

The Newsletter of THE AMERICAN INSTITUTE OF STRESS

Number 5

1990

Stress, Herpes and The Immune System

Sporadic outbreaks of herpes often occur in association with a variety of stresses ranging from colds, and the menstrual period to emotional upsets. This has been thought to be due to stress-related depression of immune system components responsible for resistance to viral infections. To examine this, 36 patients with recurrent herpes were followed for six months with respect to acute and chronic stressful life experiences, and measurements of mood, health behaviors and immune system performance. Subjects reporting more stressful experiences over this period had correspondingly greater significant depression of immune system function, and this was also correlated with higher levels of anxiety, depression and hostility. Depressed patients had the highest rate of recurrent herpes infections and the lowest levels of suppressor-cytotoxic (CD8+) cells. Whether other parameters of immune system function are also depressed is not clear, although salivary IGA has also been found to serve as a similar marker for stress in other studies.

Psychosomatic Medicine 51:195-208, 1989

Type A Traits Still Treacherous

A recently reported study confirms that having a hostile Type A personality "significantly increases the risk of death of men recovering from mild heart attacks." Taped interviews of over 1,000 patients were made following their heart attack and rated for Type A behavior. Those at the upper end of the scale had twice the likelihood of subsequent death from abnormal heart rhythms. It was noted that even in individuals with minimal heart disease, stressful emotions often triggered irregular rhythms and could prove fatal. Paradoxically, stress and Type A behavior did not seem to be as important a predictor of subsequent problems in those patients with the most severe evidence of heart injury. This is best explained by the fact that in such patients, other factors such as heart failure, or degree of damage to heart muscle, become a much more important determinant risk factor. According to the researchers, Type A's who were successfully taught to reduce their excessive or inappropriate behavioral responses to annoying situations, cut their anticipated mortality by 44%. The significance of this is not clear, since other studies report that following a heart attack, the rate of recurrent events in untreated Type A's is actually lower than Type B counterparts for reasons previously discussed in this Newsletter.

USA Today, 4-2-90

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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.

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

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Post Traumatic Stress Disorder Growing in Children

Post traumatic stress disorder is usually seen in adults who have been involved in catastrophic events such as the Vietnam War. Affected individuals are often severely incapacitated because of recurrent nightmares and periodic episodes of disability due to recall of prior stressful experiences. Pediatricians now report that the syndrome is often unrecognized in children, where it can result from a single incident such as a rape or school shooting or from child abuse. The major reason for this is that the diagnosis is fairly new and many physicians are not acquainted with its signs and symptoms. These include changes in cognitive skills and perception and a tendency for repetitive behaviors. When there are multiple or recurrent traumatic stresses, such as occurs in child abuse, there is a tendency for memory to become impaired, emotions become inhibited, and there are marked character changes. Single traumatic incidents do not appear to affect memory, but they can produce marked emotional changes and long-term fears. Often such post-traumatic experiences may include "ghost sightings," or imaginary stories with behavioral reenactments of these fantasies. Often these are conveyed to other children and the problem may actually become contagious. Teachers and the media can be very effective in helping prevent some of these problems once they are recognized by providing support and reassurance. In severe or chronic problems, family therapy or group therapy, individual play therapy, and occasionally intensive psychotherapy and medication may be required.

