CARE FOR ELDERS

Nutrition, Oral Health and Dysphagia

• Pre-reading •
(Part 1 & Part II)

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Welcome to the Care for Elders Modules!

The Care for Elders modules have been written for and by interdisciplinary teams. These modules are unique in that they are interactive and participatory. The goal is for you to learn about elders and also about you – exploring your role and attitudes; other disciplines; your team and how to work as part of a team caring for elders.

The Care for Elders learning experience is comprised of two parts:

1) Pre-reading - this is a general comprehensive overview of one topic

2) A 2 to 3 hour small group session with case study discussion.

- To get the most out of this module it is strongly recommended that you read the pre-reading package. Information in the pre-reading is reviewed during the small group discussions.

- Small groups will consist of 6-10 participants from various disciplines, and a facilitator.

- The facilitators will not ‘teach’; rather your small group will discuss one fictional case using the information you possess, and the information you acquired from the pre-reading. The learning is accomplished if your team fully discusses the questions asked in the case study.

- The facilitator’s role is to guide discussion and ensure that all learning points are covered during the session. Your facilitator is NOT expected to provide information!

We hope that this experience will be a rewarding one for you!
Nutrition, Oral Health and Dysphagia
Goals and Learning Objectives

Following completion of this module, you will be able to:

1. describe the nutritional and hydration requirements of an older adult in order to maintain and sustain life,

2. define malnutrition, dehydration, and dysphagia,

3. describe the inter-relationship of oral health with nutrition, hydration and dysphagia,

4. identify risk factors that may lead to the development of both transient and persistent malnutrition and dehydration,

5. describe how acute and chronic illnesses can impact nutritional and hydration status, leading to malnutrition and dehydration,

6. identify the key factors in a patient’s history, clinical findings, supplemental diagnostic tests and diagnoses that are relevant to complete the patient assessment for malnutrition and dehydration,

7. develop an interdisciplinary, patient-centred management plan to achieve the patient/family goals related to nutritional/hydration status and oral health,

8. identify the ethical, psychological, social, cultural and economic impact of oral/dental problems, and malnutrition and dehydration concerns on quality of life, and

9. discuss the dilemma of “to feed or not to feed” in an older adult with dysphagia including issues around the risks and benefits of both oral and artificial feeding.
**General Principles on Nutrition and the Elderly**

For the elderly, eating and drinking are paramount to maintaining their overall health and function. Changes in their bodies due to aging both physiologically and anatomically, will be significant as they attempt to have an optimum diet. They will have had a whole lifetime to develop their concept of a “healthy diet”. Hence, change of dietary habits at this point in their lives is often difficult for them. Small, gently-offered improvements are more likely to be successful.

According to Health Canada’s Eating Well with Canada’s Food Guide, the elderly are encouraged to select food choices which will provide foods dense in nutrients with plenty of fibre and fluid. This is meant to maintain their body weight, relieve constipation and produce adequate urinary output to reduce risk of urinary tract infections. Individual modifications may be necessary for some elders due to medical conditions. The 2007 Canada’s Food Guide provides an excellent reference to share and coach seniors on how to eat well and healthy.

Malnutrition may be defined as “poor” nutrition caused by either consuming an unbalanced or an inadequate diet; but may also be related to the defective use of the food by the body. Generally, in the elderly, it is the reduced consumption of food which causes most malnutrition. Over-nutrition, which is another form of malnutrition specifically related to high caloric intake, is more often seen in younger elders than in the older ones.

Some elders experience financial constraints resulting in other expenses overshadowing their ability to purchase food. They may have transportation issues or be too weak to walk around the stores pushing a shopping cart. Those living alone often state that they have lost interest in cooking, have no appetite or lack energy to prepare food. Often, meals have been reduced from 3 per day to 2 per day, thus reducing the opportunity for adequate nutrient and caloric intake. Food selections are often made based on familiar, comforting foods like tea and toast, which offer little protein, vitamins, minerals or fibre.

Chronic disease may play a role either positively or negatively with some elders. Sometimes, a diagnosis of diabetes can help an elder to a better diet but GERD (gastric esophageal reflux disorder) will often discourage them from eating because of the anticipated pain. Poorly fitting and worn dentures often make eating an unpleasant task. Furthermore, some medications can cause the mouth to become very dry, which can lead to troubles with chewing and swallowing. Other medications may alter the way a familiar food tastes and then the elder rejects the food. In residential care facilities or acute care hospitals, food texture may be modified (e.g. minced or cut-up) in an attempt to make eating easier, but often elders reject the appearance of the food without even trying it, because of its appearance.

Dehydration may be defined as occurring when an individual experiences decreased body water over a period of time. Understanding both psychological and physical
Factors help to explain why hydration is considered by some experienced caregivers to be the most significant concern in many care facilities. An elder with reduced thirst sensation (considered to be part of normal aging), possible communication and function reduction, dependency on others for food and fluid intake, mobility impairment, on numerous medications for a variety of medical conditions, incontinent of urine/feces or worried about this, has a high potential to have a less than optimal intake of fluids. Urinary tract infections, which are more prevalent amongst the elderly, are felt to correlate to poor fluid intake.

Fluid loss may occur during an acute illness due to a fever, or with nausea/vomiting or diarrhea. These are examples of transient dehydration and once the elder recovers, the dehydration will likely disappear. Transient malnutrition may occur when an elder is admitted to hospital with an acute illness. The elder may need assistance to eat or may require texture changes to the diet. Additionally, acute illness can produce a catabolic state that negatively impacts upon the nutritional state which is often overlooked. Rebuilding the elder back to a normal nutritional state can be a challenge. It is therefore important to include home supports that they will need to recover to their previous nutritional status.

The assessment of nutrition and hydration status may include numerous aspects. Past medical history and current disease diagnosis may offer clues to the current nutritional condition. Using observation and clinical findings, (e.g. laboratory reports), the clinician moves on to review also food and fluid intake, living situation, mood, cognition and medication profile. Unintentional weight changes and low body weights are probably the best indicator of nutrition status.

The elderly generally have lower needs for calories as they have less muscle mass, lower metabolic rates, and often lower activity levels than younger clients. A rule of thumb for fluid intake is 30 ml fluid per kg of body weight. Hence, a 55kg (121 lbs.) woman should consume approximately 1650 ml of fluid per day. An example of a typical fluid intake for a day would be:

- 4 oz. juice x1 (120 ml)
- 4 oz. milk x3 (360 ml)
- 6 oz. soup x1 (some solids, so count as 120 ml)
- 8 oz. decaffeinated coffee or tea x3 (720 ml)
- 6 oz water x2 (360 ml)

TOTAL: 1680 ml

This example also demonstrates the need to offer fluids to the elderly in small portions spread throughout the day. Smaller portions of foods offered often throughout the day may encourage the nutrient and calorie intake needed to maintain good health.

