

The Newsletter of THE AMERICAN INSTITUTE OF STRESS

Number 1, 1988

Mental Attitude and Recovery from Accidents

A recent study of more than 200 accident victims revealed that patients who brooded over how the accident happened spent much more time in the hospital than others who did not regardless of how serious the accident was. Worried individuals also had a wider range of serious complications and their wounds took longer to heal. The patient's state of mind similarly affected absenteeism from work following an accident. Medical reasons were responsible for only 17% of the length of time accident victims spent in the hospital. However, when psychological findings were taken into account, almost half of the differences could be explained. Individuals who felt that they were to blame for the accident spent an average of 30 days in the hospital as opposed to 20 days for those who didn't feel guilty. In addition, those who believed that their accident need not have happened had an average hospital stay of 30 days as opposed to 18 for those who felt they had no control over the incident. The study also found that patients who felt that they could influence their recovery process spent much less time in the hospital and returned to work much more rapidly.

ALSO INCLUDED IN THIS ISSUE

The Physician's Role in Stress Prevention	2
Video Display Terminals and Job Stress	2
Hypnosis and Stress Reduction	3
Hypertension and Suppression of Anger	3
Hospital Job Stress Increases Malpractice Risk	4
Stress, Angina, and Syndrome X	4
Emotions and Arthritis	4
Speech Characteristics and Heart Attacks	5
Post Traumatic Stress Disorder	5
Smelling Food to Reduce Stress	5
Stress Worsens Diabetes in Adolescents	6
Stress Hormone Secretion and Mood	6
The Hardy Personality and Hypertension	6
The Heart Is More Than a Pump	7
Job Stress, Suppressed Anger and Hypertension	7

Stress and AIDS

As its acronym reveals, the basic problem in AIDS is a deficiency in the immune system's ability to function properly. Since it has been well established that negative emotions can also adversely affect the immune system, it seems plausible that stress might aggravate AIDS related problems or contribute to the development of the clinical syndrome. To examine this, a five-year European study of 500 people either with AIDS or the HIV virus is now under way. The researchers are trying to determine whether or not certain psychological variables correlate with both the development of clinical illness as well as its severity and duration. The researchers postulate that HIV-positive patients may live longer when (1) they see a purpose in life (2) they see their illness as a challenge and don't simply succumb or become resigned to their fate (3) they have a strong social support system (4) they have a greater feeling of control over their illness (5) they are more optimistic and less depressed and anxious about their situation and (6) their past history suggests good coping abilities. They are also establishing a psychological treatment program to help develop such presumably helpful attributes.

"You are no more to concern yourself how the world talks of you, but how you are to talk to yourself." — Michel de Montaigne

For further information on the original source of abstracts and other reprints available on similar subjects, please send a self-addressed stamped envelope to: Reprint Division, American Institute of Stress, 124 Park Avenue, Yonkers, NY 10703.

The Newsletter of THE AMERICAN INSTITUTE OF STRESS NEWSLETTER is published monthly by The American Institute of Stress. Subscription rates: \$35.00 annually. Copyright© 1987 by The American Institute of Stress. All rights reserved.

The Newsletter of
**THE AMERICAN INSTITUTE OF
 STRESS**

Paul J. Rosch, M.D., F.A.C.P.
 Editor-in-Chief

**Contributing Editors from The Board of Trustees of
 The American Institute of Stress**

Robert Ader, Ph.D., Rochester, NY
Herbert Benson, M.D., Boston, MA
Norman Cousins, Los Angeles, CA
Michael E. DeBakey, M.D., Houston, TX
Joel Elkes, M.D., Louisville, KY
John Laragh, M.D., New York, NY
James J. Lynch, Ph.D., Baltimore, MD
Kenneth R. Pelletier, Ph.D., M.D., Berkeley, CA
Ray H. Rosenman, M.D., Menlo Park, CA
Charles F. Stroebel, Ph.D., M.D., Hartford, CT
Alvin Toffler, New York, NY
Sue Thomas, RN, Ph.D., Baltimore, MD

