Stress, Depression, Schizophrenia, and the Immune System

Stress has been thought to play a role in certain cases of depression and schizophrenia. The mechanism of action is not clear but may involve changes in brain neurotransmitter levels or their ratios. There is some suggestion that both disorders are associated with immune system abnormalities. In one report, there was an increase in antibodies against brain receptors for beta endorphins which promote a feeling of well being. There was also an increase in antibodies to somatostatin, which plays an important role in regulating the brain’s electrical activity. 20% of schizophrenics, but only 2% of controls, demonstrated an immune response against extracts from the hippocampus, a region of the brain that integrates thought processes. When schizophrenics go into remission, these changes are less prominent. It is not clear whether immune system disturbances in mental illness represent cause or effect. However, it has been suggested that a virus may set off an immune response which then ultimately causes damage to a critical area in the brain. Since stress can decrease resistance to a variety of viral infections, this could explain its possible causative role in certain cases of mental illness.

Marital Stress and Doctors

“Medicine is a jealous mistress” and that seems to be confirmed by the high rates of divorce, separation, and marital discord reported in physicians. Long working hours, increased opportunities for extramarital affairs with patients, nurses and other health professionals may contribute to the problem. According to one psychiatrist who has written a book on the subject, marital problems are apt to be greatest in physicians who marry other high-powered professionals such as lawyers and even other doctors. Frequent fights, separation and divorce are much higher in this group than in those whose spouses do not work. It is well known that physicians are often reluctant to seek assistance in resolving other social problems such as alcoholism and substance abuse because of feelings of superiority or fear of tarnishing their image. Similarly, they are apt to avoid seeking professional help when they find their marriages are in trouble either because of similar attitudes as well as guilt feelings. The author suggests “it’s important—especially for male physicians—to cultivate friends with whom they can share their feelings.” He also urges them to develop skills aimed at “keeping romance alive” which might be “as simple as remembering to say hello when they come home.”

“The measure of a man’s real character is what he would do if he knew he would never be found out.”
— Thomas Babington Macaulay

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.
Depression, Cancer, and Dopamine

As noted previously, numerous studies reveal strong links between depression and the development as well as the clinical course of cancer. Prospective studies on cancer patients reveal a higher incidence of depression preceding any signs, symptoms or clinical diagnosis of malignancy. Depression is also associated with lower levels of the brain neurotransmitter, dopamine, although whether this is cause or effect is not entirely clear. Further support for a dopamine cancer link, however, comes from an Indian study demonstrating that dopamine injections markedly reduced tumor growth in mice. Tumor size decreased by about 50% and the mean life span of the treated mice increased 40%. Other research revealed that the earlier dopamine is injected in the stage of tumor growth, the better the results. It is interesting that studies attempting to correlate personality types with neurotransmitter levels show higher dopamine ratios in novelty-seeking individuals. Individuals with high levels of curiosity have been reported to have better immune defenses. In addition, psychotherapeutic approaches for cancer patients often emphasize the development of novelty and creativity.

"The world is run not by thought, not by imagination, but by opinion." — Elizabeth Drew

Computer Therapy to Reduce Stress?

We have previously reported on interactive computer programs that attempt to simulate a session with a therapist or psychiatrist. "Confession is good for the soul" and, in many instances, some of the benefits of a therapy session may stem from the fact that some troubled individuals feel better just by having someone to talk to. “People are more willing to reveal themselves to a computer than to a human being they are meeting for the first time,” according to the editor of the journal, Computers in Psychiatry/Psychology. The computer asks leading questions to which the patient responds by striking the appropriate key which results in another series of answers or questions and so on. One example is "I feel stress in my..." with possible responses being work life, social life, emotional life, family life, school life, day-to-day life, and physical health. The employee may select up to four answers. Subsequent interactions are designed to determine the source of stress, explain the feelings and behaviors that are associated with the problem, and finally to outline a series of steps that can be taken to avoid or diminish stress and its effects. Unlike other programs, this one does not utilize voice responses and privacy and confidentiality are further insured since patients retain the disk containing their answers as well as any printouts which have been made. The program consists of ten hourly sessions, and therapists evaluate individual progress after the second, sixth, and final interview. When indicated, treatment by a human therapist may be recommended. According to the manufacturer, 80% of users require no further counseling after they have completed the program. Some psychologists and psychiatrists are concerned about this approach, pointing out that in patients with serious personality disorders like schizophrenia or severe depression, it may delay diagnosis and useful drug treatment, which could have disastrous consequences. In addition, they feel that "some human interaction is a prerequisite for effective therapy with most disorders." Nevertheless, although the program costs $10,000, the company finds it "more cost effective than using a human therapist to treat patients at an average cost of $125 an hour."

