

Can Thickened Liquids or Chin-Down Posture Prevent Aspiration?

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The full report is titled “Comparison of 2 Interventions for Liquid Aspiration on Pneumonia Incidence. A Randomized Trial.” It is in the 1 April 2008 issue of *Annals of Internal Medicine* (volume 148, pages 509-518). The authors are J. Robbins, G. Gensler, J. Hind, J.A. Logemann, A.S. Lindblad, D. Brandt, H. Baum, D. Lilienfeld, S. Kosek, D. Lundy, K. Dikeman, M. Kazandjian, G.D. Gramigna, S. McGarvey-Toler, and P.J. Miller Gardner.

What is the problem and what is known about it so far?

Some persons with dementia, Parkinson disease, stroke, or other neurologic conditions have difficulty with swallowing (dysphagia). They may cough after drinking liquids or choke while eating food. During coughing or choking, they may inhale liquid or food through their windpipes into their lungs; this is called *aspiration*. The inhaled material can cause inflammation and a type of pneumonia called *aspiration pneumonia*.

Why did the researchers do this particular study?

To see whether drinking thin liquids in a chin-down posture or drinking thickened liquids in a head-neutral position better prevents aspiration pneumonia in older persons with swallowing problems.

Who was studied?

515 older adults with dementia or Parkinson disease who had problems swallowing and aspirated thin liquids when tested.

How was the study done?

The researchers recruited patients with swallowing problems from 47 hospitals and 79 subacute care facilities in the United States. Patients were randomly assigned to drink thin liquids in a chin-down posture or to drink thickened liquids in a head-neutral position. Patients given thickened liquids were randomly assigned to drink either a very thick liquid (the consistency of honey) or a less thick liquid (the consistency of nectar—for example, tomato juice). Caregivers and staff monitored some meals to see whether patients drank the liquids according to plan. Researchers followed patients for 3 months to see whether any got aspiration pneumonia. They then compared the frequency of pneumonia between the groups.

What did the researchers find?

During the 3-month follow-up period, about 10% to 11% of the patients assigned to drink either thin liquids in a chin-down posture or thickened liquids developed pneumonia. About 15% of the patients who drank honey-thick liquid and about 8% who drank nectar-thick liquid developed pneumonia. Compared with patients drinking thin liquids in a chin-down posture, patients drinking thickened liquids more often had dehydration (6% vs. 2%), fever (4% vs. 2%), and urinary tract infections (6% vs. 3%).

What were the limitations of the study?

Because few people developed pneumonia in all groups, the researchers could not clearly show that one therapy was better than another. The researchers and the caregivers knew which liquid therapies the patients received. Some patients did not drink their liquids according to plan. The trial duration was short. There were only 2 ways to drink liquids, and only 2 types of thickened liquids were tested.

What are the implications of the study?

The study does not prove which liquid or head position best prevents aspiration pneumonia; however, it suggests that drinking very thick liquids (those with the consistency of honey) may be harmful for older adults with swallowing problems.

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