

# Nutrition-Focused

They're an underused but much-needed tool in the dietitian's toolbox to help identify more cases of malnutrition and improve patient outcomes.





# Physical Exams

By **Carrie Dennett, MPH, RDN, CD**

**D**ietitians have many tools in their toolbox to assess the nutritional needs of clients and patients. However, one of the most powerful tools—a nutrition-focused physical exam (NFPE)—is one that many RDs don't know how to use. With recent changes in the criteria for diagnosing malnutrition, the time is right to get up to speed with this valuable skill.

## What Is an NFPE, and Why Is It Important?

An NFPE is a systematic head-to-toe examination of a patient's physical appearance and function to help determine nutritional status by uncovering any signs of malnutrition, nutrient deficiencies, or nutrient toxicities.<sup>1</sup> In a 2012 consensus statement, the Academy of Nutrition and Dietetics (the Academy) and the American Society for Parenteral and Enteral Nutrition (ASPEN) defined malnutrition as the presence of two or more of the following characteristics:<sup>2</sup>

- insufficient energy intake;
- weight loss;
- loss of muscle mass;
- loss of subcutaneous fat;
- localized or generalized fluid accumulation; and
- decreased functional status.

The last four of these characteristics are best assessed by a physical exam. In fact, muscle or fat loss might reveal more about a patient's nutritional status than a diet recall ever could. Jodi Wolff, MS, RDN, LD, CNSC, FAND, an NFPE trainer and pediatric dietitian at Rainbow Babies and Children's Hospital in Solon, Ohio, says the NFPE is one of the five domains of a nutrition assessment, along with diet history, medical history, BMI, and clinical data. "If you don't use physical exams, those patients aren't getting a complete nutrition assessment, so we could be missing things. All of our patients deserve a complete assessment."

When doing an NFPE, an RD generally starts by visually examining the patient to look for physical signs of nutrition status. This includes overall state of physical health, level of frailty or fitness, posture, and body symmetry. The RD also may assess the patient's breathing, emotional status, and ability to communicate. For

example, shortness of breath could indicate worsening congestive heart failure, which could be a sign of excessive sodium intake.<sup>1</sup> Fruity breath could be a sign of ketoacidosis.

The shape, texture, and color of the fingernails and the color and texture of the skin can reveal a number of nutrient deficiencies or nutrition-related diseases that might not be detected by lab work. For example, pale skin and thin, concave nails can be a sign of iron deficiency, while vitamin A deficiency can cause follicular hyperkeratosis, which resembles goosebumps but won't go away when you rub the skin. A decrease in skin turgor on the back of the hands is a late sign of dehydration. The hair, eyes, and mouth can provide more clues: poor-quality hair color, distribution, or texture (protein, essential fatty acid, or nutrient deficiencies); Bitot's spots on the eyes (vitamin A deficiency) or pale inner eyelids (iron deficiency); dry, cracked, and swollen lips or tongue inflammation (vitamin B deficiencies); and bleeding gums (vitamin C deficiency).

With permission from the patient (or the patient's family), the RD then does a hands-on physical exam to look for further signs of malnutrition. Areas of particular concern include the following:

- hollows, depressions, or loose skin around the eyes (fat loss);
- a depression or pit at the temples (muscle loss);
- prominent clavicle bones or sharply squared-off, bony shoulders (muscle and fat loss);
- fat loss at the triceps (fingers meet when the skin is pinched);
- depression instead of a bulge in the interosseous muscle (between the thumb and forefinger on the back of the hand) when the patient presses their thumb and forefinger together;
- prominent, visible bones in the torso, as well as depressions between the ribs and shoulder blades or the shoulders and spine (muscle and/or fat loss); and
- minimal muscle when grasping the quadriceps and calf, as well as bony knees or a depression in the thigh area.

Pitting edema in the lower extremities can be another sign of malnutrition; grip strength, as measured by a hand dynamometer, can assess physical function. Depending



on the patient, the setting, and the RD's confidence level, the exam may focus on areas readily visible, such as the head, neck, and hands/arms.

A physical exam becomes even more critical when a patient is ill, in pain, or unable to answer questions coherently. In some health care settings, providers may not always have access to the patient's medical record, and the RD must rely on recalled information from the patient or family members to assess nutrition parameters like caloric intake or unintended weight loss.<sup>2</sup>

"NFPE helps RDs to complete the most accurate and comprehensive nutrition assessment, which will determine the most appropriate nutrition diagnosis, intervention, plan for monitoring, and plan for evaluation," says Erica Raymond, RD, CNSC, an NFPE trainer and surgical critical care dietitian at University of Michigan Hospital in Ann Arbor. (Raymond and Wolff together gave a presentation called "Nutrition Focused Physical Exam: Identifying Malnutrition With Hands-On Training" at the Academy's annual Food & Nutrition Conference & Expo® last year in Nashville, Tennessee.)

