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Features

Feed the patient and starve the wound

When the middle-aged man called 911, his homebound ailing mother weighed 60 pounds and was suffering from the worst Stage 4 pressure ulcer Mary Madison had ever seen in her many years as a registered nurse.

Months before, the gentleman, whose extended family shared a lifelong friendship with Madison's family, had moved back home to care for his mom after his worsening schizophrenia forced him into early retirement from the priesthood.

“He wasn't versed in providing care, much less care for someone with dementia,” recalls Madison, a clinical consultant for Briggs Healthcare.

Because of his own illness, he never connected the dots at the point when Mom's dementia left her unable to even recognize the meals he prepared.

“He went about other chores and then returned to pick up her untouched plate,” she says. “He simply assumed his mother was not hungry but did little to encourage her to eat or feed her himself.”

Mom's position in bed also went mostly unchanged.

Finding a balance between good nutrition for wound care and allowing residents to eat foods they enjoy is important since food may be “one of the last joys” people living in long-term care facilities

It was a perfect storm that ended only when Madison and other clinicians successfully worked to reverse months of unwitting neglect and failures to understand the inextricable links between nutrition and wound healing. Madison knows. She is a certified resident assessment coordinator (RAC-CT) and certified dementia practitioner (CDP).

Eula Reynolds, RN, MSN, CWS, director of clinical education for Dermarite Industries, also recently witnessed a decline in a close family member's health.

“With each day as his illness progressed, his appetite decreased,” Reynolds says. “Every bite needed to count.”

In the global context of health, good nutrition naturally has long been one of the most powerful weapons against disease. Until recently, however, its precise biochemical connection with wound healing hasn't achieved the level of awareness that experts such as the National Pressure Ulcer Advisory Panel would like to see.

More recent figures aren't available, but one in 25 ulcer-related hospitalizations in 2006 resulted in death, many of which could have been avoided if nutritional interventions had occurred earlier.

The supporting science

"Nutrition is often the forgotten piece in both prevention and treatment of wounds," says Paulina Lowkis, MBA, RD, LDN, CDE, a senior product manager with Medline's Nutrition and Pharmaceutical division. "It plays a significant role as adequate calories, protein and hydration are needed to keep the patient nourished."

If residents consume fewer calories and protein over time, they can begin to lose fat mass, which increases exposure of certain bony prominences, such as the elbows, sacrum and heels.

Time and again, researchers have definitively linked weight loss with pressure ulcers. There are many risk factors, but big ones include protein energy malnutrition (PEM) and dehydration deficits, as well as conditions like inability to self-feed, as NPUAP research has uncovered.

NPUAP researchers also link so-called macronutrients (such as proteins, carbs and fats) and micronutrients with wound healing. "Carbohydrates in the form of glucose is the major fuel source for collagen synthesis, which is the building block of tissue," the organization notes in its recent white paper on nutrition.

The best of intentions

Wound healing sets off a complex chain of events that include "an intensified metabolic demand for nutrients," writes Sue Leininger Hogan, RN, MSN, an advanced practice nurse at Allegheny General Hospital in Pittsburgh, in a *Modern Medicine* article. Still, nutritional problems in the elderly can easily confound caregivers, who were found in one large study to overestimate patients' dietary intake as much as 20% of the time.

NPUAP researchers have acknowledged in a recent white paper that while early nutrition screening helps to identify under-nutrition risks, "little specific evidence exists related to medical nutrition therapy (MNT) for preventing pressure ulcers," and worse, "no laboratory test can specifically determine an individual's nutritional status." Researchers do assert, however, that unintentional weight loss may precipitate pressure ulcer development and delay healing.

As seen above, well-intentioned caregivers like family members often unknowingly sabotage wound healing by feeding their loved ones the wrong things. Conversely, family members who severely restrict loved ones' diets by taking restrictions too literally can do harm.

"Sometimes a family has good intentions of bringing in foods that a patient likes," says Anita Klimanis, RD, LDN, staff dietitian at Dietitians On Demand. "However, the food may not be within the ordered diet regimen. If the family continues to bring in harmful foods despite education, diet liberalization should be considered if medically able. A monitoring system may need to be put into place, and a care plan should be initiated."

"Often, the desire to restrict food and fluids due to a previous condition is difficult to move away from even if another, more acute, condition has been determined, such as a pressure ulcer," adds Serafina Ranieri, RD, LDN, regional director of nutrition, health, and wellness for Unidine Healthcare Culinary Group.

