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IDDSI: Rationale and Framework, Part 2

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SpeechPathology.com Course #9194

- [Amy] And at this time it is a pleasure to introduce Denise Dougherty this afternoon, who is presenting the IDDSI Rationale and Framework and this is part two. Denise owns and operates a private practice in Indiana PA, where she conducts therapy with children and adults. She received her bachelor's in communication disorders from Marywood University and her masters from St. Louis University. Since 2007, Denise has served on the expert work group of the physician's office quality measure project for Quality Insights of Pennsylvania, working on initiating quality measures for CMS to improve effectiveness, efficiency, economy and quality of services delivered to Medicare beneficiaries, specifically medication review. She's a past president of the American Academy of Private practice and Speech Pathology and Audiology. A past member of ASHA's Healthcare Economics Committee, and co-editor of Private Practice Essentials, a practical guide for speech language pathologists. Denise works as a forensic speech pathologist and expert witness in litigation involving dysphasia, choking deaths and surgical errors. So welcome back Denise, it's always great to have you with us.

- [Denise] Thank you, Amy. I believe everybody can hear me at this point. All right, so as Amy said, this is part two. We're doing the rationale and framework today. I do need to let you know I am receiving an honorarium from speechpathology.com so we've covered ASHA requirements there. And the learning outcomes for today. After this course you'll be able to identify the levels on the continuum for liquids and solids. Discuss the rationale behind the IDDSI levels zero through eight and describe how to utilize the testing methods for each level to assure compliance with diet criteria. The IDDSI framework was finalized in 2015 and it provides a more comprehensive guideline for diet selection. So what we're going to do in this seminar is discuss the framework, rationale for diet and liquid selections as well as the testing methods. I do need to show you this slide. Anytime you are referring or quoting IDDSI, this is what they are expecting us to show you as far as the citations and you'll also see in the bibliography

we have the citations for the IDDSI as well. So, when we looked at part one, we covered the different level breakdowns. In the process of coming up with the IDDSI diet levels, they were looking at any type of visual that would work. And what they came up with is this particular diagram. The triangles were used in Japan, looking at dysphasia diets. So they felt this was appropriate to continue with. And if you notice on the framework, there are very distinct colors. One of the concerns that the committee had was using colors, what if the individual looking at this diagram was colorblind? So they were very specific with the colors.

They wanted to maximize the differences between, so those who had red blind and green blind would be able to differentiate the colors and you'll also see the black and white. Now they wanted to stay away from red because in the medical field, red seems to be identified as cause for alarm or danger. So that was not a color they wanted to put into the framework. When we are looking at the IDDSI compared to the National Dysphasia Diet, in the National Dysphasia Diet if you went back to part one, we talked about the use of centipoise to identify viscosity of liquids. So they were looking at thin liquids being one to 50 centipoise, nectar was 51 to 350 centipoise, so that was a little bit of a range. Honey went from 351 to 1750 centipoise so that was a much larger range.

And then when we get to pudding or spoon thick, that was anything over 1751. So that was the National Dysphasia Diet's spin on liquids, looking at centipoise and viscosity. IDDSI wanted to stay away from that. So what they came up with is a way to test the liquid flows and they used a 10 mL slip tip syringe. They wanted to use the syringe because gravity was going to help identify the liquid. So we're looking at filling this syringe to the 10 mL level, and then letting the liquid flow for 10 seconds. And that would identify what was left in the syringe and then help us identify what liquid consistency it matched up with. So they felt that using this type of a test actually in the studies represented how liquid moves when it's swallowed. So this type of testing was

used and still is used in the dairy industry to measure liquids. So they felt that this was a very appropriate assessment to use. It closely matches the conditions within the oral cavity. But what you need to keep in mind when you're testing liquids, there's two factors. One is the amount of time you're going to let the liquid flow through the syringe. And then we're also looking at how much is left after that time period has passed. So that will identify how thick your liquid is, and match up to the IDDSI levels. Very key points when we're doing the testing. Number one, you are to follow the manufacturer's instructions if you're using a commercial thickener. Number two, you need to wait the recommended amount of time for the fluid to thicken completely. So whatever the mixing instructions are, when that product says it is safe to drink, it has met that liquid level, that's when you test it. It's also recommended that you test your liquids at least twice or more. Because you want to make sure that your results are reliable.

