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International Dysphagia Diet Standardisation Initiative (IDDSI) Framework and Rationale, Part 2

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- [Fawn] Welcome everyone to continuedandoccupationaltherapy.com. Today's course is International Dysphasia Diet Standardization Initiative or IDDSI, Framework and Rationale Part 2. Our presenter today is Denise Daugherty. She owns and operates a private practice in Indiana, Pennsylvania, where she conducts therapy with children and adults. She received her bachelor's in communication disorders from Marywood University and her master's from St. Louis University. Since 2007, Denise has served on the expert workgroup 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 is a past president of the American Academy of Private Practice and Speech Pathology and Audiology, a past member of Ashes Healthcare Economics Committee, and co-editor of Private Practice Essentials; a practical guide for speech language pathologists. She works as a forensic speech pathologist and expert witness in litigation involving dysphasia, choking, death and surgical errors. Welcome Denise, so glad to have you back.

- [Denise] Thank you. All right, we are doing part two of the IDDSI. So, let's move on. We do have the disclosures slide for your information. So you can take a look at that and we'll keep going. As far as the learning outcomes for today, after this course, you will be able to identify the levels on the continuum for liquids and solids, discuss the rationale behind the different levels, and that goes from zero through eight, and also be able to describe the testing methods for each level to assure compliance with diet criteria. And that's really important that we know how to do that. When we're looking at our course description, the IDDSI framework was finalized in 2015. And it provides a much more comprehensive guideline for diet selection than we've had in the past. So this seminar is going to talk about the framework, the rationale for each diet level and liquid selection, as well as how to test it.

Now, in the information you have between the bibliography and our last actual PowerPoint slide that we'll talk about, there is a list of resources. Those include foods that are choking risk based on autopsies. And those are really important for us to remember as we're watching our patients eat and drink. There are certain foods that really can put them at risk. When I'm looking at lawsuits, usually it involves meat. That could be a hot dog, a sausage, a piece of meat that was too large and the patient couldn't chew that up effectively, I've seen it with sandwiches, especially peanut butter, that's a high risk choking food because not only bread by itself but peanut butter. And then when you put the two of those together, it gets nasty. Scrambled eggs. I just recently saw a lawsuit where that patient choked on peaches. So anything actually can put your patient at risk. But there is very specific types of foods that we need to watch out for. So you'll have that. There is also information on medications and different studies. So we'll talk about that as we go through the levels.

When we look at the IDDSI, if you go to the IDDSI website, they are very clear on how they want this information cited. So, I wanted to make sure that we put this information in upfront, but we also do make reference to this on the slides in the bibliography. When speech pathologists and occupational therapists work together, it's really important that we're all on the same page and conveying the same message to the patients, the families and the staff. So we collaborate on treatment of the individuals on our caseload who have dysphasia as part of their disorders. OTs are usually working on the self-feeding in ADL training. So you're going to be looking at that hand to mouth, you're looking at different adaptive pieces of equipment, utensils, plates, speech pathologist look at that as well, including the cups and the different types of adaptive straws. So we all are bringing something to the table with this client. Is very important that anyone who's in with this patient at mealtime and snacks understands the different diet levels. So we need to know what the appearance of the food should look like. And if you go to the IDDSI website, they do have handouts that you can

download that show you the images of the food. Images are nice, but that doesn't tell us by looking at the picture how hard that food might be. So we need to figure out how to test it. How easy is that food to cut? Does it meet the guidelines for that diet? And then we need to know what the bite sizes are. All of that is very important. So when both speech and OT are collaborating with this individual, very important, we're all on the same page with this message.

Now, when you're looking at documentation on our forms, whether it's an evaluation, whether it's our treatment, encounter notes, there usually is a section where we list precautions. And it's very important that the precautions include any modified diets, any thickening liquids that this patient is consuming. Very important if you have somebody coming in to cover, because they may not have that information, but it's on that treatment note for them to review. Really important that if this is a dysphasia patient, we are identifying there's aspiration precautions that need to be followed for this individual. And then the adaptive equipment that needs to be on that patient's tray on their placemats in the dining room. So, we all know what is supposed to occur at meal time. There are tools that they need, and the appropriate diet and liquid consistencies. If it is not, then occupational therapists also need to educate the staff. We may not be there together co-treating, so you as an occupational therapist may see something occur in your interactions with the patient at meal time, or when you're in the dining room and you see something, you need to be able to identify what's incorrect, and then how we need to fix that. I find that our staff sometimes doesn't get the reason why this is so important. And if they don't understand the rationale, they don't see the need to follow those recommendations. If they get the reasoning behind it, sometimes we see a little bit more involvement from the staff following those strategies and suggestions and precautions. In part one we showed you the pyramids.

