

Clinical Quality Bulletin April 2009

"The Fatal Four" – Part 1 Aspiration

There are four major health issues that occur more frequently in persons with a Developmental Disability, often resulting in significant morbidity and mortality. They are aspiration, dehydration, constipation and seizures and are referred to as "The Fatal Four." In this new series of Clinical Quality Bulletins, we will take an in-depth look at each of the "Fatal Four."

In this month's bulletin, we will look at Aspiration, a frequent cause of pneumonia in persons with a Developmental Disability. Aspiration may occur silently, not being detected until an infection or respiratory distress is apparent. The Oregon Department of Health Services Developmental Disabilities Nursing Manual (available at <http://www.oregon.gov/DHS/spd/provtools/dd/nursing_manual/aspiration.shtml>) lists the following as risks factors for the development of aspiration in persons with a Developmental Disability:

1. Decreased or absent protective airway reflexes such as occur in Cerebral Palsy.
2. Poor or under-developed oral motor skills that do not permit adequate chewing or swallowing
3. Gastroesophageal reflux disorder (GERD) which may cause Aspiration of refluxed stomach contents.
4. Epileptic seizures
5. Poor self-eating skills (food stuffing, rapid eating)
6. Inappropriate food consistency and/or food textures
7. Inadequately trained staff assisting persons with eating (poor assisted eating technique and allowing poor positioning)
8. Medication side effects which decrease/relax voluntary muscles causing delayed swallowing of protective reflexes of gagging or swallowing
9. Impaired mobility may leave persons unable to properly position themselves for adequate swallowing

In addition to these factors, increasing age also increases the risk of aspiration for persons with Cerebral Palsy. After age 40, persons with Cerebral Palsy should be regularly assessed for aspiration by their family physician.

The Oregon Department of Health Services Developmental Disabilities Nursing Manual also describes the relevant elements of the medical history for assessment of risk for aspiration:

1. Diagnosis of conditions such as Cerebral Palsy, Epilepsy, Gastroesophageal Reflux Disease (GERD), Dysphagia (difficulty swallowing of any cause) or hiatal hernia.
2. History of aspiration pneumonia
3. Assisted by staff for eating or drinking
4. History of choking, coughing or gagging while eating
5. Modified food texture and fluid consistency
6. Eating/swallowing evolutions (barium swallow, pH study, etc.
7. Unexplained weight loss

8. Taking medications that may decrease voluntary muscle coordination or cause decreased alertness
9. Unsafe eating and drinking habits due to mental illness or behavioral disorder

Another element of history that should be obtained is any history of power struggles over food at the individual's place of residence. If an individual is denied food by a caregiver or group home staff member (for example, if a snack is requested just before a meal is going to be served), then the person may attempt to grab food and stuff it in their mouth, often trying to swallow before the bite of food is fully chewed. This creates both a high risk of choking, but also an increased risk of aspiration, either by hurried swallowing or during resuscitation efforts if the person chokes.

The Oregon Department of Health Services Developmental Disabilities Nursing Manual also suggests the following possible interventions to reduce the risk of aspiration:

1. Development of a written plan for feeding
2. Food texture and liquid consistency per physician orders
3. Liquid consistency with tooth brushing or administration of medication
4. Proper positioning during and after meals
5. Swallowing evaluation as indicated/ordered
6. Only trained staff assisting with eating
7. Stop eating/assisting if person coughs, chokes or gags until improved
8. Offer more frequent but smaller meals
9. Slow pace of eating and decrease size of bites
10. Avoid supine position after meals (best if upright 30 minutes after eating)
11. Head of bed elevated per physician order (for persons with GERD)
12. Avoid food/fluid before bedtime
13. Breath sounds assessment, usually by RN

Pureeing of food is a frequently used precaution for the avoidance of aspiration. When ordering the pureeing of food to be carried out in a group home setting, the Primary Care Physician should not make this a "PRN" (as needed) order; rather, it should be ordered to occur at all meals, or not at all. In a busy group home, a "PRN" order for pureeing food is unlikely to be carried out on a frequent basis.

We hope that this information will be useful to you in your care of persons with a Developmental Disability. The Division thanks you for your care of our enrolled members through our contracted health plans.

Bob Klaehn, M.D.
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