

The Newsletter of THE AMERICAN INSTITUTE OF STRESS

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MASS HYSTERIA: DON'T BLAME IT ALL ON "STRESS"

Stress is often invoked as the explanation for symptoms that have no apparent physical cause. Not infrequently, it is used as a euphemism for unacceptable social behaviors ranging from alcoholism and substance abuse, to "temporary insanity" as a cause of violent crimes. Stressful events can also give rise to diverse hysterical reactions in susceptible individuals. The term "hysteria" was introduced by Hippocrates around 400 B.C., to describe the unexplained and often sudden appearance of a wide range of symptoms in unmarried Greek women. These included abdominal cramps, headache, muscle spasms, twitching, and even convulsions. It is derived from *hysterikos*, the Greek word for uterus. Hippocrates believed that sexual abstinence was an unnatural state, and that in affected individuals, the womb wandered about the body, continually searching for some source of satisfaction. As he wrote, *"I advise maidens who suffer from hysteria to marry as soon as possible. For if they conceive, they will be cured"*. Different symptoms developed depending upon where the frustrated uterus foraged,

and there was usually a state of generalized hyperexcitability. In certain instances, the affliction could presumably spread to other females in the immediate vicinity, resulting in an outbreak of mass hysteria.

St. Vitus' Dance

Episodes of mass hysteria were common during the Dark Ages, possibly because of the pervasive preoccupation with religiosity and righteousness, as Christianity became the unifying source of culture. Affected individuals were undoubtedly being punished for their sins, and often "possessed" by the devil or some other demon. Such beliefs still persist in many cultures, and being the victim of a "hex" or "spell", and "the devil made me do it", may be offered as an excuse for various bizarre behaviors. The St. Vitus' dance epidemics that recurred throughout Europe are a good example of the former. According to one historian, this originated as a result of an event which occurred on Christmas night in 1021, in a church-side graveyard in Germany. Allegedly, a group of pagans had assembled to mock the celebration of Christmas in a night of ribald revelry, that included sacrilegious singing, shouting, and dancing. The uproar disturbed the services of the parish priest in the adjacent church, but his numerous repeated pleadings and appeals to stop were ignored. In his anger, he placed a curse on the rowdy group, proclaiming that they should be condemned to dance continually,

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

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without any rest, for a year. According to the popular fable, they had danced themselves into the ground up to their knees, until 2 bishops, who eventually came upon the scene, took pity on them, and removed the curse. However, the experience had proved so traumatic, that many continued to suffer from trembling, spasms, and involuntary movements of their legs and arms for the rest of their lives. Their uncoordinated walking and movements were apparently reminiscent of the shaky gait of the beloved St. Vitus, who is believed to have suffered from peripheral neuropathy, hence the term St. Vitus' dance.

The Tarantella, Quakers, Shakers, Jumpers and Barkers

The curse of St. Vitus became a popular malediction for sinners, with mass outbreaks of uncontrollable dancing, jumping, and twirling, periodically popping up throughout rural areas all over Europe during the Middle Ages. Similar outbreaks of mass hysteria were ascribed to other causes. The dancing mania known as tarantism, which erupted in southern Italy, was believed to be caused by the bite of the tarantula, a poisonous spider, often found in the region. Attacks of tarantism occurred mostly in peasant women during the summer. They would suddenly begin to dance frantically and behave in a peculiar fashion, often grunting, making animal-like sounds or shouting obscenities, seemingly overcome by

uncontrollable paroxysms of convulsive twitchings and muscle spasms. Frequently, they tore off all their clothing, and would go into an ecstatic frenzy as they tried to twirl themselves into the air, or repeatedly hurl their bodies into the ground. In small villages, afflicted individuals would rush naked from their homes to wildly cavort in the streets, screaming, shrieking, and dancing in a gyrated manner to the point of exhaustion. According to some accounts, they could quickly be joined by as many as several hundred neighbors, who began to behave in a similar fashion. Sufferers were convinced that once they had been bitten, their systems were permanently poisoned, and that they would be subject to relapses for the remainder of their lives. The Tarantella, a rapid, rotating Italian dance with accompanying fast paced music, was so named because it was thought to be a remedy for tarantism.