We have a pyramid for the food, we have one for the liquids, and as you see on the slide, there is a point where the liquids and the solids overlap. They have the same

number, they had the same color. On the IDDSI, what they wanted to do is have a very specific color for each food and liquid. So we have the color coding. And they put a lot of effort into testing these colors. They wanted to make sure, if an individual was colorblind, that they would still be able to distinguish between the framework colors. So you'll see very specific colors in their logos, in their handouts, it's there. And when you're looking at products that are out on the market, whether it's a thickener, pre-thickened liquid or food product, most of the companies have adopted the IDDSI framework. So you will see that particular piece of information. The color is there and it tells you what level it is on the IDDSI.

When we talked about the national dysphasia diet and thickening liquids, in part one, we had identified the use of center poise, and that would tell us the viscosity of the liquid. In the IDDSI, they felt that they wanted to stay away from viscosity measures. We have used the terminology thin nectar, honey and pudding. And for each one of those levels, we had a viscosity level or a center poise. So thin was anything from one to 50 center poise. Nectar was 51 to 350, so we have a range. When we get into honey thick liquids that was 351 to 1750. So that had a huge range of what could be acceptable as honey thick. And then we have our putting or spoon thick, anything over 1750. Instead of using that, they have gone to the levels zero, one, two, three and four. And these are all based on a flow test. So we're looking at how much liquid is left in the syringe after 10 seconds of flow. So anytime you're looking at the IDDSI framework, you're going to see the image of this syringe and the breakdown of the different amounts of liquid that should be left.

Now the biggest thing that I find, especially with home health clients and outpatients, there's not a lot of understanding on how to mix. Even within the staff in our facility, if they are mixing, things don't go very well. So being able to have a very quick way to test how thick your liquids are in the home situation, in your office, that's really important. The powders don't mix as easily as the Xantham gum. One of my

preferences is the use of SimplyThick, the gel is really easy to mix. So if you're working with an individual in home health or as an outpatient, and you're working on, you know, the self-feeding, etc, you need to take a look at those liquids as well. Sometimes it's very obvious; this is not as thick as it should be. So if you have the syringe, you can test the liquid and provide the education to the family, the patient, the staff, "This is not appropriate "and is putting our patient at risk." What they often find is they don't measure out the water or the liquid to begin with. So they're starting with an unknown quantity. And then we have the issue with what is that teaspoon or tablespoon amount that they're mixing. So we need to be very careful with that. Now, in the measuring, what IDDSI did is use a measurement principle that is used in the dairy industry. And they have a funnel approach in the dairy industry. And that's why IDDSI went to the syringe. The conditions when that liquid flows through the syringe, that very closely matches what happens in the oral cavity. So it's an easy way to test.

And there are some very important guidelines. Number one, we have a specific amount of liquid that we're testing. It's always that 10 milliliters. We're looking at a defined period of flow. It's always 10 seconds. So when you're testing, you are going to have your thumb or index finger closing the bottom of the syringe. So you are going to close this off with your finger or thumb, you will fill the syringe up to that 10 milliliter mark, then you remove your finger, let the liquid flow for that 10 seconds and then block it. Whatever is left determines how thick your liquids are. So if they are on level number two, this is the amount that they can have left in that syringe. Anything less, it's not the appropriate thickness, anything more, it's too thick. So it's a real good way for us to teach our families, our patients and our staff, what they absolutely need to do. Now, the other thing that we need to be careful when we're testing, we need to take a look at what are the mixing instructions. So we need to follow those directions, we need to make sure that we're using the right amount of time for that liquid to thicken before we test it. And when we go to the product container, it's usually going to tell us, "You need to wait 30 seconds before you can drink it, "you need to wait three minutes before you

can drink it." And depending on the product, the liquid that you're thickening, with some thickeners if you put it in chocolate milk, you need to wait 10 minutes before you can drink it. Because the liquid needs to bind with the thickener. So if we are not allowing that liquid to thicken based on the manufacturer's instructions, our patients are drinking something that's not appropriate. It has not thickened yet. And the same thing when we're testing, we're testing a liquid that hasn't bound yet with a thickener. So you have to follow those directions.

They're also recommending that you test it at least twice. That way you know. You know, the first one could be a little bit of a fluke, especially when you're using starch, second time you might get a different reading. And you need to test the liquid at the intended serving temperature. And that's really important. What they have found is hot liquids, liquids that we drink hot, that's the intended serving temperature, test out at a certain reading level on the syringe when they're hot. As they cool off, it changes how they test. It may not be the same consistency if you tested it as the liquids cooled off. And the same thing, if we have a liquid that we're supposed to drink when it's cold, and we let it warm up to room temperature, it can test out completely differently as that liquid warms up. Well, that goes back to, oh my gosh, what happens when we're having this person drink the liquid that has set out on the nightstand for how long.