"The public will choose to believe a simple lie in preference to a complicated truth." — DeToqueville

More on the Health Effects Of Laughing

As Jonathan Swift noted, "the best doctors are Dr. Diet, Dr. Quiet, and Dr. Merry-Man." The Bible tells us that "a merry heart doeth good like a medicine," which may explain why kings and nobility often retained court jesters in their entourage. Humor therapy really took off when Norman Cousins recounted its salubrious benefits in "Anatomy of An Illness." As noted previously, a growing number of (Continued on page 3)
More on the Health Effects Of Laughing  

(Continued from page 2)

health professionals are now also trying to teach patients to "laugh their troubles away." One hospital
stocks a multimedia humor library with cartoon
books and videos. In another Mental Health Center, 
patients and staff members dress up as clowns to
perform skits. At the University of Louisville, the
distinguished psychiatrist, Dr. Joel Elkes, runs a
Health Awareness Workshop, teaching medical
students about the beneficial health effects of
"laughter, relaxation and awareness." Some hos-
pitals hold regular meetings of doctors and nurses
to discuss the use of laughter and humor in patient
care and their own lives. According to one psychi-
atrist, laughing 100-200 times a day is good exercise
and about the equivalent of 10 minutes of rowing. A
good belly laugh has been described as "internal
jogging" with powerful effects on the heart, lungs,
and various muscles in the body, following which
there is a sense of general relaxation.

An optimistic attitude also may improve health and
performance. One study of 1,100 life insurance
salesmen found that optimists outsold pessimists
by 20%. The Director of the Humor Project, a non-
profit group that serves as a clearing house on
humor, health information and laughter therapy,
notes that the Reader's Digest has been reminding
us for many years that "Laughter Is the Best
Medicine." Perhaps future doctors will be prescrib-
ing a half hour of Eddie Murphy, Candid Camera, or
the Honeymooners, along with or as a replacement
for tranquilizers and pain killers.

"Serendipity is searching for a needle in a haystack
and finding instead the farmer's daughter."
— Seymour Kety

How to De-Stress Your Job

A recent Blue Cross/Blue Shield report notes that
job stress is "considered by many experts to be the
major adult health problem today." In addition, jobs
associated with stress-related illnesses are not
necessarily high-level executive occupations. Rather,
"they are those such as assembly line workers, that
have little variation, heavy workload demands, low
satisfaction, and lack of control." Stress-related
problems range from complaints such as headache,
fatigue, anxiety, depression and insomnia to more
serious illnesses such as heart disease and possibly
even cancer. The Academy of Family Physicians
estimates that stress is responsible for two-thirds of
all visits to their membership. Often stress stems
not from major upsets such as a death in the family,
but an accumulation of minor irritating daily hassles,
many of which are job related. Suggestions for
minimizing such problems include:

- Leave plenty of time for commuting.
- Set priorities and reasonable goals. Divide tasks
into "musts" and "can wait."
- Organize time. Perform tasks at your most pro-
ductive hours.
- Deal with one stressful situation at a time.
- When you need help, ask.
- Don't expect to be perfect or to accomplish too
much in too little time.
- Focus on the task, not your ability to perform.
- Take specific steps to improve your situation.
- Share concerns with others.
- Keep a sense of humor.
- Live clean — eat well; sleep well; get plenty of
exercise (non-competitive); and avoid cig-
arettes, drugs, and excess alcohol.

