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13.5 Psychological Factors Affecting Other Medical Conditions

with family history as a predictor of conversion. J Affect Disord. 2013;148(2–3):431–434. McCormack R, Moriarty J, Mellers JD, Shotbolt P, Pastena R, Landes N, Goldstein L, Fleminger S, David AS. Specialist inpatient treatment for severe motor conversion disorder: a retrospective comparative study. J Neurol Neurosurg Psychiatry. 2013. Nicholson TR, Aybek S, Kempton MJ, Daly EM, Murphy DG, David AS, Kanaan RA. A structural MRI study of motor conversion disorder: evidence of reduction in thalamic volume. J Neurol Neurosurg Psychiatry. 2014;85(2):227–229. Stone J, Smyth R, Carson A, Lewis S, Prescott R, Warlow C, Sharpe M. Systematic review of misdiagnosis of conversion symptoms and “hysteria.” BMJ. 2005;331(7523):989. Tezcan E, Atmaca M, Kuloglu M, Gecici O, Buyukbayram A, Tutkun H. Dissociative disorders in Turkish inpatients with conversion disorder. Comp Psychiatry. 2003;44:324. 13.5 Psychological Factors Affecting Other Medical Conditions Psychosomatic medicine has been a specific area of study within the field of psychiatry. It is based on two basic assumptions: There is a unity of mind and body; and psychological factors must be taken into account when considering all disease states. Concepts derived from the field of psychosomatic medicine influenced both the emergence of complementary and alternative medicine (CAM), which relies heavily on examining psychological factors in the maintenance of health, and the field of holistic medicine, with its emphasis on examining and treating the whole patient, not just his or her illness. The concepts of psychosomatic medicine also influenced the field of behavioral medicine, which integrates the behavioral sciences and the biomedical approach to the prevention, diagnosis, and treatment of disease. Psychosomatic concepts have contributed greatly to those approaches to medical care. The concepts of psychosomatic medicine are subsumed in the diagnostic entity of “Psychological Factors Affecting Other Medical Conditions.” This category covers physical disorders caused by or adversely affected by emotional or psychological factors. A medical condition must always be present for the diagnosis to be made. CLASSIFICATION The diagnostic criteria for “Psychological

Factors Affecting Other Medical Conditions” excluded (1) classic mental disorders that have physical symptoms as part of the disorder (e.g., conversion disorder, in which a physical symptom is produced by psychological conflict); (2) somatization disorder, in which the physical symptoms are not based on organic pathology; (3) hypochondriasis, in which patients have an exaggerated concern with their health; (4) physical complaints that are frequently associated with mental disorders (e.g., dysthymic disorder, which usually has such somatic accompaniments as muscle weakness, asthenia, fatigue, and exhaustion); and (5) physical complaints associated with substance-related disorders (e.g., coughing associated with nicotine dependence).

STRESS THEORY Stress can be described as a circumstance that disturbs, or is likely to disturb, the normal physiological or psychological functioning of a person. In the 1920s, Walter Cannon (1871–1945) conducted the first systematic study of the relation of stress to disease. He demonstrated that stimulation of the autonomic nervous system, particularly the sympathetic system, readied the organism for the “fight-or-flight” response characterized by hypertension, tachycardia, and increased cardiac output. This was useful in the animal who could fight or flee; but in the person who could do neither by virtue of being civilized, the ensuing stress resulted in disease (e.g., produced a cardiovascular disorder). In the 1950s, Harold Wolff (1898–1962) observed that the physiology of the gastrointestinal (GI) tract appeared to correlate with specific emotional states. Hyperfunction was associated with hostility and hypofunction with sadness. Wolff regarded such reactions as nonspecific, believing that the patient’s reaction is determined by the general life situation and perceptual appraisal of the stressful event. Earlier, William Beaumont (1785–1853), an American military surgeon, had a patient named Alexis St. Martin, who became famous because of a gunshot wound that resulted in a permanent gastric fistula. Beaumont noted that during highly charged emotional states, the mucosa could become either hyperemic or blanch, indicating that blood flow to the stomach was influenced by emotions. Hans Selye (1907–1982) developed a model of stress that he called the general adaptation syndrome. It consisted of three phases: (1) the alarm reaction; (2) the stage of resistance, in which adaptation is ideally achieved; and (3) the stage of exhaustion, in which acquired adaptation or resistance may be lost. He considered stress a nonspecific bodily response to any demand caused by either pleasant or unpleasant conditions. Selye believed that stress, by definition, need not always be unpleasant. He called unpleasant stress distress. Accepting both types of stress requires adaptation. The body reacts to stress—in this sense defined as anything (real, symbolic, or imagined) that threatens an individual’s survival—by putting into motion a set of responses that seeks to diminish the impact of the stressor and restore homeostasis. Much is known about the physiological response to acute stress, but considerably less is known about the response to chronic stress. Many stressors occur over a prolonged period of time or have long-lasting repercussions. For example, the loss of a spouse may be followed by months or years of loneliness, and a violent sexual assault may be followed by years of apprehension and worry. Neuroendocrine and immune responses to such events help explain why and how stress can have deleterious effects. Neurotransmitter Responses to Stress Stressors activate noradrenergic systems in the brain (most notably in the locus ceruleus) and cause release of catecholamines from the autonomic nervous system. Stressors also activate serotonergic systems in the brain, as evidenced by increased

serotonin turnover. Recent evidence suggests that, although glucocorticoids tend to enhance overall serotonin functioning, differences may exist in glucocorticoid regulation of serotonin-receptor subtypes, which can have implications for serotonergic functioning in depression and

related illnesses. For example, glucocorticoids can increase serotonin 5-hydroxytryptamine (5-HT2)-mediated actions, thus contributing to the intensification of actions of these receptor types, which have been implicated in the pathophysiology of major depressive disorder. Stress also increases dopaminergic neurotransmission in mesoprefrontal pathways. Amino acid and peptidergic neurotransmitters are also intricately involved in the stress response. Studies have shown that corticotropin-releasing factor (CRF) (as a neurotransmitter, not just as a hormonal regulator of hypothalamic-pituitary-adrenal [HPA] axis functioning), glutamate (through N-methyl-D-aspartate [NMDA] receptors), and γ-aminobutyric acid (GABA) all play important roles in generating the stress response or in modulating other stress-responsive systems, such as dopaminergic and noradrenergic brain circuitry. Endocrine Responses to Stress In response to stress, CRF is secreted from the hypothalamus into the hypophysialpituitary-portal system. CRF acts at the anterior pituitary to trigger release of adrenocorticotropic hormone (ACTH). Once ACTH is released, it acts at the adrenal cortex to stimulate the synthesis and release of glucocorticoids. Glucocorticoids themselves have myriad effects within the body, but their actions can be summarized in the short term as promoting energy use, increasing cardiovascular activity (in the service of the flight-or-fight response), and inhibiting functions such as growth, reproduction, and immunity. This HPA axis is subject to tight negative feedback control by its own end products (i.e., ACTH and cortisol) at multiple levels, including the anterior pituitary, the hypothalamus, and such suprahypothalamic brain regions as the hippocampus. In addition to CRF, numerous secretagogues (i.e., substances that elicit ACTH release) exist that can bypass CRF release and act directly to initiate the glucocorticoid cascade. Examples of such secretagogues include catecholamines, vasopressin, and oxytocin. Interestingly, different stressors (e.g., cold stress vs. hypotension) trigger different patterns of secretagogue release, again demonstrating that the notion of a uniform stress response to a generic stressor is an oversimplification. Immune Response to Stress Part of the stress response consists of the inhibition of immune functioning by glucocorticoids. This inhibition may reflect a compensatory action of the HPA axis to mitigate other physiological effects of stress. Conversely, stress can also cause immune activation through a variety of pathways. CRF itself can stimulate norepinephrine release via CRF receptors located on the locus ceruleus, which activates the sympathetic