Professional Nurses' Quarterly, Spring, 1989

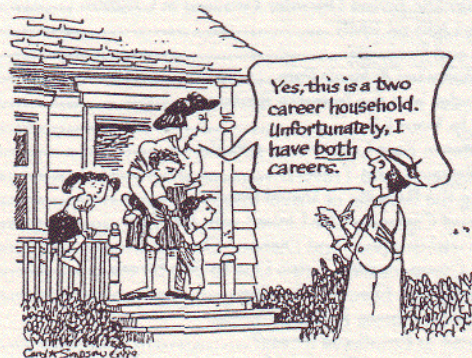
Shedding Light on PMS

As noted in a previous Newsletter, there are a variety of biological rhythms and periodically recurring symptoms which have very different cycles, but nevertheless, seem to be closely related. Most body rhythms follow a circadian or 24-hour or daily pattern. Others, like the menstrual cycle, are monthly, and some, such as seasonal affective disorder or SAD, recur over much longer periods of time. It has been observed that medications which are useful for premenstrual symptoms are beneficial in other cyclical disturbances since they affect neurotransmitter abnormalities common to both. Anti-depressant medications are often effective for seemingly unrelated complaints such as carbohydrate craving syndrome, anorexia, bulimia, premenstrual symptoms and seasonal affective disorder. In the latter situation, fatigue and depression can be markedly improved by exposing affected individuals to artificial ultraviolet light for longer periods of time during the winter months, or travel to southern locations with more winter daylight. A new report now suggests that light therapy may also be effective in premenstrual syndrome. Anxiety, irritability, and fatigue during the premenstrual week were remarkably eased when affected individuals spent roughly two hours daily exposed to eight 40 watt fluorescent bulbs. The mechanisms involved are not clear although they quite likely include influences on melatonin and serotonin levels. These findings are not too surprising since in northern areas of the world where nights can be excessively long, there is an increased incidence of seasonal depression. Similarly, it has also been reported that the menstrual cycle and premenstrual complaints vary in tropical and arctic locations.

The American Journal of Psychiatry, Vol. 146, no. 9

"One must mix the oil of faith with the water of science.

— Osler



Exercise and Immunity

Exercise appears to increase immune function activities although when carried to excess, it may produce the opposite effect, as noted previously in the Newsletter. In one study, natural killer cell activity following exercise was measured in young and elderly individuals. Immune system defenses diminish with age, although the reasons for this are not clear. It has been suggested that this might possibly be the result of reduced physical activity associated with more bed rest or immobilization. Exercise increases natural killer cell activity and other important immune components. There is a possibility that this may have some relevance to the development of certain malignancies especially of the colon and breast. These conditions are seen less frequently in individuals who tend to be more athletic. The researchers found that exercise increased natural killer cell activity in both young and old subjects although the effect lasted only 15 minutes.

The American College of Physicians, "Observer," May 1989

"The process of science is strewn, like an ancient desert trail, with the bleached skeletons of discarded theories which once seemed to possess eternal life."

— Arthur Koestler

Type A Behavior & Back Pain

Type A coronary-prone behavior includes certain traits, attitudes, deportment and activities that are generally viewed as being stressful. Since stress has been linked with a variety of complaints and disorders, such as low back pain, one might suspect that Type A's would also have an increased incidence of such problems. To explore this, 461 men, aged 19-56, were evaluated by means of a questionnaire designed to measure competitiveness, one of the hallmarks of Type A. The study group included sedentary office workers as well as physically active sheet metal workers, welders and plumbers.

Back pain was twice as frequent in sedentary employees (41%) compared to those who were physically active (21%). Of interest was the observation that back pain which radiated to the leg was more frequent in manual workers demonstrating greater competitive Type A behavior, but this association was not found in sedentary employees. It was postulated that Type A workers who engaged in manual labor would be more susceptible to physical injury. Extremely competitive workers might be expected to overexert themselves in an attempt to use all their strength, than their less zealous Type B counterparts.

Reference: Work and Stress, 3:203-207, 1989

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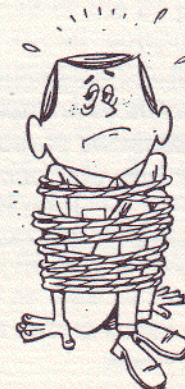
Daily Hassles and The Immune System