And a critical point is liquids must be tested at the intended serving temperature. What they found was liquids that were traditionally consumed as a hot liquid, change their thickness level as they cool down, met room temperature or cooler. And the same thing happened with cold liquids. If they warmed up to room temperature, it tested differently. So you always want to test at the serving temperature. Now when we're looking at the levels as we go through, really important that we keep this in mind, they're giving you the breakdowns, how much liquid is left in the syringe. If you're looking at the syringe and you have eight milliliters left in the syringe, that is the cutoff point between level two and three. So if that's how your liquid is measuring, it really is in between each one of those consistencies. So the committee felt that it needs to be a little bit above the eight milliliter or a little bit below to correctly identify the liquid consistency. So keep that in mind. If it is right at the cutoff point, needs to be a little bit thicker or a little bit thinner, because you're right in between the levels. Now, that might be something that you want to keep in mind if you're doing trials of thinner liquid consistencies with your patients, if they're traditionally honey and if you're at that eight

milliliter, that's thinner. So it may be something that you want to note in your documentation. It was right at the cutoff point, so a little bit thinner for your individual. Now, there is a newsletter that IDDSI puts out. It's called the E-bite. I would recommend that when you go onto their website that you subscribe to this, it comes out on a monthly basis. And it will give you the latest news, any questions that have come up about IDDSI that they've had to go back and research, reflect on? Well, this came out as a safety notification in 2019. And it was about the interaction between a specific kind of laxative and starch-based thickener. And what they found was when that laxative was added to starch-based thickened liquids, it really turned into a much more watery consistency, so it was no longer appropriately thickened for your clients.

They did not see the same interaction when they added that particular laxative to any of the xanthan gum thickeners. So just something to keep in mind when we're adding products to our thickened liquids. So this is where you want to actually go back and test. Now when we're looking at testing foods in the laboratory, is extremely complex, but the characteristics that they wanted to look at, were moistness, stickiness, hardness, and toughness. If you went through part one, we talked about some of the sticky foods out there that you might get on purees.

I know in the facilities I've worked in the mashed potatoes is a puree, but it was so hard and pasty and thick. We literally had to add milk at the table to send that out into a much creamier consistency because it was too difficult for the patient to process. We also saw the same thing with your pureed macaroni and cheese, your pastas, your noodles, that can get so pasty and sticky, you can literally throw it on the wall, and it can be there for goodness knows how long. So they really wanted to keep in mind stickiness. So in the National Dysphasia Diet, they really don't address it as completely as we do in the IDDSI. If that's how your food is processed, it's not going to meet the testing for the IDDSI levels. So moistness, stickiness, hardness, toughness, were really a concern. If you're looking at your facilities processing of meats, and we're doing the

ground, how many of your facilities actually make it and it looks like sawdust? It's just a very dry, fragmented mess on the plate. That won't match any of the IDDSI levels, so we need to make sure that there is moistness. We're also concerned about the stickiness, the hardness and the toughness. We know with our research that the saliva mixes with the food particles and we form a moist, cohesive bolus. They've done studies that actually have found when you're doing the chewing process, the tongue factors that bolus. It takes a look at the particles. If it believes this particle is moist and ready to swallow, the tongue moves that particle back and it moves the particles that need to be processed more forward in the mouth to continue with the processing. So we need something that's lubricated, sufficiently moist to swallow.

They found that when we have a hard food and some of the examples that they mentioned were nuts, raw carrots. We tend to chew those particular foods to an even smaller particle size, give or take about two millimeters before we swallow. So they were really spending some time in the labs looking at these particular characteristics. They also look looked at softness and fork mashable. So when we talk about fork mashable, if you push the fork down on that food item, what happens? So this concept has been around for a while, but what we're talking about is it fork mashable? How much strength are you actually putting on that fork to push on that food? Everybody's hand strength differs.

So they came up with the concept of thumbnail blanching pressure. So when you push down on that food item, we're looking at the thumbnail actually blanches white. So this is a more consistent way to take a look at our food. When your thumbnail blanche is white, that pressure corresponds to the systolic blood pressure, and it's been found to be equivalent to the low tongue prehension pressure that we use, sorry, compression pressure that we use in processing our foods, and they've documented this with the tool, the IOPI IOPI, if you haven't heard of it, we'll take a look at it. It's a great way to measure tongue strength for your individuals. And that amount of

pressure actually equated to about 17 kilopascals on the IOPI. So when you're pushing down on that thumbnail, that's exactly the pressure that you're going to put on that food when that thumbnail blanché is white. When we look at moisture, we should be able to test our foods so this is where the sticky mashed potatoes and the sticky macaroni and cheese, yeah, may not pass some of these tests. So in the IDDSI, they came up with different ways you could test your foods. We're going to be talking more on the spoon tilt, the fork drip or the fork tilt tests but you can also utilize chopsticks.

And you can also utilize finger feel, finger pressure. In some parts of the world, that's all you have to test your diet. So again, because this is a global initiative, they wanted to cover all of the different ways we could test. So when we're looking at adhesiveness and cohesiveness, this is something that we can use at the point of serving and that's really important. So when we're training our staff, when the tray comes out of the kitchen, you should be able to, if you need to, test that food at the point of serving to see if it actually works. So the spoon tilt test, you're going to put your product, your food sample on the spoon. It should hold its shape, and when you tilt it, you should only need a flick of the wrist for that food to fall off.