Whether elders are living in the community, hospitalized or in a care facility, the decision to eat and/or drink is a personal one. An elder may have given permission to a family member or trusted friend to make decisions around nutrition interventions for him or her,
in the event that his/her cognition is reduced. An extreme case of this is with the
decision to provide nutrition by tube, either nasogastric or gastric. With oral feeding and
dementia, the understanding of the connection between eating, drinking and sustaining
life declines and often, in the end, disappears. For the well elderly, the pleasure of
eating and drinking, perhaps in small amounts, and with their families and friends, is a
joy to behold.

The Interrelationship of Oral Health with (Mal)nutrition, (De)hydration, and
Dysphagia

The mouth is the entry to the body through which we pass air, food and drink, and by
which we communicate needs, opinions and emotions. It should be a persistent source
of pleasure, but it can be a source of great distress. Oral hygiene, toothaches and tooth
loss have a huge effect on our lives, and find expressions in many aspects of our
culture. Basically, as a society, we place great value on our teeth and mouths, and if
they deteriorate we are troubled.¹ Moreover, eating is not only for nutrition. We select
food for pleasure even more than for sustenance, and the selection becomes restricted
to soft carbohydrate products when teeth deteriorate.

People with painful or loose natural teeth or inadequate dentures are at risk of under-
nourishment.² They favour soft foods high in fermentable carbohydrate, and they limit
intake of protein, fruit and vegetables. This can cause low levels of plasma ascorbate
and retinol with resultant skin and visual problems.³ Chemical erosion of teeth can
occur from foods and drinks that are acidic, or from gastric reflux.⁴ Frail elders who
have difficulty chewing, are very likely to lose weight and develop nutritional disorders
that can be life-threatening.⁵ So, overall, people with poor teeth or dentures tend to
restrict their selection of nutritious foods, which can put their life at risk, especially if they
are frail.

Nevertheless, we do not need teeth – whether natural or artificial - to survive in this
society.⁶ Soft, mushy foods can be nutritious, although they might not be very
enjoyable. Indeed, some people adapt and cope remarkably well to the disability of poor
teeth.⁷ Nonetheless, an unhealthy mouth with diseased teeth and gums lessens quality
of life, disturbs health in general, and threatens the lives of those who are frail.

Oral Health as Risk Factor for Other Health Problems and Quality of Life
The mouth as a harbour for lethal micro-organisms is a matter of ongoing investigation.
We know that excessive yeasts, staphylococci and coliforms can disturb taste, produce
dysphagia, and cause sore, dry mouths among hospice patients.⁸ However, it is the
potential risk of aspiration pneumonia increased by accumulation of sticky plaque laden
with bacteria on the teeth, dentures and other areas of the mouth, that more seriously
threatens frail elders.⁹

Tooth loss occurs mostly from tooth fracture or abscesses caused by caries (cavities)
that is directly influenced by the frequency (four or more intakes per day) of sugary
foods and drinks consumed.¹⁰ Those frail elders who snack constantly on sugary foods
and drinks and who cannot clear residual food easily from the mouth are at higher risk. This risk increases even further when there are multiple medications, especially those that disturb the quantity or quality of saliva, such as analgesics (incl. daily aspirin); diuretics; antidepressants; sleeping pills, beta-blockers, angiotensin receptor inhibitors, hormone replacement therapy, and thyroxine).

Irritation from ill-fitting dentures, fractured teeth or broken fillings can be very painful, inhibit eating, and, when chronic, lead to hyperplastic and even cancerous changes to the afflicted mucosa. However, denture-use of itself does not increase the risk of cancer. Loose teeth from periodontitis (an advanced form of gum disease) will also disturb chewing ability and restrict access to healthy foods, whereas gingivitis (a more common gum disease identified by inflamed and bleeding gums, which results from inadequate oral hygiene) can cause social isolation due to bad breath.

Remedies for caries and acid erosion focus largely on reducing sugar and acid intake, augmented by a strong (0.2%) fluoride mouthrinse and good oral hygiene every day. Abscessed teeth can be treated with root-canal fillings, or extracted. Loose teeth can be stabilized with a partial denture, while loose dentures can be adjusted and relined to improve the fit and comfort.

**Major oral disorders**
- Caries occurs readily around broken teeth and fillings, and can be particularly destructive underneath a loose crown or fixed bridge.
- Gum disease around natural teeth in the form of gingivitis and underneath dentures in the form of mucositis or stomatitis, are almost rampant among frail elders, due to inadequate oral hygiene. Persistent gingivitis when oral hygiene is good can be due to a systemic disorder and needs further diagnostic investigation. Natural teeth loosen suddenly if they have been severely traumatised by a fall etc., or more slowly (over several years) in the presence of periodontitis. Fortunately, periodontitis is uncommon among older people.
- Swellings in the mouth are due usually to abscessed teeth or chronic irritation from a denture, neither of which might be painful.
- Dry-mouth (xerostomia) is usually due to a medication (see above), but can be a sign of an autoimmune disorder, such as Sjögren’s syndrome.
- Candida infection of the mucosa under a denture is frequently accompanied by angular cheilitis (chronic inflammation at the corner of the mouth)
- Typically, a loose and unstable denture is caused by an inadequate seal between the edge of the denture and the surrounding or supporting mucosa, complicated by changes in the shape of the jaw bone.

What to look for in the mouth - “red flags”
- Broken teeth;
- Bleeding gums when brushing, bad breath (halitosis), loose teeth;
- Soft swelling (possibly with a discharge) of the gum below or adjacent to teeth;
- Painful teeth, sensitive to hot or cold foods and drinks;
• Unusual chewing suggesting that an area of the mouth or a specific tooth is painful;
• Dry appearance of mouth, teeth and dentures, food sticking and accumulating around the mouth and tongue;
• Red inflamed mucosa under a denture and at the corner of the mouth;
• A loose denture that moves obviously when eating and talking.

