

Breaking the Cycle of Pain In Diabetic Peripheral Neuropathy

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An attitude of helplessness pervades both patients and health professionals when dealing with the problems of diabetic peripheral neuropathy. Those afflicted are often overwhelmed by the pain and find themselves unable to fulfill the daily requirements of their diabetes regimen. The inconsistencies in amounts and timing of meals, levels of activity, and scheduling of insulin injections can result in hyperglycemia, a state that has been found to correlate strongly with the occurrence of nerve damage. Thus the pain perpetrates itself. For the health professional, having to confront this devastating pain without objective factors to assess and few scientific treatment measures to offer contributes to a sense of inadequacy and ignorance. It is frequently assumed that "nothing can be done." In reality, health professionals do have something to offer the person suffering from this condition. First, they can provide information about the relationship between control and complications, and explain the need for the patient to change those behaviors that may be perpetuating the pain. Second, and most importantly, health professionals can convey support and confidence, without which many patients will be unable to make the changes in their behavior necessary to resolve their pain.

Normalizing blood glucose is the goal of therapy in diabetes. Although still controversial, much of the current research supports a relationship between poor metabolic control and diabetic complications.^{1,2} In the case of peripheral neuropathy, the complication itself may interfere with optimal blood glucose regulation. Severe pain, compounded by its ensuing sleepless nights and depression, makes adherence to a consistent daily pattern of meals, injections, activity, and monitoring virtually impossible. Without a consistent regimen, blood glucose control is unlikely. In order to minimize the risk and the damage caused by complications, it is essential that interventions by health professionals result in enabling patients to maintain their diabetes regimen and thus optimal blood glucose control.

Clinical Manifestations

The debilitating effects of the condition can be extreme to the point of causing feelings of profound hopelessness. A vigorous and positive approach by the health professional is necessary to counteract these feelings and to motivate patients to begin managing their diabetes more aggressive-

ly. Patients describe their pain as a constant, sharp, electrical tingling or burning sensation, usually in the feet and legs, and often in the hands. Sometimes putting on clothes is a torture because the person may suffer from hypersensitivity to touch. Physical activity is severely limited due to the pain in the lower extremities. With continued disuse the muscles may atrophy, and in some cases the complications are similar to those seen with chronic bedrest: loss of muscle strength and tissue, skin breakdown, and constipation. The pain becomes more severe at night making sleep difficult, if not impossible. The resultant fatigue further depletes the person's ability to tolerate the pain the next day. Sleep is taken when it comes, often assisted by the use of pain medication. Thus, during the day when meals should be planned, prepared, and eaten, and insulin must be taken, the person may be sleeping or too exhausted to do what is required.

This is a devastating condition. The pain is all-consuming, unceasing. These people are at the limits of their coping and depression is not unusual. Ellenberg³ observed depression to be so common that he suggested that it is an integral part of the condition. Archer⁴ found the statement "life is hardly worth living" characterized the prevailing attitude of those he studied. Not surprisingly, impotence is also a common problem for these patients.

Patients feel alone with their pain, not only because pain is a subjective phenomenon, but because neuropathy is invisible and little understood. Most patients are not aware that the condition has a name or that it is related to their diabetes. They often expect relief through some external means, such as leg massages. Many are confused when told the condition originates in their nerves interpreting this to mean that they are "nervous." The condition often goes unrecognized or untreated by the health professionals the patient seeks out for help. Watkins has stated, "The relative lack of objective evidence for neuropathy leads to a spurious label of malingering."⁵

Interventions

The health professional's task begins with a process of affirmation. The first objective must be to gain the patient's trust and establish hope, to name the pain and convey confidence that the problem will be handled. The goal of the interventions is to help the person work through the pain

to accomplish the daily requirements of his diabetes regimen and thus achieve the best blood glucose regulation possible. This is essential to establish, since the balance of scientific evidence weighs heavily in favor of a relationship between glycemic control and the etiology and management of neuropathy.^{1,2,4-8}

Assessment of the patient can have therapeutic value as part of the process of affirmation. Through the assessment the health professional can demonstrate an understanding of the scope of the problem and its potential impact on the patient. Careful, thorough questioning about the level and characteristics of the pain, how it affects the patient's sleep, activity level, sexual relations, lifestyle, and diabetes management can reassure the patient that the pain is understood. Questions about how the patient deals with the pain at home should be included in the assessment. Anyone who has lived with constant pain has undoubtedly tried to find ways to alleviate it. Anything the patient has found to be successful should be continued in the hospital if possible. Home use of pain medication should be carefully assessed.