The Physician's Role in Stress Prevention

According to one recent report, 75% of visits to primary care physicians are for stress-related problems. These include loss of a relative or loved one, job and school stress, as well as a variety of personal problems such as alcoholism or substance abuse. Since all of these may result in serious physical and psychological impairment, family physicians who are likely to see such patients need to be more familiar with the signs and symptoms of stress. Physicians may help their patients cope better with stress by recommending some tips by the American Psychiatric Association including:

1. Maintaining good health habits by rigorous exercise, proper nutrition, and adequate sleep.
2. Managing time more effectively by setting realistic goals for projects, avoiding procrastination and last minute deadlines, and a regular reasonable working schedule with adequate time for breaks.
3. Improving work habits by identifying and dealing with sources of job stress, developing a strong social support network to discuss problems, and a realistic and positive attitude.
4. Changing personal habits to provide for leisure time, developing new interests and hobbies, and learning effective relaxation techniques.

Very often patients who present with chest pain, respiratory and digestive complaints, fatigue, or insomnia are really suffering from stress which may be unrecognized and therefore not treated unless the physician recognizes the real source of the problem.

VDTs and Job Stress

Video Display Terminal Operators who have to sit for hours doing repetitive work may be at particular risk for job stress. Often it is the nature of the work rather than the terminal itself that represents the problem, although there are some specific visual and musculoskeletal difficulties that may come with the job. These are most apt to occur in individuals over 40, especially if they do not have adequately corrected vision. Common symptoms are eye fatigue, itching, irritation, headache, and blurred vision. These may occur as a result of simply not blinking which is often required when scrolling through large documents to avoid missing material. People who wear bifocals may have a particular problem since objects are best seen when they are at chest level or below and 12 to 18 inches away. VDTs are usually at face level or higher and further away which forces the individual to hold the head at an unnatural angle for long periods of time resulting in headache, neck and shoulder pain. Another unusual problem may be the "McCullough Effect" which tends to occur after long periods of viewing a screen in which green text is displayed on a dark background. While apparently harmless, it results in a reaction which makes ordinary text look slightly pink for hours or even days. A white sheet of paper held against a white wall will appear to have a pink fringe around its edges. A curious form of facial dermatitis which begins with redness and may progress to small papules and scaling of the skin has been observed in some VDT operators. This is thought to be due to dust in the air which is deposited on the VDT user's face as a result of electrostatic forces from the screen. It can be eliminated by proper changes in the relative humidity and ventilation in the workplace area. Concerns about radiation effects, spontaneous abortion, birth defects, or increase in cataracts have not been substantiated by extensive research. Special attention to lighting and ergonomically designed furniture to improve posture and reduce strain can significantly help to prevent many of the problems experienced by VDT operators.

"Research questions function like blinders on a horse—they resist distractions and allow for focus of energy and purpose. But they (may) limit the possibilities of perception by removing much of the context in which meaning is imbedded. All is not lost if only the horse remembers to turn his head from time to time."

—W.A. Silverman

Hypnosis and Stress Reduction

Although trance-like states were apparently induced as far back as ancient Egyptian times, hypnosis was introduced into modern Western medicine by the 18th century Austrian physician, Mesmer. Like many of his colleagues, he was intrigued with the properties of magnetism and the ability to produce physical effects on objects through some distant invisible force. He believed that hypnosis was the physiological equivalent of magnetism and could cure those diseases due to a disruption in the body's flow of "animal magnetic fluid" by the use of magnets or his own body's magnetic field. Originally, he had his patients assemble around a large wooden tub grasping iron rods which protruded from its sides. Mesmer would then pass his hand over them in some dramatic fashion and allegedly the ill would fall into "convulsive" crises from which they emerged healed, like those who are "Slain in the Spirit" by faith healers. Mesmer developed a lucrative practice but was not very popular with his fellow physicians who pursued blood letting and purging as the mainstays of therapy. However, the great French neurologist, Charcot, found hypnosis to be a powerful tool for exploring the unconscious. His celebrated student, Freud, used hypnosis regularly for more than a decade before developing the technique of the "talking cure" now known as psychoanalysis.