Some reports suggest that the stress of seemingly trivial, but daily hassles, are just as important as major life change events in producing illness. Loss of a spouse tops the list of major stresses, and the increased mortality rates in bereaved survivors may be partially explained by their frequently observed impaired immune system defenses. Do daily hassles cause illness because of similar effects on the immune system? To investigate this, medical students kept a diary of their exposure to minor, transient distressful or pleasurable incidents for four weeks and natural killer cell activity levels were also monitored since they have been shown to be lowered during a variety of stressful situations such as final exams, sleep deprivation, social isolation, bereavement, etc. In this study, there was no appreciable change in natural killer cell activity or correlation with positive or negative self-reported mood states. The significance of these findings is questionable for several reasons. The number of subjects studied (ten) was small, and they were followed for only one month, during which very few significant positive or negative minor stressful events were reported. Also, natural killer cell activity might not represent a parameter of immune system function sufficiently sensitive to detect subtle changes. In addition, none of the subjects reported any protracted or severe mood disturbances. A larger group studied over a longer period using additional markers such as salivary IGA might reach different conclusions about hassles and immune system function.

Internal Medicine News, 5:23

"Consistency requires you to be as ignorant today as you were a year ago."

— Bernard Berenson



Lighten Up Your Life

Everyone knows that plants must have light to survive. However, we tend to assume that evolution has proceeded to a point where this is no longer an essential requirement for humans. Recent studies suggest that light has important, previously unappreciated, effects on psychological and physical health. This appears particularly true in people who suffer from jet lag, certain kinds of sleep problems, night and rotating shift workers, and those who experience winter depression. The latter problem is due to the fact that there is less light during the winter months, and this affects key neurotransmitters in the brain that influence mood, resulting in the so-called seasonal affective disorder, appropriately abbreviated as SAD.

Many body processes, including sleep, temperature and hormonal activity are governed by an inborn 25-hour circadian rhythm (from the Latin "circa dies" or "about a day"). However, this is not synchronous with the 24-hour day so that individuals deprived of light or the customary cues about time of day tend to go to bed and wake up an hour later than usual. That may explain why we find it easier to lengthen our days than shorten them, and why East-West travel produces less jet lag than the opposite direction. For most individuals, it takes a day or more to adapt to each one-hour time zone crossed. It's also less stressful adjusting to standard time when we gain an hour in October, than changing back in April. However, a recent study reveals that it is possible to reset circadian rhythms simply by exposure to bright sunlight or its equivalent for five hourly sessions. Depending on the time of exposure, biological clocks can be reset as much as 12 hours forward or backward. Jet lag can be markedly improved by getting as much sunlight as possible during the first few days after a long jet trip, especially if you find that most of your activities during the day will be spent indoors. Similarly, those who suffer from the SAD syndrome are markedly improved by exposure to artificial ultraviolet light an hour before dawn and after sunset, or by traveling to a more southern location where daylight lasts longer.

Science, June 1989

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— John Kenneth Galbraith

Cities Differ in Fast Lane Heart Attacks

"Life in the fast lane" seems to be associated with an increased incidence in heart attacks. Increased speed in daily activities is one of the characteristics of Type A coronary-prone behavior and such individuals tend to talk faster, walk faster, and do several things simultaneously to save time. A recent report disclosed that "most cities where people walk, talk, and work the fastest also have the highest rates of coronary artery disease." Pedestrians, bank clerks, and postal clerks in 36 U.S. cities were monitored to see how fast they walked, talked, and performed their daily duties. Boston was first, with Buffalo, and New York placing second and third. The researchers found that this correlated precisely with heart disease rates in these cities and that the association was even greater than that reported between hostility levels and heart attacks. The only exception was Salt Lake City which was fourth on the speed list, but 31st in deaths due to heart attacks. Researchers postulate that this may be due to the large percentage of Mormons whose religion prohibits them from smoking and because of their strong social support system.