A more holistic view of the resident helps, adds Lowkis, a registered dietitian and certified diabetes educator.

"There often is this belief that a resident who has a chronic condition [such as] diabetes, hypertension or high cholesterol needs to be on a special or restricted diet," she says. "If you notice dehydration, weight loss, loss of appetite, decreased oral intake or skin breakdown, it's important to allow for a regular diet and supplement, if needed."

Eliminate restrictions first

Every resident is like a snowflake when it comes to susceptibility to wounds and the way they respond to nutrition. No two are alike.

Still, some basic, well-accepted truths abound.

Carbs are vital in providing tissue building blocks, but proteins such as meats, beans, eggs, milk and Greek yogurt, have shown to effectively repair tissue damage, says Madison.

"Vitamins C and A work as antioxidants, strengthening the wound and helping create collagen for elasticity," she adds. And don't forget water as a vital part of wound healing nutrition. Hydration is critical for getting the nutrients where they need to be.

Balance is also key. Heavily restricting or moderating foods for elder residents, particularly those near the end of life, can turn small problems into big ones.

"It's important to first liberalize the diet or eliminate the diet restrictions," says Lowkis. "When you're getting older, living in a long term-care facility and losing weight, it's better to focus on allowing the resident to eat what they like. It's one of the last joys they may have. Don't take that away."

Appropriate oral supplements that don't interfere with a resident's medications are a good way to fill the gaps in food groups residents don't like. Raniere says other nutrients associated with wound healing include multivitamins with minerals, copper, iron, arginine, glutamine and Vitamin B^{12}.

Sorry, no bacon

Another hugely beneficial nutrient for wound healing is zinc, which Madison notes is plentiful in red meats and seafood, as well as some cereals.

Diabetics, of course, present their own set of unique challenges when it comes to preventing and healing pressure ulcers. High blood sugar impedes healing. High protein diets are preferred.

"Low carb and low sugar are usually also recommended due to poor healing when glucose is not controlled," says Brandy Tolliver, wound and product specialist for Gentell. "This is especially important in the diabetic patient. Poor glucose control alone without other illness can delay wound healing."

Low-sodium diets are essential in residents with venous ulcers, Tolliver adds, because water retention can aggravate already swollen "weeping extremities," she added.

Of course, caregivers and nutritionists agree there are a number of harmful foods that should be avoided in at-risk residents or those with existing wounds. Anything that adversely interacts with meds tops the list, according to Lowkis. Also any foods heavy in sugar, because sugar tends to degrade collagen, an essential wound healing building block, adds Madison. Nitrates (such as bacon and hot dogs), and spices (except ginger and turmeric) should generally be avoided as well, she adds.

Assessments a vital defense

As stated previously, a thorough nutritional assessment of each resident upon admission (and major condition changes) can help set and keep them on a good course of healthy eating and wound prevention and treatment. It helps to involve a registered dietitian.

NPUAP suggests facilities explore a variety of screening tools to use, including:

• The Mini-Nutritional Assessment (MNA), a validated nutrition assessment tool, and MNA Screening Form, which has been shown to provide an advantage over using visceral protein in screening and assessing nutritional status.

• The Malnutrition Universal Screening Tool (MUST), while not widely used, is another potential screening tool that helps practitioners identify risk of under-nutrition.

• The very popular Braden Risk Assessment Scale, whose pressure ulcer risk predictor tools include a nutrition subscale, yields additional data that can be used in the nutrition screening and assessment process.

Dietitians endorsed

Experts agree on the importance of nutritional assessments. Lowkis recommends routine weight and skin assessment as well, and urges caregivers and family members to maintain open communication regarding issues around food, and changes in weight and skin condition.

Experts also agree on the vital role dietitians play.

“A successful wound care approach should have a care team approach with the nursing staff and a registered dietitian caring for the residents with wounds together,” says Meagan Pollak, senior product consultant for Direct Supply. “From a nutrition standpoint, that may be increasing or decreasing calorie or protein needs, depending on how the wound is doing.”

“Dietitians are my heroes, especially when it comes to wounds and proper nutrition,” Madison says. “Dietitians will take a food intake history, evaluate lab results and get the food needed to promote healing to the resident.”

Klimanis advises dietitians to follow up monthly with active wound patients to assess changes in diets and wounds, and make needed adjustments or interventions.

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