

The Newsletter of THE AMERICAN INSTITUTE OF STRESS

Number 1

1992

The Stress of Being Elderly in Japan

Japan enjoys the greatest life expectancy of any civilized nation, averaging 76 years for men and 81 for women. Roughly 11 percent of Japan's 124 million population are currently 65 or older, and this is expected to rise to 17 percent by the end of the decade, and exceed 25 percent when 2025 rolls around. Most of Japan's senior citizens live with their children or extended families, compared to less than 10 percent of aged Americans. However, this is now rapidly changing because of great sociocultural upheavals which have eroded the customary reverence and respect that elderly relatives once enjoyed. As was graphically demonstrated in Stewart Wolf's Roseto study here, this progressive disruption in social support and family ties resulted in a marked increase in cardiovascular disease, and the same phenomenon will likely surface in Japan in the next few decades.

The growing institutionalization of the aged causes feelings of loss and a sense of isolation, and for many, there is no longer any meaning in life. The shortage of nursing homes is very severe, especially in Tokyo, where 1,300 elderly people are on the waiting list to get into one 610-bed nursing home. "While waiting, many people just die" or have to be admitted to a hospital. This creates additional

difficulties, which may explain why the *average* length of hospitalization for those over the age of 70 is a staggering 95 days in Japan, compared to only 8.5 in the United States. There are other important economics and health insurance repercussions. Because of time constraints and reimbursement policies, physicians tend to prescribe drugs liberally rather than investigate the psychosocial stresses which are responsible for many elderly patients' complaints. One psychiatrist who heads a nursing home facility recently reported on 243 patients who had been admitted with a diagnosis of senile dementia. They had been on tranquilizers, sedatives, hypnotics and antidepressants, and often combinations of these. In most cases, their symptoms improved dramatically or disappeared when these medications were discontinued. It has recently been suggested that in 40 percent of elderly patients in Japan suspected of having senile dementia, their symptoms are due to or aggravated by inappropriate or excessive medication.

Another problem associated with the increased sick, elderly population is the severe amount of stress it imposes on family caregivers. There are superimposed economic stresses, as family savings and nest eggs are depleted. This tends to reduce bank deposit savings and funds that would otherwise be available for industrial investment in factories, equipment, and other important stimuli for the economy. The problems caused by this large and growing aged population, and their associated health and social difficulties, have spawned (continued on page 2)

ALSO INCLUDED IN THIS ISSUE

More on Repetitive Stress Injuries	2
Exercise Reduces Risk of Diabetes	2
Foie Gras, Red Wine, Stress, and Heart Attacks.....	3
Stress and the Cuddling Hormone	3
The Stress Reduction Effects of Music	4
Stress, Graves Disease and President Bush	4
Stress in Children.....	5
More on the Drinking Man's Diet.....	5
Vending Machine Mania	6
Can Sharks Provide a Cancer Cure?	6
Olive Oil, Red Wine and Heart Attacks	6
Hopelessness and Heart Attacks	7
Car for Commuter Stress	7

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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The Stress of Being Elderly in Japan (continued from page 1)

a variety of entrepreneurial ventures eager to cash in on services geared to the elderly. A joint U.S.-Japanese venture to develop retirement centers in Japan estimates that within 10 years there will be a market of about 1 million people too well off to qualify for public facilities, and in dire need of private retirement communities and nursing homes.

U.S. News and World Report, 9-30-91

"Nothing is so dangerous as being too modern; one is apt to grow old-fashioned quite suddenly."

Oscar Wilde

More on Repetitive Stress Injuries

Repetitive stress injuries represent the fastest growing segment of workers' compensation claims for job stress. They are manifested by complaints of soreness and tenderness of the wrists and fingers due to repetitive trauma, especially in computer operators, whose performance may be unknowingly monitored by superiors. Carpal tunnel syndrome is characterized by numbness and weakness of the hand due to prolonged pressure on the palm from keeping the wrist in a cocked position from constant typing. In addition to job stress, repetitive motion injuries are seen in various sports, particularly in novices who are overenthusiastic and repeat the same task excessively and improperly. Tennis elbow and a variety of runner's injuries fall into this category, as well as foot complaints in zealous joggers with inappropriate foot gear. Tendonitis of the wrist is not uncommonly seen in inexper-

iened free weight lifters. De Quervain's Syndrome is a very painful tendonitis of the thumb tendon at the wrist. It may occur in mountain bikers who repeatedly have to shift gears, or grandmothers who suddenly have duties that involve lifting children.

