

Step 1: Assess Resident Risk for Weight Loss

Choose between two options that yield reliable, accurate estimates of residents' food and fluid intake at mealtimes. Our *Mealtime Observational Protocol* helps standardize consumption calculations.

MDS REQUIRES ASSESSMENT OF FOOD AND FLUID INTAKE

The first step in implementing our weight loss prevention intervention—assessing residents' food and fluid intake—will be familiar to most nursing home staff. What's new—and yes, improved—are our methods for accomplishing this assessment.

Nursing staff may recognize this step as one requirement of a comprehensive Minimum Data Set (MDS) assessment, the federally mandated resident assessment that nursing homes must complete for every new admission and then quarterly thereafter or whenever there is a significant change in a resident's condition. To be really specific about it, our intervention's first step corresponds to MDS item K4c. This is one of eight MDS items intended to help nursing home staff identify residents potentially at risk for under-nutrition and unintentional weight loss. It reads: "Resident leaves 25% or more of food uneaten at most meals," to which the nursing home staff is expected to check "Yes" or "No."

If yes, the resident is deemed potentially at risk for under-nutrition and weight loss. The problem in usual nursing home practice is that too often the staff check "No" when they should have checked "Yes."

STAFF OFTEN OVERESTIMATE INTAKE LEVELS

Our studies show that staff members consistently over-estimate residents' food and fluid intake by an average of 15% or more on both MDS assessments and on the daily estimates they document in residents' charts (1, 2). Consequently, they do not identify as many as half of the residents potentially at risk for under-nutrition and weight loss due to low intake (1).

There are many reasons for inaccurate estimates of intake including an overworked staff at mealtimes who often have too many, competing tasks to complete (e.g., meal tray delivery, feeding assistance care, oral intake estimates) for a large number of residents, vague instructions on how to assess food and fluid intake, complicated estimation rules (e.g., main entrée counts 50% of meal and side dishes each count 25%), and the lack of adequate oversight by supervisory-level staff to periodically check nurse aides' daily intake estimates for accuracy.

TWO METHODS YIELD ACCURATE ESTIMATES

Corrective action boils down to this: You need a reliable method for estimating residents' food and fluid intake at mealtimes so that you can accurately identify residents who are at risk for weight loss and under-nutrition due to low intake. We tested two assessment methods and found that both work equally well (1). Feel free to choose either option A or option B, taking into account facility resources.

OPTION A: SUPERVISOR'S ESTIMATE INTAKE

Assign to the dining room a supervisory staff person, ideally a licensed nurse or dietitian but an exemplary nurse aide also could serve in this role, to estimate food and fluid intake based on direct observations of residents' meal trays.

This need not be a daily assessment for all residents. Rather, it can be conducted as a part of a resident's periodic MDS assessment (about 10% to 15% of residents need MDS assessments each month) or as an initial assessment for all residents to identify those at risk for under-nutrition and weight loss. Specifically, due to inaccuracies in nurse aides' documentation of residents' daily oral intake, all residents within a facility should receive an oral intake assessment by a well-trained, supervisory-level staff member to determine low intake and possible need for feeding assistance.

The supervisor should:

- Use our *Mealtime Observational Protocol* to conduct assessments.
- Estimate the total percentage eaten during meals on two days (a total of six meals) within the same week for each resident. Ideally, these six meals should be comprised of two morning (breakfast), mid-day (lunch), and evening (dinner) meals to adequately represent the residents' typical intake across all three scheduled mealtimes.

Typically, supervisors can complete oral intake assessments for 6 to 8 residents during each mealtime period, assuming that the residents targeted for assessment are eating within the same area (all in the dining room or in their rooms on the same hallway).

