

## Chronic Pain as a Variant of Depressive Disease

### The Pain-Prone Disorder

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Review of the literature shows that the common syndrome of chronic pain of uncertain origin appears to be perpetuated by central mechanisms. No plausible neurological theory has been proposed. While the alternative concept of chronic pain as a psychogenic disorder has remained a vague entity, there is strong support to view chronic pain as the prime expression of a muted depressive state. This form of masked depression, however, tends to be associated with a number of characteristic traits.

Our studies of patients with chronic pain have led to the identification of a well defined psychobiological disorder with characteristic clinical, psychodynamic, biographic, and genetic features. This syndrome is termed the pain-prone disorder and is viewed as a variant of depressive disease. It proves a distinct entity when compared with a group of patients whose pain can be related to a well defined somatic disease.

The chronicity of the disorder appears partially related to the practice of protracted, costly, and futile physical procedures, focusing on a phantom peripheral source of the pain—a practice commonly pursued by patients and physicians. Recognition of the disorder allows for early, rational, and more effective treatment approaches.

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*The pain of the mind is worse than the pain of the body.*

Publius Syrus  
1st century BC

This paper first reviews the evidence concerning the nature of chronic pain: the lack of relationship to a neurological disorder, the vagueness of the current concept of psychogenic pain, the kinship to depression, and the specific psychological traits reported in association with chronic pain. In the second part, we describe our recent findings in chronic pain patients and a comparison study of patients with rheumatoid arthritis, evidence which supports recognition of chronic pain as a specific psychobiological disorder related to depression.

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### Review

The current abundance of literature on chronic pain is one indication that we have a common clinical problem which remains poorly understood. A review of some representative monographs (9, 10, 16, 46, 74) indicates a recent and remarkable shift from the consideration of peripheral to that of central and psychological factors in chronic pain. Chronic pain has become recognized as a condition distinct from acute pain and is even referred to "as a disease in itself rather than a symptom of something else" (34, p. 984). Among the neurosurgeons, anesthesiologists, physiologists, psychologists, and the handful of psychiatrists who have dealt with chronic pain, there is limited agreement as to the nature and treatment of this condition. Chronic pain has remained a vaguely defined entity—a puzzle (16, 50). Few would disagree, however, with Black's (2) characterization of the chronic pain patients as having intractable, often multiple pain complaints (for at least 6 months) which are usually incongruent with existing somatogenic problems. Black further notes that patients with this chronic pain syndrome often reveal a history of "multiple physician contacts and many nonproductive diagnostic procedures; excessive preoccupation with

the pain problem; an altered behavior pattern with some of the features of depression, anxiety, and neuroticism, and, in particular, no realistic plans for the distant future" (p. 1000).

Typically, the chronic pain patient is firmly convinced that he has a strictly physical problem. It is not surprising that he seeks out the surgeon and other somatic specialists but shuns the psychiatrist. Few psychiatrists see substantial numbers of chronic pain patients. Moreover, specialists in mental disorder are unduly influenced by the allegation of a physical disorder in these patients. It is our contention that a combined consideration of both the physical and psychological factors will allow a view of chronic pain as a specific psychobiological disorder.

#### *Quest for the Neurological Substrate*

The crucial symptom of chronic pain is that "personal, private sensation of hurt" (71) related to a part of the body in the absence of a clearly identifiable substrate. If a patient has a known disease (*e.g.*, rheumatoid arthritis), he is not considered a victim of chronic pain unless his complaint is clearly in excess of what could be ascribed to the disease. One generally, though arbitrarily, begins to speak of chronic pain if pain subsequent to an injury or disease persists for longer than 6 months, in the absence of clearly relevant physical findings.

The patient, who remains convinced that his trouble must be "right where it hurts," initially finds much sympathy for his suffering from physicians. In addition to clinically warranted investigations and treatment attempts, he may undergo various procedures of dubious diagnostic need or therapeutic efficacy; he frequently submits to one or more surgical intervention even though evidence for the presence of a mechanical lesion is equivocal (44, 58). Ultimately, after various re-examinations and referrals, as it becomes evident that the pain does not conform to a neurological pattern and no specific disorder can be made accountable for the pain, he will find decreasing sympathy and tolerance from the medical profession. He may then be referred to a pain clinic where he may undergo yet another expensive work-up prior to embarking on any or most of an extraordinary variety of treatment procedures: nerve blocks, transcutaneous electrical stimulation, acupuncture, hypnosis, relaxation techniques, group therapy, behavior modification, or antidepressants. Clinical centers dealing with chronic pain patients tend to report "organicity" or presence of a "peripheral pain generator" among 20 to 70 per cent of their patients (55). However, the criteria for organicity are very rarely specified. A patient may be listed as "organic" for the mere fact he had back surgery in the past. One must be prudent in implicating a present physical or radiographic abnormality as source of a

pain, since abnormalities occur frequently in individuals who never experience a significant pain problem (22, 33, 35).

The medical model of pain as a sensory experience transmitted along certain neural pathways has been further elaborated by basic scientists and other investigators. The gate control theory (53) underscored the influence on nociceptive inputs by other peripheral afferents and by descending impulses from the brain, at the spinal cord level, and this theory is well accepted, although its mechanisms admittedly remain unspecified (83). Increasingly, there is a search for more central mechanisms that may perpetuate pain states. In an effort to explain the persistent phantom body pain of paraplegics, after complete trans-section of the cord, Melzack and Loeser (52) have set forth the concept of pattern-generating mechanisms consisting of abnormally active neuron pools that had been observed in *one* patient above the cord section. It was further proposed that, as a result of both deafferentation and chronic pathological inputs, such pools of neurons become capable of generating volleys of nerve impulses to the brain. To be sure, Melzack points out that peripheral contributions to pain are "avenues for modulating the activities in the pattern generating mechanisms, but their removal may not stop pain once it is established. The proof of this statement lies in the countless patients who continue to suffer severe phantom limb, neuralgic, and back pain after removal of neuromas, nerves, and protruding discs, after extensive rhizotomies and multiple cordotomies, and even after total spinal cord transection" (p. 205). According to Melzack, the central pattern-generating mechanisms "can be modulated by somatic, visceral and autonomic inputs as well as by inputs from neural mechanisms that underlie personality and emotional variables" (p. 204); this would imply that they could be somehow influenced by a multitude of therapeutic procedures in combination (49, 51).

One may raise the objection that neither the above nor any neurological theory of chronic pain would appear applicable to the large majority of patients who complain of vague and multiple pains, who never suffered a definable trauma, and who never had a neurological pain pattern from the beginning. Walters' (84) graphic description of psychogenic regional pain ought to be remembered: "The boundaries of a region in pain are as independent of the physical innervation of those parts as a London fog is indifferent to borough boundaries or traffic routes" (p. 7). The hypothesis set forth by Melzack and Loeser (52), in any case, is a conjecture which emphasizes the present wide agreement that peripheral factors do not play a major role in chronic pain.

Crue (16) speaks from an extensive experience with

chronic pain as a neurosurgeon when he expresses his basic belief that a psychiatric or psychological approach is required for chronic pain rather than being fixed in the organic model based on the experience with acute pain, so often espoused in the past by many anesthesiologists and surgeons. Crue states very clearly: "In constant chronic benign pain there is no need to postulate any continuing input from an 'irritative' peripheral lesion" (16, p. 557). Chronic pain tends to persist if it is treated as due to a local lesion, according to the model appropriate for acute pain (24).

In view of the fact that there is no plausible neurological theory of chronic pain beyond a highly hypothetical state, one is compelled to review the evidence for chronic pain not as a sensory, but as a psychological phenomenon. What is referred to as the motivational-affective or suffering component of pain may be of decisive importance and the sensory-discriminative component, or nociception, irrelevant. It is well recognized that the former can occur without the latter (24).

#### *Psychogenic Pain—Nosological Considerations*

If we become reasonably convinced that chronic pain is not related to any neurological disorder, we may then classify chronic pain as a psychogenic disorder. But, this view is stigmatizing, since it tends to imply that the individual is bringing on the suffering himself and that he may be mentally deranged. Moreover, such a concept is extremely vague.

The new *Diagnostic and Statistical Manual of Mental Disorders* of the American Psychiatric Association (DSM-III) recognizes a form of chronic pain as Psychogenic Pain Disorder, with the following diagnostic criteria: a) Severe and prolonged pain is the predominant disturbance; b) the pain cannot be related to an organic disorder or is excessive considering present physical findings; c) psychological factors are judged to be etiologically involved (temporal relationship of pain to a conflict, the pain permits avoidance of undesirable activities, or the pain results in special support from the environment); and d) the pain is not due to another mental disorder. The requirement that certain nonspecific psychological factors must be judged "etiologically involved in the pain" (criterion c) stands as the only positive elaboration or inclusion criterion of the disorder; therefore, the definition is essentially a process of elimination and thus unsatisfactory.

For the identification of a new psychobiological disorder, we propose different standards, based on inclusion criteria and specific features: a) A specific clinical syndrome with characteristic premorbid traits can be recognized; b) specific psychodynamic features can be described, allowing for an understanding of the individuals affected; c) a characteristic genetic (family)

history, and possibly other psychobiological markers, can be recognized; d) specific and rational therapeutic approaches derived from the above features (a to c) can be developed; and e) a sufficiently large population meets the criteria and should be compared with a control group.

Realistically, not every individual with a given disorder can be expected to display all of the characteristic traits; no trait by itself may be considered pathognomonic. None of the known psychiatric diagnostic entities lives up to such rigid standards. Instead, we should expect a spectrum, with highly characteristic to less characteristic cases, as well as an overlap with certain other clinical syndromes. The overlap may either represent a significant link or be merely spurious.

In every language, the word pain, as an opposite to pleasure, denotes both physical and mental hurt or torment. A close link between the state of depression and the experiences of bodily pain has been described again and again.

#### *Pain as Masked Depression*

It is customary to describe the mood of depression as sad, blue, low, pessimistic, dejected, or unhappy. Yet these terms hardly convey the full sense of suffering of the depressed who are in anguish, agony, . . . or pain. Pain and the inability to experience or anticipate pleasure can be viewed as a central phenomenon of depression (37).<sup>2</sup> That depressed individuals experience their suffering not only mentally but physically is basic knowledge: "In mild cases or in prodromal stages, . . . they are apt to complain endlessly about aches and pains and vague symptoms of dreadful diseases . . ." (65, p. 534). Indeed, it can be stated forcefully: "Whenever a patient complains of pain for which no organic basis can be found, the physician should suspect the presence of an underlying depression" (27, p. 11). Somatic pain complaints among depressed individuals vary in their reported frequency from 60 (82) to 100 per cent (85), but tend to be ubiquitous. Since depressive states are common among psychiatric patients given various diagnoses, it is no surprise that pain is a common finding among them as well (54).

In his discussion of forms of masked depression, Lopez-Ibor (45) listed pains and paresthesias as the most important group. The concept of bodily experienced pain as masked depression is frequently mentioned (26, 36, 42), but in general has not been further defined. Among most authors knowledgeable of chronic pain patients, there is indeed a surprising agreement that these patients are depressed

<sup>2</sup> Carroll, Bernard J. The psychobiology of depression and mania. Unpublished manuscript, 1978.

(2, 13, 24, 32, 57, 72, 74, 84). "The patients report sleep disturbance, appetite changes, decreased libido, irritability, withdrawal of interests, weakening of relationships, and increased somatic preoccupation . . . Psychological testing usually shows chronic pain patients to be depressed, although they may not experience a depressed mood; the depression may be masked by the absorption in the somatic symptoms" (74, p. 243). "The close relationship between chronic pain and depression suggests that some common mechanism may underlie the two phenomena" (73, p. 294). Relief from depression indeed is concomitant with relief from pain (12, 56, 71, 81, 85).

Empirical treatment efforts for chronic pain correspond to those used in depressive states: antidepressants alone or in combination with neuroleptics (12, 31, 38, 41, 56, 60, 71, 81, 85), electroconvulsive therapy (ECT) (11, 12, 47, 64), or, in extreme and otherwise intractable cases, psychosurgery (77, 78).

