Treating the Whole Patient

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Wound care providers often espouse to treat "the whole patient" and not just "the hole in the patient," but it is much harder to do than it sounds. Many issues unrelated to the wound affect the rate of wound healing. It is equally frustrating to teach a patient how to avoid injury, reduce infection, and promote healing, only to find out that little of what was taught was done. This paper will address some of the common psychosocial issues related to wound healing, including nonadherence. Wound care teams must ask patients about these issues in order to properly address them or refer the patient for additional care.

COMORBID PSYCHOSOCIAL CONDITIONS THAT AFFECT HEALING

STRESS AND DEPRESSION

Psychosocial factors can delay healing of acute wounds[1] and chronic wounds.[2] Patients with chronic lower leg wounds were followed longitudinally to determine the rate of wound healing while they were tested for anxiety and depression. Those patients with the highest levels of depression and anxiety were the slowest to heal. In fact, the rate of wound healing was more highly linked to anxiety and depression than demographics or medical conditions. Leg wounds in patients with high levels of depression and anxiety were 4 times more likely to have delays in healing. Stressed patients also had an increased risk for infection.[2]

The link between non-healing and emotional stress is the immune system. Psychological stress increases the rate of glucocorticoid secretion and catecholamine release, impairing acute wound healing processes by prolonged anti-inflammatory response and vasoconstriction.[1] Elevations in two hypothalamic hormones, oxytocin and vasopressin, are linked to more rapid healing of acute wounds.[1] They are released in greater quantities in persons with social support and are felt to modulate the response to stress. The link to infection appears to be mediated by decreased epidermal antimicrobial properties.[3]

REDUCING STRESS IN PATIENTS

Stress can be both internal and external. When interviewing the patient, try to comprehend the impact of the wound on the patient's quality of life. Ask questions such as "If you were not here in the wound clinic/hospital today, what would you be doing instead?" Then listen to the answer. Is the patient off work? Is the patient not able to travel? Not able to be with family or friends? While one cannot fix these social issues, one can empathize with them and the impact they have on life or life plans.

It may be necessary to clarify what the likely trajectory of the wound will be by relating their case to similar patients such as demonstrated by the following statement: "Most patients with your type of wound reach full healing within 8 weeks as long as they can follow our instructions." These statements may help the patient normalize their condition and emphasize the need for adherence to the care plan. For patients with high levels of anxiety or depression, referral to counseling or psychiatry may be needed. Ask the patient if there are reasons for not being socially engaged, such as the wound being too painful or odorous. Where possible, acknowledge and address these issues to improve socialization.

SOCIAL HABITS

Tobacco use

Tobacco comes in several forms, though all of them impair wound healing. Carbon monoxide in smoke binds to hemoglobin and the resulting carboxyhemoglobin is unavailable for oxygen transport.[4] Smoking also reduces diphosphoglycerate formation resulting in decreased oxygen unloading at the cellular level.[2-4] Nicotine causes marked vasoconstriction in the precapillary vessels of the skin. Vasoconstriction also leads to decreased oxygen tension, and collagen deposition is proportional to tissue oxygen. Smoking also decreases vitamin A, B, C, and E complexes. Wound healing is profoundly affected by the vasoconstrictive properties of tobacco, but tobacco also reduces the number of white blood cells at the wound, thereby increasing the risk of infection.[4]

REDUCING TOBACCO USE WHILE HEALING

Smoking cessation is difficult due to the addiction to nicotine and not often successful, less than one-third of patients who try to quit are successful.[5] Even though your clinic will not prescribe medications to aid in smoking cessation, you must ask about smoking on each visit. Include second-hand smoke in your routine follow-up. When multiple health care providers ask about smoking and a desire to stop, the patient's motivation and attempts to stop smoking increase. Recent data on nicotine patches in surgical patients does not support prohibiting nicotine patches during acute wound healing.[6] However, the effect on chronic wound healing is less clear.[4] If your patient has recently quit smoking, ask them how they are doing as there are numerous challenges with remaining tobacco-free.[7] Consider referring the patient back to their primary care provider for pharmacological and nonpharmacological assistance with smoking cessation.