"The scientific method, as far as it is a method, is nothing
more than doing one's damnedest with one's mind, no
holds barred."
— P.W. Bridgman

Hostile Lawyers and Heart Attacks

A variety of recent reports suggest that not all Type
A's are headed for heart attacks and it is primarily
those who are hostile that are at increased risk. The
latest study followed up on 118 lawyers who had
taken the MMPI personality test in law school 25
years previously. Those with higher hostility scores
were reported to have a death rate of 4.2 times
higher than those with low scores. As noted at our
recent conference (Vol. 2, No. 1), not everyone
agrees with the interpretation of these findings. All
of these studies are retrospective and based on
the so-called hostility or Hq Cook-Medley Subscale
which is derived from responses to the MMPI.
Some authorities doubt that this really measures
hostility per se as opposed to things such as
competitiveness and aggression. Furthermore, high
Ho ratings correlate with overall mortality rather
than coronary heart disease alone. Increasing evidence
suggests that anger and its expression represent
the components of Type A behavior most predictive
for future coronary events. This is supported by the
research of Eysenck and Grossarth-Maticzek who
have shown in several prospective studies that
individuals high in suppressed anger are at greatest
risk. Even more significant are the preliminary
results of intervention studies using behavioral
therapy and stress reduction approaches. Teaching
people to figuratively, and perhaps literally, get
things off their chest and to learn how to cope with
stress resulted in a significant reduction in the
anticipated rate of subsequent cardiovascular disease
when compared to matched untreated controls.
Post Traumatic Stress Disorder Adequate Defense For Murder

A veteran who received a bench warrant for menacing his ex-wife, promptly obtained a rifle and handgun and set out to find her. She was spotted driving with her new husband, and he pursued them through town, firing wildly until they took refuge at police headquarters. The veteran then was chased by a state trooper and wounded in an ensuing shoot-out. He was arrested and charged with three counts of attempted murder. During the trial, a psychologist presented the results of psychological testing and showed a videotape interview during which a number of questions were asked. These were designed to demonstrate that the defendant was suffering from post-traumatic stress disorder as a result of the killing of three Vietnamese children. The jury found the veteran not guilty by reason of mental disease and he was committed to a State psychiatric hospital.

In a curious twist, the veteran received no treatment because it was determined there that he was suffering from a personality disorder rather than post-traumatic stress. He was released after eight months to the care of a psychologist, who told him that he believed that the Veterans Administration had been negligent in discharging him without recognizing his emotional state and the need for hospitalization. Accordingly, the veteran and his ex-wife sued the government for $9.5 million. He was subsequently interviewed by two VA psychiatrists, who again diagnosed his condition as post-traumatic stress disorder and he was awarded 100% disability, although this was later reduced to a permanent 30% rating. The government denied the damage claims and the couple then filed an action under the Federal Tort Claims Act. In the United States District Court hearing, he testified that during his 4-1/2 months of duty in Vietnam as a helicopter crew chief, he had personally killed 30 Vietnamese, including the three children, and along with his crew, had probably killed hundreds more. He also testified that he received the Distinguished Flying Cross and a Bronze Star. His psychologist again showed the videotape, testifying that his patient was suffering from post-traumatic stress and thus was not responsible for his actions. Subsequent investigation revealed that the patient had never seen actual combat nor had he received the military decorations he claimed. The two psychiatrists who had approved the stress disorder diagnosis admitted that they had largely depended upon the truth of the veteran's statements. His lawyer then asserted that even if his client did not engage in combat in Vietnam and his mental condition was not related to that, the government should still be held liable for the VA's negligent treatment. However, the court ruled that the veteran did not suffer post-traumatic stress disorder and that the acts of violence committed had no relationship to his war experiences. Further, there was no patient-therapist relationship between the veteran and the VA and therefore the government agency was not guilty of any of the negligent acts charged against it.