Types of mass hysteria, sometimes referred to as "epidemic hysteria", "mass psychogenic illness", "collective stress" or "shared stress" syndrome, have been reported in every culture. Following the exile of the Huguenots to England after the revocation of religious tolerance in 1685, hysterical crowd responses were common in a variety of sects, particularly the early Quakers. Religious meetings were often marked with group ecstatic phenomena such as quaking, trembling, shouting, or even running naked, and the Shaking Quakers, or Shakers, had to flee to America. Revival meetings along the Appalachian frontier around 1800 frequently involved groups of Shakers, Jerkers, and Barkers, whose names reflect the activities of their followers. Similar phenomena were seen in Britain and Ireland, particularly during Methodist revival meetings. The Ethiopian Zar cult of Judaism, the Soufis in Persia, the Twirling Dervishes in Asia Minor, and various Oriental sects, all exhibited variations of this.

In industrialized Western society, the phenomenon is most apt to occur in schools and the workplace, or during religious gatherings. Characteristically, one or two people experience symptoms that may at times have a legitimate basis. However, these quickly spread to susceptible individuals in close proximity, who develop similar complaints that have no logical explanation. In recent years, 'curious epidemics of sudden illness in toll booth workers, and "sick building syndrome" have been attributed to stress induced mass hysteria. However, sometimes this diagnosis can backfire, particularly when subsequent sophisticated studies are able to find a logical and legitimate cause for complaints.

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The Mysterious Case of Emergency Room Mass Hysteria

A good illustration of this is provided by Emergency Room workers who collapsed at a Bakersfield, California hospital last year, claiming this was due to mysterious fumes emanating from a patient. They had failed in their efforts to save the life of a 31 year old woman dying from cancer of the cervix, who had been brought there because of chest and stomach pains. While in the Emergency Room, the patient vomited, and shortly thereafter, some of the staff who had been attending her, fainted. This was allegedly the result of inhaling ammonia-like fumes that came either from the patient, or a freshly drawn sample of her blood. Five of the six who collapsed had to be hospitalized, but physical examination and laboratory studies revealed no relevant abnormalities or possible explanation. Some 34 others in the Emergency Room were entirely unaffected. In addition, two paramedics who had been in close contact with the patient, including skin to skin contact for 15 minutes, had suffered no ill effects.

The patient subsequently went into cardiac arrest, and died. Extensive autopsy studies failed to reveal anything abnormal, although minute traces of an ammonia related compound were detected. The official cause of death was listed as kidney failure due to cervical cancer. Further inquiry revealed that such episodes were apparently not unique. Emergency Room personnel at another California hospital over 100 miles away had previously reported being overcome by fumes while treating a forty-one year old woman who had ingested a popular household insecticide. In that situation, doctors and nurses complained of unusual dizziness attributed to fumes inhaled while they were attempting to insert a breathing tube. However, examination of all these individuals, as well as nineteen other Emergency Room personnel in the area, had similarly revealed no abnormalities or explanation. In the Bakersfield incident, the State Department of Health conducted a thorough investigation, and concluded that the affected individuals had suffered a common psychological reaction to stress, and "the smell of death". While they left open the possibility that some workers might have been exposed to a poisonous substance, their summary was that "findings from our and other investigations are most compatible with an outbreak of mass sociogenic illness, perhaps triggered by an odor".