The depressive symptomatology of the chronic pain patients tends to be viewed as the consequence of a physical suffering from which there appears to be no relief. This belief is certainly voiced by the patients, although careful questioning usually reveals that depressive symptoms heralded the pain (19, 57, 72, 80). A recent study has shown that chronic pain patients do have a significantly increased frequency of affective disorders among their first-degree relatives (67). If we assume that chronic pain is not maintained by any peripheral lesion but by central pain-generating mechanisms, a more parsimonious view emerges, that both the bodily agony and the frankly depressive symptoms are part and parcel of a basic mood disorder, in pain-prone individuals. This is then a crucial hypothesis for our understanding of chronic pain as a form of masked depression *par excellence*. The significance of depression for chronic headaches has been generally well accepted since the early papers of Dalessio (17), Diamond (19), and Lance and Curran (40). Chronic pain is thus viewed as neither primary nor secondary to depression, but a synchronous expression of the mood.

Recent evidence from other areas tends to support this hypothesis. For example, a Swedish group reported a positive correlation between the depth of depressive symptomatology and CSF endorphin levels. Their finding of high endorphin levels in both depression and chronic pain supports the hypothesized close relationship between the two conditions (1). In addition, the same report shows that below normal levels of endorphins (fraction I) were demonstrated in patients with chronic pain associated with clearly positive neurological signs of peripheral nerve lesions.

Attempts to downplay the depressive symptomatology of chronic pain patients (15, 62) have been well challenged (43). The clinical picture of *major* depres-

sion, to be sure, is not often found in chronic pain patients; point of fact, the two presentations may alternate rather than coexist in the same patient (3, 18). Chronic pain indeed may not only mask depressive mood (72), but may protect the individual from a more overt depressive disorder (20). While major symptoms of a depressive disorder such as anergia (fatigue, lack of initiative), anhedonia (disinterest in leisure activities, social and sexual intercourse), and sleep disorder (insomnia) are almost invariably associated with chronic pain, there are also characteristic differences from other types of depression.

We will examine the evidence at hand, provided by others and by our own investigations, for consideration of chronic pain as a *specific variant* of mood disorder, with characteristic clinical and psychological traits.

#### *Psychological Characteristics Noted Among Chronic Pain Patients*

A recent text edited by Sternbach (74) (with chapters by Fordyce, Melzack, Merskey, Pilowsky, Sternbach, and others) provides a systematic review of the entire literature on the psychology of pain. We list here what we consider the key findings from the literature.

In his classic paper "Psychogenic Pain and the Pain-Prone Patient," Engel (20) discusses the theoretical and clinical problem of pain. The capacity to experience pain may originally develop from peripherally induced experiences, but pain invariably becomes a psychological phenomenon and in the pain-prone patient no longer requires peripheral stimulation to be provoked; indeed, pain (synonymous with punishment in many languages) comes to occupy a key position in the regulation of the total psychic economy. Pain-prone individuals tend to show the following principal features: a) a prominence of guilt; b) a history of suffering, defeat, and intolerance of success (masochism); c) a strong aggressive drive which is not fulfilled; and d) development of pain upon a loss or a threatened loss. Engel points out the common error by physicians to assume that a patient is depressed because he has pain; instead, it can be shown that the experience of pain serves to attenuate the guilt and shame of the depression—indeed, the pain may clearly protect the patient from more intense depression and even suicide. While providing the elements to do so, Engel at the time did not view chronic pain as a disorder related to depression.

Studies of the premorbid social adjustment of chronic pain patients are rare. A biographical and psychological test study (using the Minnesota Multiphasic Personality Inventory [MMPI], a Draw-A-Person Test, and Sentence Completion Test) by Gentry *et al.* (29) indicated the following: The patients tended

to have limited formal education and were frequently employed in physically strenuous or overly routinized jobs; most had experienced unmet dependency needs early in life, had begun work at an early age, and had worked at relatively hard jobs for a long time prior to symptom onset; at the time of initial symptom onset, they generally had support by others available; and many had familial models for pain and disability present in their early life experience. The authors conclude: "Thus, by virtue of providing for others and not being able to fully depend on their own parents as children, they had postponed gratification of such needs until a minor injury provided a rational and socially acceptable means of depending on others for emotional and economic support" (p. 176). Merskey (54) adds to this that patients with chronic pain tend to come from large families and to be engaged in unskilled or semiskilled work; typically, they have a hard life and are hypochondriacal and depressed.

Pilowsky and Spence (63), in their analysis of questionnaire findings, give an apt description of how chronic pain patients present themselves: a) They have a hypochondriacal preoccupation; b) they reject any suggestion that their pain is a result of psychological factors; c) they admit that they have difficulty in expressing their feelings (especially those of anger) to other people; d) they frequently describe themselves as being sad or anxious as a result of their pain; and e) they show a definite reluctance to acknowledge any life problems, although some showed evidence of irritability and interpersonal friction. Parkes (61), in a study of the correlates of phantom pain, further emphasizes the role of suppression of emotion for persistence of pain: control of feelings (of grief, anger, and helplessness) and inability to accept one's need to depend on others were the most significant findings.

The preceding findings strongly suggest that the psychodynamics of patients with chronic pain are better understood if we consider the condition termed *alexithymia* (39, 69). *Alexithymia* is the inability to recognize and verbalize one's feelings, and is a common finding in psychosomatic and addictive disorders; Stephanos (70) refers to it as a "psychosomatic phenomenon." The emotions tend to be undifferentiated and poorly verbalized and are mostly experienced in the somatic sphere. Unawareness, blocking, and fear of affect prevails, and inability to mourn is encountered. Individuals with *alexithymia* may appear very stoic and display a stone face expression and wooden stiffness of posture. Their thinking is operative, *i.e.*, oriented toward physical work and mechanical action (*pensée opératoire* [48]), and tends to be dominated by banal facts, and there is a lack of imagination and fantasy. They make an overly compliant adjustment to reality and present with pseudonormality. The alex-

ithymic individual tends to relate with apparent detachment to others, to care poorly for himself, and to relate to physicians with an infantile expectation to be cured. In our experience, the typical pain-prone patient presents all these characteristics for *alexithymia*, to a fault.

Much confusion is due to the fact that pain without somatic pathology has been automatically viewed as a conversion reaction, with chronic pain patients consequently classified under conversion hysteria (84). This practice dates back to Freud's *Studies on Hysteria* (28) and is inappropriate to cases of chronic pain. The contrast between the colorful, highly dramatic presentation of a classic hysteric and the drab, concrete manner of the psychosomatic (alexithymic) patient has been well illustrated by Nemiah (59). There is no *la belle indifférence* among the chronic pain patients, as stoic as they may present themselves, and hysterical personality traits tend to be noticeably absent. Their pain should be viewed not as a symbolic conversion from something else, but as the result of a more primitive mechanism: unbearable guilt and anguish is repressed and displaced onto the body, where it may be more endurable (30). Chronic pain is then the somatic expression of an unresolved psychic pain. Pain comes from pain, and this appears the most parsimonious view.

Finally, it must be noted that a number of studies have failed to reveal any significant psychological differences between pain patients with and without organic pathology (14, 76, 88). These findings merely emphasize the trivial role of peripheral findings when it comes to chronic pain. Groups selected for the presence of persistent pain apparently show similar psychopathology, regardless of organicity. However, if one compares chronic pain patients with a group of patients selected according to the presence of a well recognized disease known to cause pain, one can then document significant differences (75). In our own studies, we have attempted to clarify the issues by comparing patients with chronic pain in the absence of a discernible disease to a group of patients whose pain can be related to a chronic physical disease. However, prior to presenting these data, we need to summarize the results of our own investigations which have led us to consider chronic pain as a specific psychobiological disorder for which we have adopted the term pain-prone disorder.

## Recent Findings

### *The Pain-Prone Disorder*

The senior author has evaluated chronic pain patients as a psychiatric consultant to the Division of Neurosurgery at The Johns Hopkins Hospital from

1962 to 1972 and then at the Neurosurgical Division of the Massachusetts General Hospital from 1973 to 1977. An increasingly comprehensive psychiatric and psychological evaluation of this group of patients was adopted over the years, and was pursued further, since 1977, at the Henry Ford Hospital. Only a few patients of the earlier groups were followed in therapy, while all the patients seen at the Henry Ford Hospital Pain Clinic were accepted for treatment. Most patients of the earlier groups were referred by neurosurgeons or orthopedic surgeons, while the chronic pain patients at the Henry Ford Hospital were referred from the various departments of the entire hospital.

We have been impressed, since the early years of our pain studies (5), by a surprising homogeneity of psychiatric and psychological findings in these patients who by high standards of clinical practice have not shown a discernible somatic origin of their pain. Our identification of the pain-prone disorder is based on the evaluation of 900 patients with chronic pain of obscure origin. Some 350 of these patients were also treated by us (323 in the Henry Ford Hospital Pain Clinic). We list here the demographic data of the entire group and refer to the findings of successive populations reported earlier (3, 4, 6).

Females were clearly more affected, with the female to male ratio amounting to 1.7 to 1 (569 to 331 patients). Onset of the chronic pain was dated as early as infancy and as late as the 70s by a very few, with the mean age of onset at 39 years and the highest frequency (mode) between ages 45 and 50 (Figure 1). The patients were evaluated after their pain had lasted for an average of about 6.5 years. The average education was 12th grade. The entire spectrum of socioeconomic classes was affected, but the disorder was found

most prevalent (67 per cent) in the lower-middle class (blue-collar workers).

The *clinical features* of the pain-prone disorder are listed in Table 1. The patients present with chronic pain of obscure origin, which in the great majority was *continuous* in nature—they wake up with the pain and go to sleep with it. In spite of repeat negative examinations, they display a more or less pronounced *hypochondriacal preoccupation* on the painful body parts. The persistent *desire for a surgical solution* is very marked in many. The entire group had undergone more than one ( $\bar{X} = 1.2$ ) surgical procedure for their pain. Their entire misery is focused on their pain, and they desire to have it taken away by any means.

Even after years of disabling pain and dependence on others—next of kin and the helping profession—most patients maintain an image of themselves as “solid citizens”: they strongly *deny difficulties in their interpersonal relationships*, often describe their *family relationships in idealized terms*, and view themselves as independent types. Their dislike of any scrutiny of their personal life is very strong. They usually have a history of excessive work performance, often since childhood or early adolescence, and a history of generally relentless activity—all prior to onset of the pain. The original industriousness and overactivity of these patients is highly characteristic, and we have chosen the term *ergomania*, broader and less vernacular than the popular term “workaholism,” for these premorbid traits.

In stark contrast, these patients completely lose their initiative and zeal for work following onset of pain. The juxtaposition of their frantic premorbid activity with their complete fatigue and helplessness

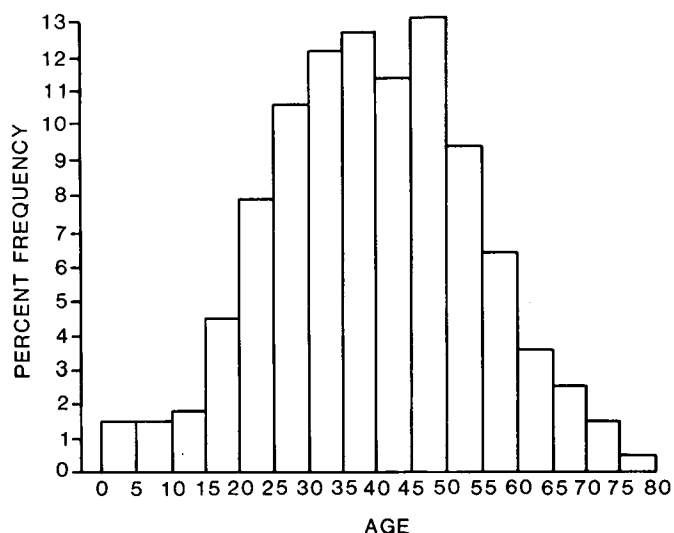


FIG. 1. Age onset of chronic pain ( $N = 900$ ;  $\bar{X}$  age = 38.9 years).