"I thank the dear God a thousand times that he allowed me to become an atheist."
— George Christoph Lichtenberg

Did Stress Cause Ditka's Heart Attack?

The heart attack on November 2 of the Chicago Bears football coach, Mike Ditka, apparently came as a complete surprise. He had none of the five major risk factors (smoking, cholesterol, hypertension, obesity, etc.) and exercised routinely. However, it was pointed out that head coaches are under tremendous stress because of unsympathetic fans, extremely long working hours during the season, and the tremendous sums of money that hinge on win-loss records. Many head coaches get to this position because they are Type A individuals with high levels of aggression and competition and also have a strong need for order and organization. Ditka was described as intense and easily excitable. In addition, part of his normal routine was vigorous exercise consisting of lifting weights and running short sprints at 5:30 A.M. As noted previously, heart attacks and strokes are most apt to occur in the early morning hours, probably because of increased levels of stress-related hormones that quicken clotting and cause heart damage.

"It's not death I'm afraid of — it's dying."
— Montaigne

Reducing Stress in Chickens and Vivaldi

The chicken industry is big business in the United States, although it operates on a very narrow profit margin. Feed accounts for 60% of costs so that any saving in this regard could provide huge returns. Americans consume almost 14 million broilers a day and Perdue farms alone sells six million chickens daily. When you are dealing with numbers like that, the logistics of housing and feeding are overwhelming. Standard conditions include wire cages 22 inches long by 13 inches wide and 13 inches high stacked in rows. Each cage holds five chicks, some of whom are so crowded that they can barely budge and their necks are pink from hostile pecking. (Continued on page 5)
Reducing Stress in Chickens And Vivaldi

(Continued from page 4)

Unhygienic sanitary conditions due to excretions add to the stressfulness of the environment. Stressed chickens dissipate energy because of their anxiety and frequent pacing and other attempts to get out of their cages.

Now, a Cornell researcher reports that profits can be markedly increased simply by reducing chicken stress. This can be accomplished by hanging a red mitten in the cage (to remind the little chicks of Mom) and apparently playing a little Vivaldi. The music seems to reduce their natural jumpy and combative nature, making them more serene. As the avian physiologist noted, “you can see in their eyes they’re happy.” In the Cornell experiment, the stress-free environment resulted in a weight gain of only 2% over fretful birds, but that would translate into a potential saving for the industry of $60 million a year in feed alone. The chickens responded differently to various portions of Vivaldi’s Four Seasons. “In the winter segment, the birds just stayed together. In spring, the chickens, especially the little chicks, “jump and run and chase each other. Just like little birds outside.” Results obtained with other composers and musical selections have not been released. Adding certain toys such as plastic windmills, pingpong balls, key chains with bells, etc. also seem to reduce stress and distract the chicks from establishing a pecking order which causes physical injury as different contestants try to get to the top. The results of other stress-reduction strategies are being kept secret since Cornell is patenting this technique for “environmental enrichment” for chickens. It was pointed out, however, that red mittens for commercially grown chickens are not recommended because they are expensive and quickly destroyed by the chickens. An acceptable substitute has been found but was not mentioned “for competitive reasons” since “everything is in the patent process, so we don’t want to be specific.”

By subjecting individuals to too much change in too short a time, we induce disorientation and shattering stress. — Alvin Toffler

Fluctuating Blood Pressure And Behavior

Ambulatory blood pressure monitoring continues to provide additional confirmation of the strong relationship between emotional stress and hypertension. A classical example is the white coat effect when the patient’s blood pressure rises sharply in the doctor’s office or other medical setting, but remains relatively normal when measured at home. A variety of studies show that blood pressures tend to be highest while at work, and lowest during sleep or other relaxing activities such as reading. Physical activity causes significant rises but even these are greater when the patient is angry or anxious. In general, readings tend to be highest in the morning and lowest at night, but these seem to be behavioral effects rather than reflections of some underlying circadian rhythm after activity and emotional factors are considered. When workers are transferred to night shifts, these fluctuations in blood pressure persist, with the highest readings being obtained during the work period, regardless of the time of day. In hypertensive patients, the same variations are seen, although at a higher level.