Hypnosis therapy suffered following the rise of the School of Behaviorism in the middle of the present century and its obsession with objectively measurable parameters. However, as recent research has uncovered very close biochemical links between mental processes and physical well being, there has been a resurgence of interest in hypnosis. It has now been demonstrated that hypnosis provides more pain relief than placebos and that contrary to popular belief, hypnotizability is actually a sign of relative mental health rather than a weakness. The hypnotic trance has been described as a state of "resting alertness." Strong evidence that it is a distinct state of consciousness, physiologically as well as psychologically, comes from studies demonstrating that subjects in a trance can raise and lower their skin temperature and control blood flow. Indeed, the use of hypnosis has enabled some patients to eliminate warts, asthmatics to improve breathing and hemophiliacs to minimize or stop bleeding. Hypnosis has been employed effectively to control cigarette smoking and dietary or substance abuse by using repeated subliminal suggestions to assist in cognitive restructuring. A variety of studies now also suggest that hypnosis may help individuals control their immune system responsiveness.

Similarly, hypnosis can be helpful in managing anxieties, phobias, and other forms of stress. Anxiety and

alcoholism are the most prevalent psychological problems in the United States and they each involve elements of both psychological and physical distress. Obviously, any treatment that can produce physical relaxation while providing mental benefits should prove particularly beneficial. During the hypnotic state of resting alertness, patients develop the ability to think about stressful situations without becoming anxious. They accomplish this by learning to imagine themselves engaged in some restful activity whenever they feel an anxiety or panic attack coming on. This interrupts the feedback cycle of psychological and somatic anxiety. Often a patient's initial feeling of nervousness triggers some physical complaint such as stomach distress or headache which can intensify the emotional problem leading to a vicious cycle. Patients who have been taught under hypnosis to recognize early signs and symptoms of stress and to utilize tencousal and sympathetic tone prod can reduce their anxiety, fear, and somatic complaints so that they are much more capable of coping with otherwise disabling situations.

Suppression of Anger Associated with Hypertension

There is a wealth of literature dealing with the relationships between stress, mood, emotions, behavior and personality and the development or aggravation of hypertension and coronary heart disease. A major problem for scientists conducting research in this area is the difficulty in objectively measuring subjective phenomena. In recent years, attention has focused on hostility and cynicism as crucial vectors of cardiovascular disease but now it appears that anger and its expression may be the real culprit. Fortunately, this can be measured in an accurate and meaningful fashion largely because of Spielberger's sophisticated research in this area. In one recent study from the University of Michigan, anger, anxiety and their expression were measured in 33 borderline hypertensive students utilizing Spielberger's State-Trait Personality Inventory, Anger Expression Scale, and State Anger Reaction Scale. Eleven of these continued to show elevated blood pressures outside the clinic setting. While their anxiety levels were not appreciably different from those who were normotensive, they did demonstrate greater intensity of anger, and more importantly such feelings were largely suppressed. Such individuals are obviously at higher risk from complications related to their hypertension. Their degree of anger and inability to express it may place them in a state of increased autonomic arousal and sympathetic tone providing a pathway that predisposes to potentially perilous problems.