Advantages:

The supervisor can collect additional information that may be useful in improving feeding assistance and, thus, preventing under-nutrition and weight loss. He or she can assess how nurse aides and feeding assistants provide mealtime help and recommend changes if improvement is needed. Common problems include:

- the need for assistive devices, such as large-handled utensils and plate guards
- meal trays being cleared too soon (less than 20 minutes following delivery)
- oral liquid nutrition supplements being given during meals as a *substitute* for feeding assistance (supplement is provided when the resident eats less than half of the served meal with little to no staff attention to promote consumption of the served meal)
- televisions or radios played so loudly that they interfere with feeding assistance provision; they distract staff and prevent residents from hearing staff verbal instructions and encouragement to eat more.

The supervisor also can determine whether a resident's intake is being affected by other mealtime occurrences, such as workers eating some of the food, residents' sharing food, or family members bringing in food. Additionally, mealtime observations give licensed nurses and dietitians the opportunity to identify residents with swallowing difficulties (e.g., coughing, drooling, spitting while eating) or symptoms of depression (e.g., crying, negative self-statements, refusal of food), both of which warrant referrals for further evaluation. Finally, the presence of a licensed nurse or dietitian supervisor in the dining room can help counter criticism the facility may receive if it chooses to employ single-task feeding

assistants to help residents at mealtimes (3-5).

OPTION B: PHOTOGRAPH MEAL TRAYS

Assign a staff person to photograph the resident's tray both before and after the meal during the assessment period, then compare the photos to estimate intake levels.

This need not be a daily assessment for all residents, but rather a periodic evaluation conducted as part of the larger MDS assessment for each resident (about 10% to 15% of residents need MDS assessments each month) or as an initial assessment for all residents to identify those at risk for under-nutrition and weight loss. Specifically, due to inaccuracies in nurse aides' documentation of residents' daily oral intake (1,2), all residents within a facility should receive an oral intake assessment by a supervisory-level staff to determine low intake and the possible need for feeding assistance.

The staff person should:

- Label each tray with the resident's name or other identifying information, the date, and the meal period before taking each photo.
- Take the before and after photographs during meals on two days (a total of six meals) within the same week. Ideally, these six meals should be comprised of two morning (breakfast), mid-day (lunch) and evening (dinner) meals to represent the resident's oral intake across all scheduled meals.
- Similar to direct observations during meals, one staff member can usually take before and after photos for

approximately six to eight residents during any one mealtime period. If all staff work together, photos can be taken for a much larger group of residents by one staff member ("before" photos can be taken of a group of trays prior to leaving the kitchen and "after" photos can be taken as the trays are picked up at the end of the meal).

- Take each photograph from approximately the same angle and distance. We photographed meal trays at approximately a 45 degree angle from two feet away. Photographs should be taken such that the volume of foods and fluids remaining in containers on the tray are visible.
- Ensure that photos are developed or printed. Alternatively, photos taken with a digital camera can be downloaded to a computer that is available to multiple staff members, including licensed nurses and dietary personnel, for review and intake estimation.

When the photos are available for viewing, a supervisory staff person (or persons) should:

- Compare the before and after photos for each meal to estimate the resident's food and fluid intake.
- Use our *Mealtime Observational Protocol* to conduct these estimates.

Advantages:

The photography method provides a permanent record that can be rated by multiple professionals to ensure reliable estimates. It allows comparisons to be conducted in a less hurried manner and after hectic mealtimes. It also provides simultaneous, visual evidence of food volumes both before and after meals, so

“The Photography method provides a permanent record that can be rated by multiple professionals to ensure reliable estimates”

staff need not rely on their memories to estimate intake levels. Photos can also be used to inform the kitchen staff of individual resident's food and fluid preferences based on oral intake and as a training tool for nurse aides in conducting daily intake estimates.

REGARDING BOTH OPTIONS...

Can you assess residents who eat meals in their rooms using either option A or B?

Yes. The most practical way to do this is to assess at one time all residents on one hallway or in one unit who are eating in their rooms. Trays should be checked or photographed before the nurse aide enters the resident's room and again when the aide exits the room. We recommend that the staff person conducting the assessments—through either direct observations or photographs—stay in the hallway throughout the meal period. This allows the person to keep watch on all the rooms simultaneously.