Job stress (as measured by increased psychological demand with decreased decision making control) has been shown to be correlated with coronary heart disease. A recent study of 200 male workers in Manhattan revealed that those with high demand jobs over which they had little control had the highest mean blood pressure readings both at work and at home. Conversely, those with the least job stress had the lowest readings. It is not clear whether “white coat” hypertension simply reflects anxiety rather than some sort of conditioned reflex.

In one report, half of a group of young people with elevated blood pressures were so informed by letter and the other half were not. When blood pressures were remeasured, they averaged 15 millimeters higher in those who had been informed than in the control group. It was suggested that once a patient is told that his blood pressure is elevated, a conditioned reflex may result in a physiological response that leads to a “self perpetuating fallacy.”

These findings underscore the difficulty in deciding at what level office measurements of blood pressure require drug treatment. There is no good evidence to indicate that office hypertension or marked elevations of blood pressure in response to stressful situations lead to sustained hypertension.

More on Stress and Gastrointestinal Disease

As noted in prior issues of this Newsletter, stress has been incriminated as a causative or aggravating factor in a variety of gastrointestinal disorders such as peptic ulcer, irritable bowel syndrome, and ulcerative colitis. A new study from England confirms such relationships, suggesting that stress may even be associated with the development of acute appendicitis. Appendectomy patients between the ages of 17-30 were evaluated at three separate hospitals. Another study group consisted of patients aged 18-60 from three gastroenterology clinics (Continued on page 6)
More on Stress and Gastrointestinal Disease

(Continued from page 5)

ing of abdominal pain and other symptoms for which no organic basis could be identified. A third group consisted of drug overdose patients between the ages of 17-35. All three groups were rated for stressful life change events in the preceding 38 weeks. These included job changes, problems with housing, loss of close social relationships, stressful encounters with the police, etc. In comparison to matched healthy controls, all three groups reported a significantly greater degree of stress prior to seeking medical attention. In the gastroenterology clinic group, threatening long-term stresses such as marital separation, loss of a family member, or disruption of important social relationships occurred as frequently as those reported by the overdose group. Those gastroenterology clinic patients who had clear physical evidence of their disease reported significantly fewer antecedent life stress scores.

"Truth is not only violated by falsehood; it may be equally outraged by silence."

— Amiel

Best Stress Buffer for Senior Citizens Is Good Health

It has been well established that increased stress is frequently associated with poorer health, but does this represent cause or effect? A recent Florida survey of almost 700 individuals over the age of 60 suggests that "good health helps the elderly deal with stress more than does religion, the support of family and friends, or achievement of educational and occupational goals." Physical or emotional disabilities which interfere with daily activities seem to be the most important factors that lower resistance to stress. "Even if you only think you have your health, that's a pretty good sign that you will cope well with stress." The Senior Citizens were asked to rate how they coped or perceived their ability to adapt to financial problems, poor health, loss of friendships, and death of a spouse. "Those people who felt that they had control over their lives perceived themselves by far as better copers than those who felt their lives were controlled by outside events." Poor health was perceived as the greatest factor leading to loss of control. As in other studies, women appeared to adjust better to loss of a spouse than men, probably because of a lesser need to change their daily activities. Many widowers "don't even know how to cook for themselves.”

CASSETTE TAPE

Coping Tapes: A Program for Mental Fitness
by Joan Suval
Two audiocassettes, total time two hours
$22.95 (discount for bulk orders)
from
Coping Tapes, Inc.,
P.O. Box 1356, Riverdale, NY 10471
(212) 894-8170

(See review on page 8 of this Newsletter)
Stress and Post Coronary Arrhythmia and Death