nervous system, both centrally and peripherally, and increases epinephrine release from the adrenal medulla. In addition, direct links of norepinephrine neurons synapse on immune target cells. Thus, in the face of stressors, profound immune activation also occurs, including the release of humoral immune factors (cytokines) such as interleukin1 (IL-1) and IL-6. These cytokines can themselves cause further release of CRF, which in theory serves to increase glucocorticoid effects and thereby self-limit the immune activation. Life Events A life event or situation, favorable or unfavorable (Selye’s distress), often occurring by chance, generates challenges to which the person must adequately respond. Thomas Holmes and Richard Rahe constructed a social readjustment rating scale after asking hundreds of persons from varying backgrounds to rank the relative degree of adjustment required by changing life events. Holmes and Rahe listed 43 life events associated with varying amounts of disruption and stress in average persons’ lives and assigned each of them a certain number of units: for example, the death of a spouse, 100 life-change units; divorce, 73 units; marital separations, 65 units; and the death of a close family member, 63 units. Accumulation of 200 or more life-change units in a single year increases the risk of developing a psychosomatic disorder in that year. Of interest, persons who face general stresses optimistically, rather than pessimistically, are less apt to experience psychosomatic disorders; if

they do, they are more apt to recover easily (Table 13.5-1). Table 13.5-1 Social Readjustment Rating Scale

Specific versus Nonspecific Stress Factors In addition to life stresses such as a divorce or the death of a spouse, some investigators have suggested that specific personalities and conflicts are associated with certain psychosomatic diseases. A specific personality or a specific unconscious conflict may contribute to the development of a specific psychosomatic disorder. Researchers first identified specific personality types in connection with coronary disease. An individual with a coronary personality is a hard-driving, competitive, aggressive person who is predisposed to coronary artery disease. Meyer Friedman and Ray Rosenman first defined two types: (1) type A—similar to the coronary personality—and (2) type B personalities—calm, relaxed, and not susceptible to coronary disease. Franz Alexander was a major proponent of the theory that specific unconscious conflicts are associated with specific psychosomatic disorders. For example, persons susceptible to having a peptic ulcer were believed to have strong ungratified dependency needs. Persons with essential hypertension were considered to have hostile impulses about which they felt guilty. Patients with bronchial asthma had issues with separation anxiety. The specific psychic stress theory is no longer considered a reliable indicator of who will develop which disorder; the nonspecific stress theory is more acceptable to most workers in the field today. Nevertheless, chronic stress, usually with the intervening variable of anxiety, predisposes certain persons to psychosomatic disorders. The vulnerable organ may be anywhere in the body. Some persons are “stomach reactors,” others are “cardiovascular reactors,” “skin reactors,” and so on. The diathesis or susceptibility of an organ system to react to stress is probably of genetic

origin; but it may also result from acquired vulnerability (e.g., lungs weakened by smoking). According to psychoanalytic theory, the choice of the afflicted region is determined by unconscious factors, a concept known as somatic compliance. For example, Freud reported on a male patient with fears of homosexual impulses who developed pruritus ani and a woman with guilt over masturbation who developed vulvodynia. Another nonspecific factor is the concept of alexithymia, developed by Peter Sifneos and John Nemiah, in which persons cannot express feelings because they are unaware of their mood. Such patients develop tension states that leave them susceptible to develop somatic diseases. SPECIFIC ORGAN SYSTEMS Gastrointestinal System GI disorders rank high in medical illnesses associated with psychiatric consultation. This ranking reflects the high prevalence of GI disorders and the link between psychiatric disorders and GI somatic symptoms. A significant proportion of GI disorders are functional disorders. Psychological and psychiatric factors commonly influence onset, severity, and outcome in the functional GI disorders. Functional Gastrointestinal Disorders. Table 13.5-2 outlines the spectrum of functional GI disorders, which can include symptoms identified throughout the GI tract. Table 13.5-2 Functional Gastrointestinal Disorders

The case history presented here illustrates the relationship between psychiatric illness, GI disease, and GI disorders. A freshman, male, college cross-country athlete was referred for psychiatric consultation with complaints of frequent belching and anxiety. The patient had been a successful high school runner, but had struggled in his early adjustment to college athletics. His performance was below that of his high school level. Consultation with a gastroenterologist failed to find a physical cause for his complaints. On psychiatric consultation, the patient noted anxiety about his ability to compete at the college level. Many more talented runners were in practice and meets

than he had previously experienced. He reported an urge to belch frequently and feelings of

abdominal fullness. When he tried to run, he reported difficulty breathing, and feeling excess gas in his stomach prohibited him from taking a full breath. He reported significant worry with insomnia and feeling “edgy” during the day. There was no history of alcohol or drug use and no previous psychiatric history. Further interview information was consistent with aerophagia and adjustment disorder with anxious mood. He was referred for relaxation training and brief psychotherapy to address his target anxiety symptoms. The therapy focused on reducing his fear of failing as a college athlete and reducing dysfunctional cognitions about his performance. The therapist advised the coaching staff that performance anxiety significantly contributed to the patient’s symptoms. Suggestions to reduce performance anxiety in this athlete were made to the coaching staff. Citalopram (Celexa), 20 mg, was prescribed. Over the next 6 weeks, the patient reported significant improvement in his breathing, feelings of fullness, anxiety, and sleep disturbance. His running began to improve, but had not yet returned to the expected level of performance. His coaches, however, were happy with his improvement and optimistic about his probability of eventually making a contribution to the team. (Courtesy of William R. Yates, M.D.) Extensive reports in the literature attest to the link between stress, anxiety, and physiological responsivity of the GI system. Anxiety can produce disturbances in GI function through a central control mechanism or via humoral effects, such as the release of catecholamines. Electrical stimulation studies suggest that sympathetic autonomic responses can be generated in the lateral hypothalamus, a region with neural interactions within the limbic forebrain. Parasympathetic autonomic responses also influence GI function. Parasympathetic impulses originate in the periventricular and lateral hypothalamus and travel to the dorsal motor nucleus of the vagus, the main parasympathetic output pathway. The vagus is modulated by the limbic system linking an emotions-gut pathway of response. Acute stress can induce physiological responses in several GI target organs. In the esophagus, acute stress increases resting tone of the upper esophageal sphincter and increases contraction amplitude in the distal esophagus. Such physiological responses may result in symptoms that are consistent with globus or esophageal spasm syndrome. In the stomach, acute stress induces decreased antral motor activity, potentially producing functional nausea and vomiting. In the small intestine, reduced migrating motor function can occur, whereas in the large intestine, myoelectrical and motility activity can be increased under acute stress. These effects in the small and large intestine may be responsible for bowel symptoms associated with irritable bowel syndrome (IBS). Patients with contraction abnormalities and functional esophageal syndromes demonstrate high rates of psychiatric comorbidity. Functional esophageal symptoms include globus, dysphagia, chest pain, and regurgitation. Such symptoms can occur in conjunction with esophageal smooth muscle contraction abnormalities in the esophagus.

