Use of the ICF in Dysphagia Management

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ABSTRACT

The evaluation and intervention of persons with dysphagia represents a significant percentage of speech-language pathologists’ caseloads in medical settings. Because of its overtly medical nature, there has been considerable focus dealing with the direct physical health aspects of dysphagia management. This article argues that the use of the World Health Organization’s International Classification of Functioning, Disability and Health (ICF) by clinicians can expand and greatly enhance the outcomes for persons with dysphagia. The different components of the ICF are discussed in relation to dysphagia assessment and management. The article concludes by noting that speech-language pathologists can use the ICF framework beneficially to justify and strengthen their role in the management of dysphagia.

KEYWORDS: ICF, dysphagia, outcomes

Learning Outcomes: As a result of this activity, the reader will be able to (1) demonstrate an understanding of dysphagia as a potential social disability, (2) demonstrate an understanding of how dysphagia can be assessed and treated via the components of the ICF, and (3) demonstrate an understanding of how viewing dysphagia through the ICF framework can enhance dysphagia management.

The exact prevalence and incidence of dysphagia is not known but it is estimated that prevalence may be as high as 22% in those older than 50 years of age; ~10 million individuals in the United States are evaluated each year for swallowing difficulties.¹ Dysphagia assessment and intervention accounts for a significant percentage, in some cases the majority, of the caseload for speech-language pathologists who work in medical settings. Speech-language pathologists work with persons with difficulties in the oral and pharyngeal stage of the swallow, which includes from entry of food into the mouth until the time food enters the esophagus.

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Of all the disorders speech-language pathologists evaluate and treat, dysphagia is the most medical in a traditional sense of a medical disorder being one that could potentially result in death. Dysphagia can result in aspiration pneumonia, malnutrition, dehydration, decreased functioning of the pulmonary system, and inability to take medications orally. Decreased saliva production can also increase the likelihood of oral bacteria developing in the oral cavity and spreading to the rest of the body.

The World Health Organization (WHO) defines health as “the complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” In the case of dysphagia, which can cause disease or infirmity, it might appear that this expanded definition of health is not necessary. However, when dysphagia is examined broadly, it is clearly not only a chronic disability but also one that has potential activity/participation limitations and psychosocial consequences, some of which are similar to having a communication disorder. Viewing dysphagia through the lens of WHO’s International Classification of Functioning, Disability and Health (ICF) can thus expand speech-language pathologists’ view and approach to dysphagia assessment and intervention.

Unlike communication disorders such as aphasia, the literature on dysphagia rarely discusses dysphagia in terms of life effects, concentrating mainly on direct health effects. DeRenzo states the following:

Although there are no universal food customs or dietary laws, every society, from preliterate to technologic, develops eating and drinking customs and attaches symbolic value to certain foods and ways of consuming specific nutrients. These customs dictate what may and may not be consumed, at what times, and in what places. Most often, these customs have little to do with nutritive factors but are, instead, designed to delineate and solidify social relationships. Religious and secular ceremonies are replete with ritualistic eating and drinking behaviors symbolizing life and merriment. The gaiety of the bacchanal continues to symbolize life and vitality to this day. The provision of food and drink, whether or not actual feasting occurs, is characteristic of most rites of passage. Often saying “We eat together” is saying, “We trust each other, even if we are not members of the same tribe or kin. This is as true for the Nyakyusa of Tanzania as for teenagers in a U.S. high school cafeteria. The meanings we attach to eating and drinking, and swallowing are connected to our most cherished activities and remind us of the intangibles of human existence—trust dependence, social worth, and love—and, therefore, become integral to how we see ourselves as individuals and in relation to others” (p. 102–103).

It is striking how the above quote also describes human communication. It is also true that communication and swallowing occur together, a characteristic rarely discussed in the dysphagia literature despite the crucial implications for dysphagia management of persons in their natural environments. This quote should inform those in the field how limiting it is to view dysphagia in purely technical rather than more than humanistic terms.

Dysphagia is described in this article using the components of the ICF: Body Structures, Body Functions, Activities and Participation, Environmental Factors, and Personal Factors. All ICF codes have qualifiers that indicate the severity of the limitation or restriction. These universal qualifiers attached to the ICF codes range from 0 (no problem or within normal limits) to 4 (complete or profound problem). The relationships among these different components of the ICF are discussed, an example using the ICF to describe dysphagia is described, and a rationale for why speech-language pathologists should adopt the ICF framework in their work with this population is discussed.