So, we need to keep in mind, if this is a liquid that is supposed to be consumed hot, how can we keep it hot so it stays at that consistency? And there are insulated mugs and cups that we can use that will maintain that temperature. And the same thing if liquids are supposed to be served cold, we can use the insulated mug, or you could use something called whiskey stones. Whiskey stones can be found at some of the stores that sell alcohol, have whiskey stones, you might find them in kitchen stores. They look like little metal ice cubes that you put in the freezer, and it will keep your liquid cold but will not dilute. So we're drinking that liquid at the intended serving temperature. Now there are some individuals that like to put ice cubes in our thickened

liquids to keep the liquids cold, and what they don't realize is, as that ice cube melts, it's going to dilute the liquid. So there are some products that you can turn into ice cubes. I mentioned the one product, SimplyThick, you can freeze that into ice cubes, and it will not dilute your liquids. There's another product called Aquacare H2O. You can make that into ice cubes. There is a powder called Nutillis, N-U-T-I-L-I-S, N-U-T-I-L-I-S. That can be put into water and then you can turn that into ice cube. So there's different ways that you can make sure this liquid stays at the intended serving temperature, and therefore it stays at its intended thickness.

I wanted to put this information and it was a warning that came out. There are some laxatives that our patients may have in their thickened liquids. This is a warning that came out for the laxative nicknamed PEG. It doesn't mix well with thickened liquids that are made with the starch thickeners. It doesn't allow the liquids to thicken. And they did not see this type of interaction if that PEG laxative was put in a liquid thickened with the Xantham gum. So something that, if you see this in your patient's chart, we can certainly make this information available to our nursing staff, that this is not a good thing to put into our starch thickened liquids.

When we look at our food characteristics, we need to keep in mind; moist foods are easier for our clients to consume than something that is dry. Sticky foods can be really difficult for our patients to process. Many times our patients have problems with food that they consider hard or tough. Sometimes meats need to be marinated to break up the collagen that keeps that meat tough. So, that puts our patients at risk if these conditions aren't met. We know that when we mix saliva with our food, as we break down that food, the saliva helps form a cohesive bolus and it's easier for us to swallow. That's really hard to do if you have dry mouth. So saliva is a really important component when we are chewing and swallowing. They have found that if we are chewing and breaking down the harder foods like nuts, raw carrots, we tend to process that into a finer particle than we do some of the other foods. So there's a lot of

research out there on different types of bites, and safe swallow particles. So when we get into the different levels, they are very concerned with how big the bite size is and how you can measure those particles to make sure it's a safe swallow particle for your clients.

One of the terms that they've mentioned in the literature is "Fork Mash-able." This term has been used in the past. And what they were suggesting is, if you take that fork and press down on the food, can you mash it? How easy is it to do that? Well, this really varies based on how strong the individual is that's doing the mashing. So everybody's hand strength is different, and your judgment is different. So they were trying to figure out what is a way that we can actually test this and be more consistent? And they came up with the term, thumbnail blanching pressure. So, you'll use this and you'll see this when we talk about level six, which is the soft and bite size. If you take that fork and you push your thumb and that fork down on that bite of food, your thumbnail should blanch white. I's going to take that much pressure for you to break through that food. So we don't need any fancy tools to figure this out, we're just going by, how hard do we have to press to make that thumbnail blanch white? And what they found is, that amount of pressure to turn the thumbnail white actually corresponds to your systolic blood pressure, and it's equivalent to the amount of compression the tongue has to do to the food when we're swallowing, when we're processing that bite getting ready for swallowing.

So they've actually been able to measure that on the tool called the IOB, The Iowa Oral Performance Instrument. And your speech pathologist may be using that to assess your client's tongue strength, and also use it in a therapy session. So, that's what you're looking for. When that thumbnail turns white, that is the pressure that the tongue needs to be able to process that food. Some other ways that we can test the food, they've looked at spoon-tilt, they've looked at fork-tilt, and they've also looked at fork-drip test. And this is going to tell us how cohesive the food is, how well it sticks

together, and how adhesive it is, how sticky. Now, we talked about in part one that your patient may be on a pureed diet, and what comes out of the kitchen is puree technically, but it's too sticky. And that's going to put them at risk because they don't have the strength to process that. So, this is a way for us to test how sticky or how adhesive the food is. And if we can't get that food off the fork or the spoon, it doesn't meet the criteria for that diet level, and we need to send it back to the kitchen. So, this is a way for our staff, our patients, if they're cognitively intact, they can do this themselves or the family.