Not all patients with functional esophageal symptoms display contraction abnormalities. Anxiety disorders ranked highest in a study of psychiatric comorbidity in functional esophageal spasm, being present in 67 percent of subjects referred to a GI motility laboratory for testing. Generalized anxiety disorder topped the list of anxiety disorder diagnoses in this series. Many patients in this study had anxiety disorder symptoms before the onset of esophageal symptoms. This suggests that anxiety disorder may induce physiological changes in the esophagus that can produce functional esophageal symptoms. Peptic Ulcer Disease. Peptic ulcer refers to mucosal ulceration involving the distal stomach or proximal duodenum. Symptoms of peptic ulcer disease include a

gnawing or burning epigastric pain that occurs 1 to 3 hours after meals and is relieved by food or antacids. Accompanying symptoms can include nausea, vomiting, dyspepsia, or signs of GI bleeding, such as hematemesis or melena. Lesions generally are small, 1 cm or less in diameter. Early theories identified excess gastric acid secretion as the most important etiological factor. Infection with the bacteria Helicobacter pylori has been associated with 95 to 99 percent of duodenal ulcers and 70 to 90 percent of gastric ulcers. Antibiotic therapy that targets H. pylori results in much higher healing and cure rates than antacid and histamine blocker therapy. Early studies of peptic ulcer disease suggested a role of psychological factors in the production of ulcer vulnerability. This effect was believed to be mediated through the increased gastric acid excretion associated with psychological stress. Studies of prisoners of war during World War II documented rates of peptic ulcer formation twice as high as controls. Recent evidence for a primary role of H. pylori in peptic ulcer initiation suggests that psychosocial factors may play a primary role in the clinical expression of symptoms. Stressful life events may also reduce immune responses, resulting in a higher vulnerability to infection with H. pylori. No consensus exists on specific psychiatric disorders being related to peptic ulcer disease. Ulcerative Colitis. Ulcerative colitis is an inflammatory bowel disease affecting primarily the large intestine. The cause of ulcerative colitis is unknown. The predominant symptom of ulcerative colitis is bloody diarrhea. Extracolonic manifestations can include uveitis, iritis, skin diseases, and primary sclerosing cholangitis. Diagnosis is made mainly by colonoscopy or proctoscopy. Surgical resection of portions of the large bowel or entire bowel can result in cure for some patients. For individual patients, psychiatric factors may play a key role in the presentation and complexity of the disorders such as ulcerative colitis. Some workers have reported an increased prevalence of dependent personalities in these patients. No generalizations about psychological mechanisms for ulcerative colitis can be made, however. Crohn’s Disease. Crohn’s disease is an inflammatory bowel disease affecting primarily the small intestine and colon. Common symptoms in Crohn’s disease include

diarrhea, abdominal pain, and weight loss. Because Crohn’s disease is a chronic illness, most studies of psychiatric comorbidity focus on psychiatric disorders occurring after the onset of the disorder. A study of psychiatric symptoms in patients with Crohn’s disease before the onset of symptoms found high rates (23 percent) of preexisting panic disorder compared with control subjects and subjects with ulcerative colitis. No statistically significant preexisting psychiatric comorbidity in ulcerative colitis occurred in this study. Longitudinal studies and careful retrospective studies in chronic GI disorders can be helpful in sorting out psychiatric disorder as a risk factor, consequence, or chance association with specific GI disorder. Psychotropic Drug Side Effects on Gastrointestinal Function. Psychotropic drugs can produce significant changes in GI function, resulting in adverse effects. These GI adverse effects can produce several clinical challenges. First, patients may elect to discontinue necessary treatment because of the GI side effects. Second, prescribers may need to consider the possibility of serious GI illness or exacerbation of functional GI disturbances when drug-induced symptoms develop. Clinicians may need to carefully consider the side-effect profile of specific psychotropic drugs when treating patients with GI disorders. Serotonin is found in the gut and the selective serotonin reuptake inhibitors (SSRIs) can produce significant GI symptoms. These GI adverse effects tend to be noted at the initiation of therapy and to be dose related, with higher doses producing higher rates of adverse effects. Nausea and diarrhea are significant adverse effects in the profile of the SSRI compounds. Standard tricyclic antidepressants (TCAs) can also produce GI effects, specifically, dry mouth and constipation. These effects appear to be primarily related to the anticholinergic effect of

tricyclic compounds. Treatment PSYCHOTROPIC TREATMENT. Psychotropic drug use is common in the treatment of a variety of GI disorders. Psychotropic drug treatment in patients with GI disease is complicated by disturbances in gastric motility and absorption, and metabolism is related to the underlying GI disorder. Many GI effects of psychotropic drugs can be used for therapeutic effects with functional GI disorders. An example of a beneficial side effect would be using a TCA to reduce gastric motility in IBS with diarrhea. Psychotropic GI side effects, however, can exacerbate a GI disorder. An example of a potential adverse side effect would be prescribing a TCA to treat a depressed patient with gastroesophageal reflux. Psychotropic drug treatment is complicated by acute and chronic liver disease. Most of the psychotropic agents are metabolized by the liver. Many of these agents can be associated with hepatotoxicity. When acute changes in liver function tests occur with TCAs, carbamazepine (Tegretol), or the antipsychotics, it may be necessary to

discontinue the drugs. During periods of discontinuation, lorazepam (Ativan) or lithium (Eskalith) can be used, because they are excreted by the kidney. Electroconvulsive therapy (ECT) could also be used in the patient with liver disease, although the anesthesiologist needs to carefully choose anesthetic agents with minimal risk for hepatotoxicity. PSYCHOTHERAPY. Psychotherapy can be a key component in the stepped-care approach to the treatment of IBS and other functional GI disorders. Multiple different models of psychotherapy have been used. These include short-term, dynamically oriented, individual psychotherapy; supportive psychotherapy; hypnotherapy; relaxation techniques; and cognitive therapy. COMBINED PHARMACOTHERAPY AND PSYCHOTHERAPY MANAGEMENT. The combination of pharmacotherapy and psychotherapy is receiving increasing attention in effectiveness studies for a variety of disorders. Many GI disorders present opportunities for clinicians to consider combined therapy options. Because GI tolerability may be limited in these populations, psychotherapy augmentation strategies increase in importance. Cardiovascular Disorders Cardiovascular disorders are the leading cause of death in the United States and the industrialized world. Depression, anxiety, type A behavior, hostility, anger, and acute mental stress have been evaluated as risk factors for the development and expression of coronary disease. Negative affect in general, low socioeconomic status, and low social support have been shown to have significant relationships with each of these individual psychological factors, and some investigators have proposed these latter characteristics as more promising indices of psychological risk. Data from the Normative Aging Study on 498 men with a mean age of 60 years demonstrate a dose–response relationship between negative emotions, a combination of anxiety and depression symptoms, and the incidence of coronary disease. At present, however, the strongest evidence available pertains to depression. Studies of patients with preexisting coronary artery disease (CAD) also demonstrate a near doubling of risk for adverse coronary disease–related outcomes, including myocardial infarction (MI), revascularization procedures for unstable angina, and death, in association with depression. Severe depression 6 months after coronary artery bypass graft (CABG) surgery or persistence of even moderate depression symptoms beginning before surgery at 6-month postoperative follow-up predicts an increased risk of death over 5-year follow-up. Type A Behavior Pattern, Anger, and Hostility. The relationship between a behavior pattern characterized by easily aroused anger, impatience, aggression, competitive striving, and time urgency (type A) and CAD found the type A pattern to be associated with a nearly twofold increased risk of incident MI and CAD-related mortality. Group therapy to modify a type A behavior pattern was associated with