Medical World News, 11-27-89

Stress, Migraine, and Air Travel

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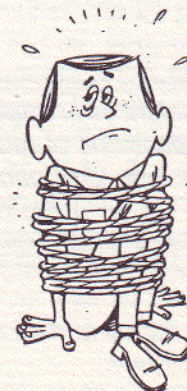
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Internal Medicine News, September 1-14, 1989

Improving the Benefits of Visual Imagery

Visual imagery can be helpful as a stress-reduction measure and is being increasingly used to improve athletic performance. Many golfers find that if they can visualize the feeling of a particularly successful shot from past experiences, the performance is apt to be repeated. Conversely, a negative mental image such as the memory or fear of missing the ball or hitting it poorly, often becomes a self-fulfilling prophecy. A recent report suggests that benefits from visual imagery are greatest if it involves an activity that has actually been previously experienced rather than imagined. Nineteen college women softball players were monitored for physiological responses as they imagined various situations. Concomitant physiological changes such as increased heart rate were observed only during the visualization of feelings which had actually been experienced in the past. It is thought that imagery activates information previously retained in long-term memory that can retrieve the response characteristics which involve a specific physical action. Such internal imagery which involves experiencing the physical action is more successful than watching the performance. In the experiment, the subjects were given four stimulus situations and asked to imagine them as vividly as possible. One involved a simple familiar physical workout; one was designed to produce anxiety, such as coming to bat in the ninth inning of a tied game; one was fearful, such as being in a crippled airplane about to crash and the last was a neutral image, just sitting in a chair in a relaxed fashion. With the exception of the last situation, all the subjects were encouraged to imagine a nervous feeling, such as palpitations or butterflies in the stomach. Heart rates increased during the first two frequent activities, but not during the more frightening airplane episode, which was not familiar. Now researchers are attempting to determine whether such physiologic changes correlate with improved performance.

The Journal of Sport & Exercise Physiology, Vol 10

Alcohol and Cigarette Use Linked with Hostility

Many believe the risk factors for coronary heart disease such as hypertension, cigarette smoking, and high cholesterol are often associated rather than causative factors. Stopping cigarettes markedly reduces the incidence of cancer of the lung and emphysema, and lowering blood pressure is effective in preventing strokes. However, neither of these, alone or together, provides much protection against heart attacks. Type A individuals under

stress tend to smoke more, have higher blood pressures, and higher cholesterol — and also more heart attacks. Some reports indicate that reducing Type A behavior lowers cholesterol levels and cigarette consumption, as well as heart attack rates. These observations suggest that in many instances the association of these risk factors with coronary heart disease is more dependent upon the fact that they are also manifestations of stress and/or Type A behavior.

It has been suggested that it is the hostility component of Type A behavior which is most closely linked with cardiovascular disease. Investigators recently reviewed data from an ongoing study of the relationship between Type A behavior and cardiovascular disease in individuals from 8 to 20. The results showed a strong link between hostility and alcohol and cigarette use in white males, but these were less consistent. It was also observed that hostility appeared to diminish from the age of 8 to 24 regardless of sex or race. However, it was not clear, whether this represented a change in hostility with increasing age or whether it reflected the fact that more hostile young students might have progressively dropped out of the study.

Internal Medicine News, January 1-14, 1990

"Specialists are people who always repeat the same mistakes."

— Walter Gropius

Stress, Social Support, and Diabetic Control

Diabetic patients who are subjected to a great deal of life stress and have a poor social support system have much more difficulty controlling their blood sugar. Forty Type 1 and forty Type 2 diabetics underwent psychiatric evaluation and completed self-report questionnaires designed to measure stress in their lives and their degree of social support. Glycosylated blood samples were also obtained which provided an index of their overall blood sugar levels during the preceding two or three months. All of the 13 patients who reported eye stress and low social support had psychiatric problems in contrast to only 12 of the 21 patients with high stress and high social support. In the high stress/poor social support group, glycosylated hemoglobin values averaged 11.8 percent compared to the high stress/high social support value of 9.9 percent. A level of 6 to 8 percent would be consistent with good diabetic control with increasing values corresponding with a worsening of the condition. This confirms the deleterious effect of stress on diabetes as well as the powerful stress buffering effect of a strong social support system.