If you have to, really shake it and use the elbow and the shoulder to really try to knock that off the spoon. It's too sticky, so it won't meet the criteria for that diet level. And we know people have choked and died on food products that were so sticky that they couldn't process it. So on the National Dysphasia Diet, we're talking about puree and these items would meet the criteria for puree. But in the IDDSI, we have better abilities to test and avoid a mishap with our patients. So when you go to the IDDSI framework, you will be able to pull up images and videos on how to do the different testings for each of the levels. And I would recommend that you go to the IDDSI and you do some education, read, because that's going to make everything more crystal clear for you. If you're going to do the chopstick test, you should be able to pick up or break apart the food finger testing. When you squeeze the food between your index finger and your

thumb, it should leave your finger wet. And you should be able to break apart the particles if we're looking at minced and moist, and we're going to talk about the different testings. So what they found is, we mean to do a really good clinical assessment to make sure that our patients are able to tolerate safely and that's the key word, whatever diet level we're going to recommend. So we're looking at textures. They always recommend the IDDSI testing method. Now we can look at pictures, we can look at descriptions of foods and drinks but you need to test the food. One of the examples that they talked about was an unripe banana is a choking risk but a ripe banana is not, because again the different textures.

We talked about the mashed potatoes, we talked about the pastas, and noodles, the macaroni and cheese, it looks pureed but it's not going to meet the criteria because it's too adhesive, it's too sticky and it could be a choking hazard for your patients who don't have the skills to deal with that and process that food and swallow. Also, once they do swallow, once it goes through the pharyngeal area, it can stick very easily if they don't have that pharyngeal stripping wave. So there are some organizations that have come up with position papers and I gave you a link to that.

You can take a look at one organization's recommendation and support for the InterNational Dysphasia Diet and you'll see more of these on the website when you look at their resources. One of the levels that we'll talk about is level five. And level five is minced and moist. The particle size for this is very small. I'll talk about the dimensions but they brought this up in the November 2019 newsletter about the particle size. There were rice dishes, pastas that facilities were saying looks like it meets the level five minced and moist criteria, but they weren't quite sure. The dimensions for minced and moist is four millimeters and that is the distance between the tines on your fork. I've measured my fork, it's exactly four millimeters. So the food should be able to squish through if you push gently, not having that thumbnail blanche. So there were some individuals who were thinking that the criteria was a little bit

ambiguous. So the committee went through and did some research and whoops, I'm so sorry. Oh dear, sorry about that. When we're looking at level five, we know that as we're chewing the particles, they're not always the same size, they're not uniform in our mouth. The particles average anywhere from two to four millimeters depending on the food that we're actually chewing. So the guidelines are from minced to moist about four millimeters, but it will vary depending on the food texture that you're chewing. So they're saying that we need to consider multiple dimensions here, we need to look at width, we need to look at depth and we need to look at the length of particles and all of those are really critical. I had an individual who, went to the hospital because he had a piece of meat and it got stuck in his esophagus so they had to remove it. And what we found was, he was getting his meat by mail.

He was ordering it from Omaha Steak and if you've ever seen an Omaha steak, they are extremely thick, you're talking about at least an inch and a half to two inches thick. So when he was cutting his food, he wasn't considering how thick it was, and that created the problem. So you always need to look at those criteria, the width, the depth and the length of the particles. So with level five, the adult particle size, four millimeter by four millimeter by 15 mm, and we said the four millimeter, we're looking at the tines of the fork, so they felt that rice and cut up pasta, as long as it was moist, it would meet the criteria for a level five.

When we're looking at younger children, two millimeter by two millimeter by eight millimeter. So they've got the dimensions there for you. And the nice thing about the IDDSI criteria is when you look at their resources, they will have these all drawn out for you so you don't have to take the ruler and measure it out to train your staff. Another critical thing that you can do with your staff education for adults, they also talk about the width of the thumbnail and for children, they talk about the width of the pinky fingernail. So we'll talk about that as we go through. Now, when we're looking at labeling, IDDSI has no control over companies and their labeling. They cannot mandate

that companies put their logos on for number two or number three, et cetera. This is not a mandated guideline, this is voluntary. But if you take a look at the IDDSI.org homepage, they have banners that kind of scroll across the page, and you're going to see a lot of companies that were considered sponsors of the IDDSI. And if you went through part one, we talked about the sponsors. They had nothing to do with determining the criteria for the diet levels, but they provided financial support for the research. So you'll see partners such as Nestle, Thick-It, Thick & Easy with Hormel, Simply Thick, Sysco, Lyons, Campbell's Food Service. All of those companies do have all of the labeling from the IDDSI diet level.

So you will see this on their containers. But IDDSI does not endorse or certify any product or service. If you're working with products that don't have the labeling IDDSI is suggesting that you talk to the company about what levels they may meet. But again, you have the ability to test with the different IDDSI testing methods, whether it's your processed foods or it's your liquids or it's your thickener products. So if you have any concerns, you need to test and then talk to the company.