reduced reinfarction and mortality in a 4.5-year study of patients with prior MI. Type A behavior modification therapy has also been demonstrated to reduce episodes of silent ischemia seen on ambulatory electrocardiographic (ECG) monitoring. Hostility is a core component of the type A concept. Low hostility is associated with low CAD risk in studies of workplace populations. High hostility is associated with increased risk of death in 16-year follow-up of survivors of a previous MI. In addition, hostility is associated with several physiological processes, which, in turn, are associated with CAD, such as reduced parasympathetic modulation of heart rate, increased circulating catecholamines, increased coronary calcification, and increased lipid levels during interpersonal conflict. Conversely, submissiveness has been found to be protective against CAD risk in women. Adrenergic receptor function is downregulated in hostile men, presumably an adaptive response to heightened sympathetic drive and chronic overproduction of catecholamines caused by chronic and frequent anger. Stress Management. A recent meta-analysis of 23 randomized, controlled trials evaluated the additional impact of psychosocial treatment on rehabilitation from documented CAD. Relaxation training, stress management, and group social support were the predominant modalities of psychosocial intervention. Anxiety, depression, biological risk factors, mortality, and recurrent cardiac events were the clinical endpoints studied. These studies included a total of 2,024 patients in intervention groups and 1,156 control subjects. Patients having psychosocial treatment had greater reductions in emotional distress, systolic blood pressure, heart rate, and blood cholesterol level than comparison subjects. Patients who did not receive psychosocial intervention had 70 percent greater mortality and 84 percent higher cardiac recurrent event rates during 2 years of follow-up. Cardiac rehabilitation itself may reduce high levels of hostility, as well as anxiety and depression symptoms, in patients after MI. A meta-analytical review of psychoeducational programs for patients with CAD concluded that they led to a substantial improvement in blood pressure, cholesterol, body weight, smoking behavior, physical exercise, and eating habits and to a 29 percent reduction in MI and 34 percent reduction in mortality, without achieving significant effects on mood and anxiety. These programs included health education and stress management components. Cardiac Arrhythmias and Sudden Cardiac Death. A comprehensive overview of cardiac arrhythmias is beyond the scope of this section. Among the many subtypes of cardiac arrhythmia, of greatest importance to psychiatrists are sinus node dysfunction and atrioventricular (AV) conduction disturbances resulting in bradyarrhythmias and tachyarrhythmias that may be lethal or symptomatic yet benign. Because autonomic cardiac modulation is profoundly sensitive to acute emotional stress, such as intense anger, fear, or sadness, it is not surprising that acute emotions can stimulate arrhythmias. Indeed, instances of sudden cardiac death related to sudden emotional distress have been noted throughout history in all cultures. Two studies have demonstrated that, in addition to depression, a high level of anxiety symptoms raises

the risk of further coronary events in patients after MI by two to five times that for nonanxious comparison patients. High anxiety symptom levels are associated with a tripling of risk of sudden cardiac death. Heart Transplantation. Heart transplantation is available to approximately 2,500 patients annually in the United States. It provides approximately 75 percent 5year survival for patients with severe heart failure, who would otherwise have a less than 50 percent 2-year survival. Candidates for heart transplantation typically experience a series of adaptive challenges as they proceed through the process of evaluation, waiting, perioperative management, postoperative recuperation, and longterm adaptation to life with a transplant. These stages of adaptation typically elicit anxiety, depression, elation, and working through of grief. Mood disorders

are common in transplant recipients, in part because of chronic prednisone therapy. Hypertension. Hypertension is a disease characterized by an elevated blood pressure of 140/90 mm Hg or above. It is primary (essential hypertension of unknown etiology) or secondary to a known medical illness. Some patients have labile blood pressure (e.g., “white coat” hypertension, in which elevations occur only in a physician’s office and are related to anxiety). Personality profiles associated with essential hypertension include persons who have a general readiness to be aggressive, which they try to control, albeit unsuccessfully. The psychoanalyst Otto Fenichel observed that the increase in essential hypertension is probably connected to the mental situation of persons who have learned that aggressiveness is bad and must live in a world for which an enormous amount of aggressiveness is required. Vasovagal Syncope. Vasovagal syncope is characterized by a sudden loss of consciousness (fainting) caused by a vasodepressor response decreasing cerebral perfusion. Sympathetic autonomic activity is inhibited, and parasympathetic vagal nerve activity is augmented; the result is decreased cardiac output, decreased vascular peripheral resistance, vasodilation, and bradycardia. This reaction decreases ventricular filling, lowers the blood supply to the brain, and leads to brain hypoxia and loss of consciousness. Because patients with vasomotor syncope normally put themselves, or fall into, a prone position, the decreased cardiac output is corrected. Raising the patient’s legs also helps correct the physiological imbalance. When syncope is related to orthostatic hypotension, as an adverse effect of psychotropic medication, patients should be advised to shift slowly from a sitting to a standing position. The specific physiological triggers of vasovagal syncope have not been identified, but acutely stressful situations are known etiological factors. Respiratory System Psychological distress may become manifest in disrupted breathing, as in the tachypnea seen in anxiety disorders or sighing respirations in the depressed or anxious patient.

Disturbances of breathing can likewise perturb any sense of psychic calm, as in the terror of any asthma patient with severe airway obstruction or marked hypoxemia. Asthma. Asthma is a chronic, episodic illness characterized by extensive narrowing of the tracheobronchial tree. Symptoms include coughing, wheezing, chest tightness, and dyspnea. Nocturnal symptoms and exacerbations are common. Although patients with asthma are characterized as having excessive dependency needs, no specific personality type has been identified; however, up to 30 percent of persons with asthma meet the criteria for panic disorder or agoraphobia. The fear of dyspnea can directly trigger asthma attacks, and high levels of anxiety are associated with increased rates of hospitalization and asthma-associated mortality. Certain personality traits in patients with asthma are associated with greater use of corticosteroids and bronchodilators and longer hospitalizations than would be predicted from pulmonary function alone. These traits include intense fear, emotional lability, sensitivity to rejection, and lack of persistence in difficult situations. Family members of patients with severe asthma tend to have higher than predicted prevalence rates of mood disorders, posttraumatic stress disorder, substance use, and antisocial personality disorder. How these conditions contribute to the genesis or maintenance of asthma in an individual patient is unknown. The familial and current social environment may interact with a genetic predisposition for asthma to influence the timing and severity of the clinical picture. This interaction may be especially insidious in adolescents whose need for, and fear of, emotional separation from the family often becomes entangled in battles over medication adherence as well as other modes of diligent self-care. Hyperventilation Syndrome. Patients with hyperventilation syndrome breathe rapidly and deeply for several minutes, often unaware that they are doing so. They soon complain of feelings of suffocation, anxiety, giddiness, and lightheadedness. Tetany, palpitations, chronic pain, and

paresthesias about the mouth and in the fingers and toes are associated symptoms. Finally, syncope may occur. The symptoms are caused by an excessive loss of CO_2 resulting in respiratory alkalosis. Cerebral vasoconstriction results from low cerebral tissue PCO_2. The attack can be aborted by having patients breathe into a paper (not plastic) bag or hold their breath for as long as possible, which raises the plasma PCO_2. Another useful treatment technique is to have patients deliberately hyperventilate for 1 or 2 minutes and then describe the syndrome to them. This can also be reassuring to patients who fear they have a progressive, if not fatal, disease. Chronic Obstructive Pulmonary Disease. Chronic obstructive pulmonary disease (COPD) refers to a spectrum of disorders that are characterized by three pathophysiological aspects: (1) chronic cough and sputum production; (2) emphysema usually associated with smoking or α1-antitrypsin deficiency; and (3) inflammation, which produces fibrosis and narrowing of the airways. As for asthma, prevalence rates for panic disorder and anxiety disorders are increased among patients with COPD.