Internal Medicine News, 9-15-89

Workers Compensation Crisis Due to Job Stress

The Wall Street Journal quotes a Connecticut official's description of workers compensation as "a system in crisis, a system that must be reformed." Premiums in that state jumped 22% in 1990 and it can take four months to settle a claim. In Maine, premiums are up 15% despite a whopping 54% rise in 1989. In Texas, the increase on January 1 was 22%, the fifth double-digit increase in four years. Medical malpractice fears may account for some of the problems since "Doctors are often reluctant to encourage employees to return to work." A major factor not mentioned is the soaring increase in claims and awards for "job stress." In 1978 this represented only 2.5% of all claims nationally, but was well over 20% a decade later and is steadily climbing. In California, stress claims rose 531% between 1980 and 1986 and premiums doubled. 75% of claims were for "job pressures." In comparison, total workers compensation claims rose less than 10% during the same period. In Los Angeles, plaintiffs' attorneys usually carry 300 or more clients and advertise in the papers "Is Your Job Making You Sick?" or "Injured or Harassed at Work? Call the Work Trauma Hot Line." One judge, who recently heard twenty-five cases in a morning session, complained that his court was "like a supermarket." Despite the fact that claims have tripled over the past twenty years the number of judges has remained constant. One was awarded workers compensation because "a heavier workload triggered a stroke." Another retired compensation judge noted "the system was well equipped to handle an injury that you see. With these fancy new theories, the system is starting to break down."

Part of the problem has been the growing recognition of the important role stress can play in many illnesses. The relationship between job stress and heart attacks is so well recognized that in New York or Los Angeles, any police officer who has a heart attack on or off the job is assumed to have a work-related disability and is compensated accordingly. That includes any incident which occurs on vacation, whether while fishing on a quiet stream or gambling in Las Vegas. As noted previously in the Newsletter, most of the problems occur in the area of so-called mental-mental claims. In California, claimants tend to be younger, there is a higher ratio of females, and the awards tend to be double those for ordinary people. As a result, stress management training has now become the leading priority for employee assistance programs in that state and appear to be cost effective. One company cut its annual workers compensation claims by two-thirds, after implementing an effective stress-reduction program.

Some states are also fighting back. In Oregon, the

courts awarded lifetime compensation to the president of a company who claimed that being involved in bankruptcy proceedings depressed him and drove him to alcoholism. In Massachusetts, a training specialist sued successfully because she had a nervous breakdown after she was notified she would be laid off and transferred to another department. Oregon now passed measures that disallow claims for stress due to "reasonable" employer actions including business transactions as well as firing, discipline and performance evaluations. Massachusetts has also enacted a series of measures that exclude stress claims based on transfers and layoffs. Much of the confusion and controversy comes from the disparity in regulations from state to state and from those who are self insured like public service and railroad employees who are governed by different rules and precedents.

Wall Street Journal, 3-13-90

"By perseverance the snail reached the ark."

— Charles Haddon Spurgeon

Stress Reduction Effects Of Smiling

Hospitals are apt to be stressful places, both for patients, staff and visitors. Much has been written about the stress-reducing benefits of positive emotions associated with such things as laughter and a strong social support system. Innovative researchers at one hospital theorized that medical personnel who were smiled at, would, in turn, smile more, and feel better and less stressed than those who did not receive this positive signal. Three hundred medical personnel were randomly assigned by the flip of a coin to one of two groups. The experimental group was rewarded by a smile as well as warm eye contact when they passed the investigator in the hall. The control group received only neutral eye contact.

87% of the staff who were greeted with smiles, smiled back, in sharp contrast to only 8% of controls. Even more interesting was the finding that in addition to smiling, 60% of the experimental group also responded with a "Hi" or some other friendly salutation. Thus, smiles tended to be contagious as did the pleasant feelings they engendered. The researchers concluded that a great deal of hospital stress could be reduced by implementing a similar program aimed not only at staff personnel, but also patients and visitors.

JAMA 262:2541, 11-10-89

"If you can't convince them, confuse them."

— Harry S. Truman

Does Physical Fitness Reduce Cardiac Response To Emotional Stress?