### ICF BODY STRUCTURE AND BODY FUNCTION COMPONENTS AND DYSPHAGIA

The Body Structures and Body Functions codes that directly describe aspects of swallowing are presented in Tables 1 and 2, respectively. In addition, the Body Functions codes that describe behaviors that may influence food and
liquid intake are presented in Table 3. The Body Structures items cover parts of the neurological system, and structures needed to carry out the physical act of taking food into the mouth, appropriately handling it, and getting it into the stomach, such as teeth, tongue, the jaw, and the larynx. These Body Structures codes can be modified via use of the qualifiers to specify how the structure deviates from the norm (e.g., deviating position, partial absence) and whether the abnormalities are unilateral or bilateral.

The Body Functions codes that directly describe the swallowing process including specific movements such as Biting (b5101), as well as more global codes such as Pharyngeal swallowing (b51051). The qualifier for these codes describes the extent that the movement, speed, and efficiency of the movement deviate from the norm. In addition, there are several Body Functions codes that have a significant impact on whether a person will be a successful in eating and drinking. The oral stages of the swallow are voluntary and thus require cognitive input to complete successfully. The pharyngeal stage of the swallow is initiated by specific oral manipulations of the food by the tongue. Thus both the oral and pharyngeal stages of the swallow require cognitive input to function optimally. As a result, ICF Body Functions codes dealing with motivation, appetite, taste, attention, insight, and memory functions are included in Table 3. These behaviors need to be assessed to address comprehensively the swallowing difficulties of those with dysphagia because they contribute to risk factors for aspiration (food going into the lungs) and choking.

ACTIVITIES AND PARTICIPATION AND DYSPHAGIA

The Activities and Participation codes dealing directly with the intake of food and liquid are listed in Table 4 and Activities and Participation codes related to eating and drinking behaviors are listed in Table 5. As stated previously by DeRenzo, eating is a social behavior and thus the evaluation of the severity of the swallow should also include the effects of dysphagia on these activities. In the Activities...
and Participation component, there are four potential qualifiers. The first and fourth qualifiers relate to the behavior in persons’ real lives and are the performance qualifiers. The second and third qualifiers refer to behavior directly observed in the clinical setting and are the capacity qualifiers, with the former being how a person does without clinical assistance, such as in an assessment, and the latter how a person does with clinical assistance, such as cueing from the clinician. The first performance qualifier describes how persons function in their actual lives and the fourth performance qualifier describes how persons would function if they had no assistance from the environment.

The four qualifiers of the Activities and Participation component are critical areas for speech-language pathologists to systematically evaluate and examine the relationships among them. In a typical clinical noninstrumental evaluation of the swallow, clinicians announce to the clients that they are there to observe them eat to evaluate their swallowing. The clients are told to eat while the clinicians closely observe the activity and also often palpate the throat for signs of pharyngeal dysphagia. This evaluation makes the act of eating very sterile and clinical as opposed to the more normal congenial manner of eating with other individuals. After this evaluation, the clinicians write up the observations in the most objective language possible. The clients know that not only are they being evaluated, but also that the clinical judgment will influence what types of diets will be recommended. There is no talking during the evaluation and clients often are not eating food they particularly enjoy, especially if they are being evaluated in a medical setting. Contrast this clinical, sterile scene with eating at a wedding. At a wedding, there is talking (often over noise) eating and drinking, and the drink may well contain alcohol. The persons are happy to be there and the food and drink are a means to celebrate. The behaviors represented by the Body Functions codes that contribute to successful eating and drinking can be markedly different in the person’s natural environments, especially the cognitive behaviors such as attention. Considering that dysphagia has direct health consequences, overall eating behavior that is different from that observed in the clinic must be addressed in intervention.

