An astonishing 30-50% of hospitalized adults are considered malnourished in the modern healthcare system.¹ This statistic is troubling because the nutritional status of patients who do not receive appropriate and timely nutrition intervention will continue to decline during their hospitalization. This may often lead to worsened clinical outcomes such as infectious complications, increased length of stay, 30-day readmissions, and even mortality. During hospitalization, these patients may be malnourished due to one of the following reasons: a lack of adequate nutrients such as protein and fat; increased energy requirements due to certain disease states; impaired nutrient transport, absorption or metabolism.² The collaboration between healthcare professionals and RDNs to determine nutrition related risks and implement timely interventions is crucial to a patient’s hospital associated outcomes.

The Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) created guidelines to identify and assess malnutrition in adult patients. In the past, it has been difficult to diagnose malnutrition because there was no consensus on which parameters to use. The characteristics of these guidelines include: history and clinical diagnosis, physical exam/clinical signs, anthropometric data, laboratory data, food/nutrient intake, and functional assessment.² Although many hospitals have adopted the criteria set forth by the Academy and A.S.P.E.N, it is important to note that these guidelines have not yet been validated.

The Nutrition Focused Physical Exam (NFPE) helps to identify the presence of any muscle wasting or fat loss in the malnourished patient. It is a cost-effective and efficient way to evaluate a patient’s fat and muscle stores along with fluid gains (edema) and micronutrient deficiencies.³ Clinicians are trained to identify fat and muscle losses, which can then be used to help categorize patients as “No Malnutrition Identified”, “Malnourished”, or “ Severely Malnourished.”

Methods for training clinicians on the NFPE may include bedside practice, a webinar, or a live seminar. Ideally, there should be both a didactic component as well as a hands-on component, which should include supervised practice under the instruction of an experienced practitioner. Clinicians who learn the NFPE should be able to practice the NFPE on actual patients or patient actors so that their competence in performing the exam and diagnosing malnutrition can be evaluated.

Training clinicians to perform the NFPE can provide many benefits, including an increase in the RDN’s skill set and visibility in the clinical setting. When an RDN competently performs the NFPE and diagnoses malnutrition, they become a more influential presence on the interdisciplinary team caring for the patient. NFPE training also standardizes malnutrition diagnosis, increases early interventions, and positively impacts the hospital’s financial reimbursement. Mastering competency in the NFPE can help RDNs become more skilled, qualified, and valuable in the clinical setting. However, until recently, there were no standardized training programs offered by the Academy of A.S.P.E.N to learn these skills.

The Cleveland Clinic Experience
Cleveland Clinic’s Center for Human Nutrition (CHN) created a comprehensive training program to teach staff RDNs how to perform the NFPE and diagnose malnutrition based on the Academy and A.S.P.E.N guidelines. A Malnutrition Task Force was formed in 2011 to standardize the nutrition assessment process. The task force, in conjunction with the Cleveland Clinic Simulation Center, designed an education program for RDNs utilizing the Objective Structured Clinical Exam (OSCE) format. An OSCE is a performance-based test, which allows the standardization
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of clinical assessment skills and has been a staple of medical education for years. It was originally created to “assess competency, based on objective testing through direct observation. It is precise, objective, and reproducible allowing uniform testing of students for a wide range of clinical skills.”

The nutrition OSCE session involves training small groups about individualized applications of Academy/A.S.P.E.N. adult malnutrition guidelines in a simulated setting with trained actors and observers. At Cleveland Clinic, the actors are their own dietitians. Two weeks prior to the training, the actors are provided a written script and trained for that specific scenario.

Participants, which include dietitians, educators, and interns, are provided with preparatory online didactic modules to accompany a four-hour hands-on training at the Simulation Center. The modules include material presented in various formats, including voiceover PowerPoint presentations, journal articles, and a five-point quiz for each section. These modules are intended to provide background knowledge for the learner, and are available to the students two weeks prior to the training. These modules are divided into the following topics:

- Introduction to the NFPE
- Nutrition Screening and Nutrition Assessment
- Malnutrition Etiology
- Malnutrition Severity
- NFPE of Macronutrients, Edema and Fluid Accumulation
- Assessment of Functional Capacity
- Micronutrient Deficiencies

Students are required to complete each module and take a post-module quiz. References for each module are also provided for the students to read.