A significant cause of sudden death following a heart attack is the development of fatal arrhythmias, usually ventricular fibrillation. This may be due to the disease process itself and, in some cases, is facilitated by medications such as antidepressants or diuretics, which lower serum potassium and the threshold for ventricular irritability. A variety of other influences such as caffeine and stress can also increase ventricular irritability as measured by the number and nature of premature ventricular contractions. In one recent report, 125 heart attack patients were followed with transtelephonic ECG monitoring for over a year. They were separated based on the occurrence (59) or lack (65) of evidence of premature ventricular beats and rhythm disturbances. The patients also kept a daily diary of perceived stress levels. The results indicated a direct and significant correlation between disturbances in ventricular rhythm and self-reported emotional stress. This relationship persisted even when other relevant factors such as cardiac risk, age, use of medication, etc. were taken into consideration. Although there was no discussion of possible mechanisms of action, increased sympathetic activity and adrenalin secretion would seem to be important factors. That may also explain why beta blockers, which interfere with such activities, are effective in reducing premature ventricular contractions and also increase life expectancy following a heart attack. These same researchers had previously demonstrated that increased stress was associated with greater mortality following a heart attack in post coronary patients followed over a three-year period. Those scoring highest in both life stress and social isolation had four times as many deaths as those with a relative absence of such problems.

“There's a rhythm to the universe, and chanting is plugging into that rhythm.”
— Tina Turner

It’s Stress, Not Hormones That Cause Menopausal Problems

Some women have severe change of life problems while others seem to sail through this period without any difficulty. According to one researcher, the major culprit may be the stress of shifting demands and changes in family life rather than abrupt changes in the hormonal environment. Abrupt surgical menopause is much more apt to be associated with various physical and mental problems. Almost 2,500 women born between 1926 and 1936 were interviewed at 9-month intervals. Out of almost 500 who underwent natural menopause during the study, most reported no significant increase in depression or physical problems except for occasional sleep disturbances due to hot flashes. About half consulted a physician less than once a year and their responses were different from women seen in a clinic setting who were more likely to be depressed and be treated with tranquilizers or hormones. The 108 individuals who had undergone surgical menopause were the least healthiest and had the most physical and mental complaints postoperatively. In general, health problems correlated much more with the distress of being widowed or divorced, having to care for an aged parent or ill husband, or having an adult child return home, than any temporal relationship to the period of natural menopause itself.

It was suggested that physicians should not routinely attribute symptoms of depression or other health complaints to menopause and empirically prescribe hormone replacement. Estrogens may be useful in preventing osteoporosis, cardiovascular disease, and vasomotor symptoms, but there is no good evidence to indicate that they can prevent or cure depression.

Job Related Mental Stress Without Physical Injury Is Compensable

Workmen’s Compensation was originally established to protect male workers who sustained physical injuries on the job. Although regulations vary in different states, the courts have increasingly extended this to include disability due to job-related emotional or mental injury. In one recent Louisiana court decision, a home health care nurse was required to care for patients in a particular city housing project even though another nurse had previously been killed at the same location. During a visit, she received a phone call from her employer who told her that her life had been threatened and that he was calling the police to escort her to her car. The following day, a neighbor told her husband that there had been a man with binoculars watching the nurse from a nearby roof. The claimant, who had no history of any prior mental or emotional disturbance, became extremely frightened and depressed, suffered from nightmares, and had to seek psychiatric assistance. She was unable to return to work and was, therefore, fired. She applied for Worker’s Compensation benefits and the court ruled that she was disabled because of her job-related fears.

“If people think nature is their friend, then they sure don’t need an enemy.”
— Kurt Vonnegut
Audio Cassette

Coping Tapes: A Program for Mental Fitness by Joan Suval. Two audio cassettes, total time 2 hours, $29.95 (discount for bulk orders). Coping Tapes, Inc., P.O. Box 1356, Riverdale, New York 10471, (212) 894-8170.