We can test the food very quickly at the point of serving. Rather than in the kitchen, we can do this at bedside, we can do a quick little test in the dining room if we need to. It doesn't take a whole lot of time to do this. But we can look at; does this food meet the criteria or is it too sticky? So, what you're going to do is put the food on the spoon or you can put the food on the fork, and you're going to use a wrist flick. So if you do a quick flick of that wrist; you know turn the spoon into a quick flick, does it fall off the spoon? Or do you need more effort? You really need to shake that entire arm and elbow and shoulder in addition to the wrist. If it takes that amount of effort for you to get this food off the spoon, it's too sticky, and it's not appropriate for that patient's diet. So we've talked about the sticky mashed potatoes, where it's just kind of the wad, we've talked about the macaroni and cheese, that's really sticky, the pastas, the noodles, those could put our patients at risk. So this is a real quick way to find out; does it meet the diet criteria? So we can go to the IDDSI framework, we can see the images for all the different diets. But again, the images are just going to show us what it looks like, it's not going to help us determine how hard that food is. So we need to be able to test it. Well, the spoon, the fork, chopsticks, we can also use our fingers if we don't have utensils available. But there is a way that we can look at it. It may be too sticky for our patients to process effectively, efficiently and safely.

Now, this came out of the IDDSI newsletter. If you go to the IDDSI website, you can sign up for their newsletter, and it comes out monthly. You can also look at their resource pages and access all of the archived newsletters. So it's a great way to go back and get some information about what they've looked at in the past. They are saying, and we as clinicians know this, the best assessments for our patients to determine the diet that's appropriate is to watch them, we do the trials, and we can determine what they can handle safely and when they start to have problems. So that eyeballing; what's happening with the different food textures is really important. The modified is going to give us really good information, especially with liquids, but the modify isn't going to show you the impact of fatigue and eating more than one or two bites. So sometimes the modified doesn't really give us real world feeding ability, as great as it is to look at some other areas. So, they're really recommending that we look at the testing.

Now, sometimes a food can be safe and unsafe. One of the example that they bring out in this newsletter is an unripe banana is a choking risk. It's too hard. Where a ripe banana is not. So, is our kitchen staff gonna know? This falls on our shoulders many times to identify, "Yeah, I know it's a banana "and I know they should be able to have it "but it's not ripe enough." So we have to find another option for this individual. So when you're watching your patients in the meal, if you can see any problems they're having with a particular food item or texture, we need to document that, because our kitchen staff, the dietary staff may need to give this patient a different option instead of the difficult food. So, if we don't have ripe bananas, what can we give them in its place? So it's an education for everybody. We want them to be safe. So again, the images will give us an idea about what minced and moist looks like, and soft and bite size, but it's not going to give us a good idea of how hard it is to do that thumb blanching and so on.

Now, there were some concerns about rice and pastas. And this came up when they put out the original framework. There were individuals that were saying, "Well, it sounds like "and it looks like some of our rice dishes and our pastas "are going to be appropriate for level five, "but we're not sure about the dimensions." They felt the framework was a little bit ambiguous. So they researched this a little bit further. And what they found is, we all and when we're chewing, we don't chew things into a uniform bite size. There's going to be all different sizes of particles in that mouth. But, the average size for a particle is anywhere from two to four millimeters. So they felt it was really important to consider all the dimensions of the food; the width, the depth, and the length of the particles. So they felt they needed a little bit more differentiation. The adult particle size for level five which is minced and moist, your dimensions; no larger than four millimeter by four millimeter by 15 millimeter. And the 15 millimeter is the length of that particle. That four millimeter, that is the distance that you'll find between the tines of the fork. So if you measure from one tine to the other, it's that four millimeter. So, based on those dimensions, the rice and the cutter pastas would meet the criteria for level five as far as particle size, but you need to make sure that that noise criteria is also met.

They also have the dimensions for the younger children; two millimeter by two millimeter by eight millimeter long. So again, we're looking at the distance between the tines of the fork and the length of that bolus. The reason why they want these dimensions, it's small enough that it won't obstruct the airway. If does happen to get stuck, go the wrong direction, you're still going to be able to get air around that impacted food. I had a client that I saw through home health. And he had eaten some meat, and it got stuck in his esophagus. So he ended up going into the hospital, they removed the meat and we're supposed to follow him through home health. So we were talking about bite size. This is where you need to know exactly what happens to the meal time. This is a gentleman who ordered all of his meat from Omaha Steak. Now, if you've ever seen an Omaha Steak, those steaks can be two inches thick. So we can

cut it into that four millimeter by four millimeter, but we're gonna have to cut that thickness level because it's too thick for him to handle. So you need to know at a meal, what is this person usually going do to make that bite size appropriate, you know, what are they consuming? And he ordered everything from Omaha Steaks. So we had to really go through and take a look at, "Okay, this is what we need to do with this particular piece of meat to make it swallow safe for you."