In working toward the goal of breaking the cycle of pain and changing the behaviors perpetuating the pain, the approach to the patient is a key factor. Without minimizing the pain or denying its existence, the health professional must convey the expectation that the patient will function *despite* the pain. Certain measures can be instituted to help control or cope with the pain. However, it is likely that the pain may continue to some degree for an indefinite period of time.

Prognosis

The prognosis for the resolution of the pain seems to be dependent upon the type of neuropathy involved. Several authors^{7,9} have divided cases into two groups: 1) those with acute onset, usually with the most severe symptoms, including dramatic weight loss (neuropathic cachexia), and 2) those with insidious onset in patients with long-standing diabetes. Patients in the first group with symptoms of short duration carry a better prognosis, with resolution of pain in all patients occurring within a few months to a year, with no recurrence. Symptoms of those in the second group, however, do not resolve spontaneously and may persist for some years. Satisfactory recovery is less probable, even with adequate glucose control, because of the likelihood that axons have been lost.⁸ Evaluation of this group is often problematic due to similarities in neuropathic and vascular symptoms, and the increasing frequency of vascular complications in diabetes overtime. Thus vascular disease may also be a factor in the poor recovery.^{7,9}

It is unclear whether the changes in the nerves of the patients in both groups are of the same nature. Fry et al.⁷ pointed out the importance of recognizing different types of diabetic neuropathy "for although inadequate control appears to play a part in the development of them all, their response to treatment varies and it is likely that they differ in their pathogenesis." This may explain the paradox noted by many researchers^{1,3,4,8} in which some patients may recover with indifferent control and some fail to recover despite good control. Thomas et al. summarized this controversy and offered the following pragmatic advice: "Although there is reason to believe that control of blood sugar

is likely to lead to a reduction in the incidence of significant damage, there seems to be no doubt that some morphological changes will occur in most patients despite satisfactory control. There is a reasonable case for blood sugar control, at least until such time as a more fundamental understanding of the biochemical abnormalities allows a radically different therapeutic approach."⁸ This viewpoint has also been supported more recently in a study by Boulton et al.⁶ who recommended the maintenance of strict capillary blood glucose control in the management of all cases of painful diabetic neuropathy and the use of continuous subcutaneous insulin infusion to achieve this.

Daily Routines

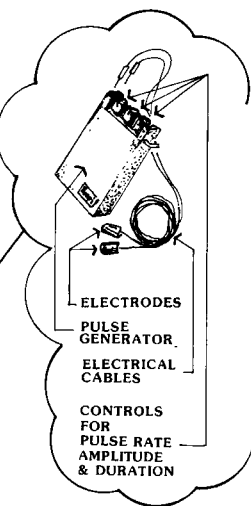
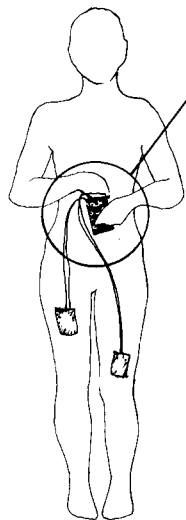
While in the hospital patients should be expected to participate as much as possible in their own diabetes management. Minimum initial expectations for those who are severely affected may simply be to awaken at a regular time each day, to take insulin, and to remain up for the day except for scheduled rest periods. To the degree they are able, patients should be included in their own pre-meal urine or blood testing to monitor their own glucose level. They should be expected to take meals at scheduled times. Uneaten food should be reported by the patient and the carbohydrate portion replaced (with fruit juice or other concentrated liquid) to maintain the blood glucose. In certain cases patients demonstrate severe weight loss, described by some as neuropathic cachexia.^{3,5} With these patients and with those whose depression has caused a lack of appetite and weight loss, special care must be taken in planning the diet to provide weight-gaining or maintenance meals, minimizing bulk foods. Six small feedings could also be considered since smaller portions may be better tolerated. However, because more time is required to prepare six meals than three, the meals should be kept simple to conserve energy, especially if the patient prepares the meals.

Expected behaviors regarding performance of diabetes self-care tasks should be jointly determined and revised as the patient progresses. In fact, writing down mutual expectations in a contract format is often helpful. (See case history accompanying article.) Care must be taken to avoid the trap of bargaining for desired patient behaviors "when the pain goes away," since it may never go away completely and the risk for further damage only worsens the longer the patient "waits." The health professional cannot promise that the therapeutic measures suggested will *eliminate* the pain. One can only honestly offer to help the patient *control* the pain.