They feel that if companies see that there is a need for that type of labeling, the companies may follow suit. But most of the companies that I've been aware of over the years in my practice, they all recognize the IDDSI framework and use that labeling. Now one of the factors that comes up a lot with our patients are foods that are mixed consistencies, and they use the term dual consistency interchangeably with mixed and this is your food that is both solid and liquid. Now we know there's some that are extremely easy to recognize. We've got the vegetable soup, we've got the noodles and the broth, we've got the chicken and the broth, but there are some that on the plate you don't recognize they are a mixed or dual consistency food. One example would be watermelon, another one would be grapefruit. When you bite down into that grapefruit wedge, it explodes. So you have that juice kind of exploding out of that wedge, and then you have the solid part of the grapefruit. So it can be hard to control both of

those. So it can be sometimes misleading when it's on the plate that we don't recognize it's a mixed consistency. But bottom line, the general rule, if you're going to give your client a food that's a mixed consistency, they should be able to handle both. And we recognize that if there is a dual consistency, it creates the need for better swallowing coordination. We need to have more oral control over that food because there's two different consistencies we have to deal with. And for a lot of our individuals, that gets them into trouble. If you have not seen the mighty spoon, this might be all you need for your individuals who only have problems with the mixed consistencies. I had an individual that was living in assisted living and she only had problems with mixed consistencies. So the vegetable soups, cereal with milk and when we tried the mighty spoon, it eliminated the entire issue.

So this is basically a spoon that looks like a colander with a handle. And it's available at Alimed, calmslp.com. Also it is a vendor for this. They have a YouTube that you can take a look at. But it's a nice spoon for those mixed consistencies. The gray version blends in with your traditional silverware where the red, it gives you a little bit more visual input. So for the individual that has a hard time finding the utensils, the red spoon would be easy to find. So that would be an option if it's just a mixed consistency problem.

Now when we're looking at the risks of mixed consistencies, the liquid separates from the solids, the liquid sometimes spills right into the pharyngeal area while we're still chewing the solid portion. So our patient could be at increased risk for aspiration because of that separation and the control problem. Sometimes when the liquid goes down, it could take the solid particles with it, we still have an open airway, and that can increase the obstruction of that airway or increase your risk of choking. So you need to be able to characterize both the liquid and the solid component of your food item. So they recommend that you separate the components to test. Now if you had soup with the 1.2 centimeter sizes of carrots you would classify this as a six and a zero. Six

would be your soft and bite size food, and then zero would be the consistency level for the liquid. So you need to make sure that you've got both covered and the patient can handle both of those. If they need a thickened liquid, then you need to make sure that the liquid component is thickened to whatever consistency that they can handle. If you're serving mashed potatoes and moderately thick gravy, we have a level four food paired with a level three sauce. So your individual needs to be able to handle both of those. Bottom line, you need to do a really good evaluation of your patient's ability to handle those type of consistencies, those type of foods before you recommend that those are included on the patient's diet. Now, I mentioned this earlier, implementation of the IDDSI is not mandatory. But in part one, we talked about all the different names that there are for the various diet levels and for the various liquid consistencies. And then postural problem when individuals were doing dysphasia research, because we just didn't know what that matched up to country by country. So this was a global initiative.

And that's what the committee put together, is something that is globally effective. For those individuals who have a swallowing problem, the dysphasia diagnosis. Now it's important that you understand this is descriptive, not prescriptive. So you need to do that evaluation, and determine what diet level in the IDDSI would your patient be able to tolerate and handle the food and liquids safely? You need to look at the testing. Now, we'll talk about breads as we go through the different diet levels. But there are some individuals who based on their diet level would not get bread, toast, biscuits, anything that was a baked good. So there was a question. If we moisten that, can the patient have it? But what they were suggesting is, you need to do the test to make sure that the bread passes the test for whatever diet level that patient is currently on. So technically, you would only have bread if you're on level seven, level six, soft and bite size, if that bread or baked good passes the test. It's possible that you would recommend they could have that product. So when we get back to the framework, we have the triangles and you'll see that there is an overlap. Puree is the same number

and color is extremely thick liquids. So you'll see that with liquidized and moderately thick as well. So there is some overlap. And you'll also see on the left hand side, right here, we have something called transitional foods. And these foods are appropriate from category five minced and moist all the way through regular. So we'll talk about what these foods might be and why they're appropriate from instant moist as well as a person who is on regular. Okay. When we look at liquids, again, we're going to do the test with the syringe so you get a better view of the syringe on this particular slide than some of the earlier ones. So you want to use a slip tip syringe.

And if you take a look at our levels, we have the 10 mL, eight, four, and one and those are the cutoff points for your different levels. So, zero or thin. When we do the flow test you would have less than one mL in that syringe. So this is your thin liquid. And when we're looking at the thin liquid, this flows very fast. It's going to go through the cup, the straw. The rationale you're able to manage liquids of all types safely. When we go to slightly thick, this is your number one. The flow test for slightly thick on that syringe, you will have anywhere from one to four mLs left in the syringe after 10 seconds. Now when they put these levels together, there was a concern. We needed something in between thin and nectar and they came up with a slightly thick. This is the thickness of the infant formulas that are anti-regurgitation.