Risk Factors for Malnutrition

Risk factors for unintentional weight loss that may lead to malnutrition

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Issues</td>
<td>The frail, homebound elderly may have difficulty attaining groceries and preparing appropriate meals. They may not have access to the support systems available or may be struggling to maintain their independence.</td>
</tr>
<tr>
<td>Psychiatric Issues</td>
<td>Depression was found to be the cause of weight loss in 35% of elderly patients.</td>
</tr>
<tr>
<td>Medical Causes</td>
<td>Disease processes and related therapies</td>
</tr>
<tr>
<td>Movement Disorders</td>
<td>Disorders such as Parkinsons and Tardive Dyskinesias may elevate metabolic rates.</td>
</tr>
<tr>
<td>Medications</td>
<td>Some cause nausea, dry mouth and vomiting; some medications may cause constipation resulting in the overuse of laxatives and resulting malabsorption of nutrients. Bulk forming medications produce a feeling of ‘fullness’.</td>
</tr>
<tr>
<td>Injury/surgery</td>
<td>A loss of body protein occurs when a body is traumatized</td>
</tr>
<tr>
<td>Cancer</td>
<td>Nutritional intake and metabolic processes are affected; nausea and vomiting as well as cachexia and asthenia are common.</td>
</tr>
</tbody>
</table>
### Risk factors for reduced oral intake of fluids that may lead to dehydration

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Related Triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confusion</td>
<td>Delirium, dementing process, reduced consciousness, fever, drug-induced changes to level of alertness; all limiting an individual's ability to consume fluids independently.</td>
</tr>
<tr>
<td>Restraints</td>
<td>Confusion, combativeness, inability to self-feed as a result of the restraint.</td>
</tr>
<tr>
<td>Immobility</td>
<td>Paresis, coma. The individual will have to rely on a caregiver to provide fluids.</td>
</tr>
<tr>
<td>Reduced Thirst</td>
<td>Decrease in osmotic receptors</td>
</tr>
<tr>
<td>Incontinence</td>
<td>Prostate surgery, dementia, advanced age resulting in a fear of needing to go to the bathroom which leads to decreased intakes.</td>
</tr>
<tr>
<td>Liquid restrictions</td>
<td>Dysphagia, thin liquid restriction. Increased effort to swallow and a dislike of thickened fluids.</td>
</tr>
<tr>
<td>Tube Feeding</td>
<td>Dysphagia, oral intubation, head and neck or gut surgery</td>
</tr>
</tbody>
</table>

In addition, those who are dehydrated or malnourished may present with delirium (acute fluctuating disturbance in thought, memory, orientation, consciousness, perception and behaviour)\(^{16,17}\) or may develop this condition during a hospital stay. Delirium occurs in up to 50% of elderly hospitalized patients and is often misdiagnosed as dementia\(^{17}\). For more information on delirium please refer to the Delirium module.

Contributing factors related to both transient and persistent malnutrition and dehydration can be remembered using the mnemonic “Meals on Wheels”\(^{18}\):

- **M** = medication effects
- **E** = emotional problems (major depression)
- **A** = alcoholism
- **L** = late life paranoia
- **S** = swallowing disorders
- **O** = Oral health, (e.g. poorly fitting dentures)
- **N** = No money
- **W** = wandering (dementia-related behaviour)
- **H** = hyperthyroidism, hyperparathyroidism, hypoadrenalism
- **E** = enteric problems (e.g. malabsorption)
- **E** = eating problems (difficulty self-feeding)
- **L** = low salt diet or low cholesterol diet
- **S** = social problems/isolation
Swallowing and Dysphagia

Swallowing is a necessity for every day living and it is something that no one thinks about, until something goes wrong; that feeling that something "went down the wrong tube". Most often, when this happens, we cough or choke and it comes out. For many reasons, people can have difficulty with swallowing. This is termed dysphagia. Dysphagia is basically defined as having difficulty getting the food from the mouth to the stomach. Dysphagia can be transient (e.g., because of weakness following surgery that will improve as the person's strength returns) or persistent (e.g. caused by degenerative disorders such as Parkinsons). Dysphagia can occur in anyone: causes range from difficulties at birth, difficulties following injury, surgery, disease progression or even just aging. As people age, muscles can become weaker and since swallowing involves 26 groups of muscles, swallowing can be affected. A person with dysphagia, is at an increased risk for malnutrition or dehydration, because the normal function of ingesting food and liquid is impaired. Eating and swallowing are more difficult and therefore intakes often decline. If diet texture modifications are in place, intakes may improve because swallowing is easier, but intakes can also deteriorate because meals are no longer as appetizing and appealing.

To help you understand the complexity of swallowing, this is a basic summary of considerations both before and during eating and drinking including the four stages of swallowing from placing the food in the mouth to the food entering the stomach, and how difficulties can arise as we age. Food, fluid, and saliva can enter the airway during any of these stages of swallowing, if there is dysphagia.

Positioning

Ensuring proper positioning can optimize a patient’s swallowing performance. The ideal position for feeding is: trunk of the body at a ninety degree angle to the sitting surface, upper body in midline position, head flexed (see figure 1). This position is easily obtained by sitting upright in a chair with the feet supported and arms free for self-feeding. For bed bound patients, the head of the bed should be raised to ninety degrees: pillows can be used behind the head and shoulders to achieve this angle, as well as along the side of the body to maintain midline position. A roll should be placed under the knees to achieve a flexed position (see figure 2). Individuals with particular diagnoses, for example those suffering from a cerebrovascular accident, may require special positioning devices depending on their ability to maintain head and neck alignment. Swallowing professionals can help to determine specific postural strategies to assist with swallowing difficulty, for example, tucking the chin to help protect the airway. After completion of a meal, the patient should remain upright for a minimum of thirty minutes, the head of bed bound patients should remain at no less than sixty degrees. Remaining upright after a meal, ideally for up to two hours, can decrease the prevalence of gastroesophageal reflux (the spontaneous return of gastric contents into the esophagus). Aspiration of refluxed material is much more likely when the individual is not positioned upright.
Pre-Eating
Prior to eating, many things need to be considered. As people age, they are often on medications for various medical issues. Many medications can result in reduced salivary production and therefore a dry mouth. It is important to moisten the mouth prior to eating to encourage saliva production and assist with moistening the food. Further, as people age, their sense of smell can diminish. Smell is an important component of taste. For these reasons, food can be less appetizing or appealing. This is even more likely to occur if the look of the food is altered (i.e., if texture modification is needed such as in pureed or minced meals). Also, less appealing foods result in reduced saliva production which makes swallowing more difficult as food can be insufficiently moist. Everyone remembers being served a dish that looked or smelled so bad we didn’t want it and that it was hard to get down!

It is important that before eating, a person knows what is going to be eaten and that there are distinctive tastes and textures on the plate. This will allow for variety, which can help stimulate a desire to eat, especially if the person is on a dysphagia diet where textures may be altered.
If a person has dentures, the dentures should be clean, placed and adhered as required. If a person has natural teeth and is at risk of aspiration, it is important to brush the teeth prior to eating to remove bacteria which may be aspirated during the meal. Removing this bacteria can help to reduce the likelihood of an aspiration pneumonia developing.

