficult to clear from the throat. Medical problems that impact the respiratory system (e.g., Bronchopulmonary Dysplasia or BPD; laryngo- or tracheomalacia) can also disrupt swallowing coordination and create risks of choking or even aspiration. These are motor-based swallowing problems that can lead to pharyngeal dysphagia and may warrant further radiological assessment because of concern with aspiration, such as a modified barium swallow that examines the oral/pharyngeal stages of swallowing (Lefton-Greif &

Loughlin, 1996). Tips that may indicate a motor-based swallowing problem, according to Palmer and Heyman (1993) include:

- Greater difficulty with liquids, especially water or juice.
- Difficulty with chewing; prolonged mealtimes
- Coughing or choking during or immediately after eating
- A gurgly vocal quality after eating
- Respiratory compromise, including pneumonia

Sensory-based feeding problems

In contrast to motor-based swallowing problems, difficulties with eating can also stem from dysfunction with the sensory system. The act of swallowing does require both motor and sensory functions to complete the act. All of us have a range of sensory tolerance, some of us more sensitive than others. If you have a low sensory threshold, you may have an affinity for stronger tasting foods or perhaps crunchy foods. Or, if you are on the other end of the sensory spectrum, you may prefer milder foods or soft foods. Children or young infants also have taste and texture preferences. Children in general do prefer milder, simple foods. Also, once toddlerhood blossoms, food becomes “boring” and children prefer to be exploring all the interesting things that they can now access since they are upright and mobile. If you layer these typical behaviors with an infant or child who also has a history of food intolerance, or gastrointestinal problems ranging from reflux, to slow gastric emptying (Tsou & Bishop, 1998); and sensitivity to touch, then you have the perfect recipe for poor transition to textured foods. These children likely did not like baby foods with “lumps and pieces”. They probably were amazing at picking out minute pieces of food texture and spitting them out. Parents may state that gagging and vomiting were a mealtime routine. These children may also present with additional sensory problems such as not tolerating going barefoot on the carpet or grass; not liking being “messy” while eating; or tags in their clothing or seams in their socks may bother them. Other diagnoses that present with oral hypersensitivity are children who required chronic G-tube feedings and missed the critical period for transitioning to solid foods (Palmer, 1998). In addition, enlarged adenoids and tonsils are factors to consider with gagging behaviors. If severe enough, a reduction or removal of tonsils and/or adenoids can lead to marked improvement in eating behaviors. Palmer and Heyman outline the following red flags for sensory-based feeding problems:

- No problems with taking liquids
- Gag on foods that require chewing
- Will separate textures from smooth food and pocket or expel them
- Able to bite and chew solid foods, but not swallow them
- May try to swallow foods whole to avoid contact for chewing
- Hypersensitive gag only with solids and not with liquids

Intervention for sensory-based feeding problems

What can be done for children with oral sensory feeding problems? Often times therapy is helpful. A speech-language pathologist or occupational therapist that is trained in pediatric feeding problems can implement an oral-sensory treatment program to help desensitize the infant and reduce the sensitive gag response to textures. Also, the therapist can assist the parent with activities to transition the child to age-appropriate textures and tastes of food. If the sensory problem is more pronounced or pervasive, an OT with a background in sensory integration (SI), can provide more involved sensory intervention. These therapies may need to be preceded by resolution of medical problems first, especially reflux, before treatment activities can have an effect. Advice to families with children who have sensory-based feeding problems may include to avoid force feeding, maintain a routine mealtime, have at least one preferred food available each meal, and to have the child join the family at mealtime versus eating alone. Popular books on the market that families may find helpful hints for making food interesting and appealing include "How to get your kid to eat but not too much" (Satter, 1987)

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