A Time-Saving Tip:

This also works for both options: Concentrate first on assessing those residents who are *not* identified on MDS item K4c as having low intake levels or who consistently eat more than 75% of most meals according to nurse aide documentation in the medical chart. Percentages vary widely among nursing homes, but on average about half of all residents are identified as poor eaters on the MDS. In our experience, nursing home staff make few, if any, “false positive” assessments on this MDS item—or in the medical record. That means, if a resident is identified as under eating on the MDS or in his or her medical chart, then chances are very good that the assessment is accurate.

Double-Duty Assessments:

With either assessment option, the supervisor's estimates of food and fluid intake can be compared to estimates made by nurse aides and feeding assistants for the same residents and mealtimes to check the accuracy of these latter estimates. Any aides and assistants who consistently report inaccurate estimates can receive additional training in conducting intake calculations. If you took before and after photos of meal trays, these can be used as training tools.

GUIDELINES FOR ESTIMATING FOOD AND FLUID CONSUMPTION

To avoid errors and ensure the highest agreement between staff members, we recommend the following guidelines for calculating an estimate of total percentage consumed. Consider presenting these guidelines, during in-service trainings on feeding assistance.

- List each food and fluid item on the tray at the point of meal tray delivery and record resident consumption of each item at the point of meal tray pick-up using the bottom portion of the *Mealtime Observational Protocol*.
- Use a continuous percentage scale, from 0% to 100%, for estimation instead of percentage categories, such as 0%, 25%, 50%, 75%, 100%, which usually result in overestimates of intake.
- Each food and fluid item on the meal tray is counted equally as opposed to assigning differential values to different items (e.g., meat = 40%, salad = 20%), which results in error due to the complexity of the calculations.
- Ideally, consumption of fluids should be recorded in ounces, in addition to percent consumed, to allow for an accurate measure of hydration status. In our assessments, we did not count

optional fluids served independent of the meal tray, such as hot coffee or hot tea, in this estimate but some facilities do count these fluids and that is okay as long as all staff count the same fluids.

- Oral liquid nutrition supplements consumed *during* the meal should *not* count in the total percent consumed estimation, though the amount consumed (in ounces) of the supplement should be recorded separately to allow an estimate of total calories during meals by the licensed nurses and/or dietitian staff. Supplements are intended to be given *between* meals. However, we recognize that some residents prefer supplements as their fluid item with the served meal. Staff should ensure that appropriate meal substitutions (e.g., different entrée or sandwich choices with sides) are also offered as an alternative to the served meal.

RESIDENTS WITH LOW INTAKE NEED FURTHER EVALUATION

The purpose of estimating residents' food and fluid consumption—using either option A or B—is to identify individuals with low intake levels who, thus, may not be getting enough foods and fluids on a daily basis to meet their nutrition and hydration needs and prevent unintentional weight loss.

If a resident's average intake level for the six assessment meals is less than 75%, then that person should be further evaluated in a feeding assistance trial, as described in Step 2.

These at-risk residents should also be “triggered” for follow-up nutritional assessments conducted by a registered dietitian according to the MDS-Resident Assessment Protocol, or RAP. These

additional assessments, including assessments of food complaints, depression, pain, and health status, are intended to guide individualized care plans and appropriate nutritional interventions. The assessments are not necessary to complete our feeding assistance intervention, but we strongly recommend them. In any case, nursing homes are required to conduct them in order to be in compliance with federal standards.

To help, we developed and tested standardized protocols for assessing *food complaints, chronic pain, and depression* as well as for abstracting pertinent *medical information from resident charts*. This information is helpful for creating individualized resident care plans in conjunction with the facility dietitian related to weight loss prevention.