Not everyone agreed with this. One doctor became

bedridden for months after the bizarre incident, and required three knee operations to help stem the curious progressive bone degeneration that subsequently developed. She has sued for \$6 million, contending that in addition to having been poisoned, her career was now ruined because of the inference that she had an unstable personality, and was negligent in her professional duties, and that she had never been thoroughly interviewed. Her lawyer also protested, and told the media that, "Clearly, people were poisoned by something that night. This report may be based on politics or ignorance, but it's not based on science. These are all professional Emergency Room workers. They don't become hysterical because of heart attacks". A University of California psychology professor who read the report concurred, noting, "They have made a diagnosis by excluding as much as possible, and then jumping to the assumption that the cause of these illnesses is sociogenic. It's like saying 'the devil did it', when you have no other explanation".

Researchers now believe that the mysterious fumes were a lethal nerve gas created from chemicals in the dying woman's blood. The symptoms experienced by the affected workers were identical to those seen following exposure to dimethyl sulfate, which is used in chemical warfare. Although the gas is dissipated very rapidly, only a trace amount is necessary to prove lethal. Some of the staff recalled seeing an "oily sheen" on the patient's body, similar to that seen following the application of DMSO, a powerful industrial solvent widely prescribed by veterinarians for sore joints in horses. Although not approved for use in humans, it can be readily obtained, and is particularly popular in some parts of the country to reduce the pain and inflammation of arthritis and soft tissue injuries. Scientists who analyzed samples of the patient's blood, as well as the air from her sealed coffin, theorized that DMSO, through the right combination of temperature, oxygen, and reaction with blood chemicals, was converted into dimethyl sulfone. When the sample of blood was drawn and exposed to air, it would then have been transformed into dimethyl sulfate, an extremely volatile, poisonous product. This theory is supported by comments that curious crystals had been observed in the patient's blood just after the sample had been drawn, since this would be quite consistent with such a chain reaction. The investigators were also able to reduplicate this exact sequence of events in a test tube experiment, emphasizing that the process would have been accelerated and magnified by the oxygen the patient was receiving while her blood

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was being drawn. Based on these new findings, a revised report was released, which included the warning that since this resulted from a home remedy, it could occur again, and "might be a condition for more widespread concern" in other hospitals. This particular type of nerve gas is extremely lethal in minute amounts, and as the County Coroner commented, "There are some Emergency Room personnel who could be very lucky to be alive".

An apparently obvious diagnosis of hysteria can prove erroneous for many reasons. Some symptoms ascribed to stress or hysterical reactions may be due to a pathogen or disease process that cannot be identified. Incipient dementia and very tiny tumors in the frontal or parietal lobes may give rise to hysterical symptoms in their initial stages. In addition, some physical disorders may provoke a hysterical exaggeration of symptoms in patients with histrionic personalities, who nevertheless, still have some physical problem. Transient visual complaints, difficulty swallowing, and other neurological deficits, may be early manifestations of degenerative disorders that are completely undetectable. Hysterical behavior can also stem from malingering, or attempts to obtain some secondary gain. This is apt to be seen in military personnel or others, who deliberately feign symptoms to avoid something unpleasant, or for financial rewards. In any of these situations, complaints can quickly spread to susceptible and suggestive subjects who are close by. Separating the wheat from the chaff is often difficult, when several individuals suddenly present with similar symptoms that have no obvious explanation.