In the evaluation of eating and drinking codes of the Activities and Participation component of the ICF, it is important to note how broadly these codes are written. They include getting the food from the plate to the successful swallow, as well as other behaviors such as appropriately using utensils and opening bottles. This type of evaluation necessitates an interdisciplinary approach. No one member of a single profession may be able to adequately rate these codes on his or her own; the two principal professions are speech-language pathology and occupational therapy. This interdependence may actually be best for patients in that adequate overall eating and drinking behavior is the goal for all patients. Awareness and appreciation of all aspects of eating, including Body Functions (e.g., biting and sustained attention),

### Table 4 Activities and Participation Codes: Swallowing

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>d550</td>
<td>Eating Carrying out the coordinated tasks and actions of eating food that has been served, bringing it to the mouth and consuming it in a culturally acceptable ways, cutting or breaking foods into pieces, opening bottles and cans, and using eating implements, having meals, feasting or dining</td>
</tr>
<tr>
<td>d560</td>
<td>Drinking Taking hold of a drink, bringing it to the mouth, and consuming the drink in culturally acceptable ways, mixing, stirring, and pouring liquids for drinking, opening bottles and cans, drinking through a straw or drinking running water such as from a tap or a spring; feeding from the breast.</td>
</tr>
</tbody>
</table>

### Table 5 Activities and Participation Codes: Related to Eating/Drinking

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>d630</td>
<td>Preparing meals</td>
</tr>
<tr>
<td>d850</td>
<td>Remunerative employment</td>
</tr>
<tr>
<td>d9100</td>
<td>Informal associations</td>
</tr>
<tr>
<td>d9191</td>
<td>Ceremonies</td>
</tr>
<tr>
<td>d920</td>
<td>Recreation and leisure</td>
</tr>
<tr>
<td>d9300</td>
<td>Organized religion</td>
</tr>
</tbody>
</table>
Activities and Participation (e.g., successfully eating the food to the mouth), Environmental Factors (e.g., lighting in room, pleasantness of eating partners), and Personal Factors (e.g., food preferences) need to be realized by all members of the interdisciplinary team, regardless their discipline specific goals for the patient. If the individual spills half of the food getting it from the plate to the mouth, or spills half of the food from the mouth while chewing, the result is still increased chance of malnutrition. In addition, if the individual has trouble with one or both activities, the client’s ability to eat appropriately in social settings is severely compromised. Such a person might avoid eating with others with the consequence that they end up eating very little at all. In addition, important ritualistic eating could be affected, such as that associated with religious ceremonies (e.g., a devout Roman Catholic person being unable to take Holy Communion).

ENVIRONMENTAL FACTORS AND PERSONAL FACTORS IN DYSPHAGIA

The Environmental Factors component of the ICF is needed to understand fully the impact of dysphagia on persons. The Environmental Factors codes most related to swallowing are listed in Table 6. Unlike the other qualifiers in the ICF, environmental factors can be evaluated as either facilitators or barriers. As seen in Table 6, environmental factors include immediate facilitators or barriers, such as whether the appropriate food consistency is available, to other effects such as the support and attitudes of family members. For example, Attitudes of health professionals is a code in the ICF and may affect whether a given patient is even deemed appropriate for dysphagia intervention, such as with frail elderly patients.

Attitudes and support of all persons in the clients’ environments are influenced by culture. One of the signatures of any culture is what foods are consumed and how they are consumed. The effect may be that two people with technically the same severity of dysphagia may function very differently because of their culture. For example, in cultures that favor large consumption of meats, a person with difficulty with mastication of dry foods may have more trouble eating socially than in a person with the same dysphagia symptomatology in a culture that eats mostly rice and soft vegetables.

Personal factors are those characteristics of the person that are not related or due to the health condition. They include demographic information, such as age and race, as well as personality traits, such as coping styles and motivation. Given that eating and drinking are behaviors, they are subject to wide individual variations in food and liquid preferences as well as eating styles. Some people are fast eaters and others premorbidly ate slowly; some people eat a lot, whereas others eat relatively little. In liquid preferences, there are those who drink coffee all day and those who only drink water. In terms of personality, some people react to challenge with despair, whereas others approach all challenges pragmatically and systematically. When persons have dysphagia, these preferences and personality traits influence everything from their reaction to having dysphagia to how willing they are to follow dysphagia precautions.