Methods of Relieving Pain

Pain is a multidimensional phenomenon comprised of cognitive, emotional, and physical components. The techniques used to treat the pain may deal with one or more of these components. The choice of which method to use depends upon which aspect of pain is particularly troublesome for that person, and the response will be as individual as the characteristics of that particular case. Especially in light of the ambiguity regarding the pathology of neuropathy, it would be a disservice to a patient to exclude any treatment modality that offered even a slight chance of providing pain relief.

TRANSCUTANEOUS ELECTRONIC NERVE STIMULATION



Gate Control Theory

Many of the techniques found useful in treating patients with chronic pain are based on the gate control theory. These techniques produce relief by closing a hypothetical "gate" in the spinal cord which prevents pain signals from reaching the brain.¹⁰ Some of the modalities which are based on this theory are hypnosis, acupuncture, and the transcutaneous electronic nerve stimulator (TENS), the latter having been used preferably in treating painful diabetic neuropathy. The TENS (see diagram) is a device that emits gentle electrical signals, controlled by the patient, which stimulate large nerve fibers, closing the "gate" in the spinal cord and blocking pain signals to the brain.¹¹ Its advantages are first, there are no side effects, and second, the patient gains control over management of the pain relief. If the device is effective, relief can be achieved in the first session. If no beneficial effect is noted within 30 minutes following its application, adjustments may need to be made in the placement of the electrodes or the settings of the controls.¹² Proper instruction and guidance, both initially and throughout the use of the device, is essential to its success. Instruction and units available for rental can often be obtained through a physical therapy department. Factors that have been found to increase the likelihood of pain relief with TENS were, 1) initiating treatment as soon as possible after the onset of pain, and 2) using TENS in combination with other treatment modalities.¹²

With superficial nerve pain, the hyperesthesia can interfere with wearing clothes comfortably, tolerating bed covers, enjoying sexual intimacy, and taking injections. In clinical experiences at the Michigan Diabetes Research and Training Center, some patients obtained relief by immer-

sion in very warm or very cool water, some by wearing a body stocking or pantyhose under their clothes to minimize the contact stimulation of the piloerectile nerves. In addition using a bed cradle at night often relieved the discomfort from bed covers.

Other techniques used to manage the patient's pain deal with the cognitive and emotional components of the pain, modifying the pain experience by altering one's attitude toward pain. A person may be taught to decrease the anxiety which accompanies chronic pain through relaxation techniques such as rhythmic breathing, biofeedback, self-distraction, and imagery. Grzesiak stated pain is influenced by anxiety, fear, and anticipation and that "it is at the level of these unpleasant emotional states that simple relaxation procedures appear to alter the pain experience."¹³ The effectiveness of these techniques is attributed to the notion that deep muscle relaxation and anxiety or the experience of pain are incompatible states.¹³

Medication

The method most commonly used to treat neuropathic pain is medication. *Selective* use of medication is critical in managing chronic pain. Some pain medications may actually aggravate the pain by causing a rebound, or an exaggerated pain response as the medication wears off. It is best to avoid the use of narcotic analgesics for treatment of chronic pain due to the potential for developing dependence on them.⁸

Certain medications have been used specifically for neuropathic pain. These include phenytoin or diphenylhydantoin (Dilantin), which is one of the earlier drugs used for this condition, carbamazepine (Tegretol),^{4,5,8} and fluphenazine (Prolixin) alone or in combination with a tricyclic antidepressant usually amitriptyline (Elavil) or nortriptyline.^{4,5,14} Antidepressants may also be used alone. For example, amitriptyline administered at bedtime in a dose of 50-100 mg often enables the patient to sleep. This relief of insomnia was identified by Archer as "one of the most important facets of treatment,"⁶ contributing to an improved sense of well being. Pain relief from tricyclic antidepressants is speculated to be a result of increased cortical inhibition of sensory input and/or possibly due to mood alteration, although the doses used are lower than psychotherapeutic levels.¹⁴ Another researcher¹⁵ has reported dramatic relief of pain and numbness using trazodone hydrochloride (Desyrel) which is also an antidepressant, though chemically unrelated to the tricyclic or tetracyclic types. He noted more rapid onset of relief and fewer side effects compared to tricyclics.