Such soft tissue injuries often respond to anti-inflammatory drugs and rest, but occasionally, as in the case of carpal tunnel syndrome, may require surgery. However, they can be difficult or impossible to cure if treatment is delayed for more than a few weeks. Many employees may tend to disregard the early warning signs of repetitive motion injuries of the wrists and hands, and consequently delay seeking treatment until it is too late to achieve optimal results.

Honolulu Star Bulletin and Advertiser, 10-27-91

"Skepticism is the chastity of the mind. Do not surrender it to the first comer."

Santayana

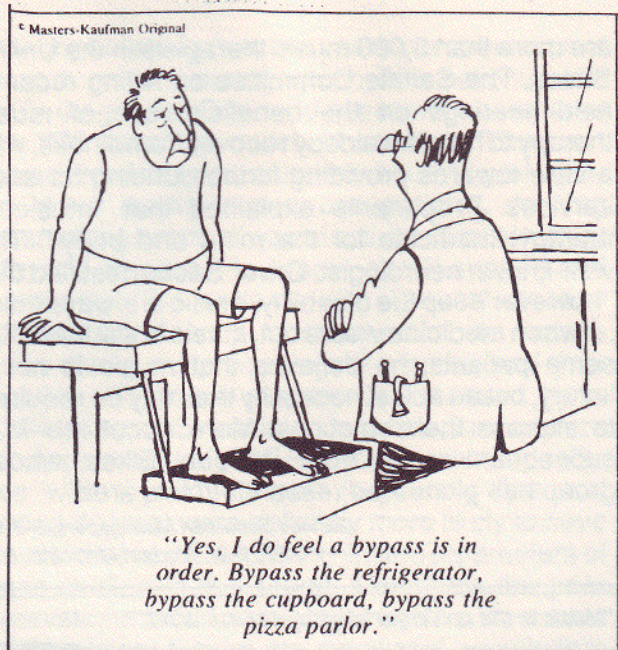
Exercise Reduces Risk Of Diabetes

Diabetes is usually separated into two categories. Insulin dependent, or childhood diabetes, usually occurs relatively early in life, and is associated with a strong family history, and greater cardiovascular, kidney, and eye complications. Non-insulin dependent, maturity diabetes, tends to occur later in life, is often due to obesity, and can usually be controlled with diet and/or drugs. A variety of factors can influence blood sugar levels, including dietary intake, physical activity, and emotional stress.

A recent study of almost 90 thousand women between the ages 34 to 59 was designed to determine whether regular exercise could reduce the incidence of maturity onset diabetes. None of the participants had evidence of diabetes or cardiovascular problems. The researchers found that women who exercised vigorously at least once a week were indeed 33 percent less likely to develop diabetes. Vigorous exercise was defined as any physical activity such as jogging, walking or biking sufficient to produce perspiration.

Several mechanisms may account for these beneficial effects. Exercise helps to reduce weight, and obesity can be an important factor. However, the vast majority of exercisers were lean, and even those who did not lose weight still had a 16 percent lower risk of diabetes. It has also been observed that regular exercise, like jogging, provides an effective form of stress reduction for many individuals. Exercise may thus provide benefits both by burning up calories, as well as reducing stress-related hormones that elevate blood sugar.

The Sunday Star Bulletin Adviser, Honolulu, HI, 10-27-91



Foie Gras, Red Wine Stress, and Heart Attacks

The French seem to enjoy life more than the Americans or British. We tend to eat to live, whereas they seem to live to eat, drink, smoke, and engage in other hedonistic pursuits. That is why "gourmet" and "gourmand" are terms used all over the world to describe people preoccupied with food. In the Gascon region of Southwest France, "goose and duck fat are slathered on bread instead of butter, people snack on fried duck skin, eat twice as much foie gras as the rest of France, and fifty times as much as Americans." A ten-year retrospective survey recently revealed that their inhabitants have the highest saturated fat intake in the industrialized world. Paradoxically, they also enjoy the lowest death rate from heart attacks in all of France.

Approximately 315 out of every 100,000 middle-aged men in the U.S. die of heart attacks each year, compared to 145 in France, despite their higher rates of smoking and dietary indiscretion. However, the figure drops to 80 in Toulouse and the surrounding Gascon area. The explanation for this has been the subject of intense investigation and considerable controversy. It has been noted that goose and duck fat are closer in their chemical composition to olive oil, than presumably unhealthier saturated fats like butter or lard. The French also consume large amounts of cheese, and some of the chemicals developed during the fermentation bind process actually bind calcium. Consequently, it is not absorbed into the blood stream, unlike the calcium contained in milk.