So we're slowing down the flow speed, it will still go through the nipple. But they also felt that this might be appropriate for some adults as well, who have problems with thin liquids but maybe don't need exactly nectar thick. So we could put them on the slightly thick, give them just a little bit more time to control that flow safely. When we get to mildly thick, this is your number two and it's going to give you between four to eight mLs left in the syringe, okay? So this would be your nectar. It's going to go through a particular bore of straw. Now the IDDSI is the only diet level that I've ever seen talk about the bore of the straw. And I want to just mention this while we're talking about straws. There are so many different bore sizes. If you take a look at the straw that you

get from McDonald's versus what you would get in the grocery store or a traditional restaurant, there are so many different widths or bores, smoothies straws versus whatever. And in some of the facilities I've worked in, that water pitcher at bedside, we have this monster bore straw. So if that's what your clients are using, I would recommend that you send that with them for the modified barium swallow, because that's what they're going to be drinking out of. Just because the swallow study said they're safe with straws, what was the bore size? Straws are not equal. So I would recommend that you send whatever straw is used in your facility, especially if it's a very wide bore straw, we need to look at that. So when we're looking at mildly thick, we're having a slightly slower flow rate. And this is suitable if we have a slightly reduced tongue control for our liquids. We can drink moderately thick, which is level three from a cup. We have a little bit different bore size for the straw. We don't need any processing or chewing for this one.

So again, the smooth liquids. When we're looking at the flow test, we would have greater than eight mLs left in that syringe after 10 seconds. Now you're only filling it to 10 so it has a very slow flow rate. You are going to need some tongue propulsion effort to move that liquid. And if you can't control level two, level three may be the safest liquid for you. When we get into the extremely thick slash puree, this is not going to be suitable for the syringe, it's not going to flow. So some testing, again because this is not only a liquid but a food consistency. You could test this with the finger test. So you would put your puree between your thumb and your index finger and you would rub your fingers together. So that food item or extremely thick liquid is going to slide between your fingers and you'll have a coating on your fingers. This is not simple suitable for a chopped stick test. So it's going to fall off the tilted spoon. We won't have any lumps, it's not sticky. While we're looking at the rationale for this particular level, we talked about the pharyngeal residue if that item is too sticky. So again, we need to go to the testing. If we do that spoon, tilt the fork tilt, will the item fall off that spoon without getting that shoulder movement and elbow movement involved, just that

slight flick of the wrist, it should come off that spoon. If it doesn't, it's too sticky and we need to deal with that. It's not appropriate for this consistency level. So we have our rationale. This may be appropriate for the individual who is missing teeth, has poorly fitting dentures. If your patients are talking to you and the teeth are kind of bobbing up and down in that mouth and they're really floppy, what happens when we put food in there that they have to process? It's all they can do to control the teeth when there's no food, let alone putting food in there, and now we've got a problem. When we move into the more solids, we're looking at minced and moist.

So this is our level five. With this food, you can eat it with a fork, spoon or chopsticks if you have really good hand control. You're not going to have food separate from the liquid here. You can squish the food easily with the tongue, and we've got our bite sizes for pediatrics and adults. Two millimeters for pediatrics as far as the width, and for adults, we're looking at four millimeters width and they also have the length. The rationale, minimal chewing is required and the tongue force alone can separate those particles for that safe swallow. This may also be appropriate for the patient who fatigues with chewing.

They really don't have to do much processing for this. So it helps with the fatigue level and they may be safer for the duration of the meal. When we're looking at the fork pressure test, spoon tilt test, we're discussing that that fork with gentle pressure, you're going to see those particles come through the prongs of the fork. The thumbnail does not blanch white, if it does, it's not processed sufficiently. Same thing with the spoon. We're going to tilt that spoon and the food should be able to slide off the spoon easily, it should not be sticky. So again, if you have to get that elbow and the shoulder involved and really use some efforts, it doesn't meet the criteria and it's not appropriate for your patient. So we have great ways to train our staff, our patients and their families so they know this is not appropriate and we need to deal with it. When we're getting into level six, this is your soft and bite size. We can eat this with the fork, spoon and

chopsticks. We can break it down. We don't need the knife to cut it, but you might need the knife to help push that food on to the fork or the spoon. We will be required to chew this consistency. And when we're looking at the adults, we have 1.5 centimeter by 1.5 centimeter and pediatrics, eight millimeter and no larger. So a real easy way to test for your staff, your patients and your families, for the adults, the width of the thumbnail. If it's bigger than the width of the thumbnail, we need to fix it and the same thing for pedes. The width of the people nail. So easy to test, doesn't take a lot of training for your staff to understand that. As far as the rationale for that level, we do require chewing. The bite size that we're documenting needs to occur, that's going to minimize the choking risk.

We do need tongue force, we have to control that food in the mouth. And sometimes if our patients are missing the back molars, it's easy to lose control of the food. So you need to look at that. This is also appropriate for the person who fatigues with chewing, poorly fitting dentures. So we can do the fork pressure, we can do the thumbnail blanching white. When we push down without fork and the thumbnail blanches white, that's that 17 kilopascals pressure. And when we remove the fork, that food should stay squashed, it shouldn't return to its original shape. Now when we take a look at soft and bite size, there are certain individuals you don't want to take up any further on the pyramid.