TABLE 1  
*Clinical Features of the Pain-Prone Disorder*

Somatic complaint
Continuous pain of obscure origin
Hypochondriacal preoccupation
Desire for surgery
Solid citizen
Denial of conflicts
Idealization of self and of family relations
Ergomania (prepain): "workaholism," relentless activity
Depression
Anergia (postpain): lack of initiative, inactivity, fatigue
Anhedonia: inability to enjoy social life, leisure, and sex
Insomnia
Depressive mood and despair
History
Family (and personal) history of depression and alcoholism
Past abuse by spouse
Crippled relative
Relative with chronic pain

is striking. This *anergia* becomes associated with *anhedonia*: an increasing inability to enjoy social life, leisure time, and sexual relations. Premorbidly, with their relentless activity, they had already shown little ability to enjoy any leisure time, or had preferred activity-oriented hobbies (*e.g.*, hunting, dancing, tennis, etc.) to more leisurely ones. While the appetite is frequently well maintained, *insomnia* often develops. Anergia, anhedonia, and a sleep disorder are highly characteristic traits of depressive disorders, but are almost invariably attributed by the patient to the pain. This is then the prime reason why the depression remains masked. The suffering is experienced more bodily than mentally, and depressive mood is strongly denied by about one third of the patients, who may admit to being in *despair*—but over the pain.

The patients often have a history of submissiveness and of having been *abused*. Their relentless work habits, in service to the family, have already been cited. Their proneness to choose a spouse who turns out to be brutal, alcoholic, promiscuous, or otherwise abusive brings on prolonged suffering, with chronic pain paradoxically beginning when there is *relief* from the abuse. They are intolerant of success. About one half of the patients report a next of kin who is crippled or deformed, *i.e.*, less fortunate, penalized, but in need of special consideration, serving perhaps as object for unconscious identification. A smaller number report a relative with *chronic pain*.

The *psychodynamic* factors behind the anxiously maintained image of the solid citizen can be evidenced by sensitive psychological tests or the study of the few patients who lend themselves to intensive psychotherapy, or may be suspected by scrutinizing the clinical findings, such as the change from a prematurely responsible, overly active, and industrious individual to a passive-dependent suffering invalid. We have used a number of tests. The MMPI is a well proven instrument in the assessment of chronic pain patients. Abnormally high scores on the left side of the scale (hysteria, depression, hypochondriasis) may be either global or characterized by a relatively low score on depression. Of interest are the results of the blind diagnosis of 76 MMPI profiles of chronic pain patients: a small group of the profiles was judged heterogeneous, while the two main groups were judged either to be defending against depression or to show a breakthrough of depressive symptomatology. A small portion ( $N = 10$ ) of the chronic pain patients scored within an essentially normal range.

From the beginning of our studies of chronic pain, we had employed Szondi's Experimental Diagnostic of Drives (SEDD) (79), a test we have found exceptionally sensitive in reflecting the psychodynamics of the pain-prone individual. Both a blind evaluation of

chronic pain patients and a matched control study of chronic pain and hypochondriacal patients have given us highly informative results (3). However, the SEDD is a test instrument which is more prominent in Europe and relatively unknown in North America. Other projective tests (Rorschach, Thematic Apperception, Sentence Completion) tend to agree with the findings of the SEDD.

Table 2 summarizes the psychodynamic issues characteristic of the pain-prone disorder, based on the sum of our clinical and test findings. The patients tend to show all the characteristics of alexithymia, as listed in the preceding section. Little emotionality is displayed, unless depressive affect is more openly manifesting itself. Tragic life events are cited in a merely factual manner while all concern focuses on the body parts in pain. Underneath a detached attitude, there is a different set of core issues. Strong needs to be accepted and to depend on others, as well as marked needs to receive affection and to be cared for, are present. These basic infantile needs had never been acknowledged by the patients. Passive-submissive trends to the extreme of masochism and eagerness to be accepted by others were manifest in the subservient industriousness for the sake of the family. Anything socially unacceptable is guilt-provoking and is anxiously concealed and controlled; in particular—beside the needs to depend, to remain passive, and to receive affection—any hostile-aggressive trends are also denied. By relentless activity and work performance, the inner insecurity and guilt may be soothed and a certain acceptance gained, but the dilemma sooner or later becomes too painful. After a significant loss or disappointment, with or without the advent of a painful

TABLE 2  
*Psychodynamic Features of the Pain-Prone Disorder*

Ego Ideal (Rigidly Maintained)	Core Needs
To be independent	To depend
To be active	To be passive
To care for others	To be cared for
Syndromes	
Inability to appreciate and verbalize feelings (alexithymia)	
Relentless activity (ergomania) → inactivity (depression with anergia)	

From early on, the core needs are *concealed and denied*, as infantile and undesirable, in compliance to the demands of others; they are guilt-provoking and overcompensated for (ergomane phase). Following a significant loss or disappointment, and often with the advent of an injury, pain begins and becomes intractable, with increasing *guilt* and *depression*. Both the frustration of the core needs and the failure of the ideal self represent prime sources of the depression. There is an enormous need to implicate a physical problem in order to maintain the ideal view of oneself, as the infantile core needs assert themselves. Notable is the persistent overcontrol of anger and aggression which rather become turned against oneself (masochism).



injury or ailment, a shift occurs which is drastic in its outward effect. It transforms the solid citizen into an invalid and heightens the same painful dilemma. The needs to depend, to be passive, and to be catered to, which have now asserted themselves, are still unacceptable, and the urge to be viewed as a strong and independent individual persists. This explains the enormous need to maintain a physical problem as the culprit; but with the failure of the solid citizen the suffering becomes more manifest. The lack of a secure inner core, the need to be accepted by a dominant other, and the conflict of guilt and concealed rage and aggression are indeed characteristic of depressive disorders.

It is obvious that the need for material security is a dominant motive in the ergomanic phase; a need for financial compensation after injury undoubtedly heightens anxiety and worsens disability in many of them. This need for compensation is not a universal factor, however. In the series of 234 patients evaluated at the Massachusetts General Hospital, none were admitted if a compensation issue was pending.

Of extraordinary importance is our recent finding of *alcoholism* or of clinical *depression* requiring psychiatric treatment and hospitalization, not only in several of the patients themselves—preceding, alternating, or concomitant with the chronic pain—but very frequently among their relatives.

We had initially described the disorder characteristic for chronic pain patients as pain neurosis (3-5). Our findings confirmed and elaborated Engel's concept of pain proneness, and we have then followed a suggestion by Engel<sup>3</sup> and adopted the term *pain-prone disorder* over terms like pain neurosis, psychogenic pain (DSM-III), psychalgia (International Classification), chronic pain syndrome (2), or abnormal illness behavior (63). The term pain-prone disorder is specific and not stigmatizing, it implies we have to deal with a unique clinical disorder, and it is applicable to pain without a discernible physical process as well as to suffering out of proportion associated with a physical disease.

#### *Comparison Between Patients with Pain-Prone Disorder and Patients with Rheumatoid Arthritis*

**Materials and methods.** One hundred twenty-nine consecutive patients referred to the Henry Ford Hospital Pain Clinic for chronic pain underwent a standardized evaluation. Their complaints had been thoroughly investigated, and by well accepted clinical standards had been found without somatic basis. They all completed the Questionnaire for Pain Syndromes (4)

and a pain inventory, and were interviewed to ensure completeness and accuracy of the responses to the questionnaire and inventory. This sample consisted of 54 males and 75 females whose mean age was 46.4 years (SD = 12.14). They were predominantly white (76 per cent) and had completed 11.3 years of education.

A control group of 36 patients with classic rheumatoid arthritis receiving gold therapy treatment in the Henry Ford Hospital Rheumatology Clinic volunteered to complete the same evaluation. At the time of their clinic visits, blood and urine specimens were routinely obtained for laboratory analyses prior to the patients' gold injection. This procedure involved a waiting period of 1 hour or more during which time the pain evaluation was carried out. The rheumatoid arthritis group consisted of 12 males and 24 females with an average age of 55.1 years (SD = 11.69). These were predominantly white (69 per cent) with 11.9 years of education.

The rheumatoid arthritis patients are somewhat older and show a greater preponderance of females. The two groups are entirely similar in terms of education and race (see Table 3).

**Results.** The patients referred to the Pain Clinic for chronic pain without discernible somatic disorder (pain-prone disorder) revealed significant differences, when compared with the group of rheumatoid arthritis patients, in their questionnaire responses (tests of significance of the difference between two independent proportions [21]).

First, as far as the nature of the pain experience is concerned, the two groups showed significant differences in the duration, onset, and continuity of the pain. The rheumatoid arthritis patients suffered pain twice as long as the pain-prone group. The onset is mostly nontraumatic and gradual in the rheumatoid arthritis group, while the pain-prone group shows a mostly sudden beginning and slightly more than one half nontraumatic onsets (53 per cent). Among the pain-prone patients who did report an initial trauma, the majority described an injury of uncertain severity, e.g., lifting heavy materials, slipping on ice, tennis elbow, falls at work. Only few (12 per cent) described an unquestionably severe trauma at the onset of their pain, e.g., gunshot wounds, leg crushed by machinery, lumbar fracture. Less than one half of the patients in the rheumatoid arthritis group reported pain of a continuous nature, while this was true of a highly significant 93 per cent of the pain-prone group. The pain of the pain-prone individuals would typically worsen upon movement, but would not disappear at rest.

Next, the *depressive traits* are consistently and significantly more prevalent among the pain-prone

<sup>3</sup> Engel, George. Personal communication, 1978.



TABLE 3  
Comparison of Clinical Traits: Pain-Prone Disorder vs.  
Rheumatoid Arthritis Patients

	Pain-Prone Disorder	Rheumatoid Arthritis
Total number	129	36
Males	42%	33%
Females	58%	67%
Mean age (years)	46.4	55.1
Mean education (years)	11.3	11.9
Race		
White	76%	69%
Black	24%	31%
Somatic complaint		
Pain duration (years)	7.2	14.0***
Onset		
Traumatic	47%	11%**
Nontraumatic	53%	89%**
Sudden	87%	33%**
Gradual	13%	67%**
Presence		
Continuous	93%	44%**
Episodic	7%	56%**
Additional physical complaints	1.5	.7
Depression		
Sleep		
Good	24%	72%**
Fair	17%	22%
Poor	59%	6%**
Appetite		
Good	58%	75%
Fair	22%	17%
Poor	20%	8%
Pain affects sex life		
None	32%	58%**
Some	32%	31%
Marked	36%	11%**
Pain affects social life		
None	14%	28%*
Moderate	26%	39%
Severe or abolishing	60%	33%**
Pain affects enjoyment of leisure time	58%	22%**
Depressed		
Every few days or daily	46%	16%**
Every few weeks	15%	17%
Every few months	8%	14%
Rarely or never	31%	53%*
Despair	52%	58%
Suicidal ideation	31%	19%
Pursue hobbies post-pain	48%	75%**
Solid citizen		
Tense or nervous	78%	56%**
Problems getting along with others		
None	90%	100%
Some	9%	0
Many	1%	0
Idealization of family relationships		
Mother	82%	81%
Father	78%	63%
Spouse	81%	63%*
Children	77%	68%

TABLE 3—Continued

	Pain-Prone Disorder	Rheumatoid Arthritis
Loss of control over temper		
Never	25%	53%**
Rarely	63%	42%*
Repeatedly	12%	5%
Pre-pain activity level		
More than average	71%	72%
Less than average	5%	8%
Average	24%	20%
Began working in childhood	35%	11%*
Pre-pain work chronic overtime	50%	28%*
Pre-pain took yearly vacations	52%	78%**
History		
Past abuse	44%	20%*
Parent physically abusive	9%	3%
Mate abuse	35%	17%*
Physically abusive mate	23%	8%*
Alcoholic mate	16%	11%
Promiscuous mate	14%	8%
Crippled relative	55%	36%*
Relative with chronic pain	46%	36%
Alcoholic relative	46%	28%
Relative with mental disorder	42%	11%**
Patient history of depression	12%	0*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $t = 4.22$ ,  $p < .001$  (tests of significance of the difference between two independent proportions [81]).

patients. Impaired sleep and anhedonia (inability to engage in social life and hobbies and to enjoy leisure time and sexual intercourse) are strikingly prevalent among the pain-prone patients, while their appetite is only moderately worse than that of the rheumatoid arthritis group. The drastic reduction of previous activity levels in both groups is not surprising in view of the continuous pain of the pain-prone patients and the significant physical handicap among the rheumatoid arthritis patients. Frequent depressed feelings are significantly more often admitted by the pain-prone patients, and the rheumatoid arthritis group denies any or almost any depressive feeling more frequently. Suicidal ideation is more often admitted by the pain-prone group, but not to a significant degree.