Another factor favoring the French may be their increased consumption of red wine in France. Moderate alcohol intake has been found to be associated with decreased risk for coronary heart

disease in numerous studies. Red wine, in particular, seems to confer special benefits, since it contains chemicals that decrease platelet aggregation and stickiness that contribute to clot formation. More importantly, the French customarily eat at a leisurely pace, in a tranquil ambience, and at very regular hours. They customarily have their large meal at lunch, and rarely eat between meals. In contrast, Americans seem to prefer fast foods on the run, particularly anything which does not require the use of utensils and can be made, served and consumed rapidly. A recent "Sixty Minutes" segment on this subject featured a New York fast food establishment where the owner bragged that the total time elapsed between ordering, serving, consuming and leaving, averaged 210 seconds per customer.

Sixty Minutes, 11-17-91; N.Y. Times, 11-17-91

"A hungry people listens not to reason, nor cares for justice, nor is bent by any prayers."

Seneca

Stress and the Cuddling Hormone

As noted previously, oxytocin, a small peptide hormone made in the hypothalamus, seems to enhance sexual activity. Injections of oxytocin into virgin female rats induces maternal behavior. Within an hour, an adult will build a nest, appropriate another female's pups, warm them, and crouch in a suckling position. Similar results have also been observed in sheep. Oxytocin treated female rats arch their backs and spread their hind legs in the mating position. Sexual activity is also promoted in males who experience penile erections, and improved orgasm and ejaculation.

The initial reports in 1979 about such effects were largely disregarded since other investigators could not reproduce the original findings. It was subsequently determined that this may have been due to the fact that in the original study the rats were probably stressed by having been moved to a new environment a few hours before the injection. This could easily have triggered the release of natural opioids which would suppress the rat's own secretion of oxytocin, thus increasing sensitivity to the subsequent injection of the exogenous product. Both opiates and alcohol inhibit oxytocin release, and years ago alcohol was often used in some women to delay and even stop labor. Injection of oxytocin is often used clinically to promote lactation and to induce labor by the stimulation of uterine contractions.

Oxytocin is very closely related to vasopressin, another hypothalamic hormone stored in the pituitary which acts as an antidiuretic. Vasopressin (continued on page 4)

Stress and the Cuddling Hormone (continued from page 3)

also appears to promote memory and concentration capabilities. In a study designed to evaluate this effect, vasopressin was administered in the form of a nasal spray to German University students, with oxytocin spray being used as a control. While some such improvement was observed, an unexpected finding was that the oxytocin group of students became very sexually aroused. Oxytocin secretion is generally inhibited during stress. From an evolutionary or teleologic viewpoint, that seems reasonable, since making love would be the last thing on anyone's mind when faced by a saber-toothed tiger.

The Sciences, 10-11-91

"While man's desires and aspirations stir he cannot but err."
Goethe

The Stress Reduction Effects of Music

"Music has charms to soothe the savage breast" wrote William Congreve a few hundred years ago, and it would seem that the stress reduction effects of music are now being rediscovered. Music has been utilized to reduce anxiety and pain during dental procedures, in the coronary care unit before and after surgery, as an adjunct to anesthesia during labor, and also while vaccinating children. In a recent report, 38 patients requiring Emergency Room treatment for lacerations were divided into two groups similar in age, sex, severity of the wound, number of sutures required, and duration of the procedure. Patients in the music group were able to listen to their choice of 50 available musical tape selections through earphones, and could control the volume. The matched group was treated in routine, normal fashion. Heart rate, blood pressure, and respiratory rate were recorded immediately before and after wound repair, psychological variables were assessed with the Spielberger State, Trait, Anxiety Inventory, and pain was evaluated using a visual analog rating scale. Pain rating scores were found to be significantly lower in the patients in the music group, compared to controls, but reduction in anxiety following the procedure was similar in both. The music group also completed a brief evaluation questionnaire, which revealed that 89 percent felt that the music had provided significant benefits. All agreed that they would opt for this again if a similar procedure had to be repeated at some future date.

Music therapy began in the early 30's when musicians and music teachers began to perform at psychiatric hospitals and facilities. This increased significantly after World War II, and at present, there

are more than 5,000 music therapists in the United States. The Senate Committee on Aging recently held hearings on the beneficial use of music therapy to help the elderly recover from illness, with a view towards providing further funding for such services. Proponents explained that "music is therapy: medicine for the mind and body." The well-known neurologist, Oliver Sachs, testified that "however deep the disability, music is always there ... when medicine wears out, music is still there." In some patients, he believes that music is not a luxury, but an actual necessity that may be required to express their emotions. More about this in a subsequent report from Dr. Joel Elkes, whose group has pioneered research in this area.