EXCESS ALCOHOL CONSUMPTION

Acute and chronic alcoholism is also associated with higher rates of wound infection and delay in wound closure.[8] Acute alcohol intoxication impairs healing. A blood alcohol level (BAL) of >200 mg/dl has been associated with a 2.6-fold increase in the incidence of wound-related infections.[8] There is increased risk for infection from *Staphylococcus aureus*, including methicillin-resistant *Staphylococcus aureus, Streptococcus pyogenes*, and *Vibrium vulnificus*. Chronic alcohol consumption is also associated with delays in proline production that were reversible when the intake of alcohol stopped.[9]

REDUCING ALCOHOL CONSUMPTION WHILE HEALING

It is worthwhile to consider referring the patient to an internist for aggressive treatment of alcoholism. Treating only wound pain during the appointment may be an appropriate strategy as alcohol is sometimes used for pain self-management. As such, it may be

beneficial to ask the primary care provider to help manage patient pain. Consider topical treatments that do not require frequent self-care; these patients may not have the capacity to change dressings and inspect the wound. Malnutrition may also be an issue in patients with chronic alcohol abuse.[10] Refer to a nutritionist for guidance, or your local grocery store, which may offer nutritional assistance at no cost.

THEORIES OF BEHAVIOR

HEALTH BELIEF MODEL AND ANTICIPATED REGRET THEORY

A commonly used theory to describe behaviors and their impact on health is the Health Belief Model.[11] The health belief model suggests that people's beliefs about health problems, perceived benefits of action, and barriers to action and self-efficacy explain engagement (or lack of engagement) in health-promoting behavior. Some patients with chronic illnesses tend to focus on their disease, while others can continue to try to live a "normal" life.[12] Interventions based on the health belief model may aim to increase perceived susceptibility to and perceived seriousness of a health condition by providing education about prevalence and incidence of disease, individualized estimates of risk, and information about the consequences of disease (e.g., medical, financial, and social consequences).

Another theory used by social scientists that describes patterns of risk beliefs that lead to behaviors, and one that applies to patients with chronic illness and wounds, is "anticipated regret."[13] Anticipated regret is defined as an emotion in which the person realizes that the current situation would have been better if only she/he had acted differently. Therefore, anticipated regret from not acting should encourage healthy behaviors and anticipated regret from not acting should discourage unhealthy behaviors. Colloquially said, "I wish I had not done that", or, "I wish I had done that."

In chronic wounds, the patient's willingness to offload the diabetic foot wound, wear proper shoes, wear compression garments, or offload a pressure injury are all areas that can be viewed through the lens of "anticipated regret." However, that view only applies if the patient understands how their behavior impacts healing. Therefore, it cannot apply to patients with decisional impairments, such as those with dementia.

PATIENT QUALITY OF LIFE

QUALITY OF LIFE

Coping with chronic wounds may impact health-related quality of life (QoL).[14] Common issues from the wound include recurrent infections, pain or itching, bleeding, exudate, odor, and the cost of dressings.[15] The impact of having a wound can easily impair functional status (self-care, work, and leisure), affect social relationships, and create a negative self-image. The average nonadherence rate to medical recommendations is 24.8%,[16] suggesting that it can be expected that a large number of patients will not or cannot do what is asked of them. Certainly, education and counselling of the patient is ideal, but in fast-paced clinics, rigid education and counselling is not always practical and may best be provided in written form. Using predeveloped material is a good choice; however, the level of writing of the document should not exceed a 6th-grade reading level. Several online tools can aid in determining the patient's literacy and reading level. The non-English speaking patient should also be considered, and if translation is used, having it "reverse translated", that is to have another person rewrite it from the foreign language back into English so as to avoid errors and unintentional translations.

IMPROVING QUALITY OF LIFE

In order to promote self-efficacy, the patient must be engaged in the processes of care so that choices for treatments are jointly discussed with the patient and provider. Your wound team may benefit from the formal measurement of quality of life in your patients and use the findings to negotiate options for care. There are several validated tools to measure quality of life. The health-related quality of life in patients with diabetic foot ulcers, pressure injuries, and leg ulcers has been studied using the Cardiff Wound Impact Schedule.[17] Wound care centers may also wish to follow the change in scores over a defined period of time as a marker of positive outcomes.

CHANGING BEHAVIOR

Patients are often labeled "non-compliant" when the real issue is the impact of the wound and its effect on quality of life. Communicating with patients is about more than entering the current complaint and medication list into the electronic medical record. Before even explaining the wound care that will be needed, it is important to take the time to understand the patient. A format for communication, called TEACH is recommended[18]:

T = Tune in and take the time to listen, and show empathy.
E = Explore the patient's concerns, preferences, and needs.
A = Assist the patient to set reasonable goals and action plans for change.
C = communicate effectively, and ask questions before telling.
H = honor the patient as a partner in the journey to healing.

CONCLUSIONS

Treating "the whole patient" includes addressing the psychosocial aspects of care, such as stress, depression, tobacco and alcohol abuse/addiction, and behavioral modification. Every patient deserves to be engaged in the treatment of the wound and the management of a chronic risk state. When the patient and provider can set mutually attainable goals for care, improvement in a partnership, and engagement in the process, healing will follow.

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