Current investigations have been concerned with the effectiveness of the drug Sorbinil, an aldose reductase inhibitor. Some forms of diabetic neuropathy are felt to be a result of sorbitol accumulation, and the segmental demyelination found in some diabetic neuropathy has been attributed to this mechanism.² Sorbinil has been shown to provide considerable relief of severe neuropathic pain in diabetic patients, along with a substantial improvement in sleep patterns and overall mood and morale.¹⁶

One final note about pain relief: nurses working with patients on the Diabetes Center Unit at the Michigan Diabetes Research and Training Center in Ann Arbor recently began to recommend the local application of analgesic balm (i.e., *Ben Gay*®) to their patients with neuropathic

Standard Nursing Care Plan for the Adult with Diabetic Peripheral Neuropathy

This care plan is to be adapted for the individual patient and to be compatible with the physician orders.

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Usual Problems	Expected Outcomes
<ol style="list-style-type: none"> 1. Pain resulting in poor diabetes self-care related to: <ol style="list-style-type: none"> a. altered rest and comfort b. anorexia and weight loss c. anxiety and depression d. altered mobility e. changes in lifestyle (school, job, relationships) f. potential drug dependence 	<ol style="list-style-type: none"> 1. Demonstrates ability to perform minimal diabetes self-care activities in spite of pain. 2. Identifies measures to help control and/or cope with pain: <ol style="list-style-type: none"> a. relaxation breathing b. transcutaneous nerve stimulation c. selective use of medication d. distraction/imagery e. comfort measures such as tub baths, body stocking, pantyhose 3. States realistic expectation for outcome of chronic pain and neuropathy 4. Identifies limitations imposed by pain and problem solves about way to adapt/cope. 5. Identifies dangers of drug dependence. 6. Recognizes potentiating effects of depression, anxiety, poor nutrition and insufficient rest on pain.
Nursing Orders	
<ol style="list-style-type: none"> 1. Diagnosis <ol style="list-style-type: none"> a. Assess level and characteristics of pain and its effect with regard to patient's sleep cycle,* appetite and weight, mood, activity level, sexual relations, lifestyle. (*Note — neuropathic pain often worse at night.) b. Assess ability to carry out ADL's and self-care of DM including consistency of meal times and injection times, injection sites used, activity level, blood and urine testing and personal hygiene habits. c. Assess perception of health status, expectation of outcome of neuropathy. d. Assess adequacy of current pain management including medication use (abuse), support systems, defense/coping mechanisms. 3. Treatment <ol style="list-style-type: none"> a. Institute identified pain relief measures. Antidepressant medication may be indicated. b. Encourage verbalization of feelings of depression and anxiety; reassure patient regarding the normalcy of these feelings. c. Problem solve with patient regarding ways to minimize changes in lifestyle, i.e., maintain job, etc. d. Consider referrals as indicated: OT and PT to set up progressive activity schedule, strengthening exercises, recommend assistive devices. PT department may also begin patient with transcutaneous nerve stimulator. e. Other referrals: Physical Medicine and Rehabilitation, psychiatric counseling, Vocational Rehabilitation, Social Work. VNA may be necessary to monitor patient's progress at home. f. Schedule regular rest periods as needed. g. Set realistic goals and revise upward p.r.n. h. May be useful to establish contract with patient for performance of ADL, DM self-care. 	<ol style="list-style-type: none"> 2. Intervention <ol style="list-style-type: none"> a. Approach patient with expectation that she/he will function despite the pain. b. Acknowledge that pain exists and do not minimize it but avoid trap of bargaining for desired patient behavior "when the pain goes away." c. Agree to help patient control pain — not eliminate it: be realistic d. Insist on maximum possible adherence to consistent daily pattern with regard to meals, injection schedule and activity to achieve regulation of blood glucose. 4. Patient Education <ol style="list-style-type: none"> a. Pain and anxiety may impair learning ability. b. Guide patients to understand that since pain may continue to a certain extent throughout life, they must learn to function despite the pain. Show patient how to make adaptations necessary to continue to function (e.g., less strenuous job, regular rest periods, etc.) c. Emphasize the importance of maintaining daily DM self-care practice to control blood glucose, and the relationship of blood glucose to neuropathy and pain. d. Teach patient how to use pain medications appropriately and effectively. Teach alternative methods of pain relief and how they can be used in conjunction with medication. Instruct in how to recognize signs of drug dependency. e. Educate patient about factors related to chronic pain (depression, fatigue, anxiety), their potentiating effect on perception of pain and the normalcy of those feelings.

pain, after having received several positive reports from patients who had tried it.¹⁷ There may be several explanations for its success, including a placebo effect. However, it is likely there are no negative side effects and it may warrant further investigation.