When dysphagia recommendations go against a person’s personal and/or environmental factors, there are ethical issues because of the direct health aspect of swallowing. Two of the tenets of health care ethics are autonomy and beneficence. Autonomy refers to persons’ right to make their own health care decisions, even if they contradict those of health care professionals. Beneficence refers to making sure that maximum benefit is provided to those persons.
given intervention. In its annex discussing the ethical use of the ICF, the ICF states that the ICF codes should be assigned with full knowledge of the persons whose behavior is being evaluated, with the person having the right to object. The ICF emphasizes the autonomy aspect of health care ethics. In the use of the ICF, there are several ethical dilemmas that could occur in dysphagia management. For example, if a person has a cognitive-communicative disorder along with dysphagia, the speech-language pathologists might be likely to attribute his or her refusal to follow dysphagia recommendations to decreased insight and thus an impairment rating would be warranted on that ICF Body Functions code. If a person has the right to know what his or her ICF code rating is, then there could be conflict between the clinician and the patient over a decreased insight code being used to justify violating individual autonomy regarding food preferences.

DYSPHAGIA ASSESSMENT
The American Speech-Language-Hearing Association (ASHA) Preferred Practice Patterns for the Professional of Speech-language Pathology states that dysphagia evaluation should follow the ICF framework, including “normal and abnormal parameters of structures and functions affecting swallowing; effects of swallowing impairments on the individual’s activities (capacity and performance in everyday contexts) and participation; contextual factors that serve as barriers to or facilitators of successful swallowing and participation for individuals with swallowing impairments.”

Body Structures and Body Functions Assessment of Dysphagia
Dysphagia assessment typically involves both a clinical assessment and one or more instrumental assessments. The clinical assessment includes the case history and medical background, which could capture key body structures (e.g., cranial nerve or cerebral lobe damage) and personal factors (e.g., age, occupation, family), as well as the specific medical etiology of the possible dysphagia. In the clinical examination itself, the Body Functions codes dealing with the oral stage of the swallow can be evaluated, as well as some indications of the pharyngeal-stage swallow. Depending upon how the clinical assessment is done, the capacity qualifiers of the Activities and Participation items regarding overall eating and drinking behavior could be evaluated. However, if the person is fed the food by the clinician, then eating style cannot be evaluated. Another limitation is that in the medical setting, persons often are not given the usual foods and drinks they consume. More detailed background questions of the person and/or their significant others about eating and drinking behaviors could help fill in the gaps of possible relevant Activities and Participation areas as well as important Personal and Environmental Factors.

The two primary instrumental evaluations for dysphagia are the flexible fiberoptic examination of swallowing (fiberoptic endoscopic evaluation of swallowing [FEES]) and the videofluoroscopic modified barium swallow evaluation. Both of these evaluations assess Body Structures and Body Functions components of the swallow. Given that they evaluate the swallow in a decidedly artificial environment with a usually limited rate and amount of food presented, the interpretations from these two evaluations must be tempered with information that evaluates other components of the ICF framework. In fact, basing dysphagia evaluation and management only on these instrumental evaluations may lead to recommendations with limited relevance or practicality for a given patient.

Activities and Participation Assessment of Dysphagia
Sonies defines functional eating (in parallel with a definition used for functional communication) as “the ability to eat a meal effectively and independently in a given environment so as to sustain adequate nutrition for a healthy lifestyle” (p. 263). Assessment of eating at drinking at the Activities and Participation level is not completed as regularly as Body Structures and Body Functions testing because there are fewer agreed upon measures for Activities and Participation.
There are several measures that look broadly at eating proficiency. One measure that has been used by speech-language pathologists to evaluate overall eating and drinking behaviors is the ASHA National Outcomes Measurement System for Swallowing. This is a seven-level scale that ranges from “Individual is not able to swallow anything safely by mouth. Compensatory strategies are effectively used when needed” to “The individual’s ability to eat independently is not limited by swallow function” (p. 35). Other global assessments of eating and swallowing include Wisconsin Speech-Language-Hearing Association’s Functional Outcome Assessment Measurement of Swallowing, and the Australian Therapy Outcome Measures Swallowing Scale.

Although these measures evaluate overall eating proficiency, they still link the overall eating behavior with the actual physical capabilities of the swallowing mechanism. For example, they do not directly consider cognitive characteristics of the person or the eating environment other than some measures that broadly address the independence of eating. These measures are appropriate for the measurement of codes for Activities and Participation codes of Eating (d550) and Drinking (d560) but not for the possible social limitations of having dysphagia. Sonies notes that these measures tend to be developed for specific facilities or organizations and are thus not well standardized.