**Swallowing Stage One: Oral Preparatory Phase**

The first stage of swallowing is the oral preparatory phase. The jaw and lips must open to allow the food to enter the oral cavity (see figure 3). The lips and teeth must take the food or liquid into the oral cavity by either taking it off a utensil, sipping it up a straw, or drinking it from a cup. Once it is in the mouth, the lips must form a good seal to ensure that none of the food exits the mouth (i.e., drooling or food loss). While all of this occurs, the body knows to breathe through the nose instead of the mouth to allow all of these to occur. The muscles of the larynx (voice box) and pharynx (throat) are open and at rest to allow breathing to occur.

**Figure 3 – The anatomy of the swallow mechanism**
When a solid food is eaten, chewing must occur to break down the food and allow it to pass easily and safely into the stomach. Ideally, chewing should include rotary and lateral movements of the jaw and tongue. It is very difficult to swallow foods that have not been well moistened or broken down by adequate chewing. It is important to have some ‘fatty’ sauces to help coat the food, to make movement through the pharynx and esophagus easier. Sauces such as broths and other low fat sauces do not coat the food and therefore do not improve the ability to ‘slide’ through the pharynx.

When liquids are drunk, the tongue and lips must be very active and hold the liquid in the mouth. If the tongue is weak, it can be very difficult to contain all the liquid together within the mouth and some can spill into the back of the throat before the swallow occurs. If liquids are sticky or thick (e.g. milkshake, pudding), they can be easier to hold together, but can also be difficult to propel to the back of the throat or clear off the roof of the mouth. After a swallowing assessment, thickened liquids may be recommended to assist with control in the oral cavity. Liquids can be thickened to various consistencies such as nectar, honey, or pudding and can improve oral control and therefore reduce the risk of aspiration. If the liquids are thickened beyond recommendations (i.e., too thick), this can actually increase the risk because of inadequate strength to properly clear the thicker consistencies or fatigue of the pharyngeal muscles which have to work harder while swallowing.

In addition to all of the muscular movements that are occurring, there is sensory information that must be considered. Sensory information helps us to avoid biting our tongue, taste and enjoy food, in addition to knowing the temperature of food and ensuring that we eat safely.

As people age, activity levels tend to decrease and therefore muscle activity is reduced and muscles weaken. Muscle weakness or coordination difficulties (This can be related to aging or other neurological conditions) can make self feeding difficult. This can reduce the pleasure of eating and also make coordination of the swallowing more difficult, since the initial step in eating is no longer present. Weakness of the oral muscles also results in a slower oral preparatory phase. Older adults have an increase in the number of chewing cycles, compared to younger adults, to compensate for the weakened chewing. Preferred foods for the elderly are often softer and easier to chew, to enable the person to prepare the bolus much easily as less chewing and oral control is necessary. Reduced muscle activity and weak muscles may also be related to lack of dentition or dentures.

**Swallowing Stage Two: Oral Phase**
The oral phase of swallowing occurs once the food is chewed, mixed with saliva and ready to be swallowed. This phase is where the bolus, or ball of food and saliva or liquid in the mouth, moves to the back of the mouth. The tongue does a ‘rolling’ action, moving the food to the back and then forms a “chute” into the throat.
Again, there are multiple muscles needed and the elderly can have weakness in any of them. If the lips are weak, the seal will be broken and food can spill out. If the tongue is weak, it will be difficult to propel the food backwards, especially thicker consistencies that may stick to the roof of the mouth. The cheek muscles help to keep the bolus inside the teeth and out of the lateral sulci. The soft palate is lowered to allow for continuous nasal breathing while all the other activities are being coordinated.

An important part of the oral phase is to trigger the beginning of the next phase, the pharyngeal phase. It is documented that the trigger of the pharyngeal phase of swallowing is often slower in older adults than in younger; this can result in some of the food or liquid being spilled into the throat before the pharyngeal swallow is triggered.

**Swallowing Stage Three: Pharyngeal Phase**

This is the part of the swallow where the food or liquid is moved through the pharynx (the throat) to the esophagus (the tube to the stomach). The larynx and hyoid bone move upwards and forwards to allow the epiglottis to close off the airway, and to open the cricopharyngeal sphincter (the muscle at the top of the esophagus). The vocal folds close to prevent any material from entering the trachea. Any muscle weakness in this process can result in incomplete closure to the airway so that accidental material can be penetrated into the airway. While the airway is closed (anywhere from 1/3 of a second to five seconds), breathing can not occur. Some of the elderly population have difficulty with breathing either because of respiratory disease (e.g., COPD or pneumonia) or from general weakness and fatigue which make this period of non-breathing difficult and stressful. Once the food enters the pharynx, the muscles here contract to push the food downwards toward the esophagus. If there is residue in the pharynx after the swallow is complete, there is a risk of this residue being aspirated by falling into the airway when the person is not swallowing.

In the elderly, the overall duration of the swallow is increased. This includes the pharyngeal phase where many different processes occur and multiple muscles are involved. Poor timing and weak muscles during the pharyngeal phase of swallowing can be very dangerous because of the proximity of possibility of material entering, the airway.

**Swallowing Stage Four: Esophageal Phase**

Once the food has entered the esophagus (the tube from the throat to the stomach), the muscles in the walls of the esophagus contract to push the food down to the stomach. These muscles, along with a sphincter muscle at the top of the stomach, keep the food and gastric contents in the stomach. As people age, again these muscles can weaken (known as presbyesophagus). Not only is it more difficult and often more time consuming to get food through the esophagus, but also acid from the stomach can re-enter the esophagus, burning the tissues of the esophagus and even up into the pharynx and larynx. Having irritated and swollen tissues in these areas alters the swallowing mechanism and can therefore result in swallowing difficulties. There can also be difficulty getting the food down into the stomach if the muscles of the esophagus...
do not contract well enough or in the normal coordinated manner, known as peristalsis. This can result in food backing up within the esophagus before it enters the stomach.

**Ice chips and water**
When patients are unsafe for oral feeding it may be recommended that they receive nothing by mouth (i.e. NPO). Many of these patients still crave oral stimulation and hydration and want something in the oral cavity for pleasure and to keep the mouth moist. In certain patients who are not acutely ill or don’t have respiratory issues, the swallowing team and physician may allow the patient to have ice chips or small sips of water (as recommended in the Frazier Water Protocol). It is important that good oral care is provided prior to the oral stimulation to remove any bacteria. Plain water causes minimal damage to lungs because the body is able to reabsorb plain water, but if any food or bacteria is with this water, difficulties can arise. Providing water or ice to a dysphagic patient on thickened fluids can not only improve quality of life, but can also improve hydration.

