

This handout describes tests that evaluate how well and how safely a child swallows liquids and solid food. Your speech therapist will help decide which is the best test for your child.

Tests:

1. Modified Barium Swallow Study
2. Fiberoptic Endoscopic Evaluation of Swallowing

The Modified Barium Swallow Study (MBSS)

How can you prepare for a modified barium swallow study?

It helps to bring food the child likes and food the child may be having trouble with so that the therapist can watch your child eating it. Familiar utensils such as a favorite sippy cup or spoon may make your child feel more comfortable. Most kids will eat better if they're hungry, so don't feed your child right before the test.

Are there other names for this test?

Yes, it's also called a videofluoroscopic evaluation of swallowing, oral-pharyngeal motility study, or the cookie swallow test

What is it?

This is a test done in the x-ray (or radiology) department to look at swallowing. It can be done on babies, children, and adults. A moving x-ray (called fluoroscopy) is taken of the child's mouth and throat while they're eating and the picture is seen on a TV. The child sits in a regular child seat and the camera is placed next to their head facing their ear. The picture is taken from the side. The child is fed different types of liquids and solids mixed with barium, a chalky white substance that shows up on the x-ray. The x-ray picture will show the child moving the food in their mouth and then swallowing it down. The whole test is videotaped so it can be watched again after it is finished. It usually takes about 20–30 minutes. However, the child is only x-rayed for a few minutes.

Who is in the room during the test?

The doctor (a Radiologist) runs the camera and a speech therapist decides what types of food or drink to feed the child. Caregivers and parents are welcome in the room and often the child eats best if a familiar person is feeding them. Siblings are not usually allowed in the room during the test.

Does it hurt?

While this test does not hurt, the worst part is the taste of the barium (but most hospitals will flavor it so it tastes better). Older kids can watch the TV screen as they swallow and they usually think it's pretty cool.

What does this test tell us?

The main reason this test is done is to see if there is aspiration or food going down the “wrong pipe”. As the child chews and swallows or sucks from a bottle and swallows, the x-ray picture will show how well the child can control their food and if it is going down the wrong way. If it is going down the wrong way, the therapist will try to figure out why and help decide the best way for the child to eat. The therapist may make changes in the way the child is positioned, how food is given (spoon, cup, straw, etc.), or the type of food given (thin liquids, thickened liquids, puree, solids, etc.). You should know the results right away, although, the doctor and therapist may review the videotape again later in more detail.

What are the advantages of this test?

One advantage of this test is the fact that it is easy to do if the child will eat. The child gets to sit in a regular feeder seat and in most cases eat food that comes from home (plus the barium). Because the picture is taken from the side, the doctor and therapist can see the child’s mouth and throat, making it easy to see aspiration.

What are the disadvantages of this test?

Disadvantages of this test are that the child receives radiation (although, it is a small amount) and the small sample of eating, therefore the test can’t evaluate for problems caused by the child getting tired. Also, because the liquid and food must be mixed with barium, it is not exactly the same as what the child eats at home. For example, the thin liquid used (water plus barium) may not be as thin a liquid as just water.

The Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

What is a FEES?

This is a test that uses a special tube to look at swallowing. It can be done on babies, children, and adults. A thin flexible tube with a camera on the end is placed through the child’s nose and goes in just a few centimeters (depending on the size of the child) to show a picture of the throat. The tube or scope is connected to a TV and VCR where the picture is recorded. The child sits in a regular seat or the parents can hold the child. A doctor or speech therapist will operate the camera. The child is fed different types of liquids and solids (colored with food coloring so it shows up clearly) and a picture of their throat is taken while they’re eating. The whole test is videotaped so it can be watched again after it is finished.

Who is in the room for the FEES?

The equipment used for this test is portable so it can be done in any clinic or hospital room. A doctor (an ear, nose, and throat doctor) or a speech pathologist runs the camera. The speech pathologist decides what to feed the child. Caregivers and parents are welcome in the room and often the child eats best if someone they know is feeding them.

Does the FEES hurt?

The child may feel uncomfortable while the scope is being passed through the nose but it only takes a few seconds. In some cases, a small amount of numbing solution can be used in the nose. However, most kids do fine without this while the tube goes in and during the test.

What does the FEES tell us?

The main reason this test is done is also because of aspiration or food going down the “wrong pipe”. This test is chosen if the doctor wants a picture of the child’s throat. As we watch the child swallow, we can see how well the child can control his food and if it is going down the wrong way. If it is going down the wrong way, we will try to figure out why and help decide the best way for the child to eat. The therapist may make changes in the way the child is positioned, how food is given (spoon, cup, straw, etc.), or the type of food given (liquids, puree, solids, etc.). The test will take 20 – 40 minutes. You should know the results right away, although, the doctor and therapist may review the videotape again later in more detail.

What are the advantages of this test?

The best advantage of this test is that a real picture is taken of the child’s throat while they are eating regular food. The doctor will be able to see the child’s throat and vocal cords (or voice box) which is important when evaluating swallowing. Plus, if the child is comfortable, the test can last as long as needed to get all the information to evaluate the child’s swallowing. This test is easily done on babies and older children.

What are the disadvantages of this test?

One disadvantage of this test is that the child must have a scope put into their nose, which can be uncomfortable. The picture is taken from above the throat looking down so you can’t actually see the aspiration or food going the wrong way. Usually you can see small amounts of the food coloring around the airway, which means food, or liquid went the wrong way.

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REFERENCES and RESOURCES