In part one, I believe it was slide 46, we talked about contraindications for bumping up the patient or upgrading them to level seven. So, these are some concerns that you need to think about. If your patient is on level six, you do not want to bump them up to level seven if they have dry mouth, dentures, they have difficulty with mixed textures, they have impulsive behaviors, cognitive impairments, fatigue, or impaired strength or stamina. Those would all be contraindications to take them up any further. Now with level six, we can do the chopstick test in addition to the fork. You should be able to break up the food with the chopstick, you should be able to puncture it with the

chopstick. And with the finger test, you want to be able to squash that sample between your index finger and your thumb. You should have your nail blanched white and the food does not return to its original shape once you stop squeezing. Now there is a giant level that they added. It's a subcategory of regular which is level seven. So if you go to the framework on the IDDSI website, and you look at the IDDSI framework, you may not see the easy to chew breakdown of level seven. But if you go to the resource tab on the IDDSI homepage, you'll scroll down to consumer handouts. And you'll look at the adult or the pediatric section and they will have the breakdowns for the easy to chew level seven. So these are foods that are soft or tender. Size is not restricted because it's a subcategory of level seven.

And I do have to apologize, spellcheck failed me. The slide says no hard, comma touch, that should be tough. I apologize. So no hard, tough, chewy, fibrous foods. Now an example would be when you peel an orange and you have the white fibers on the orange, you have to take those off because that's a choking risk. If we are using mixed consistencies, we need to make sure the patient is appropriate for level zero thin and whatever food level they are eating. So you have to look at both the liquid and the solid consistency. If they're not safe within them we need to use whatever thickness of liquid would be appropriate for that individual.

So the rationale for easy to chew, you still have to be able to bite, chew and process. You need to do that without fatiguing. This is appropriate for the individual who finds some foods difficult to chew. There are no size restrictions. Now this is not appropriate, not an inappropriate level for a patient who is unsafe without supervision. They should not be on this diet. If they're unsafe or showing unsafe mealtime behaviors, this is not inappropriate diet for them. So we will be looking at the person who shovels and is very impulsive with their rate of presentation. They have a large mouthful of food that they haven't chewed and they're trying to swallow. So there are certain individuals this is not appropriate for and you'll look at your individual in your evaluation and be able to

determine this. So, size is not restricted. When we get to level seven, anything is fair game for your individuals. No bite size restrictions, no food restrictions. You can have the fibrous, hard, tough, stringy, chewy foods. That's not an issue because you have the ability to control and break that down appropriately and safely. We don't need to test this food at level seven 'cause there are no restrictions. What's important is if they have something in the mouth, if they find a bone or there is gristle, they are able to remove that from the mouth, they've got the tongue movements, they've got the control, they can spit that out safely without putting themselves at risk. Some of the other diet levels, they may not have that coordination to be able to remove something that is getting them into trouble.

Now, we mentioned that gray area that's called transitional foods. These are foods that start as one texture, and they change to another when you add water or saliva or the temperature changes. So as you're going through the processing of this food, you need minimal chewing and you don't have to bite. The tongue pressure is sufficient to break that food down once the texture has changed. So these are foods that you can work on with your clients when you're trying to increase their chewing skills. There is not a lot of nutrition in these type of foods. So these are appropriate for everything from level five all the way up.

Now this is a list of foods that are considered to be transitional. We can do ice chips, ice cream if it's found suitable by the speech pathologist. Wafers, including communion wafers or waffle ice cream cones, Pringles chips, the veggie sticks, Cheeto puffs. So not a lot of nutrition in these foods, but they break down. It gives your individual the satisfaction of that initial crunch and chew but it turns into another consistency very, very quickly. Now there is a company called Savorease and I believe we're going to put up the company's website. Savorease, savorease.com. Exactly as it sounds, Savorease. This is a company out of, I believe Portland and they manufacture meltable crackers and dips. Thank you for that little note that's coming up on the

screen. So savorease.com. They have a variety of different cracker flavors and dips. So it is classified and labeled as an IDDSI level seven, but it dissolves to level four puree. Doesn't require a lot of chewing whatsoever. There's different flavors of the crackers and different dips. So this company has been very generous with providing some samples so you may want to contact them and see if they can send some samples your way for you to try with some of your individuals. But it is an IDDSI level seven labeled food that does turn into a level four. Now we mentioned breads. Bread is really only appropriate for level seven, it's not appropriate for level five or level six. Bread tends to be a frequent cause of choking deaths. Before the bibliography slides, you should have some information on foods that have been found in autopsies to be a choking hazard and cause choking deaths. So bread is a real concern. We can't break the bread down into that four millimeter or smaller particle because it's very fibrous due to the ingredients.