Most researchers would say no, but a recent report suggests otherwise. Seventy male college students with normal blood pressure were studied, forty-nine of whom had a family history of essential hypertension. A bicycle test was used to estimate aerobic fitness and heart rate and blood pressures were measured while the students performed a series of stressful mental tasks. The ten most aerobically fit students with a family history of hypertension showed the same level of cardiovascular arousal to emotional stress as those with a negative family history. However, both groups showed a lower level of arousal than did the twelve least fit men in the group with a positive family history.

Journal of Psychosomatic Research, 31:601-05, 1988

"We define genius as constructive reaction against one's training."

— Bernard Berenson

Melatonin, Insomnia, Seasonal Depression, And Jet Lag

Scientists have noted certain similarities between complaints that are related to disturbances in natural body rhythms. Patients with insomnia have disturbances in daily or circadian rhythms, others with seasonal affective disorder (SAD syndrome) are affected by seasonal changes, whereas jet lag sufferers are bothered by disruptions that occur over a period of several hours. These and other disturbances in different body rhythms appear to be mediated by similar brain neurotransmitters such as serotonin and melatonin, and often respond to similar medications, such as antidepressants which affect these chemical messengers in the brain. Increased exposure to light has also been effective presumably because of its effects on melatonin. This chemical is produced in the pineal gland deep within the brain. During darkness, it regulates body temperature and the release of hormones that influence sleep. The production of melatonin is halted in the morning as the retinal cells in the eye sense sunlight and send a stop signal to the pineal. Increased exposure to light may benefit symptoms of both jet lag, premenstrual syndrome and SAD. A new treatment approach to such problems may be Luzindole, an experimental drug, which is able to "reset" our biological clocks by blocking melatonin receptors. Some reports indicate that treatment with natural melatonin can relieve symptoms of jet lag and using drugs with a similar effect might correct poor sleep patterns in night shift workers or

in elderly people where melatonin levels are characteristically reduced. This approach also offers promise for individuals with symptoms of depression, especially during winter months when less sunlight is available.

Science News, 11-11-89

"Nothing is impossible for the man who doesn't have to do it himself."

— Simone Weil

Harry Helmsley — Stress and Competency Hearings

Harry Helmsley and his wife, Leona, have been charged with income tax fraud amounting to nearly one million dollars. She was recently convicted and is presently free on bail, pending an appeal. According to a recent *New York Times* report, he must now be examined to determine his competency to stand trial, despite the fact that his lawyers contend that such an examination might prove fatal. One physician hired by the defense had said that "without question the stress of a competency examination would be life threatening" to the 80-year-old real estate magnet who has high blood pressure. His lawyer said his condition was so grave that he could not leave his apartment unless he was being taken to the hospital by ambulance.

The prosecution pointed out that he had recently accompanied his wife by plane for a Florida vacation at a hotel they own and "he didn't take an ambulance or go to any hospital." Apparently, the judge didn't buy it either and "ordered Mr. Helmsley to see a doctor and report back to me today."

New York Times, April 24, 1990



Book Reviews • Meetings and Items of Interest

"Trauma and the Viet-Nam Generation," Author: Kulka, R.A., et al. Brunner-Mazel, New York, 1990, \$19.95.

This volume presents the findings of the five-year Vietnam Veterans Readjustment Study. The project was mandated by Congress in 1983 to examine the disturbing effects of the Vietnam War on its veterans. In 1980, the American Psychiatric Association officially adopted the term Post Traumatic Stress Disorder (PTSD) to describe a seriously disturbed psychological state resulting from exposure to an extraordinarily traumatic event. Interest was fueled by the surprisingly large number of Vietnam War veterans who fell into this category. As noted in the forward by Senator Alan Cranston, the study confirms that 829,000 of the 3.4 million veterans who served in Vietnam "are currently suffering from some degree of PTSD." 15.2 percent of male Vietnam veterans have significant manifestations of the disorder which are often disabling, and another 11 percent have symptoms that diminish their quality of life. Perhaps the most compelling aspect of this study is the revelation that some 20 years after the event, PTSD remains a major problem and the reasons for this are examined. Vietnam veterans received no heroes' welcome upon their return and relatively little appreciation or understanding. Many felt ashamed about discussing their wartime experiences and kept their feelings bottled up. In addition, improvements in modern transportation often meant return to the States within 24 hours after a traumatic battle experience, requiring need for unusually rapid readjustment. The relatively short-term experience inhibited the development of cohesive bonds between soldiers in their units so that there was comparatively little social support from within. The final chapter, entitled "A Self Guide for Vietnam Veterans," is a particularly compelling personal narrative. Useful information concerning resources available to individuals suffering from PTSD is also provided.