Please note:

Our protocols require staff to interview residents in order to assess food complaints, chronic pain, and depression. Not all residents who need these assessments are capable of providing reliable, stable responses during interviews (though often, many more residents can provide meaningful responses than nursing home staff believe or expect).

Our research shows that residents who score two or more on the *MDS-derived Recall scale* are appropriate for interview about food service complaints and preferences for daily care (6,7). It should be noted, however, that many residents with a score of 1 can still provide reliable information about depression and pain.

ASSESS FOOD AND FLUID CONSUMPTION BETWEEN MEALS

Use our *Between-Meal Snack and Oral Supplement Consumption Assessment* to estimate at-risk residents' intake of additional foods and fluids, including supplements, between meals. Many administrators, nurse supervisors, and dietitians mistakenly assume that residents who eat poorly at mealtimes get the extra calories they need from between-meal snacks and oral liquid nutrition supplements. In fact, nurse aides rarely offer snacks or supplements to these residents (about once a day or less frequently) and when they do, they do not provide adequate feeding assistance or encouragement to promote consumption. The result is that residents consume, on average, less than 100 calories per day between meals. All of this is true even for high-risk residents with physician or dietitian orders to receive snacks or supplements between meals (8-10).

The raw data you collect with our *Between-Meal Snack and Oral Supplement Consumption Assessment*, which uses the same procedures as our mealtime assessment protocol, may help convince skeptical staff members that improvements are needed in the delivery of supplements, snacks, or any "hydration" program they believe exists (again, often erroneously) within the facility. Such improvements often entail:

- designating specific staff members to oversee delivery of snacks and supplements;
- monitoring by a supervisory-level staff member; and
- coordination with dietary staff to ensure that a variety of foods and fluids are available to residents between meals.

References

1. Simmons SF, Reuben D. (2002). Nutritional Intake Monitoring for Nursing Home Residents: A Comparison of Staff Documentation, Direct Observation, and Photography Methods. *Journal of the American Geriatrics Society*; 48:209-213.
2. Simmons SF, Lim B, and Schnelle JF. (2002). Accuracy of Minimum Data Set in Identifying Residents at Risk for Undernutrition: Oral Intake and Food Complaints. *American Medical Directors Association*; May/June:140-145.
3. Kayser-Jones J, Schell E. (1997). The effect of staffing on the quality of care at mealtime. *Nursing*; 45:64-72.
4. Kobriger AM. (2003). Weight Loss Prevention Strategies: What is Your Facility's Score? *Nursing Homes: Long Term Care Management*; June: 63-66.
5. Simmons SF, Bertrand R, Shier V, Sweetland R, Moore T, Hurd D, Schnelle JF. (2007). A preliminary evaluation of the Paid Feeding Assistant regulation: Impact on feeding assistance care process quality in nursing homes. *The Gerontologist*, 47(2):184-192.
6. Simmons SF, Schnelle JF, Uman GC, Kulvicki AD, Lee KO, and Ouslander JG. (1997). Selecting nursing home residents for satisfaction surveys. *The Gerontologist*; 37(4):543-550.
7. Simmons SF, Schnelle JF. (2001). The identification of residents capable of accurately describing daily care: Implications for evaluating nursing home care quality. *The Gerontologist*; 41(5): 605-611.
8. Simmons SF, Schnelle JF. Individualized Feeding Assistance Care for Nursing Home Residents: Staffing Requirements to Implement Two Interventions. *Journal of Gerontology: Medical Sciences*, accepted for publication.
9. Kayser-Jones J, et.al. (1998). A Prospective Study of the Use of Liquid Oral Dietary Supplements in Nursing Homes. *Journal of the American Geriatrics Society*; 46:1378-1386.
10. Simmons SF, Patel AV. (2006). Nursing home staff delivery of oral liquid nutritional supplements to residents at risk for unintentional weight loss. *Journal of the American Geriatrics Society*, 54(9):1372-1376.