Anxiety disorders occur at rates of 16 to 34 percent, which are greater than the rate of 15 percent for the general population. Panic disorder prevalence rates among patients with COPD range from 8 to 24 percent, higher than the general prevalence of 1.5 percent. Patients with COPD can benefit from the use of inhaled sympathomimetic agents, but two points deserve emphasis. First, use of high doses can produce hypokalemia. Second, refractory symptoms can lead to the excessive use of oral α2-agonists, which have a high incidence of side effects, including tremor, anxiety, and interference with sleep. A 59-year-old female smoker with known COPD presented to the emergency room with chronic fatigue and dyspnea and an acute syndrome of depressed mood, suicidal ideation, and confusion. She lived alone and had exhausted her tank of supplemental oxygen that she only occasionally used at a low flow rate. One week earlier, to more aggressively treat the patient’s worsened sputum production, her pulmonary physician had changed the oral corticosteroid to 10 mg dexamethasone (Decadron) per day from 10 mg prednisone per day. Arterial blood gases revealed moderate hypoxemia and hypercapnia and a chronic compensated respiratory acidosis—all essentially unchanged from previous studies. On examination, the patient appeared agitated and could not specify the date, the weekday, or her physician’s name. The consulting psychiatrist considered delirium likely and ordered serum electrolytes, which yielded a blood glucose of 580 mg/dL. The psychiatrist made a diagnosis of organic mental disorder and secondary mood disturbance due to severe hyperglycemia. The change to a high-potency corticosteroid with intense glucocorticoid activity had provoked the massive rise in blood sugar and, in this elderly patient with poor oxygenation, resulted in delirium and a severe mood disturbance. The patient was admitted and treated for the hyperglycemia with intravenous (IV) saline and small doses of insulin. By the next day, her mental status had returned to normal, and the suicidal ideation and depressed mood had disappeared. (Courtesy of Michael G. Moran, M.D.) Endocrine System An understanding of endocrine disorders is important, not only because they are widespread, but also because they can produce symptoms that are indistinguishable from psychiatric illnesses. Physical manifestations of endocrine disease provide clues to the diagnosis but are not always present. The effect of endocrinopathies on psychiatric symptomatology has been studied, particularly for disorders of the thyroid and adrenal glands. Less is known about psychiatric sequelae of other endocrine disorders, such as reproductive disturbances, acromegaly, prolactin (PRL)-secreting tumors, and hyperparathyroidism.

Hyperthyroidism. Hyperthyroidism, or thyrotoxicosis, results from overproduction of thyroid hormone by the thyroid gland. The most common cause is exophthalmic goiter, also called Graves' disease (see Color Plate 13.5-1). Toxic nodular goiter causes another 10 percent of cases among middle-aged and elderly patients. Physical signs of hyperthyroidism include increased pulse, arrhythmias, elevated blood pressure, fine tremor, heat intolerance, excessive sweating, weight loss, tachycardia, menstrual irregularities, muscle weakness, and exophthalmos. Psychiatric features include nervousness, fatigue, insomnia, mood lability, and dysphoria. Speech may be pressured, and patients may exhibit a heightened activity level. Cognitive symptoms include a short attention span, impaired recent memory, and an exaggerated startle response. Patients with severe hyperthyroidism may exhibit visual hallucinations, paranoid ideation, and delirium. Although some symptoms of hyperthyroidism resemble those of a manic episode, an association between hyperthyroidism and mania has rarely been observed; however, both disorders may exist in the same patient. Treatments for Graves' disease are (1) propylthiouracil (PTU) and antithyroid drugs, (2) radioactive iodine (RAI), and (3) surgical thyroidectomy. β-Adrenergic receptor antagonists (e.g., propranolol [Inderal]) can provide symptomatic relief. Treatment of thyroid nodular goiter consists of β-adrenergic receptor antagonists and RAI. Treatment of thyroiditis consists of a brief course (a few weeks) of β-adrenergic receptor antagonists, because this condition is short-lived. For patients with psychotic symptoms, medium-potency antipsychotics are preferable to low-potency drugs, because the latter can worsen tachycardia. Tricyclic drugs should be used with caution, if at all, for the same reason. Depressed patients often respond to SSRIs. In general, the psychiatric symptoms resolve with successful treatment of the hyperthyroidism. Hypothyroidism. Hypothyroidism results from inadequate synthesis of thyroid hormone and is categorized as either overt or subclinical. In overt hypothyroidism, thyroid hormone concentrations are abnormally low, thyroid-stimulating hormone (TSH) levels are elevated, and patients are symptomatic; in subclinical hypothyroidism, patients have normal thyroid hormone concentrations but elevated TSH levels. Psychiatric symptoms of hypothyroidism include depressed mood, apathy, impaired memory, and other cognitive defects. Also, hypothyroidism can contribute to treatmentrefractory depression. A psychotic syndrome of auditory hallucinations and paranoia, myxedema madness, has been described in some patients. Urgent psychiatric treatment is necessary for patients presenting with severe psychiatric symptoms (e.g., psychosis or suicidal depression). Psychotropic agents should be given at low doses initially, because the reduced metabolic rate of patients with hypothyroidism may reduce breakdown and result in higher concentrations of medications in blood. SUBCLINICAL HYPOTHYROIDISM. Subclinical hypothyroidism can produce depressive symptoms and cognitive deficits, although they are less severe than those produced by overt hypothyroidism. The lifetime prevalence of depression in patients with subclinical hypothyroidism is approximately double that in the general population. These patients

display a lower response rate to antidepressants and a greater likelihood of responding to liothyronine (Cytomel) augmentation than euthyroid patients with depression. Diabetes Mellitus. Diabetes mellitus is a disorder of metabolism and the vascular system, manifested by disturbances in the body's handling of glucose, lipids, and protein. It results from impaired insulin secretion or action. It is also a serious long-term side effect of serotonin-dopamine antagonist drugs (SDAs) used to treat psychosis. Heredity and family history are important in the onset of diabetes; however, sudden onset is often associated with emotional stress, which disturbs the homeostatic balance in persons who are predisposed to the disorder. Psychological factors that seem significant are those provoking feelings of frustration, loneliness, and dejection. Patients with diabetes must

usually maintain some dietary control over their diabetes. When they are depressed and dejected, they often overeat or overdrink self-destructively and cause their diabetes to get out of control. This reaction is especially common in patients with juvenile, or type 1, diabetes. Terms such as oral, dependent, seeking maternal attention, and excessively passive have been applied to persons with this condition. Supportive psychotherapy helps achieve cooperation in the medical management of this complex disease. Therapists should encourage patients to lead as normal a life as possible, recognizing that they have a chronic but manageable disease. In patients with known diabetes, ketoacidosis can produce some violence and confusion. More commonly, hypoglycemia (often occurring when a patient with diabetes drinks alcohol) can produce severe anxiety states, confusion, and disturbed behavior. Inappropriate behavior caused by hypoglycemia must be distinguished from that caused by simple drunkenness. Adrenal Disorders Cushing's Syndrome. Spontaneous Cushing's syndrome results from adrenocortical hyperfunction and can develop from either excessive secretion of ACTH (which stimulates the adrenal gland to produce cortisol) or from adrenal pathology (e.g., a cortisol-producing adrenal tumor). Cushing's disease, the most common form of spontaneous Cushing's syndrome, results from excessive pituitary secretion of ACTH, usually from a pituitary adenoma. The clinical features of Cushing's disease include a characteristic "moon facies," or rounded face, from accumulation of adipose tissue around the zygomatic arch. Truncal obesity, a "buffalo hump" appearance, results from cervicodorsal adipose tissue deposition. The catabolic effects of cortisol on protein produce muscle wasting, slow wound healing, easy bruising, and thinning of the skin, leading to abdominal striae (Fig. 13.5-2). Bones become osteoporotic, sometimes resulting in pathological fractures and loss of height. Psychiatric symptoms are common and vary from severe depression to elation with or without evidence of psychotic features.