**Screening for Swallowing Difficulties – What to Look For**

There are a large number of clinical signs that can alert you to the possibility of dysphagia. None of the following items alone can definitively indicate the presence of dysphagia or aspiration. All can arise due to other causes that are not related to swallowing difficulties. Similarly, if any of the following are lacking, we cannot necessarily preclude dysphagia or aspiration. However, these ‘red flags’ are important to note in identifying those most likely to require further investigation for potential swallowing difficulties.

<table>
<thead>
<tr>
<th>Dysphagia ‘red flags’ in the person’s history</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced level of alertness</td>
<td>Adequate alertness is the first necessity for oral feeding.</td>
</tr>
<tr>
<td>Saliva management</td>
<td>Drooling, excess saliva or dry/sticky mucous build-up in the mouth/pharynx can indicate oral weakness and difficulty swallowing – oral health can suffer significantly. Dry mouth (xerostomia) can also contribute to difficulties swallowing and poor oral hygiene.</td>
</tr>
<tr>
<td>Neurological disorder - e.g. CVA, Parkinson’s Disease</td>
<td>Affecting motor and/or sensory functioning – including oral, laryngeal and pharyngeal function. Often affecting the person’s positioning and mobility, thereby potentially reducing swallowing safety.</td>
</tr>
</tbody>
</table>
### Dysphagia ‘red flags’ in the person’s history

<table>
<thead>
<tr>
<th></th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia</td>
<td>Affecting the person’s awareness, perception, skills and independence with eating/drinking.</td>
</tr>
<tr>
<td></td>
<td>Persons with dementia may not recognize food or eating utensils, may refuse to open their</td>
</tr>
<tr>
<td></td>
<td>mouth at mealtime, and often dislike wearing dentures, making food texture selection an issue.</td>
</tr>
<tr>
<td>Respiratory status/COPD</td>
<td>These difficulties can upset the fine co-ordination required between breathing and swallowing.</td>
</tr>
<tr>
<td></td>
<td>Aspiration risk increases if this pattern is disrupted (e.g. inhaling immediately before or after the swallow).</td>
</tr>
<tr>
<td>Weak or lacking cough</td>
<td>Coughing is the protective reflex that attempts to clear aspirated material out of the lungs/airway.</td>
</tr>
<tr>
<td>GERD/Esophageal disorders</td>
<td>Refluxed stomach contents can be aspirated and can irritate the larynx (involved in protecting the airway during swallowing) and pharynx. If food is not passing well through the esophagus, associated back-up into the pharynx can cause swallowing difficulty.</td>
</tr>
<tr>
<td>Repeated chest infections</td>
<td>May suggest a history of swallowing difficulties/aspiration.</td>
</tr>
<tr>
<td>Advanced age</td>
<td>Longer duration swallow and reduction in: esophageal motility, muscular tension, taste</td>
</tr>
<tr>
<td></td>
<td>sensitivity and smell.</td>
</tr>
<tr>
<td>Weight loss or dehydration</td>
<td>Could be due to swallowing difficulty.</td>
</tr>
<tr>
<td>Client/caregiver reports of difficulty swallowing</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the increased risk of swallowing difficulties due to general age–related changes in the elderly, dysphagia is even more common in the institutionalized. The neurologic, neuromuscular, systemic, immunologic, psychiatric, environmental and societal changes that can go along with institutionalization have been related to the development of swallowing difficulty in the affected elderly person. It may be useful to spend some time thinking about examples of each of these types of change.
According to Murray\textsuperscript{15}, when dealing with the frail elderly, “the most dramatic yet insidious sequela of dysphagia is malnutrition” and it is often overlooked. The following chart provides an overview of acute and chronic illnesses that may lead to dysphagia, altering an individual’s hydration and nutritional status.

**Acute and Chronic Illness that may result in Dysphagia\textsuperscript{29}**

<table>
<thead>
<tr>
<th>Neurologic disorders and stroke</th>
<th>Structural lesions</th>
<th>Psychiatric disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebral infarction</td>
<td>Thyromegaly</td>
<td>Psychogenic dysphagia</td>
</tr>
<tr>
<td>Brain-stem infarction</td>
<td>Cervical hyperostosis</td>
<td></td>
</tr>
<tr>
<td>Intracranial hemorrhage</td>
<td>Congenital web</td>
<td></td>
</tr>
<tr>
<td>Parkinson's disease</td>
<td>Zenker's diverticulum</td>
<td></td>
</tr>
<tr>
<td>Multiple sclerosis</td>
<td>Ingestion of caustic material</td>
<td></td>
</tr>
<tr>
<td>Amyotrophic lateral sclerosis</td>
<td>Neoplasm</td>
<td></td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myasthenia gravis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connective tissue diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polymyositis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscular dystrophy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intracranial hemorrhage</td>
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<td>Polymyositis</td>
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<tr>
<td>Muscular dystrophy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical resection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation fibrosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications</td>
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</tbody>
</table>

Acute and chronic illness can have a significant impact on nutritional and hydration status, which may lead to malnutrition and dehydration. The following section describes in greater detail illnesses that present with dysphagia on a frequent basis.

**CVA – acute and chronic**

Studies have shown that 28-45\% of patients with acute stroke suffer from dysphagia; of these individuals, approximately 21\% will regain normal swallowing function within the six-week acute period.\textsuperscript{15} Dysphagia that does not resolve has been shown to cause chest infections, malnutrition, dehydration and death.\textsuperscript{15} As well, common side effects of CVA such as apraxia, extremity weakness and hemiplegia, limit an individual’s ability to self-feed, which may result in decreased nutrition and hydration intake.

**Parkinson’s Disease**

The clinical indications of Parkinson’s disease: tremor, rigidity, postural instability and bradykinesia, alter an individual’s capability of feeding themselves. In addition, virtually all patients in the end stage of the disease will suffer from some form of dysphagia due to multiple prepharyngeal, pharyngeal, and esophageal abnormalities.\textsuperscript{15} The severity of the dysphagia is correlated with the stage of severity of the disease.