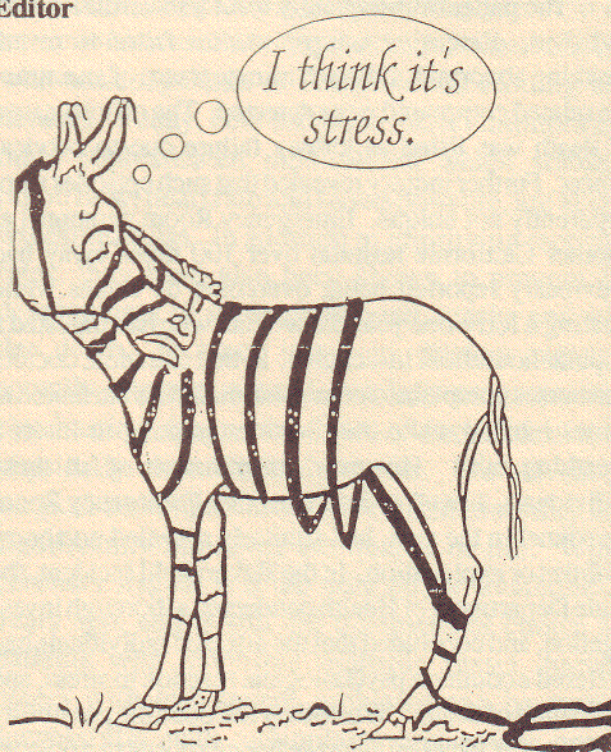
A Diagnosis of Careful Exclusion

For example, St. Vitus' dance later became the term for Sydenham's chorea, a complication of rheumatic fever seen primarily in children. Sudden involuntary muscular movements of the extremities, torso, face and tongue develop insidiously several weeks after a streptococcal infection, but tend to resolve completely. Increased stress due to excess school work or a sudden fright has also been incriminated as a precipitant, and many cases were originally thought to be hysterical or stress related. Huntington's chorea is a hereditary disorder that appears in adult life, and these jerky, muscular movements result from a progressive degeneration of the nervous system that ultimately proves fatal. A few centuries ago, individuals suffering from these disorders would have erroneously been presumed to be victims of

some spell, curse, or demonic possession. It would not have been unusual for nearby healthy individuals to temporarily develop matching manifestations, particularly if they were very religious, and fearful of being punished for some sin.

Similarly, in some recent epidemics of "sick building syndrome", offending chemicals and microorganisms have ultimately been found to provide a bona fide basis for symptoms in certain workers, but not in many others that also suddenly succumb to the same, strange sickness. Outbreaks of mass psychogenic illness will undoubtedly continue to occur. Indeed, it would not be surprising if they increased, because of growing fears about AIDS and exposure to radiation and other environmental hazards. Concluding that the cause is stress, or hysteria, is often an easy way out, but as illustrated above, may backfire with embarrassing and possibly dangerous consequences. Such verdicts should be entertained only after every possible alternative has been thoroughly excluded in each individual. The lesson to be learned is not to automatically assume it's hysteria, or "shared stress", just because no other diagnosis is immediately apparent.

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



Beware of the diagnosis of hysteria, neurosis, or neuralgia, unless organic disease can be excluded with certainty.

Rutherford Morrison

Vitamin E Reduces Coronary Rates in Senior Citizens

Several decades ago, two Canadian physicians, Wilfrid and Evan Shute, wrote extensively about how Vitamin E could provide cardiovascular and other benefits, and prevent heart attacks. They were ridiculed by the medical community, despite numerous testimonials from patients who had improved dramatically after conventional treatment failed. The late Linus Pauling was similarly derided for advocating high doses of Vitamin C. However, recent research is increasingly vindicating such claims. A presentation at the recent annual meeting of the Gerontological Society of America, reported on more than 10,000 people between the ages of 67-105, who had been followed over 9 years. Data on health status and a variety of personal habits were obtained, including the use of separate vitamin supplements, smoking, alcohol intake, etc. The researchers found that those who had been taking Vitamin E for at least 3 years before the study began, were 63% less likely to have died from a heart attack 12 years later. Senior citizens who took both Vitamin E and C during the study, had a 42% lower risk of dying from any cause, and a 53% lower risk for cardiovascular deaths. No apparent benefits were seen in those who took Vitamin C only. Unlike previous reports, there was no significant difference in cancer rates between those taking vitamins, and abstainers.

Unfortunately, data concerning the daily dosage of each vitamin, was not obtained, and this could be crucial. The cardioprotective effects of Vitamins E and C, as well as beta carotene, are thought to be due to their antioxidant properties, which neutralize free radicals responsible for cell damage. However, the amounts required for this are many times greater than the official minimal daily requirements recommended to prevent deficiency diseases. Sixty mg/day of Vitamin C is needed to prevent scurvy. Linus Pauling took more than 20 to 30 times this amount daily for years, and 1000 to 2000 mg/day is now a common dosage for many people. The minimum daily requirement for Vitamin E is only 10 mg/day, but 80 to 100 times as

much is advocated by some. In this study, it is believed that most took a maximum of 200 mg/day of Vitamin E and 250 mg/day of Vitamin C. The study could also not identify how much Vitamin E and C had been derived from dietary intake.