Job Stress Increases Hospital Malpractice Risk

A recent study of 56 Midwestern hospitals revealed that those departments with the highest stress levels were responsible for 80% of malpractice suits. More importantly, stress management programs specifically designed for those problem areas reduced malpractice claims from 1.64 per hospital in 1985 to only 0.41 in 1986. Some of the major common problems were (1) lack of support from management, co-workers, and available technology (2) a work staff that was not large enough for the assigned duties or who had impossible deadlines (3) diminished productivity because of substance abuse, theft, and failure to adhere to standard protocol (4) problems related to unrecognized deep emotional stress often manifested by workplace apathy and fatigue. Not infrequently, it was found that emotional problems or senility put physicians at particular risk for negligence or a tendency to develop problems related to alcoholism and substance abuse. In one study, psychiatric residents who were made aware of their stress patterns were able to achieve a reduction of stress levels by 74%. Interestingly enough, severe problems were least likely to occur in high-risk areas such as Emergency or Intensive Care Units despite the increased levels of external stress associated with such activities.

Stress, Angina, and Syndrome X

Significant angina is not uncommonly found in patients with apparently normal coronary arteries. About 20% of patients in a recent seven-year study of patients with angina had essentially normal coronary angiograms. Many of these patients appeared to suffer from a condition known as Syndrome X where myocardial ischemia is due to a variety of stresses that interfere with small vessel vasodilation required to meet an increased oxygen demand. Anginal pain can also result from non-coronary problems involving the chest and gastrointestinal system or as a consequence of mitral valve prolapse, cardiomyopathy, pericarditis, or ventricular enlargement. Some of these patients experience chest distress at rest with typical electrocardiographic findings but have normal treadmill stress tests. Patients with Syndrome X however show abnormal exercise treadmill responses despite normal angiograms or evidence of coronary artery spasm probably due to reduced vasodilator responses of the coronary microcirculation. Twenty-four hour electrocardiographic monitoring often reveals frequent episodes of ischemic changes during normal

daily activities which are completely unrecognized by the patient.

Unlike patients with classical obstructive disease, angina seems to occur at variable threshold levels of exercise. It has been suggested that cigarette smoking may play a role because of its ability to cause inappropriate vasoconstriction of the microvasculature. The condition is most successfully treated by the use of calcium channel antagonists which dilate smaller vessels. Beta blockers, which are usually effective in patients with angina due to fixed atherosclerotic disease, may actually be detrimental inasmuch as they may interfere with beta 2 mediated coronary vasodilation.

Emotions and Rheumatoid Arthritis

A variety of research reports suggest a strong relationship between stress, emotional and personality factors and the onset and severity of rheumatoid arthritis. Theoretical support for this comes from the observation that this disorder represents a disturbance in immune system function and the known effects of stress, emotions and other central nervous system influences on immune defenses. Scientists may find it difficult to prove such links, however, because the illness itself produces profound emotional effects. Much like the chicken and the egg, it is hard to determine which came first. In one study, 34 rheumatoid arthritis patients were evaluated utilizing the depression, hypochondriasis and hysteria scales of the Minnesota Multiphasic Personality Inventory. Their responses appeared to be a reflection of the presence and degree of activity of their arthritis rather than indicative of psychological factors that might have contributed to the cause or course of their illness. That conclusion was reached by comparing their results with an aged match control sample from the literature and a separately geographically matched group. The most marked differences were in areas that rheumatologists had previously identified as being primarily descriptive of rheumatoid arthritis disability. Of the 106 items on the three scales that were not descriptors of rheumatoid activity there was no significant difference between the arthritis patients and matched but healthy controls. When patients were classified in terms of the severity of their disease, their responses to the selected questions were found to be very reliable predictors in terms of concordance. These findings do not negate the likelihood that emotions and stress play an important role in the development or clinical status of rheumatoid disease. Rather, they do emphasize the difficulties in exploring this issue and the inability or inappropriateness of the MMPI as an instrument to identify such relationships.