The comparison of *historical traits* shows a significant prevalence among the pain-prone patients of past physical abuse, chiefly at the hands of a former spouse; the much smaller incidence of abuse by a parent did not differ significantly from that among the group with rheumatoid arthritis. There was a significantly higher incidence of crippled relatives among the pain-prone patients, while the incidence of relatives with chronic pain did not vary significantly. We note as a particularly important finding the strong prevalence of a family history of manifest episodic mental disorders among the pain-prone patients. None of these disorders were manic in nature, and they could be best

classified as episodes of overt depression. Moreover, 12 per cent of the pain-prone patients had a history of depression themselves, while none of the rheumatoid arthritis patients had such a history. The frequency of alcoholic relatives among the pain-prone patients did not reach the level of significance but is considerably higher.

Finally, as judged by the responses to the questionnaire, the distribution of traits we list as those of the *solid citizen* is not entirely different between the two groups. Significantly more pain-prone patients admit to being tense or nervous, while both groups deny interpersonal difficulties. While family relations tend to be viewed in idealized terms by both groups, the relationship with the spouse is significantly more often idealized by the pain-prone patients. Both groups show a remarkable control over their temper. While both groups report above average activity levels, work in childhood or adolescence, chronic overtime, and work without vacations were significantly more frequent in the pain-prone group.

From our profile of the pain-prone patient, some of the traits of the *solid citizen* are the only ones which appear regularly in both groups. If one considers descriptions of the psychology of rheumatoid arthritis patients (86), then their denial of interpersonal conflicts (100 per cent in our sample!) and overcontrol of anger (in 95 per cent) is not surprising. However, the tendency to idealize the relationship with the spouse, early work onset, chronic overtime, and the failure to take annual vacations are outstanding among the pain-prone group.

Prior to this study, we designed a pain inventory consisting of a series of true/false questions tapping the characteristics of the pain-prone patients. Consistently, significant differences were obtained between the pain-prone patients and the rheumatoid arthritis group, as far as nature of the pain complaint and frequency of depressive traits are concerned. Of particular interest is the finding that the denial of conflict in the pain-prone group is significantly tied in with the allegation: "my only problem is my pain!"

*Discussion.* We refrain here from a discussion of the possible meaning of our findings for the psychological understanding of patients with rheumatoid arthritis. We are satisfied that our comparison study reveals differences between the patients who suffer from chronic pain in the absence of a physical disease and those who experience pain due to a well defined chronic physical disease. The differences extend along the entire range of the clinical profile we had established for the pain-prone disorder (Table 1): a) the complaint of *continuous* pain; b) the preoccupation with a bodily pain which is viewed as the only problem in their life and which ought to be excised; c) the need

to idealize the spouse (often after having suffered abuse in a previous marriage); d) the early and relentless work habits; and e) major signs of a depressive state with past history and family history of overt depressive episodes. All these traits are indeed shown to be characteristic for the pain-prone individuals with chronic pain.

The prevalence of depressive traits among the pain-prone group can hardly be ascribed to its somewhat younger age and lesser duration of illness. One might rather argue that older age and prolonged chronicity of a disease would tend to enhance a depressive state. Moreover, the finding of past personal and family history of depression among the pain-prone but not among the rheumatoid arthritis patients particularly favors our conclusion that the pain-prone disorder must be viewed as a variant of depressive disease. Since we registered no manic disorders among patients and relatives, but a high number of alcoholics (although the latter finding did not reach significance in our comparison study), it is suggested that the pain-prone disorder may be related to the unipolar affective disorders and perhaps more specifically to the depression spectrum disease (87). Further family studies are needed to clarify the issues more precisely.

In order to test the truth of the old saying that "the pain of the mind is worse than the pain of the body" (Publius Syrus, 1st century BC), we asked our chronic pain patients with history of previous depression and sufficient intelligence, what they considered more unbearable: their current bodily experienced pain or their past mental state during the depressive phase. One patient said that she was not sure, while all the others agreed that they would rather suffer their present pain than the mental agony of the depression.

## Conclusion

Our review shows that the common syndrome of chronic pain lacks a plausible neurological substrate. The concept of psychogenic pain, on the other hand, has a stigmatizing connotation and has remained a vague entity. Patients with chronic pain are generally known to be depressed. Once it is recognized that their pain does not have a somatic origin, but is the prime expression of a muted depressive state, the view of chronic pain as a form of masked depression appears well grounded. However, this view is not sufficiently precise.

### *The Disorder and Its Nosological Position*

It can be demonstrated that chronic pain patients are not merely basically depressed but present with a characteristic clinical syndrome (Table 1). They tend to complain of continuous pain and are preoccupied with the affected body parts. Their inactivity (aner-

gia), inability to enjoy life (anhedonia), insomnia, and despair, while all attributed to the pain, represent major signs of depression. In addition, they display a marked denial of conflicts ("everything would be fine if it was not for the pain!") together with a rigid need to view themselves and their family relationships in idealized terms (the solid citizen). They do have, typically, a premorbid history of hard work and relentless activity (ergomania); however, they had already tended to court misery—particularly with the earlier choice of an abusive spouse—and their pain may begin at the time when they meet apparent success (masochism). They frequently disclose a family history (and sometimes personal history) of depression and alcoholism, as well as the presence of relatives who are crippled or suffer themselves from chronic pain. Close psychological scrutiny of the patients permits an analysis of their inner conflicts which is plausible and coherent with the clinical picture (Table 2). They are not in touch with their feelings and emotions (alexithymia); their core needs to be dependent, cared for, and passive (to the extreme of masochism) had never been recognized. As these needs assert themselves, there is a painful conflict with the rigid image of the ideal self, generating guilt, depression, and a profound need to implicate a physical problem for the failure.

This syndrome is termed the pain-prone disorder. When compared with a control group of patients whose pain can be related to a well defined somatic disease (rheumatoid arthritis), it proves to be a distinct entity with characteristic clinical, psychological, biographical, and genetic traits. It meets rigorous criteria for identification as a new psychobiological disorder. The pain-prone disorder warrants being recognized as a specific variant of depressive disease. It appears to belong to Winokur's depression spectrum disease (87), and a kinship not only to unipolar depressions but also to alcoholism (and perhaps certain forms of sociopathy) is suggested.

#### *The Physician and the Pain-Prone Patient*

Recognition of the pain-prone patient is of paramount importance for all physicians. These are the many patients who desire endless and costly physical studies and interventions but do not get well. They obviously must be examined since they may suffer from a somatic disorder, if only from a condition incidental to the pain. But, once the disorder is recognized and the origin of the pain is understood, then physical investigations must be reasonably curbed and useless surgical procedures avoided.

Once a somatic basis for the pain is ruled out, another disservice to the chronic pain patient tends to occur, more subtle than the excessive physical procedures; it is exemplified by the honest expression of the

frustrated physician: "I don't know why you have pain!" This remark implies to the patient that there is something weird about his pain or that it is judged imaginary. This type of reaction reflects annoyance felt by the physician who has searched for the one type of pain familiar to him from his medical training and who may now classify the patient as a crock. Proper understanding of the pain-prone patient, instead, should prompt an explanation to the patient, more or less, to the following extent: that pain can and does occur or persist in the absence of a mechanical factor; that this is a common finding and that there is no hidden, undiscovered ailment; that this type of pain is nevertheless *very real*; that continuous pain, particularly if experienced in multiple locations, tends to be not due to local pressure *on* the nerves but to a malfunction *inside* the nervous system; that a depressive-tension state plays a role; and that it can be treated.

#### *Guidelines for Treatment*

Important guidelines for the treatment of chronic pain are generally agreed upon by those with experience in the field (2, 23–25). They stress avoidance of analgesics, de-emphasis of the pain complaints, and gradual increase of activities. Sound behavior management of the chronic pain patient is based on the recognition that treatment must not be aimed at the alleged peripheral source of the pain. This is in basic agreement with our view of chronic pain as a psychobiological disorder of the depressive type.

We emphasize the value of systematic treatment of chronic pain with antidepressant drugs (7, 8, 68). This is a form of treatment which can and should be carried out by primary physicians, on an outpatient basis, and may be appropriate for perhaps a majority of patients. Traditional psychotherapy requires the verbalization of feelings and is, in general, not useful for this group of alexithymic patients.

*Systematic treatment with antidepressants.* Analgesics and anxiolytic agents are contraindicated; they provide no sustained relief, are habituating, and tend to exacerbate the depression and the pain. Antidepressants, on the other hand, are not habituating. They should be administered as in major depressions, patiently and systematically, promptly increased as tolerated to sufficient doses (150 to 300 mg daily for the major antidepressants, in most cases) with substitution of the type of antidepressant as needed, and under careful monitoring of side effects (8, 68). While insomnia may improve promptly, pain and the other depressive traits tend to improve concomitantly from about 10 to as long as 30 days after institution of an appropriate antidepressant regimen. The patients must be alerted to this delayed effect of the drug.

Activity and continuation of work need to be encouraged. The approach towards the patient should be supportive, encouraging, and somewhat forceful, and the next of kin should be gained as an ally, if possible. Referral to a psychiatrist is necessary when a depression becomes severe or when there is a significant suicidal risk or other serious psychiatric complication.

*Behavior modification.* The literature generally does not document the early treatment of chronic pain on an outpatient basis, but the inpatient treatment of very long-standing cases. While numerous procedures employed in many pain clinics are claimed to have varying degrees of success at least in the short run, the combination of behavior modification and antidepressants appears to be more effective in the long term control of chronic pain. However, effective behavior modification with persistent de-emphasis of the pain and gradual reactivation generally needs to be carried out, at least initially, on a well staffed inpatient unit. The principles of operant conditioning aimed at the unlearning of chronic pain have been well established by Fordyce (23-25) and are applicable to office practice as well: If the patient is depending on analgesics, they must not be prescribed on a p.r.n. basis, but at regular time intervals, in gradually decreasing doses; and activity needs to be prescribed in initially modest, well tolerated quotas which are then gradually increased, with rest allowed after a set period of work rather than upon the occurrence of pain. The family must be instructed not to be solicitous of the pain but supportive of all attempts of the patient to become more active.

*Rehabilitation at work.* Chronic pain is the single predominant problem in the rehabilitation of disabled workers (66). Settling for compensation payments and finally for a disability pension may be unavoidable in many cases, but is obviously an undesirable solution for individuals without significant physical impairment who are in the midst of their best earning years and whose working capacity has been their very strength.

Joint efforts of physician, rehabilitation specialist, and employer may be required, and time is of essence. Like the soldier with shell shock who has been removed too far from action for too long and will not be able to return to the front line, the previously over-achieving worker with the pain complaint will find it very difficult to function at work again once he has been away from his job for a long time. In the meantime, his position in the family as a breadwinner has crumbled and much discontent if not open strife has set in. Diminished activities and social life have resulted in a monotony which further increases the depression. The individual becomes a permanent victim of work fatigue.

The customary extended and futile physical investigations and procedures are undoubtedly well meant, but may have a crippling effect. Physicians must become able to recognize and treat the pain-prone disorder at its onset. In our experience, pain-prone patients can be maintained at work if they are promptly and properly treated. After protracted absence from work, the patient often requires special considerations at his place of employment to be able to resume working again, or he may remain disabled even though the pain is improved.

*Prognostic factors.* What is referred to as chronic pain appears to be less intractable than has been assumed. Patients with open display of depressed mood and those with a family history of depression appear to respond particularly well to antidepressants (8). The same, in our experience, can be said for older and retired individuals. If underlying problems are dealt with, the pain complaint may vanish—but the basic psychological conflicts may turn out to be very difficult to deal with, and in some instances there may be a real suicidal risk. It must also be recognized that many pain-prone patients will frustrate the best treatment efforts. This is often related to the self-defeating or masochistic tendency of such patients, who may abandon the very treatment which has proven successful. Instead of settling down to a required sustained treatment effort, many prefer to shop around for the magic cure. A few have sociopathic trends, and a few only come for treatment as long as they are prescribed their favored analgesic.