Meetings and Items of Interest

June 1-3, Treating the Co-dependent Emotionally Dysfunctional Patient, Big Sky, MT, David Watkins Associates (615) 672-3027.

June 3-18, Creativity and Madness Psychological Studies of Art and Artists, American Institute of Medical Education, London, Stratford, York (England), Edinburgh (Scotland), (818) 842-8818.

June 8-10, Treating the Co-dependent Emotionally Dysfunctional Patient, Jackson Hole, WY, David Watkins Associates (615) 672-3027.

June 9, Healthy Pleasures: The New Science of Mood Medicine, The Institute for the Study of Human Knowledge, New York, NY (1-800-222-4745).

June 15-16, Cardiac Wellness and Rehabilitation, San Francisco, CA, Medical Education Resources (800) 421-3756.

June 15-17, Treating the Co-dependent Emotionally Dysfunctional Patient, Hilton Head, SC, David Watkins Associates (615) 672-3027.

July 5-8, 9th Annual Role of Exercise and Nutrition in Preventive Medicine, Snowmass, CO, ISC Division of Wellness (813) 686-8934.

July 11-14, 9th Annual Role of Exercise and Nutrition in Preventive Medicine, Orlando, FL (813) 686-8934.

July 15-20, National Wellness Conference, Stevens Point, WI, National Wellness Institute (715) 346-2172.

July 16-20, Congress of the International Association for Child and Adolescent Psychiatry and Allied Professions, Kyoto, Japan (215) 566-1054.

July 16-20, A Holistic Approach to the Immune System: Nutritional, Environmental and Stress-Related Factors, Rhinebeck, NY, Omega Institute, RD2, Box 377, Rhinebeck, NY 12572, (800) 862-8890.

July 22-27, Balancing Commitments to Family and Profession, The Meninger Clinic, Crested Butte, CO. Contact Jayne Roberts (1-800) 288-7377.

July 23-27, Providing Stress Management Training to Individuals and Groups, Atlantic City, Mid-Atlantic Educational Institute, 309 North Franklin Street, West Chester, PA 19380, (215) 692-6886.

August 8-22, Humanism and Caring in Medical Care, Kenya, East Africa, Temple University School of Medicine, (215) 221-4787.

August 13-17, Family and Marital Dynamics; Advances in Treatment of Anxiety/Depressive Disorders, North Falmouth, MA, Massachusetts Mental Health Center, Harvard Medical School, (617) 743-1300.

August 16-19, Workshop on Clinical Hypnosis at Basic, Intermediate and Advanced Levels, Reno, NV, American Society of Clinical Hypnosis, (708) 297-3317.

August 20-24, Hormonal Modulation of Brain and Behavior, Buffalo, NY, International Society of Psychoneuroendocrinology, (716) 877-7965.

August 27-29, Tutorial in the Tetons: Stress and the Heart, Moran, WY, American College of Cardiology, (800) 253-4636.

August 27-31, 7th Annual Cape Cod Summer Symposia: Group Psychotherapy: Healing Through Relationships, Cape Cod, MA, New England Educational Institute, (413) 499-1489.

December 12-14, International Conference on Healthy Lifestyles, Leningrad, USSR, N. Bedrova, Korov Institute of Advanced Medical Studies, Leningrad 193015, (812) 2725206 or University at Penn, Des Moines, IA 50316, (515) 263-5582.

December 29-Jan. 1, 1991, 10th Annual Role of Exercise and Nutrition in Preventive Medicine, Breckenridge, CO, ISC Division of Wellness, (913) 686-8934.

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