Rehabilitation

In addition to interventions aimed at managing the pain, consideration must be given to the effects of the pain

and how it has changed the person's ability to live his daily life. A potential secondary complication of neuropathy is muscle atrophy due to disuse and denervation.⁸ This may have advanced to the point where patients cannot bear their own weight. In these and other less severe cases, physical and occupational therapy can set up a progressive activity schedule and strengthening exercises, and recommend assistive or safety devices. Other referrals might also be indicated, such as psychiatric counseling to assist the

Case History

Robert came to the diabetes unit a cachectic 24 year old white male, moaning and crying in pain. At the time of admission he was 5'6" tall and weighed 88 lbs, 32 lbs less than his normal weight. Diabetes had been diagnosed at the age of 10. The neuropathic pain had begun seven months before admission, worsening to the point that he had been virtually bedridden the last two months. Although he had been living on his own since he was 14, after the pain began he had moved back home with his mother and was now dependent on her. He had been married and had a 13 month old daughter, but was estranged from them. He had completed the ninth grade and though he used to do custom work on cars, he was now disabled and on Medicaid.

Robert appeared emaciated. He could stand and bear weight but the pressure greatly aggravated the pain in his feet. He could ambulate only for short distances. His coccyx was sore and reddened from the prolonged bedrest. His personal hygiene was poor, particularly his oral hygiene, as evidenced by dental caries and gingivitis. His mother had assumed responsibility for his daily insulin injections. She had been using his arms exclusively because of the pain in his legs, and both arms were hypertrophied at the injection sites. Robert's skin was extremely tender which made wearing clothes uncomfortable. He was taking both Dilantin 100 mg TID and Tylenol #3 every four hours p.r.n. for the pain.

The following problem list was developed for Robert on the basis of his assessment:

1. Pain resulting in poor diabetes self-care
2. Poor self-image interfering with ability to cope with problems
3. Decreased activity level
4. Poor personal hygiene
5. Poor nutritional status
6. Insufficient knowledge for self-care of diabetes

Robert consistently demonstrated an angry depressed attitude. He spent the day in bed and ignored his personal hygiene. He swore and argued with each insulin administration. He refused to attend diabetes education classes or to participate in his self-care. He blamed himself for his loss of health and felt no hope for the future. His self-image was very poor. Robert did care about his daughter, and this concern later became a significantly motivating factor.

A referral was made to Physical Medicine and Rehabilitation where the following treatment plan was recommended: 1) physical therapy, 2) goal setting for activity levels, 3) wean from pain medication and help him learn to live with the pain. He also met with the Vocational Rehabilitation counselor who gave him suggestions about how to continue his custom van work without needing to stand for long periods of time.

Contract

Robert and the primary nurse then drew up a contract to outline behaviors expected of the patient and care team. This was kept at the bedside with a copy in the main chart. Goals were purposely set low to ensure success, as Robert needed positive reinforcement to accomplish his behavior changes.

Robert's part of the agreement read as follows:

1. Activity
 - A. *On the Unit:* Make bed every day; change sheets every 3rd day; bear weight at least five minutes every hour or change position every hour if in bed; walk off the unit to smoke. (The detrimental effects of smoking, especially to a diabetic person with vascular or neuropathic complications was explained to Robert. However, although it was discouraged, we did not want to force this issue in light of all the other lifestyle changes he was being asked to make.)
 - B. *In Physical Therapy:* Plan weekly goals with day to day increases; to do strengthening exercises within limits set by the therapist.
2. Personal Hygiene

Shower alternating with tub bath every other day. Use chair in shower or rest afterwards. Brush teeth every day.

3. Learning

High and low blood glucose — causes, symptoms, prevention, treatment. Complications of diabetes. Meet with nurse for one-half to one hour twice a day for teaching session at time agreed upon by both.

In return the care team agreed to the following:

1. Adjust the diet to a plan acceptable to the patient which satisfies nutritional needs.
2. Medicate and assist patient in minimizing pain as much as possible.
3. Provide individual teaching sessions geared to patient's needs one-half to one hour twice a day.
4. Spend 15 minutes of unstructured time with patient twice a day. (Our willingness to spend time with him enhanced his sense of self-worth.)

Progress

At first Robert needed daily reminders to adhere to the contract, especially as injections were a problem. Because physical therapy was uncomfortable, we scheduled his pain medications before appointments.

Robert's energy and resources for coping were fairly depleted, and his ability to problem-solve was further limited by a defeatist and pessimistic approach to his situation. The staff, therefore, structured his routines for him; but built in decision-making and responsibility, giving him choices whenever possible. Providing a non-judgmental environment and reinforcing all positive statements added to improving his outlook.