One measure that is both well standardized and also includes broader aspects of the Activities and Participation restrictions and restrictions secondary to dysphagia is the SWAL-QOL tool. This measure, which also looks at quality of life issues, is appropriate for looking at the performance qualifier of the Activities and Participation component in that it examines real-life functioning of persons with dysphagia via the patients’ perspectives. As a result, it looks beyond the specifics of the swallow to how being limited in swallowing effects one’s ability to function in society. The SWAL-QOL includes questions regarding both Body Functions and Activities and Participation behaviors. Examples of Body Functions skills on the SWAL-QOL include patient reports of coughing, food being stuck in throat, difficulty chewing, and drooling (b51051, b5102, b5103). Examples of Activities and Participation behaviors on this assessment measure include the following limitations or restrictions secondary to the dysphagia: (1) not going out to eat, (2) restrictions on social life, (3) changes in work or leisure, (4) avoidance of social gatherings such as holidays, (5) suspected role changes in family, (6) no longer enjoying or desiring to eat, and (7) taking longer to complete meals.

Environmental and Personal Factors Assessment in Dysphagia

As with other areas of the field, the systematic assessment of environmental and personal factors related to dysphagia is lacking. The SWAL-QOL includes no direct questions about Environmental Factors but does have a more Personal Factors questions on it than the typical dysphagia assessment, including ethnicity/race, years of schooling, and marital status. The same authors produced the SWAL-CARE, which looks at the one environmental factor of how the clinician interacts with the client. Most of the questions are factual ones dealing with how specific information is presented, but there are also questions that may tap into the attitudes of the clinician, including whether the client believes that the clinician puts the client’s needs first, and if the client has confidence in the clinician (e355 and e450).

The effects of the environment on patients with dementia and dysphagia have been investigated. Changes in lighting (e240) or level of sound in room (e250) as well as the level of support from family (e310 and 315), personal care providers (e340), and health professionals (e360) can make the difference between living successfully with dysphagia and dire physical and social consequences.

The relationship between Environmental Factors and Personal Factors with dementia and dysphagia has been described by Brush et al. in discussion of a fictional (yet typical) woman admitted to a nursing home; a combination of environmental and personal factors contributed to poor eating and drinking behaviors. Environmental factors discussed were the lighting and seating arrangements of the dining room, the type of meals provided, and the overall environment of the facility.
room, as well as mislabeled food, which reduced her ability to enjoy mealtimes. A personal factor alluded to is that the resident previously liked spicy foods and now must eat bland nursing home food. These factors alone might contribute to poor eating, but with such patients there is often at minimum an underlying oral-stage dysphagia. The combination of having more mechanical difficulty with chewing and manipulation of the bolus and eating under less than desirable circumstances may have a negative synergistic effect on nutrition and hydration.

Even when the importance of Environmental and Personal Factors components is acknowledged, there are still no agreed upon standards to assess them. This may be due to the belief that the person with dysphagia is the identified patient and thus all attention should be on trying to “fix” the patient. The environment does not have a possible life-threatening illness, so it is not evaluated for possible intervention. In the traditional medical model, only the person with the disease need be treated.

**Intervention Using the ICF Framework**

Given the preponderance of Body Functions and Body Structures assessments of dysphagia, it is not surprising that most dysphagia therapy focuses on these aspects of the disorder. In fact, these aspects must be worked on to ensure decreased risk of aspiration and adequate nutrition and hydration. This approach, although it is essential, is not sufficient to intervene globally with persons with dysphagia. As research with the SWAL-QOL has shown, dysphagia has far-reaching consequences.

The development of assessment tools examining Activities and Participation and Environmental and Personal Factors of persons with dysphagia will lead to better intervention for this population. Sonies states “…it is suggested that the swallowing problem be viewed in relationship to how dysphagia affects the emotional stability, happiness, socialization, and friendships, and satisfaction with life of the person with the impairment. Once we have an indication of which measures are most influential for patient functioning and well-being, the most critical elements of an assessment can be used to focus dysphagia treatment” (p. 274).7

**CASE EXAMPLE**

Dr. D, a 67-year-old man, has a new stroke that has caused a mild to moderate oral-stage dysphagia secondary to an infarct in his motor cortex of his left frontal lobe. Last year, he had two mild strokes, which affected his left prefrontal lobe and his left temporal lobe, resulting in a mild cognitive communicative disorder characterized by impairment of higher level abstract thinking and problem solving, and difficulty making new verbal memories.