But if you have the pre-cut bread or sandwich and it meets the bite size guidelines, again this is a case by case basis. You need to test your individual with the pre-cut bread. Does it meet those testing guidelines for that IDDSI levels? So it's possible with pre-gelled or soaked or slurry breads or the pre-cut, your individual might be able to tolerate bread but technically, this is a case by case basis. Bread is only on level seven. You need to be able to bite and chew it. Now I did not realize this until I started looking at the IDDSI information.

But the number of chewing strokes, strength and stamina required to make bread swallow safe is about the same as we need to chew and swallow peanuts safely. So when you look at that piece of bread on the plate and a peanut, yeah, it's just amazing that they require the same chewing strokes strength and stamina. We need saliva, so if we have a dry mouth, we can't sufficiently moisturize that. And what we find is the bread tends to get gummy and it sticks. So it becomes a choking hazard. We had an individual that we had to take bread away because he couldn't process it very well.

And on his modify, they were able to document that when he had bread, it gummed up and it stuck on the posterior pharyngeal wall. And he didn't have the sensory receptors to recognize that it was there. So breads do become very gummy, and they can stick in areas that you don't want them to. And that's bad if our patients don't have the sensory input. When our individuals are missing teeth, even if there is not a dysphasia diagnosis, they may benefit from the modified foods. Choking deaths have been related or correlated to missing teeth, ill-fitting dentures and dental disease on autopsy. Individuals who have dentures, they're chewing, they have 25% chewing effectiveness with their dentures when compared to the dentate individuals or individuals who have their own teeth.

People with dentures can't modify their chewing based on the feel of the bolus. Individuals with their own teeth when they're chewing, the chewing process moves the tooth ever so slightly in the bone and it activates or stimulates the periodontal ligaments. Those ligaments send information to the brain, and the brain tells you how to modify your chewing based on what information is being sent. You need to chew more or harder.

People with dentures don't have that feedback, they don't have that input. So their bolus tends to be larger, coarser and their chewing effectiveness is not as efficient as it is if you have your own teeth. When we're looking at medications, IDDSI has talked about this. ASHA also recommends that in your instrumental studies, you look at medications. Even if the individual does not have a dysphasia diagnosis, they can be at risk with medications. The IDDSI framework talks about this and there are different levels. Level seven, level six. And here's the kicker, may manage solid dose meds like tablets and capsules. Level five may manage oral meds. So again, you want to take a look at your individual. If you're on level four, puree, pills, tablets, capsules are considered a choking risk. There are a lot of medications you should not be cutting or crushing and it's amazing how many times you see meds being cut or crushed in

facilities or at home. That's not recommended. That can have a really bad effect on your individuals. Especially if you're putting the pills into applesauce or yogurt or pudding. Guidelines are saying, if you have to modify your medication, maybe we should be looking at a different route of administration. There are both studies on applesauce and what they have found is, if they put the medications crushed or cut in the applesauce and they put several meds together, those medications began interacting on the spoon in applesauce before it was even swallowed. And they had a test where they put medications that were cut or crushed in the applesauce. And what they found is just by doing that, it reduced the amount of medication available to the patient by 30 to 40%, so they didn't get the full dose.

So they're really suggesting using a food product is not a good idea, but we still do. If your patients have a problem with meds, again I want to caution you. Just because we talked about these as possibilities doesn't mean it's appropriate for your patient. So here we have the oral flow pill cup, and the meds are put in that spout. So what will happen is when you put that spout in your mouth, the meds are deposited about mid-tongue. And then the liquid that's in that cup, washes the meds down. That scares the heck out of me with some of our patients, so you always need to consider what are we doing and is this okay for this individual person.

It may not be. Spray and swallow is a natural pill lubricant. I believe it comes in cherry and mint. You spray the pill, it makes the pill slippery. Swallow aid is a gel that helps that pill slide down. Pill glide is a spray for your tongue and it lubricates the tongue and it makes the pill slide over the tongue much easier. Now this is a relatively new product. I would recommend that you look at their website. They have two different products, one for individual use and one for long term care use. The one for individual use is called Phazix. It is a gel that you put on the spoon with your meds, it lubricates the mouth and the throat so the medications can pass easier. It's broken down by gastric acid and it doesn't change the absorption rate. It's got a vanilla flavor and aroma. So it

masks the taste and the smell of meds that may be unpleasant. So it comes into tube and they also have individual packets. So I would recommend that you look at this product and ask for some samples and see what you think. For long term care, the product is marketed as a sure slide. So same type of product, it's a gel, breaks down in the stomach quickly, it doesn't change the medication absorption rate and it gets rid of the need for applesauce and pudding. That can shake, the therapeutic benefit of the med. So it masks the unpleasant flavor and aroma of the medications. They do have information that compares using a sure slide with applesauce, so that you can see the differences.

And this does come in level four and level three. So when you look at their product, when we come back into, whoops, too far, the slide is a little, a little small, but it does have the IDDSI levels on it for both products. So this would be appropriate for your long term care facilities. The individual tube, that may work for your patients who live in assisted living and have to purchase most of their supplies and that lives in their medication drawer.