Given these drawbacks, the results are particularly impressive. One might suspect that they might have been even better if higher doses had been taken. Should everyone take supplemental vitamins, or can sufficient amounts be obtained by eating the proper foods? Vitamin C is high in citrus fruits, strawberries, broccoli, kale, potatoes and other fruits and vegetables. Vitamin E is abundant in nuts, certain vegetables, oils, and leafy greens. Federal guidelines recommend eating a diet containing at least 5 servings daily of fruits and vegetables that are rich in these antioxidant vitamins. However, most researchers now believe that taking antioxidant vitamin supplements provides significant additional benefits. In general, vitamins are safe, even at the markedly increased dosages noted above. Excess amounts of water soluble vitamins, like C and the B group, are excreted fairly rapidly by the kidneys. Fat soluble Vitamins, A and D, when taken in massive amounts, can cause damage to the liver and kidney because they are stored in the body, and accumulation could reach dangerous levels when taken for long periods of time. Such problems are extremely rare with Vitamin E. That does not mean that more is always better, or you can take as much as you want. Vitamin E may particularly help patients with heart disease, since in addition to being an antioxidant, it also helps to thin the blood. However, very large amounts should be taken with caution, if there is a history of bleeding due to peptic ulcer or other gastrointestinal lesions.

USA Today-November 28, 1994

Job Stress Increasing All Over the World

A new report by the London based Associates for Research Into the Science of Enjoyment, again confirms that work related problems are the leading cause of stress throughout the world. Their survey

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of 5,300 office workers in 16 countries revealed that more than half described their jobs as stressful. Financial difficulties were cited by less than a third, followed by concerns about relationships and health in only one out of five. Statistics for U.S. workers were surprisingly similar to those in other countries. Part of the problem is that although computers and new technologies make things easier to do, more is being demanded of workers by cost-cutting companies who are asking them to work harder. As the founder of the organization that sponsored the study noted, "The 90's company is a lean, mean, stressful machine". More than one out of three workers around the world said they would choose a different career if they could.

Job stress is usually not due to some specific occupation or personality type, but rather a poor person/environment fit. It is apt to be most harmful when workers perceive they have little control over their activities, but considerable responsibilities. Not being able to get things off your chest or express your feelings is another factor. Sometimes, there is little one can do to remedy such situations. However, retaining your sense of humor, having someone to share your troubles with, and good social support, are powerful stress buffers. It's not surprising therefore, that when asked with how they coped with stress, 81% put joking with colleagues at the top of the list, followed by 68% for coffee and tea breaks. One out of five resorted to smoking for relief.

Having a Heart Attack This Year?: How Times Change

Heart attacks are the leading cause of death in the United States. Of the 7 million Americans with coronary artery disease, roughly 500,000 will have a heart attack this year. However, more than 2/3 of these will be able to resume their normal activities in a fairly short period of time. Heart attack deaths are currently about half of what they were in the 1970's, because of radical changes and advances in diagnosis and treatment. A few decades ago, heart attack patients were kept on strict bed rest in an

oxygen tent for a week or more, and then gradually allowed to sit in a chair for increasing periods, and eventually walk, before being discharged after three or four weeks of hospitalization. More strenuous exercise and exertional activities such as sex were resumed very slowly over the next several weeks in a graded fashion. Return to work and normal pursuits usually took 3 to 6 months. The theory was that the heart should be kept at rest while the damage was being repaired, and that it was unwise to subject it to any unnecessary strain. We now believe that this was not in the patient's best interests, since such inactivity favors clot formation, and does little to stimulate the healing process.