**Dementia**

A combination of the following factors may lead to decreased food and fluid intake in individuals suffering from dementia: inability to recognize food and/or dining utensils, loss of physical ability to feed oneself, declining perception of smell and taste, decreased recognition of hunger and thirst, dysphagia, inability to communicate needs, refusal to eat, and depression.\textsuperscript{30} According to videofluoroscopic reports, only 7\% of
individuals with dementia were found to have normal swallowing function.\textsuperscript{28} As the disease progresses individuals present with more difficulty chewing and swallowing and gradually lose their swallowing ability. The appearance of dysphagia can be an indicator that an individual is in his/her last 3-6 months of life.

<table>
<thead>
<tr>
<th>Screening at the bedside – ‘red flags’ when observing eating or drinking</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coughing (or throat clearing)</td>
<td>This may indicate aspiration. Note - it is possible to aspirate without coughing (silent aspiration) if the reflex is insufficiently sensitive or the required muscles too weak. It is suggested that around 40% of aspirators do so silently.\textsuperscript{18}</td>
</tr>
<tr>
<td>Choking/Cyanosis/Teary eyes</td>
<td>Occur in respiratory distress if there is aspiration and the airway becomes blocked (e.g. by a lump of food) and/or breathing is compromised.</td>
</tr>
<tr>
<td>Multiple swallows</td>
<td>More than 1-2 swallows per spoonful can indicate residue from the food/drink in the mouth/throat not being cleared.</td>
</tr>
<tr>
<td>Change in respirations</td>
<td>A significant change when eating may indicate aspiration (even if there is no cough) or may increase aspiration risk because of inhaling with food still in the mouth.</td>
</tr>
<tr>
<td>Gurgly voice</td>
<td>May indicate that food, liquid or saliva has entered the larynx (at the opening to the airway).</td>
</tr>
<tr>
<td>Food pocketing in the mouth</td>
<td>Reduced oral/weakness sensation can cause oral residue and increase aspiration risk.</td>
</tr>
<tr>
<td>Food stuck in the throat</td>
<td>Person may report feeling food stuck – this may indicate residue remaining in the pharynx after swallowing.</td>
</tr>
<tr>
<td>Fluid/food coming out of the nose</td>
<td>Nasal regurgitation can occur if the soft palate is not functioning well or if having to breathe through the nose with food or fluid still in the mouth.</td>
</tr>
<tr>
<td>Missing teeth/poorly fitting or absent dentures</td>
<td>Food can not be well chewed and the bolus of food prepared for swallowing may not be sufficiently soft, moist or cohesive to pass smoothly through the pharynx.</td>
</tr>
</tbody>
</table>

It may be noted that the gag reflex is not mentioned here as a ‘red flag’ to indicate dysphagia or swallowing problems. Frequently, absence of a gag reflex has been used to indicate the presence of dysphagia and a person may not be allowed to eat and drink. In fact, it has been shown that ‘no gag’ is not sufficient to suggest that a person would not successfully manage oral feeding.\textsuperscript{31} The gag reflex is not directly related to
the wallowing function – although, as the swallow and gag reflex do share some common neural pathways, knowing the absence of a gag reflex can add information to the swallowing professional’s clinical assessment.

The lists provided above are not definitive. There may be other factors that a swallowing professional would consider. If you have any concerns that a person is having difficulties swallowing, it is appropriate to refer him/her to the team/professional in your area that is trained to assess and manage swallowing difficulties.

**Risk factors for aspiration pneumonia**
The above ‘red flags’ may indicate that a person has swallowing difficulties and may be aspirating. However, aspiration can occur in the general population (Can't we all remember choking on that drink when someone made us laugh just at the wrong moment) with no negative consequence. It is important to be aware of the factors that can cause pneumonia to develop in the presence of aspiration (and of those populations who do not develop a chest infection despite aspirating regularly).

You may assume that dysphagia would be the first and most important risk factor in developing aspiration pneumonia. In fact, it has been suggested that dependency on others for feeding is the most significant risk. Other important risks also identified include: multiple medical diagnoses, dependency for mouth care, number of decayed teeth, tube feeding, reduced activity level, GERD/esophageal dysmotility, and dysphagia. Clearly, if general health and independence are compromised, there is a higher chance of developing pneumonia when aspirating. Good oral health is also key to avoiding chest infection as the presence of increased oral pathogens (e.g. bacteria in the mouth), when hygiene is poor, is associated with greater risk of pneumonia in the presence of aspiration.

**Ethical, Psychological, Social, Cultural, and Economic Impact of Malnutrition and Dehydration Issues on Quality of Life.**

The intake of food and water is basic to survival (Maslow’s hierarchy of needs). Throughout the world, food and drink have ethical, psychological, social, cultural and economic significance that influences what eating and drinking mean to the person. This diversity has the potential to create ethical and moral dilemmas between health care providers, their patients and significant others, especially when determining the impact on the person’s quality of life. The challenge facing the decision-makers is complex. The clarity of the diagnosis and prognosis is an essential starting point as to whether the physician even offers medical intervention. Therefore, health care providers have an obligation to provide clear and complete knowledge about withholding or administering nutritional support. Furthermore, the interprofessional team is in an ideal position to support patients and families throughout the complex process of decision making.

When determining to feed or not to feed, orally or by artificial means, the questions posed would be whether the decision may hasten death, prolong life, or increase suffering and decrease quality of life. The ethical principles which need to be considered
during this decision making process are autonomy, beneficence, non-maleficence and justice. Autonomy is about people’s self-determination to make their own choices and freedom to maintain their own beliefs and values. Quality of life is an ethically essential concept that focuses on the good of the individual, what kind of life is possible given the person’s condition, and whether that condition will allow the individual to have a life that he or she views as worth living. When the person’s wishes have been documented in an advanced care plan, such as a Representation Agreement or Living Will and the person is unable to express his/her wishes due to cognitive impairment or lack of consciousness, the health care provider is legally obligated to follow the person’s wishes. If the person is mentally capable and able to express wishes when asked, then the health care provider must follow what the person wants done at that time. A dilemma arises when the person is incapable and has not expressed any known prior wishes related to oral or artificial feeding and/or hydration. The primary health care provider under the BC Adult Guardianship Legislation will determine who is legally able to speak on behalf of the person. The duty of the primary health care provider is to assure that the legal decision making process is followed.

Beneficence is the ethical principle “to do good” which supports an action to benefit others with consideration for maximum possible benefits. Non-maleficence is “to do no harm” which aims at reduction of harm or burden. The health care provider is responsible for providing accurate, scientific knowledge on the benefits and burdens related to nutritional and fluid interventions. Common myths are held by both lay persons and professional care providers, especially related to artificial feeding. Some examples include:

- **Myth 1:** Artificial feeding is the same as the provision of food and fluid.
  Fact: Tube feeding does not resemble eating or drinking in any way except for symbolism as it is strictly a passive process because it bypasses any of the sensory rewards.