Vocal Sylistics and Coronary Artery Disease

There is considerable evidence that the Type A behavior pattern as measured by the structured personal interview correlates significantly with coronary heart disease in some, but not all, studies. One possible source of discrepancy may be due to the subjective nature of the scoring procedure which includes such speech variables as response latency, duration of silent pauses, loudness, simultaneous speech interruption while the interviewer is talking, duration and speed of responses, etc. Many of these, however, can be subjected to computer analysis to provide a more objective evaluation. Another possible explanation for the difference in findings could relate to the interviewer's characteristics with respect to the manner in which the questions are asked in terms of degree of provocation or challenge. To explore this, a group of 79 patients who had been referred for coronary angiography received the structured personal interview. In half of these, the structured interview was administered in a non-provocative manner, the other in a more challenging fashion.

Assessment of Type A behavior was made by computer scoring of the responses rating frequency of simultaneous speech, judged loudness level, etc. The findings suggested that especially in younger patients, such computer scorable speech variables correlated significantly with the severity of coronary occlusion. However, it was not essential that the interview be conducted in a challenging or provocative manner since there was no significant difference as a result of the interviewer's posture. Interestingly enough, there was no significant correlation between overall Type A behavior scores and occlusive disease suggesting again the need to distinguish between global type A and Type A coronary prone behavior.

Post Traumatic Stress Disorder in the General Population

There have been numerous reports of post traumatic stress disorder in war veterans, trauma victims, and residents of communities exposed to natural disasters but relatively scant information about the prevalence of this problem in the general population. A recent survey revealed an incidence of post traumatic stress disorder in approximately 1% of the total population as contrasted with 3-1/2% in civilians exposed to

physical attacks and Vietnam veterans who were not wounded.

However, Vietnam soldiers who had been wounded had an alarming 20% incidence. Significant behavioral problems before the age of 15 proved to be a strong precursor of post traumatic stress syndrome. These included stealing, lying, truancy, vandalism, running away, fighting, misbehaving at school, very early sexual experiences, and substance abuse. Thus, although post traumatic stress does occur in the general population, it is really uncommon except for wounded Vietnam veterans. Further, symptoms in the general population are relatively minor consisting mostly of irritability, sleep problems and nightmares. Vietnam veterans were much more likely to experience a longer delay in onset, more prolonged complaints, more guilt, and greater fear or belief that their traumatic experience is recurring. Post traumatic stress disorder is also most likely to occur in those with a history of drug dependence, alcoholism, phobias, or a past history of psychiatric problems.

Smelling Food to Reduce Stress

The observation that scent can have powerful effects on mood and emotion has been known since ancient times and is well documented in early records of both Eastern and Western cultures. The use of perfumes is noted in the Bible and the ancient Greeks put aromatic substances on the wings of pigeons before releasing them on the occasion of various celebrations to create a pleasurable scent in the atmosphere. Now researchers have found that food odors produce more brain activity associated with relaxation than most other smells. In fact, just thinking about food may be as calming as some relaxation techniques that are currently used. Studies of changes in brain waves show alterations quite similar to those which result from deep breathing and slow regular breathing.

According to a recent report, "the use of food odors or food imagery has potential for becoming a good adjunct to other kinds of stress reduction techniques." An apple-spice fragrance appears to be particularly promising and induces brain and EEG pattern characteristics of a person in a relaxed but awake state with his eyes closed. These studies were performed at Yale University with the aid of an \$800,000 gift from one of the world's leading producers of fragrances. Both organizations have now applied for a joint patent involving the apple-spice fragrance because of the promising results obtained.

Stress Worsens Teenage Diabetes

Teenage diabetic females seem to have particular problems in maintaining proper diabetic control. One recent study suggests that the problem may be due to increased psychosocial stress which occurs at this period in life in comparison to male counterparts. Some 50 adolescent diabetics were studied excluding those who had diabetes for less than one year, other interfering medical problems, or a history of psychological problems or unusually severe stress levels. The subjects were evaluated in terms of their knowledge of diabetes, adherence to proper control techniques including medication and diet, and standard psychological evaluation tests for depression and anxiety. No significant sex differences were found in terms of self-care efforts with boys averaging 2.6 daily blood sugar tests compared to 2.8 for girls. However, glycosylated hemoglobin levels which reflect average blood sugar levels over a three-month period were significantly higher in females — 10.2% versus 8.7% for males.