### *Epilogue*

An anesthesiologist, John Bonica, has been the outstanding leader of efforts to recognize the enormous scope of the problem of chronic pain. We share his hope (10) that this topic will be soon taught to medical students and practitioners. This will require, in our opinion, an understanding of chronic pain as a complex but well definable psychobiological phenomenon. Alertness to the nature of pain on the part of the primary care physicians and early intervention, together with the development of specialized treatment teams for the problem patients with pain, can bring about competent management of a problem which is not only a burden to physicians, employers, and perhaps the entire economy (10), but one which has tended to be devastating to the individual sufferer and his family.

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#### APPENDIX: ILLUSTRATIVE CASES

##### Selection

The thirteen cases reported are from our initial series of 129 cases admitted to the Henry Ford Hos-

pital Pain Clinic and have been selected to illustrate the range of responses to treatment over a significant period of time. All have either been treated over the period of 3 years or been contacted for a 3-year follow-up. Though three of the patients underwent psychiatric hospitalizations in the course of their treatment, they were all seen on an outpatient basis. Patients were accepted by referral from other physicians at the Henry Ford Hospital, regardless of their motivation for treatment or the presence of drug addiction or psychosis, with the sole criterion being presence of chronic pain in the absence of related somatic findings. The cases serve as illustrations to the preceding paper and are complemented by two annual follow-up reports published elsewhere which detail the numerical findings of the entire group (7, 8).

##### Mental Status

The mental status of chronic pain patients tends to be uniform. They are utterly preoccupied with their pain for which they seek relief and which is blamed for all their distress. Most are somber and attempt to remain stoic; though some may appear close to tears, they strive to remain in control of their feelings and usually do not cry. An occasional female patient may present with dramatic pleas for relief from her intolerable pain. Traumatic life events, such as protracted abuse by a spouse, loss of next of kin by accident or murder, and mental illness or substance abuse in a close relative are mechanically cited or may not be brought up for a long time. They may have become more irritable due to their pain, but rarely lose control in anger. They are generally appropriate and coherent and tend to impress the naive observer with their fortitude in the face of many misfortunes. These traits, so characteristic for the alexithymic individual, are not detailed in the individual case histories.

##### Inquiry Findings

The leading symptom of the pain-prone disorder is persistent pain in the absence of sufficient somatic explanation. The pain may date back to a significant injury, but usually began after a trivial accident or "out of the blue," becoming continuous in most cases—exacerbated during activity but persisting at rest. The pain is commonly experienced in more than one region of the body. The patient is highly preoccupied with his pain and may desire a surgical solution. Dysphoric mood, so prominent in the well known depressive disorders, is often downplayed or denied by the pain-prone patients. The patients may report despair over the pain and may wish to be dead, but suicide attempts are uncommon. Anergia and anhedonia are almost invariably present, and generally to a marked degree. Psychomotor retardation or agitation is usually not prominent. A majority of patients

complain of insomnia (trouble falling asleep and frequent awakenings), while appetite tends to be maintained. The adherence to an ideal view not only of family relationships but of themselves, as solid and independent individuals who are merely victimized by the pain, is characteristic.

### *Test Findings*

The psychological test findings (SEDD) tend to be rather uniform and so are also not listed individually in the case reports. They are striking in contrast to the alleged emotional normalcy and the solid social adjustment of the premorbid phase. Child-like dependency, needs for affection, and desire to be cared for, as well as marked passive-submissive trends to the point of masochism (or aggressive trends in some), are markedly present but anxiously concealed and denied. Ego defenses tend to be either neurotic or highly variable with frequent immature responses. The patients tend to be guilt-prone, and depression frequently appears in a latent form.

### *Treatment*

The patients initially are oriented about the nature of their pain, that it is not due to mechanical factors and does not require a surgical treatment, and that they need to be treated with medication aimed not only at their main complaint but also at the concomitant depression (and insomnia). The treatment is strongly supportive, and psychological issues are pursued only once the patient has gained confidence and appears to be ready to deal with them. Return visits are scheduled initially after 2 or 3 weeks, then monthly, and finally less frequently, as is appropriate to the individual case.

### *Case 1*

#### *RL: Long-standing Abdominal Pain Controlled with Antidepressants; Minimal Visits*

RL was born after her parents' turbulent marriage, in which they "argued all the time," ended in divorce. Her mother, who was described as "cold and unloving" toward her, married three more times. The patient's first stepfather, whom she described as "schizo," reportedly attempted to break her legs, after he heard of a child running away. The second stepfather was alcoholic, as well as verbally and sometimes physically abusive. Two of her half siblings later required psychiatric treatment and a half brother died in a car accident. The patient began gainful employment in a grocery store at 13 years of age.

At about the same age, RL began experiencing abdominal pain. She reported that a medical cause of her pain was always determined. During the ensuing years, she underwent seven surgical procedures for the

various maladies diagnosed. The pain, however, always persisted. At 17 years of age, she was hospitalized for chest pains and was diagnosed with "nervous and mental exhaustion."

RL was first married at 18 years of age to a man who was promiscuous and formerly alcoholic. In fact, she relayed an incident in which she nearly killed her husband with a knife after finding him downtown in the company of three women. However, she did bear four children with this man before their marriage of 11 years ended in divorce.

Since her divorce, she began working steadily; first as a barmaid, then a cashier, and finally as a waitress. She often worked overtime and refused to take vacations because she would usually end up ill at the time of her vacation.

About a year after her divorce, she began living with a man who became her second husband after 2 years. Her husband, whose ex-wife had also been promiscuous, had four children himself. RL's four adolescent children resided with them and were joined by her husband's children from time to time.

RL was 35 years of age when she was referred to the clinic. Her abdominal pain of 22 years was described as continuous, sharp, hard, and burning. It was on her right side, but more recently there was also an episodic pain on the left side. A few months earlier, she had undergone her seventh abdominal operation. Despite all the unsuccessful surgical attempts at controlling her pain, RL expressed hope that some future surgery might relieve her pain. She took one or two Talwin pills daily, if any.

She reported poor sleep, from 4:00 a.m. to 10:00 a.m. only; however, her appetite was good. She remained as active in daily life as she had always been but did report that her pain interfered some with her sex life. While the patient reported becoming angry almost daily, she said she rarely lost her temper. In describing her husband, she stated that "you couldn't find a better man."

RL's sleep promptly improved after she was started on amitriptyline. After gradually increasing the dosage to 150 mg per day, she reported feeling better and enjoying her work. RL was totally pain-free after 2 months of treatment. Dosage was decreased to 100 mg per day due to the development of a tremor. After 4 months of treatment, she skipped an appointment when she was hospitalized locally for "stomach ulcers and hiatal hernia," but made a good recovery. Two months later, RL could say "I feel like a normal human being." Three months later, the patient decreased her dosage to 75 mg h.s. Despite some stressful family events (her father-in-law's death and increased responsibility for stepchildren), RL reported no further pain after 12 months of treatment, but had gained some weight. All told, she had returned for four follow-



up visits during the first 6 months of treatment, then at 12 months, and again at 2 and 3 years after onset of treatment. At the time of the 2-year visit, the amitriptyline was increased to 150 mg per day after the patient reported having trouble sleeping and experiencing some pain. This occurred when her 16-year-old daughter had accused the patient's husband of molesting her and later retracted the accusation. While she tends to be generally tense and anxious, this was the only time she felt that she might lose control, stating "my nerves are right on the breaking point."

RL always renews her medication. It helps her to sleep properly and as long as she sleeps well she stays free of pain; that is how she views the effect of the treatment. She has to be urged to come for a yearly follow-up. At the time of her 3-year visit, we learned that she just had an operation for three ulcers and hiatus hernia, and earlier a procedure for hemorrhoids. She had maintained her employment steadily and now works in a hospital.

#### Case 2

##### *LN: Chronic Headpain and Codeine Dependence Resolved with Antidepressant and Psychotherapy*

LN is the eldest of two foreign born sons. His parents argued constantly and eventually divorced when the father took a young lover. LN immigrated to this country at 21 years of age and was married 5 years later. His wife was also foreign born, and LN believed that she married him to facilitate her permanent stay in the United States. She left after 9 years of marriage when her 16-year-old daughter, from a previous marriage, became pregnant. They were divorced shortly thereafter.

LN remarried after 5 years and soon began experiencing severe episodes of anxiety over the "precious doll in his possession." This necessitated a brief psychiatric hospitalization. After 6 months of marriage, at 41 years of age, LN felt "something snap in the base of the skull" as he was lifting a heavy railroad tie in the yard. While he had been experiencing headaches for some time, the headaches now became continuous and severe.

After 6 years of marriage, LN's wife developed somatic complaints. In addition, she could no longer relate to her husband and their, then, 6-year-old daughter. Following a rare quarrel with his wife, LN left the house for several hours. In his absence, his wife, with no forewarning, took her own life. LN experienced intense grief over this loss. However, the following year he entered into an arranged marriage with a woman from his native country. The woman was ill-tempered, and they never engaged in sexual relations. The marriage ended in divorce within months.

LN sought help intermittently from several psychiatrists over the 10 years since his hospitalization. He was prescribed imipramine and amitriptyline in doses of up to 150 mg daily, at one time or the other. He used 5 mg of diazepam t.i.d. and was in the habit of taking three or four Empirin no. 3 in the morning, lying down until he felt high, and then taking an additional two pills in the afternoon.

At 51 years of age, after 10 years of headaches, LN was referred to our pain clinic. He appeared disheveled and in need of dental work. He stated that he felt depressed almost continuously. "Getting upset or worrying" tended to exacerbate his pain. LN lived with his 9-year-old daughter and his divorced, elderly mother at this time. His mother had little sympathy with regard to his pain, stating, "I'm sicker than you are." He described his mother as a very selfish woman with whom he could not get along—"She yaps and complains all the time." LN was estranged from his brother who detested LN's problems. LN reported poor sleep and appetite. He had not been sexually active for 5 years. He had no social life and was generally inactive, pursuing no pastimes. He did, however, manage to continue working on his job of 27 years and related that he liked his job very much. During his 27 years of steady employment, LN took only two vacations, returning from one vacation after only 3 days. When talking about his job, LN said, "If I don't have anything to do, the anxiety takes over. I get fidgety."

LN was prescribed doxepin in doses increasing promptly to 250 mg daily and was advised to discontinue the diazepam and to decrease the use of the analgesic as soon as feasible. Within 2 months, he reported feeling much better. His headaches were less frequent and less intense and he appeared optimistic. LN eagerly cooperated with treatment. He steadily improved and within 3 months was able to discontinue using codeine as well as take interest in his grooming and hygiene.

He repeatedly brought up his inability to accept his second wife's death and continued to express guilt regarding her suicide. Because LN resided a considerable distance from our clinic, psychotherapy sessions were scheduled only on a monthly basis. They were directed toward appropriate mourning. LN was able to work through his anger at his wife for not loving him and for abandoning him and their daughter. He was able to understand that she was ill and learned to cope with his guilt. In therapy, LN reported his fear of punishment in the form of disease as well as a tremendous fear of death. He was confronted with his need to please everybody and to bend over backwards for his mother and his daughter, cooking them meals after returning from work and finding himself unable to

have time for himself. The sessions were terminated after 7 months with LN stating, "It's a great world . . . I am happy." He regularly expressed gratitude for our help. He attended some single parent meetings, but persisted in doting on his daughter, making only hesitant steps toward a new social life. For the past year and a half, he has been seen only infrequently, p.r.n., and has maintained his progress. He is pain-free, but needs to continue the doxepin at 300 mg daily.

More than 3 years after treatment was started, LN came down with a fatal illness. He had been a heavy smoker all his life, and a bronchogenic carcinoma with metastasis was diagnosed. He reacted with intense anxiety when he was told about the illness, but soon adopted a stoic attitude. When the doxepin was stopped because of a confusional state, he soon became severely depressed and the drug had to be started again at a lower dose.

### Case 3

#### *SN: Chronic Headaches Relieved with Antidepressant and Subsequent Return to Work; Other Somatic Complaints Occur*

SN was the last of three children born to parents who fought constantly. She believed her father was driven to physically abuse her mother as "the only way to shut her up." SN also had constant arguments with her mother and was often beaten by her. The patient's mother complained of headaches and one of the patient's two brothers was epileptic. When SN was 20 years old, her brother was found dead, presumably after a seizure.