Today, the average patient with an uncomplicated heart attack, or who has cardiac surgery, is up walking one or two days later. Instead of being hospitalized for 3 or 4 weeks, a stay of less than a week is not uncommon. If they pass their treadmill test with flying colors, many return to regular jobs and activities shortly thereafter, as did Mike Ditka, the Coach of the Chicago Bears. Formerly, in addition to oxygen, drugs like nitroglycerin to dilate coronary vessels were standard treatment, along with anticoagulants to reduce blood clotting tendencies. Today, beta blockers, ACE inhibitors and other sophisticated medications which stabilize blood flow, heart rate and blood pressure, are also in widespread use. In addition to improving recovery rates, they have also been shown to prevent the development of subsequent heart attacks and sudden death. In many instances, doctors can now actually interrupt a heart attack in progress, with clot busting drugs, like TPA or streptokinase, or physically clear blocked arteries. The advent of surgical techniques has also reduced mortality and significantly improved the quality of life. While coronary bypass was the only option available 20 years ago, and is still the treatment of choice for patients with extensive multiple vessel disease, others with less severe problems can be treated successfully with angioplasty and newer procedures.

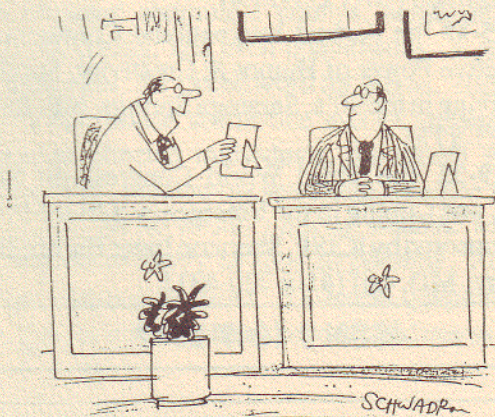
Much more attention is now being focused on efforts to lower cholesterol, stress, and smoking. Some cardiologists have their staff call patients

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repeatedly after discharge, to check on how well they are doing with respect to this, as well as instructions about diet and exercise, and believe that this helps keep 70% of their patients from cigarettes. At the recent annual meeting of the American Heart Association, a new class of cholesterol lowering drugs were reported not only to lower heart attack rates, but overall mortality as well. Greater attention is particularly being devoted to emotional factors such as stress and depression, since these have clearly been shown to increase coronary events. Stress reduction has become an increasingly important component of cardiac rehabilitation programs, along with the usual emphasis on diet and exercise. Most experts believe that resuming sexual activities, provided it does not cause chest distress, should not be discouraged. As a director of one cardiac rehabilitation program commented, "sex is certainly better for your heart than shoveling snow... but with your significant other, that's the important part. The stress of engaging with someone else - we call it the Nelson Rockefeller effect - is significantly increased".

Wall Street Journal-November 28, 1994



"Just for a change of pace, Brewer, what do you say we swap wives for the day?"

Dying From Loneliness

It has long been observed that widowed, divorced, and single individuals, die at significantly higher rates from all the leading causes of death, than married controls. Individuals from lower socio-economic groups with poorer education and financial resources are also at increased risk. That

may be due to the fact that they don't seek medical attention as often as they should, because of ignorance, or inability to pay for such services. Diminished social support may be another important factor, especially for those who are isolated, or feel lonely for other reasons. Patients who are chronically ill, but have good social networks, significantly outlive others without such support, despite economic status.