### Malnutrition in the Hospital Setting

Nutrient deficiencies are especially prevalent in the hospital setting. An estimated one in three patients admitted to the hospital in the United States have malnutrition,<sup>3</sup> but only 3% leave with a malnutrition diagnosis.<sup>2</sup> This is a troubling statistic, because malnourished patients who don't get appropriate treatment will continue to decline nutritionally. This often leads to worse health outcomes, including increased risk of infections and pressure ulcers, slowed wound healing, muscle wasting, and other functional losses that increase the risk of falls, longer hospital stays, more frequent readmissions, and even a greater risk of death.<sup>3</sup>

Identifying malnutrition and taking appropriate action can make a profound difference in patients who meet the criteria for malnutrition, or who are identified as being at risk of malnutrition. The right nutrition intervention can improve quality of patient care, improve clinical outcomes, and reduce health care costs.<sup>3</sup>

**Michelle Mathura, RDN, LRD, CDE, does NFPE training through DM&A, a consulting firm based in Chula Vista, California. She says the simple action of human touch can be healing. "It's amazing to see the light that goes on in the RD's eyes when they see how the hands-on assessment not only tells them more about their patient but [also] how that patient now is more relaxed, shows trust, and tells the RD a lot more about themselves."**

Raymond says NFPEs may be most valuable in patient populations where the use of traditional markers of nutrition status—like anthropometrics and lab results—may be unreliable, inaccurate, or invalid. For example, serum albumin and prealbumin are no longer considered reliable or specific biomarkers for diagnosing malnutrition. Because levels of these proteins also can be affected by inflammation, fluid status, and

other factors, in 2012 the Academy and ASPEN stopped recommending using them to assess malnutrition.<sup>2</sup>

"NFPE allows RDs to detect signs of nutrient inadequacies or deficiencies earlier, identify problems that might otherwise have gone undetected, and validate other assessment parameters that may be unreliable when used alone," Raymond says.

### Beyond the Hospital Setting

It would be easy—but inaccurate—to think that the NFPE is a skill that only in-patient dietitians need to cultivate. The reality is that malnutrition and undernutrition affect people in all health care settings. "I feel like physical exams are important for every patient we're assessing, but there are patients who are at higher risk of malnutrition," Wolff says.

Many health conditions can cause malabsorption or contribute to inadequate intake of nutrients, including cerebral palsy, burns, increased inflammation, cystic fibrosis, cancer, kidney disease, alcoholism, smoking, eating disorders, dental pain, short bowel syndrome, or other gastrointestinal disorders. Older adults may struggle with lack of appetite or reduced ability to cook or shop for themselves. And then there are those patients who struggle with undernutrition due to social reasons such as homelessness and food insecurity. In 2014, about 15% of people in the United States couldn't get—or weren't sure they could get—enough to eat.

"[Nutrient deficiencies] are in your patients every day, and if you look you will find them," Wolff says. "Once you make a diagnosis, you'll understand why physical exams are so important."

Wolff says it's standard of practice that every RD know how to do an NFPE. "A doctor would never be able to do a progress note without documenting that he did a physical exam," she says. "That's the point where we need to get to with dietetics."

### Questioning Scope of Practice

Wolff says that some RDs don't realize that physical exams are within their scope of practice—a misunderstanding that may be even more prevalent among other health professionals. She says there's a difference between a medical physical exam and an NFPE, and because of that difference, an RD may identify problems missed during the medical exam.

Wolff gives the example of a patient with a stage IV pressure ulcer. The first time she saw the patient, she did a physical exam and found signs that the patient had a vitamin C deficiency. She made her nutrition diagnosis, the patient started taking vitamin C, and his wound started to heal. A physician had seen that patient each week for a year, but the deficiency was never diagnosed.

"My examination is different from a doctor's because it's nutrition focused," she says. "When there's any question about whether it's within our scope, it's because they don't understand what's involved in a nutrition exam vs a medical exam."