When we take a look at the labeling on all the products that I've used out there, the companies that are providing thickeners, pre-thickened liquids, they have all adopted the IDDSI logos, the terminology and the symbols. So you will see the triangles with the number. That's going to tell you how thick that liquid is. So we have the color and we also have the number. There is no law, rule or regulation that says companies have to do this. This is completely voluntary. But most of the companies as I said that I've seen has adopted or have adopted the terminology and the symbols. So if you go to the website for IDDSI, you'll see all the companies that have really bought into the framework and use this labeling. Okay. IDDSI does not endorse any particular product, that's not their job. It was a very clear distinction. IDDSI came up with the framework. The companies that manufacture the thickeners and the pre-processed foods, they were providing the financial support for this effort, but they were not involved in determining the framework. So, it was a collaboration, but they had nothing to do with determining the diet levels. It was just a financial support and a collaboration on this.

Now, what we'll find with a lot of our individuals is they have a problem with mixed consistency, the duo consistencies. Now, sometimes it's really obvious to see the differences here, and you know it's a mixed consistency. We have the liquid and then we have the solid. So this is your vegetable soup, it is your cereal with milk, it is your fruit cocktail, it is your diced peaches in the syrup or whatever fruit in the syrup. Those are mixed consistencies. Some aren't as obvious. Watermelon, grapefruit wedges, orange wedges, could be considered a mixed consistency. Because when you bite into

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it, you have that squirt of juice, and then you have the solid component, you have the pulp. So it separates into two different consistencies in the mouth. So it's really important when we're making these dietary recommendations and distinctions everybody knows, if you're on thickened liquids, you may not be able to have these things. So there is a very distinct labeling for mixed consistency foods. You have to be able to handle both the solid component as well as the liquid. Because this is a really challenging combination for our patients. You need much more oral control for that purl and the juice.

This might be a spoon that you want to consider. This is called the Mite-e spoon. It's basically a colander with a handle. I had a lady that was in assisted living and we were called in to evaluate her because she was coughing when she was eating. Well, we saw her at lunch, no problem. Talked to the staff, they said that she really does cough. Well, alright, let's try a different meal. So we did dinner. Again, diagnostic testing, not a problem. Again staff said, "But she does." So we went in a breakfast and that's where we found it, because she ate cereal with milk. It was a mixed consistency issue. All of the other meals there was no mixing consistency present. So when we tried the Mire-e spoon with her, that made the biggest difference. We didn't need to actually change her diet, all we needed to do was give her this utensil, and it drained the liquid, so she could still have her cereal with milk, she could still have the fruit cocktail, but it eliminated the syrup, the milk, so separated those consistencies and she did much better with it. It's an option. The grays blends in with the traditional silverware on the table, the red, a little bit more distinct color for those who are perhaps visually impaired. So you have a couple options. So we need to keep in mind, with mixed consistencies, we have that separation. You may be able to control the solid, but the liquids spill. That premature spillage or poor oral containment, the liquids have already gone down before you even initiated the swallow. And sometimes those liquids will take the particles down with them before you've completely chewed everything. So we have that risk of penetration before you've actually triggered the swallow. As we

mentioned, with the mix consistencies, you need to be able to score each one of them. So you're going to have a level for the solid component and a level for the liquid.

So for example, when we're talking about soup with cubes, in this instance, the carrots, we have level six, which is soft and bite size for the carrot. And then we have level zero for the thin liquids. So you need to be able to document, they can handle both of those levels in the IDDSI framework. And the same thing when we're talking about, for instance, mashed potatoes and gravy. Are they able to tolerate both of those? So again, IDDSI is not mandatory. This was an initiative to come up with a better approach than what we had with the National Dysphasia Diet. I really like the IDDSI because it gives us a much clearer guideline for bite sizes, gives us a really clear view of medications and what diet levels can handle what type of medication, gives us a really good feel for the liquids and testing at bedside, but it's not mandatory. It is descriptive, not prescriptive. So we're not going to say, if you have Parkinson's, you need to be on this particular IDDSI level. They are not matching the diet with any particular condition or disorder. It's just diet levels.

Now, when we take a look at breads, technically, for breads, you won't have bread unless you're on level seven. But there are some individuals that miss their breads, and there's some breads that are really crispy and crunchy with that hard crust, there's others that are much softer, so you'll have all different consistencies with breads. What they have looked at is testing your bread. If you cut it up into the appropriate bite size for that particular diet level, in this case, level six, if you can cut that sandwich or that bread up into those bite sized pieces, patient specific recommendations, speech pathologist may say, "If we follow those bite sized guidelines, "perhaps we can keep some bread in this individual's diet." But most of the time, you're not going to see bread unless you're on level seven. You can also do slurries or pre-gelled breads, where you soak it or you marinate it in thicken liquid. It will look like a slice of bread, but you won't be able to pick it up. And you can do the same thing with vanilla wafers,

just basically marinated in thickener with liquid for a couple hours, and it should soften right up.