On the day of the OSCE, students spend the first hour going through training stations taught by the Malnutrition Committee members. The stations include mini courses on identifying subcutaneous fat and muscle loss, micronutrient deficiencies, and fluid accumulation (edema). These stations are about 15-20 minutes in length and intended to prepare students for the simulation by demonstrating the physical exam techniques that will be used. Following the learning stations, the student then completes three simulated OSCE sessions with actors and a written scenario. Students have five minutes to read the brief patient scenario that contains medical history, lab values, and medications. After the written information has been reviewed, students enter the room and have 15 minutes to conduct the NFPE and ask the actor questions while an observer is watching. The student is expected to determine the etiology, presence, and degree of malnutrition using the Academy/A.S.P.E.N. guidelines. After 15 minutes is up, students have 10 minutes to collaborate with the observer.

Competency is measured as follows: competency met, needs improvement, did not attempt, or not applicable. In order for the learner to pass, they must accurately diagnose if the “patient” has non-severe malnutrition, severe malnutrition, or is well nourished. They also need to correctly identify the etiology of the malnutrition – social / behavioral / environmental, chronic disease or acute disease / injury.

In order for the actors to “simulate” fat and muscle depletion, they are provided a script of how to respond when the learner either asks a question, or touches a specific body part. The actor is trained to describe and verbalize the degree or presence of the fat or muscle loss. For example, if the learner touched the actor’s temples, the actor would be instructed to say, “My temples appear to be slightly indented lately”. However, the actor does not volunteer information if the learner did not trigger a response. As the student inspects the hair, mouth, skin, and nails the actor states if there is an abnormality present. At the end of the session, the observer (an RDN trained for that role) will discuss the findings or provide feedback if the student missed an area on the NFPE.

CHN developed a malnutrition bedside competency that needs to be completed annually for all inpatient RDNs, which is the same as the OSCE simulation. RDNs must pass the competency with 80% or higher and have two observed opportunities to pass the
Barriers to Implementation

Even with adequate training, however, barriers exist in implementing malnutrition assessment and diagnosis in the hospital setting. One roadblock is having enough competent staff to train, monitor, and evaluate the dietitians’ success. The OSCEs require a minimum of three participants (i.e. student, observer, and standardized patient). However, one individual may be able to serve as both the observer and standardized patient if necessary, which suggests that this training may be done on a smaller scale. At Cleveland Clinic, and other larger facilities where the NFPE is standard protocol, there may be multiple RDNs who have expertise in performing the NFPE. However, this is not always the case at smaller hospitals. In this case, RDNs should seek out the assistance of members of the interdisciplinary team such as nurses, physicians, and physician assistants who perform physical exams as part of their normal duties.

Performing the NFPE with ICU patients who have mobility restrictions is another challenge for some RDNs, and should be addressed in comprehensive training. Many patients in the ICU are intubated, which provides some difficulty in obtaining correct information from the patient in the absence of family. When family is available, information about the patient should be obtained to complete a full assessment. Compression socks are also highly utilized in the ICU and can be a barrier to assessing the lower-extremity areas for edema and fat/muscle loss. Some clinical managers may fear that the addition of the NFPE to diagnose malnutrition may adversely affect the RDN’s daily schedule. Staffing and productivity should not be significantly affected due to the small amount of time it takes to complete the NFPE once it is mastered. Productivity tools can be used to track the time spent with each patient, and these can be monitored by the CNM to assess changes in productivity.

Conclusion

Documentation of malnutrition and communication with other disciplines is vital to the success of a comprehensive malnutrition program. In some facilities, dietitians have been granted privileges to add malnutrition to the electronic health record (EHR) problem list, which alerts physicians that the RDN has performed a comprehensive nutrition assessment and the patient is malnourished. When malnutrition is placed on the problem list and addressed in the physician’s documentation, it becomes a medical diagnosis, which can then be coded appropriately for potential reimbursement. In this way, RDNs can positively impact reimbursement rates in the hospital or clinical setting when a patient is diagnosed with malnutrition.

The clinical and financial benefits of training staff to perform the NFPE are significant. RDNs who are proficient in this skill can be valuable assets to their institution. The institution will benefit financially from RDNs diagnosing malnutrition through increased reimbursement. The challenges for developing a sustainable training program for RDNs include significant time and planning methods. Program goals and resources should be evaluated such as location, equipment, and labor hours. RDNs should be informed on their roles and responsibilities with the project so expectations are clear. Overall, training your staff to complete the NFPE is a realistic and important component in the development of registered dietitian nutritionists.

Resources for Malnutrition Workshops

Cleveland Clinic: http://www.clevelandclinicmeded.com/live/courses/malnutrition/
Academy of Nutrition and Dietetics: http://www.eatrightpro.org/resource/career/professional-development/face-to-face-learning/nfpe-workshop
Rutgers: http://shp.rutgers.edu/dept/nutr/INI/cpe.html
Abbott: http://anhi.org/malnutrition-ce

References

1. Jensen GL, Compher C, Sullivan DH, Mullin GE. Recognizing Malnutrition in Adults: Definitions


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