At 18 years of age, she began working in a factory and continued there for the next 10 years. SN married at 20 and divorced her alcoholic husband a year later. SN has been married for 31 years to her second husband whom she married 4 years after her divorce. When the patient's daughter was born, she left her factory job for about 6 years. She resumed her job and worked 8 to 12 hours daily, 5 to 6 days per week, averaging about 20 hours of overtime work each week. In addition, she usually chose to work through her annual vacation time. When she did use vacation time, she wanted to return to work before her vacation ended.

At about 40 years of age, SN lost her father. Seven years later, she lost her remaining brother and next, her mother, in close succession. All died from heart failures.

When SN was 42, she slipped on a grape in a grocery store and injured her knee. Since then, she began having headaches and pain radiating to her shoulders and back. During the next 12 years, she underwent surgery five times for various maladies. This included

a successful operation for breast cancer. She continued to work steadily for 13 years after her pain began, but fewer overtime hours than previously. At 55 years of age, she was no longer able to work because of her pain and retired into disability.

About a year later, SN was referred to our pain clinic after nearly continuous pain for 14 years. The pain was described as "hard and dull," exacerbated by loud noises, bright lights, and any jarring motion of the body. She had been using codeine for her pain, but not on a regular basis. SN reported a good appetite; however, she had sleepless nights, particularly when she was working, and found it necessary to use diazepam two to three times per week. In discussing her sex life, she commented, "It's the old joke of a headache, but to me, it's no joke."

The patient reported becoming quite depressed, following her radical mastectomy and reconstructive surgery earlier in the year, as well as some despair over the numerous illnesses beside her pain which she had endured in the preceding years. She denied any difficulties in her relationships with others. Despite SN's description of her father as a good provider but one who was not a companion to her, she stated her relationship with him was "very good."

Although SN had a history of chronic overtime work, she did not consider herself excessively active. Throughout her years of pain, she maintained her pastimes but commented that, socially, she could never plan on anything because of her pain.

Amitriptyline, imipramine, and doxepin were all tried at various times in an effort to control her pain while alleviating her complaints of drowsiness, blurred vision, and ringing in her ears. She was finally able to tolerate a 50-mg daily dose of imipramine. She had experienced prompt improvement in her sleep and decreased pain within a week after she was started on the medication. Her improvement continued, but she required much support to deal with her feelings of discouragement.

Upon making significant progress, SN became fearful of returning to work. Over her 10 months of treatment, she had expressed much dislike of her job and found many reasons why she could not yet return to the plant. Her demanding job, compounded by her own perfectionistic approach, made her "scared to death" of returning to that "madhouse."

After 6 months' treatment, SN's husband observed that she now seemed more calm. She did not complain of any pain and was able to delegate household tasks rather than doing them all herself to ensure perfection. She remained free of pain after 11 months and expressed a willingness to try to return to work.

She was assigned a less strenuous job upon the recommendation of the surgeon who performed the

radical mastectomy. SN continued working steadily over the ensuing months, not missing a day. She began to take vacation time to travel with her husband. Her headaches recurred at one point but were alleviated with an increase in her imipramine dosage, and they remained in check when we saw her 22 months after she first came to us. However, she usually had other complaints; such as recurrent canker sores, painful legs upon rising, etc.

She was laid off when last seen but was eager to return to work. In the interim, she kept herself "busy, busy, busy" at home.

A follow-up phone contact 3 years after treatment began revealed that a year earlier SN cancelled her last scheduled appointment with us because she was hospitalized for surgery to ameliorate the "drawing feeling" she had due to adhesions from her mastectomy. She was now about to undergo a second operation for similar discomfort on the other side. She took time off both before and after these operations but otherwise continued working regularly and reported no headaches. She and her husband planned to retire simultaneously in the near future.

#### Case 4

##### *GL: Chronic Arm Pain Improved by Antidepressants, with Return to Work; Persistence of Analgesic Use*

GL's father and a paternal uncle were alcoholics; both died prematurely. His mother had an operation for an ulcer and suffered from a nervous condition ("she took tranquilizers for years") yet never saw a psychiatrist. His maternal grandmother suffered from a long-standing crippling arthritis. GL is the second of five siblings.

GL began to work at age 17, shortly after his father's death. He habitually worked at least 9 hours a day, 6 days a week, and all the overtime hours he could get. At 20 years of age, he married and the couple had two children.

At age 24, GL fell from a railroad car at work and hurt his right elbow. His elbow, instead of healing, became progressively more sore and he could not continue to work. GL began using various analgesics as well as muscle relaxants. In each of the first 2 years after the injury, he underwent an operation for his pain. Neither operation afforded him more than 1 month's relief.

He was referred to us after 4½ years of pain, described as a continuous "sharp, sticking, burning" sensation. He admitted much frustration regarding his inability to work—"I like to work... I wish I was working now." Not only his work, but also his sex life, social life, and general activity level were all adversely affected by his pain—"I don't go out very much any-

more." In addition, he reported that his sleep and appetite were both poor. He admitted some tension and nervousness, as well as episodic depression and feelings of despair, all centered around his pain. He denied any disappointments or difficulties in getting along with others and described his family relationships as "great." He stated that he rarely gets angry and never would lose his temper. He has no interest in religion. He used to hunt and fish prior to the injury, and now still does some walking, painting, and drawing as hobbies.

Amitriptyline was started in doses increasing over the first few treatment months from 100 to 250 mg at bedtime. His sleep and appetite improved, the pain lessened, and so did the depressive feelings. He had promptly returned to work at onset of treatment, and was able, for the first time since the injury, to maintain his job, with only occasional days off when he felt too much pain. At home, he always kept busy and soon took up daily jogging. He used a tape for relaxation exercises, and his wife, who intermittently had stomach pains, at times joined him in both the jogging and the relaxation exercises.

GL took his medication faithfully. Almost 2 years after onset of treatment, he revealed that he had obtained prescriptions for analgesics and muscle relaxants from the "shop doctor," taking at times as many as six Tylenol no. 3 per day. GL resisted the advice of the company physician to discontinue the amitriptyline (which by now amounted to 300 mg per day) but only gradually made less use of the analgesics he prescribed. Two years after onset of treatment, he suddenly revealed that his mother was dying from cancer. After her death, he was sometimes close to tears, was more depressed, and experienced more pain for several months.

About 2½ years of treatment, he experienced a few blackouts without warning and with a subsequent brief confusional state, and finally a generalized seizure. EEG and computerized axial tomography scan were negative and he was treated with diphenylhydantoin. When attempts were made to replace the amitriptyline (with nortriptyline and later with amoxapine), GL would resume the old medication, because he would suffer severe depression with insomnia, listlessness, increased pain, and suicidal thoughts.

Over 3 years of treatment, he was seen by us at regular monthly intervals. He rarely missed an appointment. He was always somber and appeared close to tears only initially when we sympathized with him how difficult it would have to be for him to be inactive and unable to work due to his pain, and later after his mother had died. His wife was seen with him on several occasions, and was similarly unemotional and nonverbal. He never reported any difficulty in getting along at home or at work, but his right arm always

seemed to bother him. He would seat himself in the far corner of the office, but would be eager to cooperate in treatment. He persisted in using analgesic drugs prescribed by another physician.

#### Case 5

##### *DL: Chronic Pain Subsequent to Traumatic Event; Relief Occurs Only After Protracted Treatment Efforts with Antidepressants*

The patient was the first of four children. Her mother was hypertense, and her father was diagnosed as having multiple sclerosis (a diagnosis which was later questioned) and had to use a walker in his later years. She had two maternal uncles who were alcoholic.

At 18 years of age, DL became pregnant and then married. After about 5 years of marriage, her husband became promiscuous and physically abusive towards her. She persisted in the marriage for another 9 years before she finally left. Her son was then reared by his father. At 28 years of age, DL had begun working. After 5 years in a factory, she became a licensed practical nurse and worked in a psychiatric hospital. She worked regular full-time hours and a 5-day work week. She lived with her elderly parents and continued to see her ex-husband after he had suffered a stroke and was paralyzed. DL denied any difficulties in her relationships.

When she was 55, one of the female patients at her place of employment attacked her, beating her and dragging her around the ward for about 15 minutes, and then pushed her backward over a chair which struck her low back. After this incident, she saw a psychiatrist who diagnosed her with "traumatic neurosis." She was also seeing a psychologist for desensitization and relaxation therapy. Pain in her low back, hip, and leg persisted, and after 8½ months of nearly continuous pain she was referred to our pain clinic.

At the time of referral, DL continued to work at her job of 27 years. She stated that she liked her job and liked to work. DL reported sleeping well but that she had dreams of the patient who attacked her. DL's pain was sharp when she was on her feet and decreased when she sat. It was, however, exacerbated when she engaged in sexual intercourse. She feared that this would be harmful to her relationship with her boyfriend of 2 years. She had also discontinued her hobbies of swimming, bowling, and traveling. DL considered herself tense and nervous and would become tearful whenever discussing the situation of her pain onset.

DL had been using Tylenol and codeine to control her pain. She was prescribed 75 mg of imipramine daily. Complaining of a dry mouth, anxiety, and inability to sleep, the medication was changed to amitrip-

tyline. DL then complained of excessive sleep and problems with her equilibrium. Doxepine was then tried in doses increasing from 10 to 100 mg daily; at 100 mg her sleep was good, but she experienced no change in her pain and the dose could not be increased because she would experience a very dry mouth, tremors of her hands, and loss of sexual arousal.

DL continued to be very anxious around the patients with whom she worked, dreading the need for any physical management. After 5 months in treatment, her pain persisted and she was no longer able to work. She requested a job which would not involve patient contact and considered retiring. Her boyfriend left her 2 months earlier because of her relentless tension and anxiety.

Desipramine was substituted for the doxepine. Gradually DL was able to tolerate 100 and then 150 mg of desipramine daily, but her pain persisted, and perhaps due to her depression she was losing considerable weight. Thorough studies revealed no recurrence of the thyroid cancer for which DL had been operated 6 years earlier. Her pain persisted so phenelzine was initiated, again without success. DL had been unable to tolerate any of the antidepressants tried for a long enough period or in sufficient dosage to be effective.

She often came in tearfully complaining of constant pain—not only in her back but also in her head and stomach—and sometimes felt she could not go on. Finally, nortriptyline was tried. DL gradually was able to tolerate the drug at 75 mg daily. Over the next year, although her pain was still present, it was not severe. She met a new boyfriend with whom she socialized and traveled and developed some avocational interests as well. She did not engage in sexual relations with the man; however, he had no objection to the arrangement. She appeared now very well groomed and contented.

In summary, 2 of the 3 years we have been seeing DL we spent searching for a tolerable antidepressant. Once discovered, adequate dosage and time have afforded the patient a satisfactory degree of control of her pain and depression.

#### Case 6

##### *BL: Partial Improvement of Pain; Lack of Full Compliance*

BL lost her mother when she was 5 years of age, at which time she was taken to another state and reared by an older sister. She never again saw her father until his death at age 90. She has seven brothers and sisters, including a brother with a "nervous condition," a sister who is an alcoholic, and another sister who has chronic pain.

BL was married at 17 years of age. In the first 5

years of their marriage, her husband was promiscuous. However, their marriage endured 30 years and produced three children. The patient's two daughters were both widowed early, one as a result of "foul play." Her adult son separated from his family and returned to live in the parents' home. He engaged often in both drug and alcohol abuse.

Since 32 years of age, BL was employed as a laborer and later as an industrial sewer. She worked steadily for 15 years, with frequent overtime.

Shortly after an ear infection at age 47, BL began to experience pain in her neck and both shoulders and arms. She continued to work despite her pain, stating, "I love my job."

BL came to us after 4 months of continuous pain. She reported that since the onset of her pain she was able to sleep only about 3 hours each night and was generally less active than she had been in the past.

After 3 weeks of taking only small amounts of amitriptyline, BL reported that her pain had decreased and that she slept better. Because of drowsiness the next day, she would not take more than 50 mg of amitriptyline at bedtime. Several months later, she experienced a setback when she reported that her supervisor at work "pushes and pushes" and that her medication made her drowsy. She was changed over to imipramine, 75 mg per day, and improved. Assignment to a new supervisor also appeared beneficial. Three months later, she seemed stabilized and was given return appointments at 3-month intervals instead of monthly. Over the following 2 years, she tended to decrease her medication, or to take it irregularly. Only when she was desperate for means to deal with her son's drinking habits did she ever make mention of a problem. She remained unable to set limits, such as evicting him from the home.