- **Myth 2:** Life is prolonged with artificial feeding.
  Fact: One year mortality rates were significantly increased in long term care home residents who were receiving artificial feedings.

- **Myth 3:** Artificial feeding reduces the possibility of aspiration pneumonia.
  Fact: Tube feeding can actually increase the risk of pneumonia because of the pH of enteral feedings, impaired swallowing and failures to maintain tube feeding policies and procedures that reduce regurgitation.

- **Myth 4:** Tube feeding prevents consequences of malnutrition such as pressure ulcers.
  Fact: No studies indicate that tube feedings prevent or improve pressure ulcers. In fact, there was an increased use of restraints and the
increased urinary and gastrointestinal output resulted in an actual increase in ulcer risks.\textsuperscript{37}

- **Myth 5:** Providing artificial feeding is nurturing to the patient.
  Fact: Health care providers may focus more on the tubes than the individual.\textsuperscript{40,41}

- **Myth 6:** Initiating artificial feeding may give families false hope for the recovery of their loved one.\textsuperscript{41}
  Fact: Artificial feeding provides limited, if any, benefit and actually can increase suffering because of the associated burdens and risks.\textsuperscript{40}

- **Myth 7:** Artificial feeding is necessary to maintain comfort and to avoid thirst and hunger.\textsuperscript{40,41,42} which is associated with starvation and neglect.
  Fact: Patients rarely report symptoms of thirst and hunger when food and water intake are inadequate.\textsuperscript{43} Dehydration actually minimizes suffering through altered sensation or the production of an analgesic effect that decreases discomfort, possibly due to ketone or opioid release.\textsuperscript{41,44,45,46,47}

Justice is the ethical principle of fairness, which centers on the greater good of the group rather than the individual. In many non-Western cultures, family and kinship patterns may differ, in the different roles, status, and power of each member of the group, and the social hierarchy governing decision making. In these cultures, the decision making is deferred to the hierarchal order (e.g. eldest son) or designated family authority. It is considered a sign of respect to protect elders from the burden and responsibility of making decisions about their own health care. The primary health care provider may be seen as the authority figure that should make decisions without discussing options with patients or their families. Health care providers are encouraged to ask about any cultural, religious, and spiritual beliefs/values that may impact the decision of treatment options.\textsuperscript{48} In addition, access to food that accounts for cultural and religious norms and mores is essential to promoting adequate nutritional intake.

Eating is a social activity. Older adults may experience loss of spouses, family members, and friends, which may lead to social isolation and/or depression. Both contribute to decreased intake of food and fluids. Older adults may skip meals completely when they live alone and have no one with whom to prepare and share meals. Provision of transportation to seniors’ lunch programs and day care programs are recommended to address the need for social interaction and nutritional intake. Other meal preparation programs such as: Meals on Wheels have the ability to provide both specialized and culturally sensitive diets.

When completing a nutritional screen or assessment, the health care provider must move beyond just the physiological aspects of nutrition and hydration to a holistic approach that includes psychosocial, cultural, religious, and economic factors which may impact the older adult’s ability to access and consume food and fluids.\textsuperscript{49}
Living at Risk, To Tube Feed or not to Tube Feed

Within the health care professions, the concept of living at risk requires little explanation. We all live at risk to some extent. Society does not interfere when competent citizens choose to go rock climbing or paragliding, or even to eat, drink, or smoke in a way which increases their risk of dying young. However, when a person is incompetent, as in the case of children, someone who is unconscious, or adults with dementia, someone else has to make choices for them. In this case, it can be difficult to accept that there are no entirely safe choices. Our culture has a tendency to infantilize us, leading to demands that we be kept always safe from all harm and resulting, for instance, in a lawsuit when someone discovers that the coffee they purchased is hot enough to burn them.\(^{50,51}\) The health care professions have sometimes contributed to this sense that “we can beat this disease”; that we can win the battle against cancer, or AIDS, or infection. Despite our best efforts, however, the death rate remains one per person.

In an era when physicians took a paternalistic approach, and the faith of the patient in the physician was part of the cure, the profession was able to offer strongly held beliefs instead of evidence, and patients were discouraged from questioning medical authority. Since the feminist movement from the 1970’s on and the advent of patients’ rights organizations, however, the paternalistic approach is no longer seen as acceptable in bioethics circles.\(^{52}\) The principle of autonomy is now the primary guiding principle, along with beneficence, non-maleficence, and justice.\(^{53,54}\)

To make an autonomous choice, a person must have a good grasp of the risks and benefits of the various courses of action which are being considered. In particular, the person needs to understand that for every treatment, there are not only expected benefits but also the costs and burdens of the particular treatment. It is then up to the patient and family to decide whether the costs and burdens (such as the need for a demented patient to be restrained in order to tolerate tube feeding) are worthwhile in order to reap the expected benefit. Evidence based medicine is concerned with providing just this sort of information. Only after well designed studies with sufficient numbers of subjects to give statistically valid results, and good study design, can one demonstrate whether a particular treatment actually benefits patients, and sometimes the results of studies can surprise us and challenge our previous beliefs.

Armed, then, with up to date information from the medical literature, health professionals can be partners with families as they struggle with difficult issues and new concepts in the face of approaching death.

Deciding Whether to Tube Feed

The ritual of eating has huge importance in most cultures, and is associated with caring and nurturing. In many cultures, withdrawal of feeding means abandoning the person to death.
In many dementing illnesses, difficulty in swallowing is a late manifestation of the disease. Progressive brain destruction eventually causes pseudobulbar palsy, with difficulty swallowing and recurrent aspiration pneumonia. Aspiration pneumonia is the final common pathway for many of the dementing diseases, and the mechanism by which many patients die. The first episode of aspiration pneumonia in a person with a dementing disease such as Alzheimer’s or Parkinson’s usually indicates that the individual is in the last few months of life. In a 2002 study of patients with Parkinson’s disease, the specific presence of aspiration pneumonia had the highest mortality risk ratio among all comorbidities. A recent review of the literature looking at studies of patients receiving PEG tubes found that in stroke patients with swallowing difficulties, 45% to 68% are dead within 6 months, depending on the study. A recent survey of studies of PEG-fed patients (This was NOT restricted to the elderly) reported that mortality rates varied from 2 to 28% at one month, from 33 to 50% at 2 months, and was 50% or greater at one year in all studies extending that long. Being elderly or demented or having more co-morbidities all increased the risk of death still further. Perhaps the best way to explain this to families is that “the housekeeping functions of the brain are starting to shut down.”