Because Robert could easily return to dependency on his mother when he returned home, a conference was held between his mother, the primary nurse, and the visiting nurse who would follow him after discharge. The contract was shown to his mother and methods to increase his independence in self-care at home were discussed.

Follow-up

Robert was discharged after 23 days in the hospital, weighing 89 ½ pounds. He took two injections of mixed insulin a day, and was given written guidelines for decreasing the amount of insulin should he be unable to eat on a given day. His diet was planned to include six small feedings. Medications prescribed for his pain included Dilantin 100 mg TID, Vistaril 50 mg q 6° p.r.n. pain and Elavil 50 mg q HS.

Four days after discharge, the visiting nurse and primary nurse made a joint home visit. Robert was successfully following a daily physical therapy program and recording his progress. He had cut his hair, shaved his beard and was wearing clean clothes. He was managing the BID insulin with little to no encouragement and had added regular Tylenol for pain control. However, his blood glucose control was suboptimal as evidenced by urine tests ranging from ½-2%, taken five times/day (before meals and bed).

Three months later in clinic he weighed 94 pounds, was walking a mile twice a day and riding his bike 15 minutes/day. He reported his pain was controlled. His blood glucose values at clinic visits three, four and five months after discharge were 107, 71, and 101, respectively. He had established contact with his daughter and her mother and had decided to attempt to return to work so he could support his daughter in the future.

SUMMARY

Robert's physical problems of diabetes and neuropathy were the tip of the iceberg. Unless he could begin to feel hope and believe he could gain control over his deteriorating health he would succumb to the pain, fear, and apathy that were overwhelming him. The significant aspects of his treatment were those that enabled him to improve his self-image. The approaches used by the health professionals caring for Robert were structured to 1) maximize his strengths and abilities, and promote his independence, 2) confront the problem of pain rather than try to avoid it, and 3) convey confidence in our ability to offer him something, and in his ability to achieve a more functional life.

patient in dealing with the reality of the condition and its limitations. A social worker might be asked to inform the patient about financial assistance especially if the neuropathy has impaired the ability to work. Vocational Rehabilitation may be appropriate to retrain the patient in new job skills or to negotiate with the employer to alter the job situation as necessary (e.g., schedule rest periods or reassignment to a task which does not require standing). Visiting nurses may assist in implementing the contract for progressive physical activity and diabetes management once the patient returns home.

Education

Educating patients is essential to soliciting their full participation. Much of the process of neuropathy is unfamiliar to them, and their anxiety and fear about the unknown can potentiate the experience of pain. The more the mystery can be dispelled, the more they may be motivated to change those behaviors that contribute to hyperglycemia.

Pain and anxiety may impair a person's learning ability. One should plan sessions for teaching about neuropathy and negotiating for expected behaviors at times when the patient is well rested and alert. Rationales and explanations should be repeated patiently when contractual goals are not met or if questions arise. The family needs to be included in the entire treatment process. Because neuropathy is invisible it is not unusual for families to be short on sympathy, or even to think the patient is "faking." They should be helped to understand what is happening.

The following factors are important in planning the education of patients and their families:

1. Describe clearly the relationship between blood glucose levels and neuropathy and the importance of the daily diabetes regimen to ultimate resolution of their symptoms. Care should be taken not to communicate blame to the patient in making this explanation. It is not "all his fault" that he has neuropathy. Although there is some relationship between blood glucose levels and complications, not all persons with poor blood glucose control develop complications and some with good control do. Emphasize that something may be done to arrest the progression of complications with strict blood glucose regulation.
2. Make it clear to patients that neuropathy refers to the nerves of the body and it does not mean "nervous."
3. Counsel the patient that although there may be improvement of pain with adequate control of blood glucose, it is possible that there may be some residual paresthesia or numbness, depending on the extent of damage to the nerves.
4. Prepare patients who undergo diagnostic testing for neuropathy by electromyography (EMG) for the fact that the test is often uncomfortable and some find it painful.

In summary, it can be seen that health professionals certainly do have something to offer patients suffering from painful neuropathy. The greatest need these patients have is for validation and affirmation of what they are experiencing, and reassurance that others who have suffered from the same problem have improved. Conveying confidence and hope can make the difference for those who, in confusion and pain, are giving up. With support they may be

inspired to function despite their pain, to resume the tasks necessary to maintain glycemic control, and break the cycle of pain. □

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