While the averages of anxiety and depression ratings were within normal ranges for both males and females, the 16% who exhibited mild to moderate depression were all females as were the 10% of respondents who were in the moderate to high anxiety range.

Psychological Correlates of Cortisol Excretion Under Stress

Increased cortisol excretion is the hallmark of the adrenal cortical response to stress. However, a variety of studies of normal individuals during daily activities have failed to demonstrate any significant correlation between measurements of this hormone and either perceived stress, personality type, or emotional state. In one recent investigation, salivary cortisol secretion was measured in military recruits during basic training in an attempt to see if there was any correlation with mood, personality, or perceived stress. The only statistically significant link appeared related to a negative or depressed mood which was predictive of higher cortisol excretion. The researchers concluded that cortisol excretion in normal individuals under stress is greatest under situations which demand substantial psychological and behavioral adaptation due to depression arising from an inability to cope with such demands.

The Hardy Personality And Hypertension

Individuals with a "hardy" personality characteristically have a strong commitment to their work, a good feeling of control over their activities, and enjoy or respond eagerly to challenges that might overwhelm others. Some of these attributes are reminiscent of Type A behavioral traits, but such "hardy" individuals seem peculiarly resistant to ailments to which Type A's are particularly predisposed. Since it has been suggested that one of the mechanisms contributing to the relationship between Type A behavior and coronary heart disease is due to the fact that such individuals have greater blood pressure rises during stressful situations, researchers were curious as to how "hardiness" might affect this response. 68 undergraduate males were given two separate measurement evaluations for Type A behavior as well as a series of six questionnaires designed to assess hardiness. Two weeks later they were exposed to a stressful laboratory procedure during which blood pressure measurements were recorded. The experiment involved asking the students to trace a line without seeing it directly but rather by following its outline in a mirror.

Both Type As and Bs demonstrated a rise in blood pressure from this moderately stressful challenge, but those students who scored high in hardiness ratings had less of a rise in diastolic pressure than those who were low. As might be expected, Type Bs who had high hardiness ratings had the lowest elevations. As indicated previously, stress is difficult to define objectively because it differs for each of us. However, the feeling of being out of control is uniformly distressful and presumably "hardy" individuals are more resistant to stress because of their sense of control over their activities.

"When a thing was new people said, 'It is not true.' Later, when the truth became obvious, people said, 'Anyway, it is not important.' And, when its importance could not be denied, people, said, 'Anyway, it is not new.'" — William James

VIDEOCASSETTE

A Day Away from Stress—utilizes hundreds of magnificently peaceful scenes of nature against a soothing background of "New Age" music to portray the beauty of the day from sunrise to sunset. Specific instructions in stress reduction techniques including deep breathing and progressive muscular relaxation are delivered in this attractive setting promoting unusual compliance and frequent utilization. \$195.00, but money-back guarantee if not completely satisfied and well worth viewing. Contact **Audiovision**, 2 Highview Ave., Greenwich, Connecticut 06870, (203) 637-7709.