Families are usually well aware that their loved one is now declining fairly rapidly, and they are often grateful for some plain speaking. They generally have not been told that this disease carries a prognosis of a few months, and are greatly in need of accurate information so that they can make the most appropriate decisions, not only for their ailing relative, but also in terms of jobs and their own life planning.

We referred earlier to evidence-based medicine and its critical role in autonomous choice. One of the most vexed questions in the care of the elderly is the question of whether to tube feed a person with dysphagia caused by a progressive dementing illness. The following discussion applies only to patients with marked (moderate to severe) dementia and inability to swallow. One way to decide whether a patient is demented enough for tube feeding is problematically look at their behaviour. If they have an IV, are they picking at it? Do they fidget with bedclothes? Are they already restrained to stop from falling? The more positive answers these questions generate, the more likely the patient will be to also pick at or dislodge the feeding tube. And the more they pick at the tube, the more likely they are to end up restrained. It is now well established in the medical literature that restraints in the elderly are “very likely to cause acute functional decline, incontinence, pressure ulcers and regressive behaviors in a short period of time.”

Tube feeding is a valuable treatment modality in patients who are temporarily unable to eat. In the intensive care setting, tube feeding has saved many lives. However, in an elderly demented population with longstanding and progressive dementia as a cause of dysphagia, the best evidence suggests that tube feeding does not improve any of the problems for which it is often prescribed, including prolonging survival, and there is some fair evidence that it may actually shorten life. This is so counterintuitive that it merits some discussion.
Tube feeding actually **increases** the risk of aspiration pneumonia in the demented elderly. There are at least four reasons for this:

1. It does not protect in any way against difficulties with managing the person’s own secretions, and there is some evidence that the loss of washing/ rinsing of the mouth which accompanies eating causes a shift in the mouth flora towards more pathogenic strains.61

2. The presence of a tube actually interferes with the normal mechanisms for preventing aspiration of gastric contents, by (in naso gastric tubes) stenting the gastro-esophageal “sphincter” part way open, or by tethering the stomach (in the case of a PEG tube) so that the kinking of the stomach at the end of the esophagus cannot occur, again effectively splinting the sphincter open.

3. The restraints described above may entail tying a people’s wrists to the bed rails so that they cannot reach the tube. This tends to pull the persons supine, and then we fill their abdomen with a large milky feed. They are often angry and frightened by this, and they struggle in the restraints. If they do start to feel nauseated, they now cannot roll (or be rolled) quickly on to their side until the restraints are untied. This situation is actually **higher** risk for aspiration pneumonia than simply feeding at risk.

4. The “acute functional decline” described in the article above also takes its toll as the marginally mobile individual is restrained from walking and **due to the immobility** develops the aspiration pneumonia we are trying to prevent.

Good communication is essential when discussing the issues around end-of-life care. All too often, when a health care professional says, “We want to be sure your mother dies comfortably,” what a family hears is “We want to let your mother die.” The statement “This disease will take your mother’s life, probably in the next few months,” can, if spoken compassionately, open the floodgates for questions, much needed grieving, and then more realistic forward planning.
References


21. Trombly, CA, Radomski MV. (Eds.). Occupational Therapy for Physical Dysfunction (5th Ed.) Baltimore: Lippincott Williams & Wilkins. 2002


30. Tilly J, Reed P. (Eds.). Dementia Care Practice Recommendations for Assisted Living Residences and Nursing Homes. Alzheimer’s Association. 2006


48. Miller C. Nursing for Wellness in Older Adults: Theory and Practice, 4th ed. Philadelphia; Lippincott Williams & Wilkins. 2004


51. See The American Association for Justice web site at the following url: http://www.atla.org/pressroom/FACTS/frivolous/McdonaldsCoffeecase.aspx


Further Reading:

Canada’s Food Guide on Line: www.healthcanada.gc.ca/foodguide


Silver, AJ. The malnourished older patient: when and how to intervene. Geriatrics 1993;48(7):70-74


Sadie: Move Over Rob Feenie!

Part I

Sadie is a 72 year old lady who has been married to Jacob for 54 years. They live independently in their own multi-level home near the centre of town. They are both highly involved in the Jewish Seniors’ Centre where Sadie is found many times directing the preparation of food for numerous religious functions. Jacob loves to boast about his wife’s cooking. Her friends say that her cooking is legendary and that based upon her rounded girth, she must do a lot of tasting of the cuisine that she makes. She has two children, Rosie and David, who are both married with their own children and active lives.

Sadie has a long-standing history of hypertension, hypercholestremia and three years ago had a mild myocardial infraction. Following her recovery from her MI she attended the healthy heart program where she was able to lose 10 kilograms with exercise and dietary alterations. However, over the past year, she has steadily re-gained the weight. She says that she is very active so that she gets her exercise from running around so much with her cooking and keeping her own household in order. She also says that she perspires so much that she feels that she loses at least a few pounds each time she has to cook for an event, as she does not even have time to sit down to have a cup of coffee or a glass of juice.

Her doctor has prescribed Lipitor (for her cholesterol), Valsartan (for re-modeling her cardiac muscle post MI and maintenance of her BP), enteric coated ASA (anti-platelet to prevent a clot that could cause a MI or stroke) and hydrochlorothiazide (mild diuretic to treat her hypertension). Her blood pressure fluctuates and her cholesterol continues to be borderline normal level.

Questions:

1. What factors are contributing to Sadie’s food intake?
2. What risk factors may affect Sadie’s hydration status?
Care for Elders Module Evaluation

Module Title:      Date:      Location:

Please rate the following statements (√):

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Somewhat disagree</th>
<th>Neutral</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The organization, room, and timing of the session was adequate</td>
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<td>2. The pre-reading package covered information that was new to me</td>
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<td>3. The pre-reading package was well organized and easy to read</td>
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<td>4. Today’s session DID improve my knowledge of interdisciplinary roles, responsibilities and team dynamics</td>
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<td>5. The facilitator was effective in keeping discussion moving forward</td>
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<td>6. The facilitator provided new, critical information as needed</td>
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<td>7. The case complexity or difficulty was appropriate for my level</td>
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<td>8. The discussion in my group was helpful for my learning</td>
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</table>

1. Please name **two** changes in your own practice that you will implement as a result of what you learned today.

   1. ______________________________________________________________________________________________

   2. ______________________________________________________________________________________________

2. Please name **two** ways in which this session could be improved.

   1. ______________________________________________________________________________________________

   2. ______________________________________________________________________________________________