FIGURE 13.5-2 Cushing's syndrome. Legs thin owing to atrophy of thigh muscles. Some abdominal obesity with marked striae. (From Douithwaite AH, ed. Fench's Index of Differential Diagnosis. 7th ed. Baltimore: Williams & Wilkins; 1954, with permission.) The treatment of pituitary ACTH-producing tumors involves surgical resection or pituitary irradiation. Medications that antagonize cortisol production (e.g., metyrapone [Metopirone]) or suppress ACTH (e.g., serotonin antagonists such as cyproheptadine [Periactin]) are sometimes used but have met with limited success. Hypercortisolism. Psychiatric symptoms are myriad. Most patients experience fatigue and approximately 75 percent report depressed mood. Of these, approximately 60 percent experience moderate or severe depression. Depression severity does not appear to be influenced by the etiology underlying the Cushing's syndrome. Depressive symptoms occur more commonly in female patients than in male patients with Cushing's syndrome. Emotional lability, irritability, decreased libido, anxiety, and hypersensitivity to stimuli are common. Somatic symptoms and elevated neuroticism scores on the Eysenck Personality Inventory have also been reported, with significant improvement after normalization of cortisol levels. Social withdrawal may develop as a result of shame regarding one's physical appearance. Paranoia, hallucinations, and depersonalization are estimated to occur in 5 to 15 percent of cases. Cognitive changes are common, with approximately 83 percent of patients experiencing deficits in concentration and memory. The severity of these deficits correlates with plasma cortisol and ACTH levels. Manic and psychotic symptoms occur much less frequently than depression, at a rate

of approximately 3 to 8 percent of patients, but rising to as high as 40 percent in patients with adrenal carcinomas. In cases of iatrogenic hypercortisolism and adrenal carcinomas, however,

mania and psychosis may predominate. The psychiatric disturbances in prednisone-treated patients tend to appear within the first 2 weeks of treatment and occur more commonly in women than in men. The withdrawal of steroids can also produce psychiatric disturbances, particularly depression, weakness, anorexia, and arthralgia. Other steroid-induced withdrawal symptoms include emotional lability, memory impairment, and delirium. Withdrawal symptoms have been noted to persist for as long as 8 weeks after corticosteroid withdrawal. Patients presenting with mood lability or depression in association with muscle weakness, obesity, diabetes, easy bruising, cutaneous striae, acne, hypertension, and, in women, hirsutism and oligomenorrhea or amenorrhea benefit from an endocrinological evaluation. Hyperprolactinemia. Prolactin, produced by the anterior pituitary, stimulates milk production from the breast and modulates maternal behavior. Its production is inhibited by dopamine (also known as prolactin-inhibiting factor) produced by the tuberoinfundibular neurons of the arcuate nucleus of the hypothalamus. Normal concentrations (5 to 25 ng/mL in women and 5 to 15 ng/mL in men) fluctuate during the day, peaking during sleep. Exercise and emotional stress can increase prolactin concentration. Medications that block dopamine action (e.g., antipsychotics) raise prolactin concentrations up to 20 times. All antipsychotics appear equally likely to raise prolactin concentrations, with the exception of clozapine (Clozaril) and olanzapine (Zyprexa). Other medications that may increase prolactin concentrations include oral contraceptives, estrogens, tricyclic drugs, serotonergic antidepressants, and propranolol. Hypothyroidism raises prolactin concentration because thyrotropin-releasing hormone (TRH) stimulates prolactin release. Physiological hyperprolactinemia occurs in pregnant and breast-feeding women; nipple stimulation also increases prolactin concentrations. Traumatic childhood experiences, such as separation from parents or living with an alcoholic father, have been reported to predispose to hyperprolactinemia. Stressful life events are also associated with galactorrhea, even in the absence of increased prolactin concentrations. Low prolactin levels are associated with decreased libido. Hyperprolactinemia can cause sexual dysfunction, such as erectile disorder and anorgasmia. Skin Disorders Psychocutaneous disorders encompass a wide variety of dermatological diseases that may be affected by the presence of psychiatric symptoms or stress and psychiatric illnesses in which the skin is the target of disordered thinking, behavior, or perception. Although the link between stress and several dermatological disorders has been suspected for years, few well-controlled studies of treatments of dermatological

disorders have assessed whether stress reduction or treatment of psychiatric comorbidity improves their outcome. Although evidence of interactions between the nervous, immune, and endocrine systems has improved the understanding of psychocutaneous disorders, more study of these often disabling disorders and their treatment is needed. Atopic Dermatitis. Atopic dermatitis (also called atopic eczema or neurodermatitis) is a chronic skin disorder characterized by pruritus and inflammation (eczema), which often begins as an erythematous, pruritic, maculopapular eruption. Patients with atopic dermatitis tend to be more anxious and depressed than clinical and disease-free control groups. Anxiety or depression exacerbates atopic dermatitis by eliciting scratching behavior, and depressive symptoms appear to amplify the itch perception. Studies of children with atopic dermatitis found that those with behavior problems had more severe illness. In families that encouraged independence, children had less severe symptoms, whereas parental overprotectiveness reinforced scratching. Psoriasis. Psoriasis is a chronic, relapsing disease of the skin, with lesions characterized by silvery scales with a glossy, homogeneous erythema under the scales. It is difficult to control the adverse effect of psoriasis on quality of life. It can lead to stress that, in turn, can trigger more psoriasis. Patients who report that stress triggered psoriasis often

describe disease-related stress resulting from the cosmetic disfigurement and social stigma of psoriasis, rather than stressful major life events. Psoriasis-related stress may have more to do with psychosocial difficulties inherent in the interpersonal relationships of patients with psoriasis than with the severity or chronicity of psoriasis activity. Controlled studies have found that patients with psoriasis have high levels of anxiety and depression and significant comorbidity with a wide array of personality disorders including schizoid, avoidant, passive-aggressive, and obsessive-compulsive personality disorders. Patients' self-report of psoriasis severity correlated directly with depression and suicidal ideation, and comorbid depression reduced the threshold for pruritus in patients with psoriasis. Heavy alcohol consumption (more than 80 g of ethanol daily) by male patients with psoriasis may predict a poor treatment outcome. Psychogenic Excoriation. Psychogenic excoriations (also called psychogenic pruritus) are lesions caused by scratching or picking in response to an itch or other skin sensation or because of an urge to remove an irregularity on the skin from preexisting dermatoses, such as acne. Lesions are typically found in areas that the patient can easily reach (e.g., the face, upper back, and the upper and lower extremities) and are a few millimeters in diameter and weeping, crusted, or scarred, with occasional postinflammatory hypopigmentation or hyperpigmentation. The behavior in psychogenic excoriation sometimes resembles obsessive-compulsive disorder in that it is repetitive, ritualistic, and tension reducing, and patients attempt (often unsuccessfully) to resist excoriating. The skin is an important erogenous zone, and Freud believed it susceptible to unconscious sexual impulses.