So we need to take a look at our levels. Again, you see that overlap between liquids and solids. We also see a little gray strip on the side of that food pyramid. And those are transitional foods. Transitional foods technically are a level seven, but, they're kind of special, because when you put them in the mouth, the temperature change, or adding saliva to that particular food item causes that food items to dissolve or melt or get really, really soft extremely quickly. So, technically, if you have a patient who was on minced and moist, which is very ground, particles fit between the tines of the fork, they may be able to have a transitional foods such as Pringles potato chips, or cheese curls or cheese puffs, because it melts really quickly, dissolves really quickly. So we have that option. Now those are foods traditionally that we don't have a lot of nutrition. If we consume that, it's kind of like your junk food, but it can be used to help improve the chewing, give your patient just that satisfaction that I could bite something for once, everything isn't soft. But again, that's something that we evaluate in the evaluation.

When we're looking at the drinks, again, we have our different colors and our different levels going from zero through four. Now, in the testing, for everything liquid level is going to tell you how much is left in that syringe after that 10 seconds. So, if we're looking at level zero, this is our thin liquid. So it flows really, really fast, there will be less than that one milliliter in the syringe after 10 seconds. So this is what you and I would drink. There's no restrictions here whatsoever. It will work in any straw, any cup, any nipple. It's a thin liquid. It always gives you the rationale. Now, when we get to number one, which is slightly thick, this is a little thicker than water. It's going to take a little bit more effort, and it still goes through a straw. This is the thickness that they find in the anti-regurgitation formulas for infants.

Now, they have talked about, you could have an adult that drinks thin liquids just a tad too fast to safely control that liquid. They don't necessarily need nectar, but then is just a little bit too difficult for them to control. They might do well with the slightly thick liquids. So there is the possibility here, it doesn't just have to be a pediatric population. So, if we're going to do the syringe test, you're going to have anywhere between one and four milliliters left in the syringe after that 10 seconds. When we get to mildly thick, this is going to take a little bit more effort to drink out of your standard straw. This is the first time I've actually seen in any framework or literature, the discussion about the different bores of straw. But you will see that in the IDDSI. So if you go to Amazon and you look up all the different boards of straw, you might want to have a selection of each of these. So, with mildly thick, it's going to take a little bit of effort to get it through the standard straw. And when we're looking at the flow test, you will have anywhere from four to eight milliliters left in the syringe, so it would be your pink area. So this is what we're gonna have. All right.

Now, there are times you might have a client that wants to drink out of a straw but they're really impulsive. There is a straw that you can try with your patients and the company will send you samples. It is called SafeStraw. And it is from Bionix Medical, and that is B-I-O-N-I-X, Bionix. And the website is bionix.com. If you go to their website, they have a button that you can click on and request samples. So for this SafeStraw, it's an attachment you put your straw on and it controls the flow. They have a blue SafeStraw that is for nectar thick liquids, and they have a white SafeStraw that is for thin. You cannot use the safe straw with sodas. It won't allow you to limit the bola size. And you can't do honey thick liquids, they're just too thick. But it works for any other nectar thick liquid or any other thin liquid. Those are reusable, you can clean them, but it limits the bolus size. So if you have one of those impulsive individuals, they still might be okay with a straw if you use that type of attachment, and it's called SafeStraw. When we get to moderately thick, we have a little bit more effort, and now we have a wider bore straw that it can go through. We don't need to do any processing

with this, it's going to be a little bit thicker as far as our ability to control it. When we're thickening liquids, we're trying to slow it down to match the speed of the swallow. So certainly, the thicker the liquid is, the slower it's going to pass through the oral cavity, but it also takes a little bit more tongue effort. So it's kind of a mixed and double edged sword. We need that tongue strength to deal with that thicker liquid. So when we're doing the syringe test with this, we'll have more than eight milliliters left in that syringe after 10 seconds.

When you get into it the extremely thick or the pureed, this is going to be a very slow movement through the oral cavity. You cannot do a syringe test on this, it's just not going to flow through. But we have the rationale for this. It's very hard for an individual to stay hydrated if they're on liquids that is this thick. And we still see some of these recommendations. When we get into the solids, we have minced and moist. So this is ground. When we're looking at this food, you can eat it with chopsticks if you have really good hand control, you can shape it into a ball. It's moist, that's a big part of the criteria here. It's moist. You do have lumps, you can see them, but the lumps are easy to squash with your tongue. We have the bite size for the pediatric and the adult, you should be able to squish it through the tines of the fork without having that thumbnail blanche white. It should be an easy push through the tines of the fork. Rationale, we don't require biting for this diet. We do need some minimal chewing, and the tongue force alone is able to process that bolus and move the particles. So we've just made the processing much easier for them. When we get into the testing, we can do a fork pressure test, fork grip test, the spoon tilt test. So again, you're tilting the spoon, does it fall off with just that little wrist flick, or are you really having to do a very effortful, almost the whole arm shaking to get that food off the spoon? If that's what it takes, it is not meeting the criteria for that diet.