A recent Scandinavian study of 2,500 men between the ages of 42 and 60 again confirms the health rewards of strong social support. All were evaluated for general health and physical status, as well as risk factors for premature mortality, such as smoking, drinking and social activity habits. Over the course of the study period, 167 participants died. Men who reported no participation in any organization or group activities, were twice as likely to die, as those who were most involved. Those who were most dissatisfied with the quality of their personal relationships, were also almost twice as likely to die, compared to others at the opposite end of the scale. The frequency of interactions with friends did not appear to have any significant influence, suggesting that quality of relationships was more important than the quantity. This inverse relationship between mortality and degree of social involvement and satisfaction remained evident even in subjects whose health was rated as good or well above average. As in other studies, financial status was also important. Men with higher incomes were less likely to die, but on the other hand, they were also more likely to be married and involved in organizational activities. Sometimes, it may be difficult to distinguish between cause and effect. Are men who are in poorer health less likely to be financially successful, married, or become involved in social activities? Or does lack of these attributes have adverse health consequences? The answer is probably yes to both, but which comes first may be difficult to determine. It is also possible to be alone, but not lonely.

Science News-September 3, 1994

There is nothing good or bad, but thinking makes it so.

Shakespeare

Book Reviews • Meetings and Items of Interest

Book Review

Creating Healthy Work Organizations, Cooper, C.L. and Williams, S. (eds.) John Wiley & Sons, Chichester, 1994, 245 pages, \$39.95

Job stress is not only a major health and fiscal problem in the U.S., but is rapidly becoming what has been described as a "worldwide epidemic". A December 30, 1994 article in the London *Financial Times* emphasizes that job stress is increasingly being viewed in the courts as a work-related injury that is often the employer's responsibility. Citing the recent case of a senior social worker who suffered a mental breakdown from overwork, and successfully sued for £200,000, the head of the Institute of Directors policy unit emphasized "Good communications are very important between employer and employee. The worst thing to do when someone's stress threshold has been crossed is to let the situation continue, because the problem will get worse and worse". This compact volume shows employers how to avoid such pitfalls in 12 meaty chapters, which cover such issues as screening to identify workers at risk, how to develop an effective wellness program that includes mental and physical health promotion, alcohol and drug abuse counseling, establishing and maintaining effective employee assistance programs, how to do an organizational stress audit, etc. Also included are statistics on costs and cost effectiveness. Although the subject matter deals with experiences in the U.K., the practical advice offered is certainly applicable to the U.S. and other countries throughout the world. This is the first volume in the new *Wiley Series in Work, Well-Being and Stress*, which is being organized under the aegis of the senior editor. He has enjoyed a long and distinguished career in the field, and is certainly off to a fine start, based on this presentation.

Meetings and Items of Interest

March 25 Acupuncture in the Treatment of Substance Abuse and Chronic Mental Illness, Cornell University Medical College, Dept. of Psychiatry, North Shore Hospital, Manhasset, NY, call (516) 562-3051

April 2-6 Fifth International Conference on Stress Management, Stress at the Workplace: Health and Productivity, Leeuwenhorst Congress Center, Noordwijkerhout, The Netherlands, call 011-31-80-234471

April 7-10 Acupuncture Applications in Neurologic Disorders and Pain Management, Sponsored by the Univ. of Arizona College of Medicine, Scottsdale Hilton Resort and Spa, Scottsdale, AZ, call (213) 937-5514

April 8-9 State of the Art Cardiology for Today's Practitioner, Radisson Empire Hotel and St. Luke's Roosevelt Hospital Conference Center, New York, NY, call (212) 888-5595

April 13 Superhighways for Disease: Shared Determinants of Health Outcomes, Dr. Philip R. Lee, Asst. Sec. of Health, keynote speaker, Boston Park Plaza Hotel, Boston, MA (202) 775-8826

April 13-16 Fifteenth Anniversary Meeting, "Cross-Cutting Dimensions of Behavioral Medicine: Visions for the Future", Park Plaza Hotel, Boston, MA, Contact Laura Hayman (301) 251-2790

April 15-17 9th Annual International Conference on The Positive Power of Humor & Creativity, Surviving and Thriving in the 90's, Saratoga Springs, NY, for info (518) 587-8770

April 19-23 The Third World Congress on Stress, Trauma, and Coping in the Emergency Service Professions sponsored by ICISF, Sheraton Inner Harbor Hotel, Baltimore, MD, call (410) 730-4311

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