Localized Pruritus PRURITUS ANI. The investigation of pruritus ani commonly yields a history of local irritation (e.g., threadworms, irritant discharge, fungal infection) or general systemic factors (e.g., nutritional deficiencies, drug intoxication). After running a conventional course, however, pruritus ani often fails to respond to therapeutic measures and acquires a life of its own, apparently perpetuated by scratching and superimposed inflammation. It is a distressing complaint that often interferes with work and social activity. Investigation of many patients with the disorder has revealed that personality deviations often precede the condition and that emotional disturbances often precipitate and maintain it. PRURITUS VULVAE. As with pruritus ani, specific physical causes, either localized or generalized, may be demonstrable in pruritus vulvae, and the presence of glaring psychopathology in no way lessens the need for adequate medical investigation. In some patients, pleasure derived from rubbing and scratching is conscious—they realize it is a symbolic form of masturbation—but more often than not, the pleasure element is repressed. Some patients may give a long history of sexual frustration, which was frequently intensified at the time of the onset of the pruritus. Hyperhidrosis. States of fear, rage, and tension can induce increased sweat secretion that appears primarily on the palms, the soles, and the axillae. The sensitivity of sweating in response to emotion serves as the basis for measurement of sweat by the galvanic skin response (an important tool of psychosomatic research), biofeedback, and the polygraph (lie detector test). Under conditions of prolonged emotional stress, excessive sweating (hyperhidrosis) can lead to secondary skin changes, rashes, blisters, and infections; therefore, hyperhidrosis may underlie several other dermatological conditions that are not primarily related to emotions. Basically, hyperhidrosis can be viewed as an anxiety phenomenon mediated by the autonomic nervous system, and it must be differentiated from drug-induced states of hyperhidrosis. Urticaria. Psychiatric factors have been implicated in the development of some types of urticaria. Most psychiatric studies have focused on chronic idiopathic urticaria. Early psychodynamic theories about urticaria have been abandoned because no association between a specific personality conflict and urticaria could be proved. Patients with chronic idiopathic urticaria are frequently

depressed and anxious, however, and women are more likely to experience significant psychiatric symptoms. Whether the psychiatric symptoms resulted from urticaria or were a contributing causal factor in its development or exacerbation is unclear, however. Controlled studies found an association between stressful life events and the onset of urticaria. Stress can lead to the secretion of such neuropeptides as vasoactive intestinal peptide and substance P, which can cause vasodilation and contribute to the development of urticarial wheals.

Musculoskeletal System The musculoskeletal disorders are a diverse group of syndromes and diseases that have the presence of muscle and joint symptoms as their common denominator. The relevance of these disorders to the psychiatrist is the consistently observed correlation with psychiatric illness. Many patients with a musculoskeletal disorder exhibit additional symptoms and signs suggesting the presence of an accompanying psychiatric disorder. These comorbid psychiatric conditions may be a result of the patient's psychological response to the loss and discomfort imposed by the disease or may be produced by the effect of the disease process on the central nervous system (CNS). Rheumatoid Arthritis. Rheumatoid arthritis is a disease characterized by chronic musculoskeletal pain arising from inflammation of the joints. The disorder's significant causative factors are hereditary, allergic, immunological, and psychological. Stress can predispose patients to rheumatoid arthritis and other autoimmune diseases by immune suppression. Depression is comorbid with rheumatoid arthritis in about 20 percent of individuals. Those who get depressed are more likely to be unmarried, have a longer duration of illness, and have a higher occurrence of medical comorbidity. Individuals with rheumatoid arthritis and depression commonly demonstrate poorer functional status, and they report more often painful joints, pronounced experience of pain, health care use, bed days, and inability to work than do patients with similar objective measures of arthritic activity without depression. Psychotropic agents may be of use in some patients. Sleep, which is often disrupted by pain, can be assisted by the combination of a nonsteroidal anti-inflammatory drug (NSAID) and trazodone (Desyrel) or mirtazapine (Remeron), with appropriate cautionary advice regarding orthostatic hypotension. Tricyclic drugs exert mild antiinflammatory effects independent of their mood-altering benefit; however, anticholinergic effects (prominent among the tricyclic drugs and also present with some serotonergic agents) can aggravate dry oral and ocular membranes in some patients with the disorder. Systemic Lupus Erythematosus. Systemic lupus erythematosus is a connective tissue disease of unclear etiology, characterized by recurrent episodes of destructive inflammation of several organs, including the skin, joints, kidneys, blood vessels, and CNS. This disorder is highly unpredictable, often incapacitating, and potentially disfiguring, and its treatment requires administration of potentially toxic drugs. The psychiatrist can assist in promoting positive interactions between patients and the program staff and ensuring a tolerant attitude on the part of these staff members. Supportive psychotherapy can help patients acquire the knowledge and maturity necessary to deal with the disorder as effectively as possible. Low Back Pain. Low back pain affects almost 15 million Americans and is one of the major reasons for days lost from work and for disability claims paid to workers by

insurance companies. Signs and symptoms vary from patient to patient, most often consisting of excruciating pain, restricted movement, paresthesias, and weakness or numbness, all of which may be accompanied by anxiety, fear, or even panic. The areas most affected are the lower lumbar, lumbosacral, and sacroiliac regions. It is often accompanied by sciatica, with pain radiating down one or both buttocks or following the distribution of the sciatic nerve. Although low back pain

can be caused by a ruptured intervertebral disk, a fracture of the back, congenital defects of the lower spine, or a ligamentous muscle strain, many instances are psychosomatic. Examining physicians should be particularly alert to patients who give a history of minor back trauma followed by severe disabling pain. Patients with low back pain often report that the pain began at a time of psychological trauma or stress, but others (perhaps 50 percent) develop pain gradually over a period of months. Patients' reaction to the pain is disproportionately emotional, with excessive anxiety and depression. Furthermore, the pain distribution rarely follows a normal neuroanatomical distribution and may vary in location and intensity. Treatment includes educating patients about the physiological component (vasospasm) and helping them understand the working of the unconscious mind and conflicts that arise from unconscious affects, especially that of rage. The patient understands that the mind is substituting physical pain for emotional pain so that the conscious mind does not have to deal with conflict. Physical activity should be resumed as quickly as possible, with treatments such as spinal manipulation and mandatory physical therapy sessions used minimally if at all. Fibromyalgia. Fibromyalgia is characterized by pain and stiffness of the soft tissues, such as muscles, ligaments, and tendons. Local areas of tenderness are referred to as "trigger points." The cervical and thoracic areas are affected most often, but the pain may be located in the arms, shoulders, low back, or legs. It is more common in women than in men. The etiology is unknown; however, it is often precipitated by stress that causes localized arterial spasm that interferes with perfusion of oxygen in the affected areas. Pain results, with associated symptoms of anxiety, fatigue, and inability to sleep because of the pain. There are no pathognomonic laboratory findings. The diagnosis is made after excluding rheumatic disease or hypothyroidism. Fibromyalgia is often present in chronic fatigue syndrome and depressive disorders. Analgesics, such as aspirin and acetaminophen, are useful for pain. Narcotics should be avoided. Some patients may respond to NSAIDs. Patients with more severe cases may respond to injections of an anesthetic (e.g., procaine) into the affected area; steroid injections are usually unwarranted. The relation between stress, spasms, and pain should be explained. Relaxation exercises and massage of the trigger points may also be of use. Antidepressants, especially sertraline (Zoloft), have shown encouraging results. Psychotherapy may be warranted for patients who are able to gain insight into the nature of the disorder and also to help them identify and deal with psychosocial stressors.