BL was followed over 3 years. She was always unemotional and spoke little when seen, except for the one time when she felt totally frustrated over her son's drinking. She would, however, not show up when extra appointments were set up in an effort to help her deal with this situation which was so depressing for her. There appeared to be little exchange of feelings between the patient and her husband. She attended her church regularly. She was able to continue at work and experienced little pain as long as she took 75 mg of imipramine per day.

#### Case 7

##### *RG: Partial Improvement of Pain with Antidepressants; Poor Compliance and Dropping Out of Treatment*

RG was the second of his parents' two sons and had two half brothers who ran away from home when RG was 6 years old. RG's mother was physically abusive

of his alcoholic father. Their marriage ended in divorce when the patient was 19 years of age.

RG's mother had a number of illnesses and operations but continued to work despite her persistent complaints about the arthritis in her back. His father later lost his job due to his drinking and subsequently developed a jaw bone cancer and had "half his face removed."

RG felt that his brother was abusive of his children although not physically so. He also had a paternal aunt with a nervous condition.

In his youth, RG was involved with street gangs who engaged in gun fights and was arrested twice for armed robbery at 17 years of age, but never had charges brought against him. The patient completed a 10th grade education and then left school to join the army. After 2 years, he returned to civilian life and began working at a gas station. At 20 years of age, he married. RG began working in a factory and lost the job the same year due to excessive absenteeism. It was also during this time that his marriage, which produced one son, ended in divorce because of his wife's promiscuity. RG never again saw his son after he relinquished visitation rights following his going to jail for nonsupport and his second wife's resentment of the child.

RG had remarried 2 years after the divorce. Before the remarriage, his wife was pregnant. When her affluent family was informed, her father investigated RG's background and attempted to prevent the marriage by offering RG \$5000 to leave town and encouraging his daughter to abort her pregnancy. The patient had used hallucinogens and later took Valium purchased on the street. He reported that he once "tried to kill a guy" who "screwed him financially" and soon afterward began having spells of crying. He entered group therapy and was able to discontinue the Valium. His wife refused to participate with him because it would be an "embarrassment."

RG responded to his wife's constant demand for money, so she could live as she was accustomed to and not be "embarrassed," by working all the overtime hours he could get. He regularly worked 48 hours each week and took no vacations.

At 25 years of age, when he was lifting his 2-year-old daughter, RG suddenly felt pain around his right shoulder blade, which would then recur each time he extended and lifted his arm. He began using analgesics to control the pain. With his wife's insistence, RG continued working despite his pain because of his financial obligations and because taking time off would be an "embarrassment."

He was referred to us at 28 years of age after 3 years of fairly continuous pain. He reported sleeping well and had a good appetite. He felt he got along well with others because "I'm a manipulator" and denied any

feelings of depression or despair. He was prescribed 75 mg of imipramine daily which he used for 2 days and discontinued "due to diarrhea." A different medication was prescribed but he never used it, preferring to use the first medication, once convinced of its necessity. His referring physician wrote a work restriction in his note resulting in RG's being removed from his position and compensated with a percentage of his full pay. He became distressed regarding his not working. After 2 weeks of faithful use of his medication, he reported being less agitated but also less interested in sex. His wife was unimpressed by his change in disposition and tried to convince RG that his treatment was "a waste," since "psychiatrists are for people with screwed up minds," which was not her husband's problem.

The following month, RG had returned to light duty at his job. He reported being "constantly high" from the imipramine (250 mg daily) and was still calmer but also often sleepy. RG began to discuss difficulties in his marriage. His wife was the financial manager and did not permit him use of their credit cards. RG still had his pain but mentioned it only casually.

Over the next 4 months, he experienced some improvement in his pain and continued to work regularly. He reported that he had no pain at all when he would drink a six-pack each day or smoke marijuana. Due to lack of insurance coverage, RG did not return to our clinic for nearly a year. He contacted us by phone intermittently and reported that, while he continued regular use of his medication, he felt "hooked" on it. He recited a litany of side effects including poor sleep, loss of sexual arousal, irritability, argumentative attitude, and dry mouth. His medication was changed to amitriptyline; however, he complained that his pain became worse with it. We saw him after 2 weeks with his pain complaint persisting. He did not return to the clinic thereafter.

Almost 2 years since we had seen RG last, he called the clinic and wanted to return. During the lapsed time, he had divorced his second wife and remarried a mother of two children whose son had been abused at the hands of his father. An appointment was scheduled for RG, but he failed to present himself.

#### Case 8

##### *KL: Chronic Headaches Cease After Early Retirement; Use of Chlordiazepoxide*

KL is the only child of parents whom she idealizes and for whom she cared daily during their later years, until they died. KL married at age 15 when she became pregnant. Her first husband, 25 years her senior, frequently beat her badly. They had one son and were divorced after 6 years of marriage. KL did not remarry until age 30. Her second husband, who had a nervous condition related to his war experiences, would hit her

when he had been drinking but was invariably remorseful afterward. At 18 years of age, KL began to work and has worked steadily for 35 years with the same employer as an accountant.

At 44 years of age, KL began to experience pain in her forehead, temples, and other parts of her head. The pain's onset was sudden and not preceded by any trauma. She was pain-free for only a couple of days each week; however, she continued to work. KL stated, "I seek and desire perfection in all things" and that her pain was exacerbated by imperfection, frustration, and intense concentration. As their marriage went on, KL's husband's abuse of her gradually tapered off. Meanwhile, her headaches became worse. He continued drinking for several more years.

At 61 years of age, KL was referred to us, after 17 years of frequent episodes of pain. Six months earlier, her mother had died, 9 years after her father. The depressive mood she expressed was attributed by her to her pain and job stresses. She viewed herself as tense and nervous and "not always self-confident." She described all her family relationships as good or excellent. Not until 4 months after onset of treatment did she reveal that her husband, and she with him, had been seeing a counsellor for some time.

The patient was using Librium, 25 mg t.i.d., at the time of referral, together with imipramine, 25 mg per day, the latter not regularly taken. The imipramine was increased to 150 mg per day, and her use of tranquilizers was discouraged. Because of side effects, she was changed to doxepin, 150 mg per day, but again she did not tolerate the antidepressant medication and independently resumed use of Librium, 25 mg three to four times daily, instead. This occurred after about 5 months of treatment, with monthly visits. It gradually became apparent that her headaches were related to her work more than to anything else. When KL stopped going to work, the headaches showed some improvement. When she returned to work, the headaches occurred daily. One year after treatment began, because of her prolonged absences due to her pain, she was offered an early retirement. She accepted the offer, after 36 years of employment. KL began working as a hospital volunteer 3 days a week. She continued the Librium, but was able to decrease the amount slowly to 25 mg b.i.d. She came only at infrequent intervals, but after nearly 3 years showed steady improvement with no complaint of headaches.

#### Case 9

##### *RH: Flight into Health with Early Dropping out of Treatment; Persistent Ailments and Pains*

RH was the eldest of two children born and reared in Eastern Europe. At age 3, RH lost her father, a mill hand, from a ruptured appendix. Her mother remar-

ried, and for a 3-year period RH had a stepfather whom she "didn't like." At age 11, RH's mother died from a "broken vein." RH then lived with an aunt and grandmother (both now deceased) until her marriage to an engineer 5 years later at age 16. Her husband wanted children, but RH was unable to bear them. He ran around with other women while she was "like a maid" to him. After 14 years, he impregnated another woman, obtained a divorce, and married the other woman. RH took a job as an office clerk which she maintained for 20 years. Nearly 22 years after her divorce, at age 55, RH married for the second time. Her new husband, a retired American citizen, had a relative in her home country who arranged the marriage, and the couple took up residence in the United States.

RH had been in this country for 3 years at the time of referral to us, and she had worked steadily for the past 2 years in the housekeeping department of a hospital. RH was obviously homesick and unable to converse in English, and although her husband spoke of plans to sell their house and move back to Europe, these plans were never carried out. RH presented to us with continuous pain in her right hand ("hand is dead"), and episodic pain in her left arm. Pain onset was sudden and nontraumatic 11 months earlier, and exacerbated by going "out in the cold." She had undergone three operations for her ovaries and uterus, but none for her pain, and she had no other physical complaints. RH slept only 3 to 4 hours a night when her pain was severe, but her appetite was good. She stated sex had not been important in her life and that her pain had not affected her sex life. The pain had, however, adversely affected her general activity level. RH denied any emotional or interpersonal difficulties, and reported that she had never lost control of her temper. The most angry thing she had ever done in her life was crying.

RH was started on amitriptyline, 25 mg a.m. and 50 mg h.s., and instructed to return in 2 weeks. At the time of her second visit, RH looked quite well and cheerful, and she reported that she slept well and was pain-free. After only 2 days of Elavil, her pain had gone away. Her medication was renewed. About 6 weeks later, RH's husband telephoned to cancel her appointment simply stating that she "can't make it." RH never returned or called again.

Some 3 years later, we determined that RH had steadily remained an active employee in her same position of custodian, and her medical chart documented a list of maladies including: complaints of hands swollen and itching; complaints of eye irritation and tearing; punctured finger; stomach cramps; lower back pain, pain in both wrists, and pain in her left foot; burning eyes; and most recently, back pain and numbness of her right toes.

### Case 10

#### *FL: Persistence of Chronic Pains and Disability; Deterioration of Marriage*

The patient's mother and grandparents were alcoholic. FL's mother also suffered chronic pain from arthritis and, for a time, had frequent episodes of nausea and vomiting. His only sibling, his sister, was troubled with chronic headaches.

FL reported that from kindergarten through grade 12, he missed only 6½ days of school. He completed 1½ years of college, studying law enforcement, but was unable to pursue such a career. Since 15 years of age, FL had been a member of motorcycle gangs, one of which had murder charges brought against some of its members.

At 18 years of age, FL began working in an automobile factory. He regularly worked 10 to 16 hours a day, often 6 days a week. "They called me the overtime kid," he said. At 20 years of age, he was married and the couple soon had a son. At 22 years of age, FL began to experience pain in his back, legs, and neck. The patient was no longer able to work.

He was referred to us at 24 years of age, after being in continuous pain for 2 years. FL described his pain as "bullet wounds . . . other times, like a knife in the back." He attributed his pain to "working like a horse." He expressed considerable hostile feelings about his job, stating that for nearly a year he "wanted to kill when it was not necessary," explaining that he wanted to do away with the foreman who supervised his work. FL felt that his employers and their physician did not take his illness seriously. He stated that he should have the seniority of 15 years and the full pension which accompanied it, since during his 5 years with his employer he had done the work of three men. Interestingly, FL stated that he had no difficulties getting along with other people. He also tended to consider his present and past family relations Utopian, despite his mother's alcoholic history.

FL's only feeling of despair was expressed over his inability to return to work. Having had difficulty securing disability benefits, he and his wife were feeling financially stressed.

FL was using no medication when referred but reported that he was afforded some relief from his pain when his consciousness occupied his "astral body." He was prescribed amitriptyline and after 1 month reported feeling better but continued to focus on his inability to work. With encouragement, he was able to return to his job for nearly 2 months. He soon began having "heart pain" and was very concerned regarding the effect of the vapors in his work environment upon his health. He independently increased his daily dosage of amitriptyline from 300 to 500 mg daily.



He began having abdominal pain as well which ended up in his having gallbladder surgery.

About 6 weeks following his surgery, he returned to work for a couple weeks but stopped reporting for work when he found his persistent abdominal pain intolerable. He stayed in treatment with us for the next 2½ years but was never able to return to work. He was now using phenelzine sulfate after complaints of a dry mouth and weight gain when using amitriptyline. FL continued to complain of pain at varying sites. He appeared more depressed and irritable.

At 26 years of age, FL became a father for the second time. Shortly thereafter, he and his wife had frequent, heated arguments over their mounting financial problems; the fights later became laden with threats and physical abuse. Thioridazine was added to his antidepressant regime; however, FL failed to use the drugs properly or regularly. He began drinking a pint of scotch daily in addition to using marijuana and cocaine.

He continued to be volatile and abusive toward his wife. On one occasion, he presented himself at our emergency room under his wife's threat to bring charges against him if he didn't get psychiatric help. He had assaulted her, leaving visible lesions during a physical fight which erupted when FL came home with a girlfriend and told his wife they were through. He refused to participate in any form of therapy during his week's stay and was finally discharged against medical advice after becoming violent following a conversation with his wife.