When we get into soft in bite size, again, you can eat this with the chopsticks. You don't need a knife to cut it, but that knife might actually help you load the fork of the

spoon with that bite. We have very specific bite sizes, again pediatric and adult. The adult is 1.5 centimeter by 1.5 centimeter and no larger. If you have a patient on this kind of a diet and that is their bite size and they choke to death, when they do the autopsy, they are going to measure the food that they take out of the airway. And if it doesn't measure that with depth, etc, it is not soft and bite size. So again, very specific guidelines for bite size. We do need to chew but we don't need biting. That's why we have the bite size. You're going to need that tongue force to be able to move that food, to help with the processing. So there's different ways that we can test it. Food tested with the fork, the spoon. You can also do chopstick testing. Can you break through that food with the chopstick? Can you squish it between your fingers? So with that soft and bite size, that thumbnail is going to blanche white when you push. And when you remove your thumb and the fork, the food does not spring back up.

They initially did not have an easy to chew diet. They went right to regular, but they realized they needed something in between for the person who could eat without bite size restrictions, but they just couldn't handle complete regular textures. So we don't have any bite size restrictions here, it's just easy to chew. They need to be safe with dual consistencies. So, we need to make sure that's the case, but you're not going to have anything that's really hard. Spell checks failed me here, instead of touch, it should say tough. I apologize for that. There's not anything that's fibrous, we don't have seeds. So we are taking out some things that would pose a hazard for them. The rationale for this diet, they can bite, they can chew and they can process, but they don't get tired. So if your client fatigues, this is not gonna be a diet that they're going to do well with.

And then we get to regular. So we've got our normal foods, no restrictions for sizes, no restrictions for hard, tough, you get everything including the mixed consistency. Again, if you can handle the liquid component. So we've got a rationale. And we don't need to test this, during regular foods all is good. Now we get into the transitional. And this is

where we have the food start is one texture, it changes when we add saliva or we have that temperature change in the mouth. You need minimal chewing at best. And it kind of melts in your mouth. So anything from level five all the way up, you can use these with. Again, I'd want to assess my clients. There might be some individuals that just can't handle it. So very patient specific recommendation. But this gives you some ideas about what are transitional foods. The cheese puffs, the Gerber graduate puffs, the Pringles potato chips, they have biscuits, cookies, crackers. And they're saying some. So again, you need to identify with your patient, is this something that's going to work for them?

We talked about bread. Regular bread is found on level seven, not on five or six. This is a real choking hazard, based on the literature, or based on autopsy reports. We can't break the bread down because of its fibrous nature. But you could potentially pre cut the bread or the sandwich into that very specific bite size. And your patient may do okay with that. So again, they're saying is case by case assessment. We can do the slurry breads, the pre-job where you're kind of marinating the bread in your thickened liquids, and it will soften over time. But they're recommending that you always use the testing guidelines for IDDSI if you have any concerns. Now, I didn't realize this, it was kind of an eye opener. The number of chewing strokes, the amount of strength and stamina required to make bread swallow safe is about the same as is required for peanuts. Who knew? When you take a look at that, which one do you think you would do better with? Bread and the peanuts, same chewing stroke, strength and stamina pretty equal. We need saliva to moisten the bread. If you have dry mouth, this isn't gonna go very well for you. Bread gets very gummy, and it can stick, and then it's a choking hazard. We had a gentleman that we would not allow him to have bread because he was coughing on it. And he wasn't a happy camper, but when they did his swallow study, what happened with bread is, when he chewed it and swallowed, it stuck on the post cereal pharyngeal wall. And he didn't have a lot of sensory receptors, so he wasn't very aware it was back there. But when the bread finally fell off, the post

cereal pharyngeal wall, we have an open airway. And that's when he would start with the coughing. So, very important that we understand the rationale behind bread. So if you go to the IDDSI frequently asked questions, they are going to have information on bread. Gives you the rationale and can help us with the explanations to our staff, our patients and our families. It makes a little bit more sense.

The same thing with their frequently asked questions about dentition. Individuals who have dentures don't process foods the way individuals with natural teeth do. They don't have the chewing effectiveness. Their chewing effectiveness with dentures is about 25% of that person who has natural teeth. Individuals with dentures have a larger coarser bolus than we do with natural teeth. The reason behind that is, when you're chewing with your natural teeth, the tooth in the socket moves ever so slightly when you're chewing, and it activates something called a periodontal ligament. That ligament helps keep that tooth in the bone. Well, when that ligament is activated, it sends messages to the brain and the brain tells your body, "This is how you have to adapt to chew," based on what's going on. So you get that feedback. What do you have to do differently to chew this food better? With dentures, you don't activate a periodontal ligament. So the bolus is often larger and coarser. You couldn't make those accommodations, you had no feedback to help you. When we get into the medications, ASHA recommends that you look at meds when you do the swallow study. They have found that even if you're a healthy individual with no dysphasia diagnosis, you can still choke on pills. So the framework addresses this.