The clinician evaluated Dr. D as an outpatient 2 weeks after he was discharged from the hospital. A clinical evaluation of him in the clinical room with food from the hospital cafeteria demonstrated that he had some coughing during meals, although he denied he was having any difficulty eating. He also complained about the modified diet he has received, telling the clinician that he still eats steaks despite the difficulty and length of time it takes him, that he still has coffee, and that before his stroke he would drink 6 cups of coffee a day. His case history indicates he has been married for 30 years and is a retired biology professor who makes a comfortable living with income from a product he patented and is still a top-selling biology textbook. His favorite activity is eating out with his wife at different restaurants and going to baseball games with his two brothers. A videofluoroscopic modified barium swallow evaluation revealed moderately decreased mastication skills, mild difficulty forming and manipulating the bolus, and premature spillage of food and liquids into the pharynx. He had no pharyngeal residue after the swallow. In one instance, there was an estimated 5% aspiration of liquids before the onset of the pharyngeal swallow, which was accompanied by coughing.

In this case, the relevant Body Structures impairment would be the damage to his cerebral lobes, with a qualifier indicating that this damage occurred on the left side. These body structure abnormalities could be indicated using the ICF without necessarily knowing the cause or etiology. The primary new Body Functions impairments would be impaired...
chewing (b5102), oral manipulation of food and control of bolus (b5103). Body Functions impairments secondary to his previous stroke include higher abstract thinking (b1640), problem solving (1646), development of long-term memories (b1441), and insight into difficulties (b1644). A potential Activities and Participation limitation includes recreation and leisure activity (d920). Relevant environmental factors would be the support and attitudes of his spouse and relatives toward his modification of his diet (e310, e410). Relevant personal factors would include his previous occupation, high socioeconomic level status, and his family situation. The key to full assessment and planning for invention for Dr. D is not just to realize all of the components of the ICF, but also to look at their interaction with each other.

Intervention should address Dr. D’s Body Functions impairments of chewing and control of the bolus. The modification of his diet to mechanical soft should be maintained to compensate for his reduced oral-stage abilities. For control of the bolus, he could practice eating with his chin tucked in and head slightly titled downward. He will also need to control the rate and amount of food (and especially drink) that he consumes. Given that Dr. D has limited insight into his swallowing disorder, the speech-language pathologist should provide instruction and guidance to his wife and brothers not only about the nature of his swallowing disorder but strategies to increase the likelihood of his successful eating.

Although he has swallowing and cognitive Body Functions impairments, Dr. D’s Activities and Participation needs still must be addressed. This area of functioning needs to be addressed not only to improve quality of life; it may also increase the likelihood that he will be compliant with his dysphagia precautions. For eating out, his wife could seek out restaurants that serve items he both likes and can eat safely. Eating steaks may prove to be so tiring that he does not consume enough of the rest of his food. Any steak that he eats should be moist and preferably a thin cut. Given that his oral-stage dysphagia will slow his rate of eating of all solids, the physician should prescribe that he drink nutritionally dense liquids that will allow him to eat smaller meals without risking malnutrition. Eating smaller meals might lessen the effect of seeming to take longer to finish meals than his eating companions.

Regarding coffee drinking, if Dr. D can learn to keep his head down and take small sips, he may be able to continue this behavior. Since he has demonstrated that he coughs when liquids are in the airway or being aspirated, the patient can practice his drinking of coffee using the different strategies with the clinician in the therapy room. To get across the possible negative effects of aspirating liquids such as coffee, the clinician could use his personal factor of his biology background by showing Dr. D his modified barium swallow, and have a discussion about the acidity level of coffee and possible damage to his lungs. Considering his cognitive communication disorder, the clinician would need to structure the instruction, supplemented by support from Dr. D’s family, to decrease his rate if he wishes to continue drinking coffee, and explain that the amount of coffee he drinks may need to be decreased.

The ability to follow any swallowing precautions will be greatly decreased by drinking alcoholic beverages, especially in the midst of watching a baseball game. Given that it can be hot during baseball games, the clinician could suggest to Dr. D and his spouse that he bring chilled water to the games and also food from home. It would be especially helpful if the brothers could also drink water at the games, at least at the games they attend with him. Although it is possible for him to aspirate with water, the negative effects would be less than those associated with aspiration of alcoholic beverages.