In the interim, his wife had obtained employment at a restaurant and left FL the following month, taking the children with her. When seen 2 weeks after his hospitalization, FL appeared quite rational other than in expressing a belief that he was frozen in the 13th century and somehow came back too soon; he was to return in the 25th century. His wife refused him visitation rights and turned away from his attempts at reconciliation.

FL experienced little improvement in his pain. He applied for Social Security benefits and sought treatment from a chiropractor as well. He continued to use the prescribed medications but has failed to keep his last two scheduled appointments.

#### Case 11

##### *JS: Intractable Pains with Severe Agitation; Maximum Treatment Efforts with Little Response*

JS was the second of 12 children. His father died from pneumonia after an operation for ulcers when JS was 38 years old and his mother died 21 years later, at the age of 80. One brother had a deformed arm. The oldest brother died from a heart attack at the age of 69 and two sisters died earlier, from cancer and pneumonia, respectively. JS completed 5 years of formal

education and at 13 years of age began working in a foundry. He was later employed in an automobile factory, where he continued working over the next 42 years. He often worked about 10 hours overtime each week and did not take much vacation.

JS married at age 28. The couple had three children, the eldest of which has continued to live with the parents. At 61 years of age, JS retired. He remained very active, working around the house, going to dances, swimming, traveling, or playing cards. At 69, he began experiencing pain radiating from his hips into both legs. The pain began suddenly and without any trauma, when he was about to leave on a trip to Florida. Initially, he had continued his pastimes, but as the pain persisted he lost all his interests and began to spend most of his time in bed.

Eleven months after onset of the pain, he underwent a partial bilateral laminectomy at L4 and S1, complete laminectomy at L5, and removal of a herniated nucleus pulposus between L4-5. When numerous complaints referred to low back, hips, and legs continued, he was readmitted 2 months later. Depression was diagnosed, a disc space infection was suspected, and he was put in a body cast. Another 4 months later, with no relief obtained, his back was re-explored, and a laminectomy at L3 and L4 and bilateral decompression of roots of L4 and S1 were carried out. Because of his marked depression with agitation, insomnia, constipation, anorexia, and 30-lb weight loss, on top of his profound anergia and anhedonia, he was transferred from the neurosurgical to the psychiatric ward. After 1 month, he had made a modest improvement, and was discharged on antidepressant and neuroleptic medication. Over the subsequent 18 months, he had to be readmitted on three occasions to the psychiatric ward because of total preoccupation with pain, severe agitation, and exacerbation of his depressed state, though sleep and appetite remained intact. Each time he was treated with a series of ECT, and each time would improve for only a brief time. An attempt at monthly maintenance ECT failed when JS refused to cooperate.

He had been referred to the Pain Clinic at age 71, after his third psychiatric hospitalization and 2½ years of continuous pain. He complained invariably about his inability to do anything, being a prisoner in his own home, and that he was not being helped by us. He was unable to cooperate with any activity program devised for him. Various combinations of antidepressants and neuroleptics were ineffective, though he appeared somewhat better with daily doses of amitriptyline, 150 mg, and thioridazine, 400 mg, for a few months. He was finally hospitalized for a fifth time on the psychiatric ward when his wife had to be hospitalized and the family was unable to tolerate him any longer. Trials with a monoamine oxidase inhibitor and

with lithium carbonate were ineffective. In view of the persistent severity of his condition, he was now referred, at age 74, for consideration of a psychosurgical procedure to another medical center. After implantation of a dorsal column stimulator had proven fruitless, a bilateral radiofrequency cingulotomy was carried out and the patient was improved for several months thereafter. He then refused follow-up visits and would medicate himself with psychotropic drugs in his possession. When his physical symptoms deteriorated, the family finally hospitalized him again, 1 year after the cingulotomy. He was now markedly parkinsonian and showed tardive oral dyskinesia, and his depressed state was similarly present as during the previous hospitalizations. He was kept off all psychotropic medications for several weeks. After he was put on maprotiline, 150 mg daily, and clonazepam, 1 mg b.i.d. (for nocturnal myoclonus), he could be discharged. A visiting nurse sees him weekly, and short term follow-up proves him to be significantly improved: he still complains of his pain and spends much of the day in bed, but the agitation has subsided; he goes on regular walks outside, and his loyal wife, who now dispenses his pills, has lost her previous gloom and despair. The son reports that JS is better but would never admit it.

#### Case 12

##### *RD: Chronic Leg Pains Stop When Marital Difficulties Emerge; Death by Suicide*

RD was the second youngest of 10 children. Her mother "lived for the children," while her father, a laborer, showed little interest in the children until his later years. Despite the paucity of affection demonstrated in the home, RD's family was and remained closely knit. RD felt spoiled as a child, her older siblings carrying all responsibilities for her. She did, however, begin to work as a store clerk at 12 years of age.

At 18 years of age, RD married the man whom she had begun dating when they were in the 11th grade. She said it was a "perfect marriage" and stated that she placed her husband on a pedestal and refused him nothing. The couple had four children. As her children grew older, RD worked steadily outside the home putting in "lots of overtime."

When RD was about 37 years of age, her father began to suffer from amyotrophic lateral sclerosis and her mother developed hypertensive disease. About this time, she began to experience episodic pain in her legs which she attributed to the birth control pills she was using. About 4 years later, RD quit working.

When she was about 43 years of age, she began experiencing persistent pain in her legs, starting on a Christmas day. Within the next year, her father's care

was turned over to a nursing home when he became unable to care for himself. About 2 years later, RD's mother died.

Four months after her loss, RD was referred to our pain clinic. She had been in nearly continuous pain for almost 4 years. The youngest child, the only one still at home, was about to get married. RD described herself as an active person whose hobbies were mostly of a physical nature and admitted that she had a degree of nervous energy. However, since the onset of her pain, she had little motivation for anything. RD denied any emotional difficulties, never brought up the loss of her mother, and considered her relationships within her family ideal. She expressed some despair over her pain but otherwise reported only rare occasions of feeling depressed. From early on, she could not let herself depend on the therapist and so was hesitant to come for regular appointments.

RD was prescribed imipramine in doses increasing to 150 mg per day. She experienced only a couple days over the next 5 months during which she was pain-free. Various antidepressants were tried, with little relief and with many side effects, such as dry mouth, nausea, and sluggishness. Only amitriptyline restored her former pep and curbed her pain, but gave her such a voracious appetite that it had to be discontinued. When she stopped the medication, she completely lost her appetite and 15 lbs.

RD often stated now that she was very depressed, cried frequently, and rarely left the house. She glorified her husband who, she reported, was so worried about RD that he too was losing weight and had developed a nervous stomach.

About 4 months after we had started seeing RD and 1 week prior to her son's wedding, she telephoned with the surprising statement that she had a "mental problem"—her husband was not all wonderful. She had suffered "the shock of her life" when she discovered the receipt for a ring in her husband's wallet and found out he had plans to marry a much younger woman with whom he had been having an affair. RD became unable to eat and unable to control herself. She began to stay up all night long, either berating her husband in a rage or expressing remorse for her behavior. RD's husband discontinued his affair; however, RD constantly made issue of it. Her insomnia, agitation, and fierce rage progressed until she was hospitalized, 3 weeks after her discovery, on our psychiatric unit. When we saw her several weeks later, after her discharge, she reported feeling quite well. She had been free of her pain for 2 weeks, had discontinued using her analgesic, and wanted to get a job. She had continued using 75 mg of loxapine daily after her discharge.

RD reported a recurrence of her pain about a week

later and was started on nortriptyline. Within a couple weeks, her voracious appetite also returned. RD did try to become interested in some pastimes again but continuously harassed her husband with talk of his affair. RD continued to be depressed and was again hospitalized after taking a small overdose of her medication. The patient and her husband were involved in conjoint therapy during the hospitalization. She was discharged on doxepine after a stay of 1 month.

Two weeks after her discharge, we saw RD. She no longer reported any pain but felt bored and listless and had no interest or motivation of any sort. She had been steadily gaining weight and her sleep was normal. RD brought up a problem her husband had been having for the last 2 years with sexual performance. He insisted on having intercourse every night, but would coax her to tell him about fictitious affairs she had with other men, before he became able to have sex. He had encouraged her to pursue extramarital relations for the past several years and became more insistent of it at this time. Against her own desire, she actually began to fulfill his fantasy, and felt intense shame of herself as a result. We referred RD and her husband for couples counselling. They made reasonable progress in the 3 months they participated. However, although they were better able to relate and understood some of their difficulties, RD's husband still persisted, on occasion, in having his wife create sexual fantasies for him.

Shortly after bringing up these problems with her husband, RD expressed considerable despair over her daughter who had been living "like pigs" with a physically abusive, promiscuous ex-convict and who was now planning to marry him! RD remarked that "I'm still running, I don't want to stop long enough to think."

RD began attending a business school and stated that she enjoyed her training. She left school early one day for no apparent reason. The following day, she got out of bed in the middle of the night and was found unconscious in her car, with the motor running and the garage door closed. She reported this casually and was again hospitalized for about a month. One month after her discharge, she succeeded in a repeat attempt to asphyxiate herself, without forewarning and leaving no notes.

### Case 13

#### *MH: Chronic Elbow Pain with Early Dropping Out; Surgical Procedures Continue*

MH is the fourth of eight siblings, all of whom are living. His father was a farmer who died from a stroke when MH was 31 years of age. His mother died from heart failure 25 years later.

At 10 years of age, MH began working on the family farm. He reported that at this age he remembered frequent toothaches, earaches, and stomachaches which always occurred at night. MH dropped out of school after completing the 8th grade. At 18 years of age, MH left to become a marine engineer, sailing the Great Lakes. For the sake of his then new marriage, MH left his job of 8 years to become a plant inspector at a metal factory. He also worked part time as an insurance broker as well as doing some farming. He and his wife had two daughters.

Beginning with a depression after the second birth, MH's wife progressively deteriorated until finally the Probate Court assigned a psychiatrist to her and she was confined in a psychiatric hospital for 3 years. She had been hiding under the bed, refusing to answer the phone, drinking excessively, and was verbally abusive of MH. Following his wife's return home, MH left his factory job and began working full time as a real estate and insurance broker. He reported that he regularly worked excessive hours each week and did not know what a vacation was.

At 49 years of age, MH suddenly began to experience pain in his lower back. The same year, he underwent surgery for the pain. Not only was he afforded no relief, but the pain now radiated into his left hip. MH could no longer work as excessively as he had, but continued to work 4 hours a day, 7 days a week.

Over the ensuing years, MH underwent surgery for his pain five times, almost on an annual basis ("back surgery," double fusion, refusion, removal of a spur on the left hip, and elbow surgery). He was referred to us at 58 years of age after 9 years of continuous pain, nine surgical procedures, and 17 hospitalizations. His pain was reported in no less than eight locations on his body.

MH reported poor sleep but a good appetite. He used only aspirin to control his pain. Sexual activity with his wife had decreased over the years of his pain, and he abandoned his hobbies of fishing and hunting. MH's wife, who was very concerned over her husband's malady, was also concerned about her own intermittent back pain. MH stated that he never became angry, that he had no problems relating to other people, and that his relations with his family and friends were all good, although he no longer had a social life. He also stated that only because of his pain did he ever feel depressed and sometimes wish he was dead.

The patient was prescribed 50 mg of amitriptyline daily, to be increased to 150 mg daily over the following 2 weeks. When we saw MH after 3 weeks, he reported no improvement in his pain but that he did sleep better. MH continued to use the medication for another 3 weeks but reported that he was "worse than

ever," complaining of the dry mouth resulting from the medication. The amitriptyline was replaced with imipramine, and MH was encouraged to call if necessary and to return in 2 weeks.

We had no further contact with the patient until we made a follow-up contact by phone about 3 years later. MH reported that his pain was relatively unchanged and that he could not work longer than a half day, at

which point he would have to rest. The only medication he was using was a 2 mg daily dose of lorazepam, which a psychiatrist had prescribed. He reported that during the 3 years since we last saw him, he had surgery for two hernias as well as another spinal fusion. Aside from his pain, MH stated that all was fine with him and his family. At the time of the phone call, he was about to undergo another back operation.