These tapes are designed to relieve tension, anxiety, obsessive compulsive behavior, phobic reactions, and insomnia. It is also said to be useful in improving concentration abilities. Joan Suval has been conducting stress reduction and stress management programs for over 15 years and delivers her message in a professional manner that is enhanced by a very pleasant and relaxing voice. The first side of Tape I provides an introduction to the program and an explanation of why it is apt to be efficacious. Most of the questions that one might ask have been anticipated and addressed. The second side provides a series of relaxation exercises which involve the use of breathing techniques and others to reduce muscle tension. Tapes such as this are often apt to be dull and boring but this is avoided to a considerable extent by appropriate interspersed poetry readings which promote the relaxation process. The second tape employs a "listen and repeat" technique to encourage conditioned responses that will facilitate effective stress coping strategies. The final side is sort of fun and includes selections of verses from Gilbert and Sullivan. These have been carefully chosen to provide a convenient technique to deal with disagreeing thoughts and moods and is claimed to be useful in dealing with high anxiety or phobic situations such as claustrophobia or fear of flying. An attractive accompanying booklet containing selected questions and answers from the tapes, as well as the Gilbert and Sullivan verses, is provided to facilitate the learning process. The total package is attractive and easy to listen to and should be helpful to many patients searching for low cost relief from a variety of stress-related problems and behaviors.

Book Review

Dictionary of Behavioral Assessment Techniques. Hersen, M. and Bellack, A.S. (eds.), Pergamon Press, Inc., Elmsford, N.Y., 1989, 513 pp. $95.00. This book is an extremely valuable contribution, and describes some three hundred commonly used behavioral assessment techniques. It is comprehensive, but concise, and quite up to date, including Spielberger's State-Trait Anger Scale. The source, description, purpose, psychometric characteristics and clinical use of each technique is clearly outlined, as well as its developmental background and potential future applications. A monumental task, and extremely well done. This book unfortunately does not have a Subject Index, but interested readers should have little difficulty identifying topics and assessment techniques of particular interest.

Meetings and Items of Interest

April 2-7, Biological Aspects of Non-Psychotic Disorders, World Federation of Biological Psychiatry, Jerusalem, Israel. Write to P.O. Box 983, Jerusalem 95000, Israel.


April 7-9, Behavioral Healthcare Tomorrow, Los Angeles Institute for Behavioral Healthcare, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

April 10-14, Coping with Stress and Anxiety, Temple University, School of Medicine, Sarasota, Fla. (813) 368-1286.

April 10-14, Introduction to Medical Hypnosis. The induction and utilization of hypnosis in medical practice, University of California, San Diego, La Jolla (74 hours). (619) 259-7179.

April 19-23, Association for the Advancement of Health Education, Boston, Contact Linda Moore (703) 436-5607.

April 24-28, Stress Management Workshop, McMaster University, Hamilton, Ontario, Canada, (416) 525-1940.

April 27-29, Healing the Heart: Advances in the Prevention and Treatment of Coronary Heart Disease, Boston, The National Association for the Clinical Application of Behavioral Medicine, Box 556, Mansfield Center, CT 06250, (203) 584-6000.

April 28-29, Cognitive Behavior Modification: Effective interventions with adults, children and adolescents, Dallas Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 4-6, Cognitive Behavior Modification: Effective interventions with adults, children and adolescents, Pittsburgh Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.


May 4-7, Guided imagery for Clinicians: An Intensive Training Program, Seattle, WA, Institute for the Advancement of Human Behavior, Seattle, WA. The Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 15-18, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents, Washington, D.C. Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 18-19, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents, Pittsburgh Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

June 1-3, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents, Pittsburgh, PA. Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.


June 26-Sept. 1, Tenth Cape Cod Institute (Daily morning series of lectures on Neuro-endocrinology, The Relaxation Response, Diagnosis and Treatment of Sexual Problems, Children of Divorce, Adolescents in Trouble, Clinical Hypnosis, Marital therapy, etc.) Cape Cod, MA. Contact Dr. Michael Peters, Albert Einstein College of Medicine, 1303 Beller Blvd, Bronx, NY 10461 (212) 439-3297.


Dec. 8-9, International Round Table on Smoking and Ischemia. For detailed information contact the Congress Secretariat, Tel Aviv contact Kena Ltd., P.O. Box 50006, Tel Aviv-61000.