At least level six and level seven, they say you may be able to manage the solid dose meds like tablets and capsules. If you're on level five minced and moist, may manage oral meds. But when you're on purees, not so much. The pills, tablets and capsules are considered a choking risk at the pureed diet level. Now, sometimes you'll have a facility that crushes or cuts, there are some med you can't crush or cut. When you put that medication that's been crushed or cut in a spoon of applesauce with other meds, they

start interacting when they're on the spoon before you've even taken it. So the recommendation is, kind of the rule of thumb, if you have to modify medications to get the patient to swallow them, you need to figure out a different way for them to get the med. So if you have a compounding pharmacist, they can turn that med into a liquid or time release patch, that's a possibility.

Here's some products that you may wanna consider. Spray N Swallow is a natural pill lubricant. Comes in cherry and mint flavor. You spray both sides of the pill, it makes the pill slippy and it's easier to swallow. Oralflow pill cup, I wanna caution you with this. I personally would not use this with anybody that has a dysphasia, a healthy individual, maybe this would work for them. But you put your pills in that spout on the cup lid. And when you put that spout in your mouth, it deposits the pills about mid tongue, and then the liquids push the pills over the back of the tongue. From my dysphasia clients, I'm thinking that's just an accident waiting to happen. So I don't like that for my clients who have a swallowing problem. Swallow Aid is a gel that can coat your pills. Now this is a relatively new product, it's called Phazix. Taste like vanilla. It kind of blocks the nasty taste and smell of your medications. It gets that pill through the system, it lubricates, so the pill is actually broken down by the gastric acid when it gets to your stomach. Now this product is labeled for IDDSI. This is a level three IDDSI. I've tasted this, it tastes like vanilla. So this is an option for your individual who lives at home, you see through home health as an outpatient or in assisted living when this patient has to basically provide everything that they need, this can go in their med cart drawer.

Now, in your nursing facilities, that product has a different name. It's called Assure Slide. And it comes in a pump dispenser, does not need refrigerated, so there is no worry about being cited to have something on the med cart. But this is another option. This company has been very good about sending some samples and doing some nice phone consultations and email communication back and forth. So this might be a really good way to help your patients, kind of a band aid approach to get them to take their

meds. So you can take a look at that. And again, they're all labeled for the IDDSI. When we get into the Modified Barium Swallow, there is a product called VARIBAR that has been labeled for the different levels of IDDSI. So, you can go on their website and take a look. But again, we need to make sure that we're using good consistencies and a good protocol. So the VARIBAR products have been mapped out to the different IDDSI levels. And if you use something called MBSimP, the modified barium swallow impairment profile, that is an effort to standardize writing reports for Modifieds. They've adapted their template to include the IDDSI terminology.

So we've got that information for you. Resources that you can look at from the IDDSI website, I would recommend that you download, print out the framework. They're going to have the autopsy reports with all the list of foods that they found create a choking risk. I would download the frequently asked questions. That's where they address the breads and the medications and the dentition. On the IDDSI website, you'll be able to find images and handouts you can reproduce, you can sign up for the E-bite newsletter, you can look at the archive newsletter, they have videos on how to use the protocols, and they also have information on medication studies. So if you look past our ending slide, before you get to the bibliography, you'll be able to see some of this. And again, I would direct you to the IDDSO.org website and you can wander around there and take a look at everything that they've got.

So, our wrap up. Remember the different levels that we have for the liquids and solids. And there is some of that overlap. We've identified the rationale for use, why it would be important that a patient be on this particular diet or liquid consistency. This is not a mandatory requirement, it's not a law, it's not a regulation. My feeling is, I think it's more comprehensive than what we have with the National Dysphasia Diet. And it's so much easier to train your patients, your staff and your families on how to test. Just by eyeballing the food, you'll know does it fit through the tines of the fork or not? Can you blanch that thumbnail white. So great ways that you can test it without having to bring

in a lot of equipment. Make sure that you educate the staff so they understand why this rationale, the diet was recommended. And then I would take a look at the medications in the IDDSI, and all the different products that we mentioned that may help your patients right now. Swallow their medication without dysphasia risk. So I wanna thank you so much, and I will toss it back to our moderator.

- [Fawn] Thank you so much Denise for a great talk. There are some other resources here at the end of the handout, and I'll just pull up your contact information. So if anyone has any questions, they can always reach out to you.

- [Denise] Absolutely.

- [Fawn] All right, thank you so much for today. Hope you join us again on continuedinoccupationaltherapy.com. Thanks so much.