The Heart Is More Than a Pump

Over three hundred and sixty years ago, William Harvey published his famous dissertation on the circulation of the blood. Ever since then, the heart has essentially been viewed as a sophisticated pump whose regular contractions derive from intrinsic nerve impulses. Under severe stress, the central nervous system and also endocrine influences can cause a marked change in heart rate, as well as rhythm. However, even under such circumstances, the heart is still simply functioning as a physical pump. In ancient times, the heart was also viewed as the seat of emotions or temperament. Evidence of that is still apparent in the use of words and phrases such as "stout-hearted," "heart of gold," "heart sick," "broken-hearted," "heart of stone," etc. In the present decade, a variety of research has confirmed that indeed the heart could also function as an endocrine gland secreting a hormone which could help to control blood volume and pressure. That possibility had been suspected more than 50 years ago to explain the excretion of fluid which occurred as a result of sudden volume expansion. Since this response could not be explained by any other hormonal activity, this postulated new agency was referred to as the "third factor." Subsequently, microscopic studies of the atria revealed what are now recognized as secretory granules which have been shown to contain ANF or atrial natriuretic factor. The most important stimulus for secretion appears to occur when the atrium is stretched as would occur for example in heart failure when elimination of excess fluid and sodium is necessary. ANF secretory cells have now also been found in the ventricles and many of the cells of the conducting system of the heart suggesting that it may have still other effects on cardiac function related to heart rate and blood pressure. It seems likely that the heart has still other undisclosed properties and effects that may support ancient views of its not so passive link with emotions and central nervous system function. As Pascal noted "The heart has its reasons which reason does not understand."

Is There An Anxiety Hormone?

The identification of morphine binding receptor sites in the brain and the subsequent discovery of the endorphins and other naturally occurring opiates opened up a new appreciation of the body's own vast potential pharmacopoeia. It now appears that all mood altering and pain relieving drugs act by stimulating or suppressing activities at receptor sites for

neurotransmitters that are manufactured in the body. Valium appears to act by reducing activity at the recognition site for gamma-amino butyric acid (GABA), a major neurotransmitter that inhibits the activity of its target neurons. While the body's own natural valium has yet to be identified, scientists have discovered a naturally occurring protein which exerts opposing effects at the identical sites of activity of valium and other benzodiazepines. This relatively large polypeptide appears to evoke rather than suppress anxiety when administered to animals and blocks the tranquilizing effects of valium and thus has been dubbed DBI (diazepam-binding inhibitor). Because of its large size and weight (105 amino acids with a molecular weight of 11,000) researchers postulate that it may be a precursor molecule which is broken down in the brain into smaller, more active fragments, much like the relationship between beta-lipoprotein and beta-endorphin.

Indeed, a synthetic version of an 18 amino acid fragment of DBI has been shown to have biologic activity. And other naturally occurring compounds like beta carboline have been identified which inhibit activity at valium binding sites and produce anxiety states in experimental animals. Such substances are found in increased amounts in patients suffering from acute panic attacks and agitated withdrawal states. Anxiety may be a very appropriate and useful response to environmental challenges, much like the increased secretion of adrenalin which occurs under similar circumstances. Thus it is not surprising that neurohumoral mechanisms exist to produce this state. In addition, this body of research demonstrates that a single receptor site may be both stimulated as well as suppressed by various different neurotransmitters again confirming the elegant system of checks and balances that promote homeostasis and provide another glimpse into the wisdom of the body.

Job Stress, Suppressed Anger and Hypertension

Blue-collar male workers who experience occupational stress and suppress their anger have a much higher incidence of hypertension than controls with similar stress but who were able to get things off their chest. 367 men were evaluated for perceived job stress as assessed by the Job Descriptive Index and Job Environment Inventory. The Multidimensional Anger Inventory was used to measure suppression of anger. The highest incidence of hypertension was found in those who reported more job stress, uncertainty about their future, dissatisfaction with promotions and who suppressed their anger. Workers who reported low levels of job stress had the lowest incidence of hypertension, even when their anger suppression scores were relatively high.

Book Reviews • Meetings and Items of Interest

Book Reviews

Principles and Practices of Stress Management. Woolfolk R.L. and Lehrer P.M. eds. The Guilford Press, New York, 1984, 498 pp. \$40.00.