Even with these precautions, Dr. D would need to be monitored closely for signs of aspiration pneumonia, malnutrition, and dehydration. Although allowances are made for him to be able to continue to participate in the social aspects of eating, it must be remembered that being ill and requiring hospitalization are threats to Activities and Participation behaviors themselves. If Dr. D can maintain his health while following the above-described program, then the ultimate goals of dysphagia therapy would have been realized.
BENEFITS OF USING THE ICF FRAMEWORK FOR DYSPHAGIA MANAGEMENT

As mentioned, dysphagia is among the more overtly medical disorders that speech-language pathologists treat. It would also appear to be a disorder that the profession should have minimal difficulty in justifying evaluation and treatment. However, it is one thing to say that dysphagia is a potentially serious disorder that should be treated, and quite another to say that speech-language pathologists are an essential participant in the management team. The most important issue regarding our role is to demonstrate via documentation the effectiveness and efficiency of intervention, including transdisciplinary assessment and outcomes.

There is a growing demand for health care professionals to provide relevant clinical outcomes for the clients. Ultimately, dysphagia assessment and its subsequent intervention must accomplish the four goals of (1) adequate nutrition and hydration, (2) decreased risk of aspiration related illness, (3) decreased choking risk, and (4) decreased risk of psychosocial effects such as social isolation or depression in persons with dysphagia. The first three are superficially straightforward medical goals, but they can only be achieved if clients are able to perform the Activities and Participation global behaviors of eating and drinking with success. There may be a greater risk of noncompliance with dysphagia recommendations if the Activities and Participation aspects of dysphagia are not factored into the assessment and intervention. For example, to maintain adequate nutrition, one must be able to see the food, get the food to one’s mouth, orally manipulate the food including mastication, send the food to the esophagus, and keep food in the stomach. Thus, the entire act of eating requires cooperation of several professionals: outcome measures should consider how each profession contributes toward these global goals. For there to be decreased risk of social isolation or psychological reactions to having dysphagia, the intake of adequate nutrition has to occur within the social contexts of eating and drinking behaviors. Decreased views of one’s eating and overall competence, by itself, can limit the amount of food a client eats. Research is needed to demonstrate the efficacy of dysphagia treatment, and clinical facilities need to keep adequate outcome data to demonstrate that dysphagia intervention produces these global outcomes.

Although dysphagia is a medical condition, the incidence can still be underestimated in health data systems because it is a symptom and not the disease etiology itself. Thus, a person who has had a stroke would have codes for the stroke and other conditions in his or her chart, such as hypertension and diabetes. Dysphagia may not be under this system. In addition, even if dysphagia is listed, it will not be in the level of detail contained in the ICF, which separates oral and pharyngeal dysphagia as separate codes, and even classifies specific functional limitations such as reduced ability to bite into food. As a result, more fine-tuned outcome data cannot currently be collected on the efficacy and effectiveness of dysphagia therapy. For example, does moderately impaired ability to manipulate food in the mouth better predict risk of poor maintenance of nutrition than moderately reduced ability to produce salivation? What is the relationship between various cognitive and communication impairments and success in dysphagia intervention? Thus the ICF can be used to guide interdisciplinary efficacy and effectiveness studies of dysphagia management. In addition, examination of dysphagia in this complex manner may justify the argument of why a trained speech-language pathologists needs to work with persons with dysphagia, as opposed to the creation of a dysphagia therapist, who would be trained narrowly only to look at the physical aspects of the swallow.

CONCLUSION

With a broader view toward dysphagia assessment by following the ICF framework, clients with dysphagia can be provided with intervention that best honors the health care ethical tenets of both autonomy and beneficence. Like language, eating and drinking behaviors are central to what it means to be human and a social animal. In addition, like communication, swallowing and eating/drinking behaviors need to be viewed as complex and not simply as a
Body Functions impairment (e.g., the amount of delay of the onset of the pharyngeal swallow). Only by looking at the patient with dysphagia holistically can these real-life outcomes be realized. Whether speech-language pathologists continue to work with persons with dysphagia (and get reimbursed for the activity) depends on whether these outcomes can be achieved.

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