Just some information, a modified barium swallow. We do have the MBSIMP profile, Varibar. In the IDDSI, they're all very pro-standardization and evaluations and treatment. So just some information for you. What we do know is if you look at the Varibar products, they do have the IDDSI labeling. They go from zero to four, thin to extremely thick. And the terminology for IDDSI has been incorporated into the modified barium swallow impairment profile report template. So, when we're looking at resources, if you go to the IDDSi.org site, you'll see the framework. They'll also have the list of the autopsy reports, foods that pose choking risk. They are right before the bibliography section. The frequently asked questions give you a lots of studies about dentition, about the bread so it helps you explain the rationale for your recommendations. They have the reproducible images and handouts. They used to sell large posters that I would laminate, now everything is kind of like eight and a half by

11. So I would recommend that you take those color images to a copy store and have them blown up into kind of a poster size and laminate for your kitchen. I would also recommend that you take a look at the E-bite newsletters. As I said they do have them archived all the way back to February 2015. There are videos on the IDDSI site. They also have a YouTube channel. And there is information on the medication studies. The medication, there's a number of resources talking about medication before the bibliography slide as well. So just to recap, we have, I think, a much more comprehensive description for our liquids and solids, the different levels. We have the rationale for use. We do have the contraindications. This is not a diet level that's appropriate for your patient because we know this IDDSI is not mandatory. My opinion is it's more comprehensive than the National Dysphasia Diet. And of course, this is global. So it doesn't matter what country you're in, you should be getting the diet that's appropriate for you. The IDDSI is very easy to use for a staff education when we're looking at testing food and liquids. And we did give you some information on IDDSI's viewpoint of the medication and the choking risk. And I wanted to throw in those, couple things on ways that your patients may be able to swallow their medications a little bit safer. And I would recommend that you take a look at some of those if that's what your patients are dealing with. So what we will do is open this back up, and I'll send it back to Amy.

- [Amy] All right, great, thank you so much. Let's go ahead and address some of the questions and we will see what we have here. All right, the first question is, for what diet level can thumbnail blanching pressure be used? I understand it could be used at the point of serving but for which level? Thank you.

- [Denise] Okay, when you go back to those levels, that is going to be level six. Level five is minced and moist and you don't need a lot of pressure to push that food between the tines of the fork, it's level six where you need to have that thumbnail

blanched white. And that translates to that 17 kilopascals on the IOPI where they're looking at tongue pressure for swallowing.

- [Amy] Okay, thank you, and which medications negatively interact with applesauce?

- [Denise] There was a study looking at an ulcer medication and they documented that it reduced the dose with applesauce by about 30 to 40% once it went into your system. And you'll find that with a number of different medications. So that's why, that particular study recommended yogurt rather than applesauce because of the acidity of the applesauce and the impact on the crushed meds that you put together, but I would also recommend that you take a look at some of those other products we talked about that don't change the absorption rate and don't have any negative impact on the medication.

- [Amy] Is that study referenced by chance in your reference list?

- [Denise] I don't believe that one is. But if you email me, I can send you that study and my email, we can put it up for you is doughertysppath@gmail.com. And just let me know you want to study about yogurt and medications and I'll know which one you want. We have my name spelled wrong. D-O-U-G-H-E-R-T-Y.

- [Amy] So Christina is asking. Let's see, so acute care, this is actually a different question. Acute care hospitals are saying that they have to do this due to medical, excuse me, Medicare, et cetera and believes that this is going to place patients at way more harm than they already are.

- [Denise] Are we talking about the IDDSI?

- [Amy] Yes, she's saying yes.

- [Denise] So adopting the IDDSI would put your patients at more risk? I would disagree with that because you have the bite size extremely specific and working on lawsuits, that's one of the things that always comes back to haunt speech pathologists and the dietary staff is the bite size. You've got very accurate dimensions that go with each one of those diet levels. So I would disagree with that comment. If they're thinking IDDSI will put your patients at more risk.

- [Amy] Great, thank you for that clarification. She's following up with, they cannot get food textures right as it is. I'm just opening this up for, so I can see it. This is a large hospital, okay. Okay.

- [Denise] Yeah and I can't tell you that, we have a hospital in my community that doesn't do well with this either.

- [Amy] Sure, sure, okay. And then Christina is asking in regards to the Savorease products, is that for whole and crushed meds?

- [Denise] The Savorease is the meltable crackers and dip. That is a transitional food. Savorease has nothing to do with medications, okay?

- [Amy] Okay, and I believe that is it. I'm just trying to go through these a little bit. Jason is saying thank you. And I will reiterate that, thank you so much, Denise. Always a pleasure to have you with us. And again, the Savorease website is listed on this, on the screen up there as well as Denise's email address. If you have any further questions, you are more than welcome to either email her or send them to me and I will make sure that she gets them. So again, thanks Denise, for joining us. We always appreciate you sharing your expertise with us. And thanks to all of our participants for joining today as

well. We appreciate you spending your afternoon with us and look forward to seeing everyone again soon. Take care everybody.

- [Denise] Bye bye.