This book is a comprehensive but balanced compendium of stress management techniques. Its eclectic approach reflects the backgrounds of the editors and authors and the quality of the contributions is such that it could have been written last month. Chapters are devoted to meditation, progressive and deep relaxation and other autogenic training methodologies, yoga, biofeedback, as well as cognitive and pharmacologic approaches. While the theoretical considerations that form the underpinnings of these techniques is discussed, the emphasis is on their practical application and implementation and the results achieved. Specific case histories are particularly illustrative. The chapters are written by well-recognized authorities who have contributed to research in their respective disciplines and there is surprisingly little overlapping or annoying variation in style which often detracts from joint efforts of this sort. There is an important chapter dealing with the evaluation of experimental design in stress reduction research. The concluding 60-page chapter by the editors is particularly outstanding and discusses the vital issue of whether these techniques are interchangeable or rather have specific effects. It provides a uniquely insightful review of the pertinent literature and an invaluable and extensive bibliography. This book is essential for anyone involved in stress management training as well as those in practice.

Minding the Body, Mending the Mind. Borysenko J. Addison-Wesley, Reading, Mass., 1987, 241 pp. \$14.95.

It was not too long ago that proponents of "stress" and "psychosomatic" mechanisms as causes of illness were considered "fringy." The pendulum now has swung the other way, and the importance of mind-body relationships is not only widely accepted, but in some circles, possibly overemphasized. It is refreshing, therefore, to have a well-balanced, very readable presentation on this subject, by an individual who has been actively involved in the scientific study of this phenomenon. Largely autobiographical, the book is based on experiences at the Mind/Body Clinic, which Dr. Borysenko helped to found in 1981 at Beth Israel Hospital in Boston. The success of the Clinic is evident from its rapid growth and expansion to its present location at New England Deaconess Hospital in the Section on Behavioral Medicine directed by Dr. Herbert Benson. Recognizing the importance of mind-body relationships in the

production of symptoms or disease is easy — doing something to prevent or treat the problem is quite another story. However, that story is well told in these pages in the form of personal anecdotes or compelling familiar case histories of patients treated in the clinic. These clearly demonstrate how the Relaxation Response and an understanding of psychophysiology can be skillfully employed to teach patients how to cure themselves by learning how to avoid or minimize stress-related problems. Dr. Borysenko and her husband, Myrin, have made important contributions to our understanding of relationships between the mind and the immune system. In view of her talent in explaining scientific matters in such an attractive and easily understood manner, it is regrettable that more space was not devoted to the subject of psychoneuroimmunology. Hopefully, that will be the subject of some forthcoming sequel. This book should be required reading for all students and practitioners of behavioral medicine.

Meetings and Items of Interest

April 10: Treating the Burnout Syndrome, Minneapolis, MN. (206) 851-3943.

April 14: Psychotherapy for Mental Health Therapists, St. Louis, Mo. (314) 644-8804.

April 14-17: National Preventive Medicine - Atlanta, GA. (202) 789-2928.

April 15-16: Work and Mental Health; Holiday Inn Union Square, San Francisco. Contact: Postgraduate Programs, Department of Medicine, M979, 505 Parnassus Ave., Box 0120, UC San Francisco 94143-0120.

April 22-24: Helping People Change (Emphasis on Cognitive Therapy in treatment of depression, anxiety dealing with stress, addiction, etc. Workshops with Ellis, Meichenbaum.) San Francisco, CA. (415) 851-8411.

April 27-30: Behavioral Medicine and the Aging Population; Boston Marriott at Copley Place. Contact: Dr. Norman B. Anderson, The Society of Behavioral Medicine, P.O. Box 8530, University Station, Knoxville, Tenn. 27996.

May 14-21: Healing the Heart—Includes thorough discussion diagnosis and treatment of Type A Coronary Prone Behavior, Psychosocial Aspects of Cardiovascular Disease, (A. Friedman, J.J. Lynch & others). Boston, MA., Theoria Associates. (203) 456-6000.

May 19-21: Healing the Heart — Advances in the psychosocial treatment of coronary heart disease. Boston, Mass. (203) 456-6000.

The Newsletter of
**THE AMERICAN INSTITUTE OF
STRESS**

124 Park Ave., Yonkers, New York 10703

Non-Profit Organization
U.S. Postage
PAID
Yonkers, NY
Permit No. 400