The Academy's Director of Quality Management Sharon McCauley, MS, MBA, RDN, LDN, FADA, FAND, put to rest any



question about whether the NFPE is within the RD's scope. "Performance indicators for demonstrating competence in NFPE have been included in the Scope of Practice for the RD, the Standards of Practice in Nutrition Care, and the Standards of Professional Performance for RDs for more than 10 years," she says. According to McCauley, RDs currently employed in jobs where they have clinical responsibility to perform NFPEs are expected to establish and maintain competence, but so are students in dietetics programs, internships, and supervised practice.

In spite of this, Raymond says most RDs who obtain NFPE training receive it after they begin working. "I think there's a need to incorporate NFPE training into didactic and coordinated programs in dietetics and dietetics internship programs," she says.

The Academy offers some resources for RDs wanting to learn the NFPE, including the on-demand webinar "Nutrition-Focused Physical Examination: Enhancing Your Clinical Toolbox," available from [eatrightstore.org](http://eatrightstore.org). Academy trainers also are available to conduct small, hands-on NFPE workshops in your area (send inquiries to [nfpe@eatright.org](mailto:nfpe@eatright.org) for more information).

## Fear of the Unknown

Kim Jacobs, RDN, LD, a newly practicing dietitian at Hays Medical Center in Hays, Kansas, says she wasn't taught anything about NFPEs in school or during her internship—and she never touched a patient. "In fact, most of the nine dietitians that I worked with over the course of eight months stood at the doorway of patients' rooms to ask their questions."

Raymond says a recent survey found that RDs identified lack of education and training to be one of the most common barriers to performing an NFPE. Although 78% of RDs said they were familiar with the NFPE, only 27% said they performed it. One in four respondents said they don't feel comfortable using the malnutrition characteristics, while 38% said they don't feel they have enough training or education.

"I think we're afraid of what we haven't learned," Wolff says. "I know I didn't learn this during my training 20 years ago. It's never been expected or required." Wolff says the comment she hears most often from RDs about physical exams is, "If I knew what to do, I would do it."

Despite her own lack of training early on, Wolff took to the NFPE naturally. "I've always loved to look at the patient. Before 'physical exam' was a buzzword, I just thought it made total sense," she says. "I always felt like a detective at work."

Wolff describes the learning experience as almost addictive: "Once you find something and make an intervention, you want to keep doing it," she says. "It's so exciting to find something clinical with a patient as a result of your exam, something that you wouldn't pick up if you just did a diet history."

Jacobs says that when she started her job and was told that she would need to touch patients as part of an overall nutrition assessment, she was surprised and even taken aback.

"Initially, I was uncomfortable, but eased into the idea quickly. I soon realized it would make me a better dietitian and would allow me to determine a more appropriate nutrition diagnosis."

## Leaning Into the Learning Curve

At first, "many dietitians are resistant and not on board to provide NFPE," Mathura says. "We've heard many times, 'I got into this career because I didn't think I had to touch anyone.'" She says once RDs receive hands-on training and start practicing their new skills, they quickly see the value. "The patient isn't concerned, but it's the RD that needs to feel confident in what they're doing. Once they are—they're on board. It's all about providing better patient care."

Many RDs worry that adding an NFPE will take up too much time. Wolff says adding a physical exam does take more time initially, but as RDs practice, they quickly become more efficient. "You can often do the physical exam at the same time you're asking questions," she says. "It can completely change the whole course of your consultation."

Raymond says that the discomfort many RDs have with learning and developing NFPE skills may be directly linked to the type of training they receive, and when they receive it. "Hands-on training in a clinical environment can help RDs develop the competency and confidence they need to feel comfortable using NFPE in clinical practice."

As with most new skills, confidence comes from pairing the right training with plenty of practice. In fact, Wolff says it takes months of practice to become competent. "When you go to a workshop and get all of that information, it can be overwhelming," she says. "Start small. Pick a few things to assess and then gradually add more in. It's a skill, and to learn a new skill you have to be hands-on. You're not going to learn until you do it."

## Future of NFPE

Jacobs says that learning to perform NFPEs correctly has allowed her to identify more cases of malnutrition than she did during her internship experience. "It does not bother me in the least to approach a patient to perform an NFPE," Jacobs says. "It has definitely made me a more proficient, qualified, and skilled RD."

Raymond predicts that more and more RDs will see the light about the value of NFPEs. "I think NFPE competency is going to be a highly regarded and sought-after skill among clinical RDs."

— Carrie Dennett, MPH, RDN, CD, is the nutrition columnist for *The Seattle Times* and speaks frequently on nutrition-related topics. She also provides nutrition counseling via the Menu for Change program in Seattle.



For references, view this article on our website at [www.TodaysDietitian.com](http://www.TodaysDietitian.com).