Headaches Headaches are the most common neurological symptom and one of the most common medical complaints. Every year about 80 percent of the population has at least one headache, and 10 to 20 percent go to physicians with headache as their primary complaint. Headaches are also a major cause of absenteeism from work and avoidance of social and personal activities. Most headaches are not associated with significant organic disease; many persons are susceptible to headaches at times of emotional stress. Moreover, in many psychiatric disorders, including anxiety and depressive disorders, headache is frequently a prominent symptom. Patients with headaches are often referred to psychiatrists by primary care physicians and neurologists after extensive biomedical workups, which often include magnetic resonance imaging (MRI) of the head. Most workups for common headache complaints have negative findings, and such results may be frustrating for both patient and physician. Physicians not well versed in psychological medicine may attempt to reassure such patients by telling them that they have no disease. But this reassurance may have the opposite effect—it may increase patients' anxiety and even escalate into a disagreement about whether the pain is real or imagined. Psychological stress usually exacerbates headaches, whether their primary underlying cause is physical or psychological.

Migraine (Vascular) and Cluster Headaches. Migraine (vascular) headache is a paroxysmal disorder characterized by recurrent unilateral headaches, with or without related visual and gastrointestinal disturbances (e.g., nausea, vomiting, and photophobia). They are probably caused by a functional disturbance in the cranial circulation. Migraines can be precipitated by cycling estrogen, which may account for their higher prevalence in women. Stress is also a precipitant, and many persons with migraine are overly controlled, perfectionists, and unable to suppress anger. Cluster headaches are related to migraines. They are unilateral, occur up to eight times a day, and are associated with miosis, ptosis, and diaphoresis. Migraines and cluster headaches are best treated during the prodromal period with ergotamine tartrate (Cafergot) and analgesics. Prophylactic administration of propranolol or verapamil (Isoptin) is useful when the headaches are frequent. Sumatriptan (Imitrex) is indicated for the short-term treatment of migraine and can abort attacks. SSRIs are also useful for prophylaxis. Psychotherapy to diminish the effects of conflict and stress and certain behavioral techniques (e.g., biofeedback) have been reported to be useful. Tension (Muscle Contraction) Headaches. Emotional stress is often associated with prolonged contraction of head and neck muscles, which over several hours may constrict the blood vessels and result in ischemia. A dull, aching pain, sometimes feeling like a tightening band, often begins suboccipitally and may spread over the head. The scalp may be tender to the touch and, in contrast to a migraine, the

headache is usually bilateral and not associated with prodromata, nausea, or vomiting. Tension headaches may be episodic or chronic and need to be differentiated from migraine headaches, especially with and without aura. Tension headaches are frequently associated with anxiety and depression and occur to some degree in about 80 percent of persons during periods of emotional stress. Tense, high-strung, competitive personalities are especially susceptible to the disorder. In the initial stage, persons may be treated with antianxiety agents, muscle relaxants, and massage or heat application to the head and neck; antidepressants may be prescribed when an underlying depression is present. Psychotherapy is an effective treatment for persons chronically afflicted by tension headaches. Learning to avoid or cope better with tension is the most effective long-term management approach. Biofeedback using electromyogram (EMG) feedback from the frontal or temporal muscles may help some patients. Relaxation exercises and meditation also benefit some patients. TREATMENT OF PSYCHOSOMATIC DISORDERS A major role of psychiatrists and other physicians working with patients with psychosomatic disorders is mobilizing the patient to change behavior in ways that optimize the process of healing. This may require a general change in lifestyle (e.g., taking vacations) or a more specific behavioral change (e.g., giving up smoking). Whether or not this occurs depends in large measure on the quality of the relationship between doctor and patient. Failure of the physician to establish good rapport accounts for much of the ineffectiveness in getting patients to change. Ideally, both physician and patient collaborate and decide on a course of action. At times this may resemble a negotiation in which doctor and patient discuss various options and reach a compromise about an agreed-upon goal. Stress Management and Relaxation Therapy Cognitive-behavioral therapy methods are increasingly used to help individuals better manage their responses to stressful life events. These treatment methods are based on the notion that cognitive appraisals about stressful events and the coping efforts related to these appraisals play a major role in determining stress responding. Cognitivebehavioral therapy approaches to stress management have three major aims: (1) to help individuals become more aware of their own cognitive appraisals of stressful events, (2) to educate individuals about how their appraisals of stressful events can influence negative emotional and behavioral responses and to help them reconceptualize their abilities to alter these appraisals, and (3) to teach individuals

how to develop and maintain the use of a variety of effective cognitive and behavioral stress management skills. Stress-Management Training. Five skills form the core of almost all stressmanagement programs: self-observation, cognitive restructuring, relaxation training, time management, and problem-solving.

SELF-OBSERVATION. A daily diary format is used, with patients being asked to keep a record of how they responded to challenging or stressful events that occurred each day. A particular stress (e.g., argument with spouse) may precipitate a sign or symptom (e.g., pain in the neck). COGNITIVE RESTRUCTURING. This helps participants become aware of, and change, their maladaptive thoughts, beliefs, and expectations. Patients are taught to substitute negative assumptions with positive assumptions. RELAXATION EXERCISES. Edmund Jacobson in 1938 developed a method called progressive muscle relaxation to teach relaxation without using instrumentation as is used in biofeedback. Patients were taught to relax muscle groups, such as those involved in “tension headaches.” When they encountered, and were aware of, situations that caused tension in their muscles, the patients were trained to relax. This method is a type of systematic desensitization—a type of behavior therapy. Hypnosis. Hypnosis is effective in smoking cessation and dietary change augmentation. It is used in combination with aversive imagery (e.g., cigarettes taste obnoxious). Some patients exhibit a moderately high relapse rate and may require repeated programs of hypnotic therapy (usually three to four sessions). Biofeedback. Neal Miller in 1969 published his pioneering paper “Learning of Visceral and Glandular Responses,” in which he reported that, in animals, various visceral responses regulated by the involuntary autonomic nervous system could be modified by learning operant conditioning carried out in the laboratory. This led to humans being able to learn to control certain involuntary physiological responses (called biofeedback) such as blood vessel vasoconstriction, cardiac rhythm, and heart rate. These physiological changes seem to play a significant role in the development and treatment or cure of certain psychosomatic disorders. Biofeedback and related techniques have been useful in tension headaches, migraine headaches, and Raynaud’s disease. Although biofeedback techniques initially produced encouraging results in treating essential hypertension, relaxation therapy has produced more significant long-term effects than biofeedback. TIME MANAGEMENT. Time-management methods are designed to help individuals restore a sense of balance to their lives. The first step in training in time-management skills is designed to enhance awareness of current patterns of time use. To accomplish this goal, individuals might be asked to keep a record of how they spend their time each day, noting the amount of time spent in important categories, such as work, family, exercise, or leisure activities. Alternatively, they may be asked to list the important areas in their lives and then asked to provide two time estimates: (1) the amount of time they currently spend engaging in these activities and (2) the amount of time they would like to spend engaging in these activities. Frequently, a substantial difference is seen in the time individuals would like to spend on important activities and the amount of time they actually spend on such activities. With awareness of this difference comes increased

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Revision #1
Created 2026-01-04 19:50:59 UTC by Omar Ayman
Updated 2026-01-04 19:50:59 UTC by Omar Ayman