*Gannett Suburban Newspapers, 8-8-91;
AFP, 7-91; Modern Medicine, 7-91*

"Music is the universal language of mankind."

Longfellow

Stress, Graves Disease And President Bush

As noted in a prior issue of the Newsletter, the recent development of a form of overactivity of the thyroid known as Graves' disease in President and Mrs. Bush was described as a "medical mystery" in the press. The odds of this occurring in a husband and wife were estimated to be three in one million! A frantic search for a possible common viral infection or toxins in the White House water failed to reveal any clues. Graves' disease is an autoimmune disorder, and hereditary factors and possible viral infections may play a role. However, stress also can have profound effects on immune system function.

All of the three physicians who initially but separately described Graves' disease, commented on the antecedent role of stress in the precipitation of its clinical signs and symptoms. One hundred years ago it was generally acknowledged as being due to "prolonged worry as well as sudden shock." More recent authorities believe that "emotional stresses of considerable severity precede the onset of hyperthyroidism in over 90 percent of the cases." Alleged involvement in the Iran hostage negotiations, the Persian Gulf conflict, Neil Bush's indictment in the Savings and Loan scandal, unfavorable publicity surrounding Sununu and other cabinet members are only some of the stresses the President has had to cope with recently.

Most of the evidence linking stress with Graves' disease is anecdotal or circumstantial. Sophisticated studies of immune cell function in patients have confirmed possible mechanisms of action, but a new report forges the links in this chain even more strongly. Swedish researchers performed a

case control study over two years in a population of about 1 million, during which 205 patients with newly-diagnosed Graves' disease were compared with 372 carefully matched controls. They answered identical questionnaires requesting information about marital status, occupational, drinking and smoking habits, physical activity, familial history of thyroid disease, life events, social support and personality. The patients with Graves' disease reported significantly more stressful life experiences during the preceding 12 months, and their negative life score events as assessed by a modification of Sarason's life-event survey were also appreciably higher. Individuals who had relatives with thyroid disease (especially first and second degree) were definitely more likely to have Graves' disease. Despite the limited parameters of stress studied in this report, it confirms the prior observations noted above that negative life events and hereditary factors are significant contributors to Graves' disease. The apparent absence of any such family history in President and Mrs. Bush, and the absence of other possible relevant influences such as a viral infection or excess exposure to iodine, strongly support the important role of stress as the cause of their thyroid problems.

Lancet 12-14-91

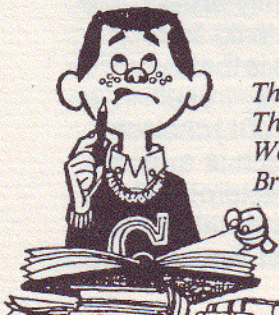
"We perceive and are affected by changes too subtle to be described."

Thoreau

Stress in Children

Public health officials, educators, and a variety of concerned groups are grappling with the escalating problems of stress in children. These include the competitiveness that starts with pre-schoolers who already have homework and even examinations to see how they compare with their schoolmates. Television has become an increasingly disturbing influence as children watch programs filled with violent behavior, rape, and murders. Disruptive family relationships, child abuse, growing single-parent families and poverty have reached epidemic proportions. Currently, 38 percent of our children have no health insurance, 40 percent are born to single mothers, and almost 50 percent of children in the U.S. under the age of six live at, or below poverty levels.

Walter Cronkite, PBS Television, "Are Children at Risk?" 11-1-91



*The Atlantic Ocean?
The Pacific Ocean?
Walk the dog?
Bring home a can of juice . . .*

More on the Drinking Man's Diet

It has long been observed that heavy drinkers actually lose weight, despite their intake of 1,000 or more extra alcohol calories daily. A couple of decades ago this prompted the development of the "Drinking Man's Diet," which substituted alcohol for sugar and starch to get rid of extra pounds. Nutritionists have always been puzzled by this paradox, since it was generally believed that all extra calories consumed are eventually converted into fat. A recent research report may now provide some answers to this apparent contradiction.

Chronic and heavy drinking appears to train the body to learn how to waste the 7 calories per gram that alcohol ordinarily provides. When alcoholics were given 2,000 calories of alcohol in addition to the 2,500 provided by daily food intake, there was no appreciable weight gain. However, when those extra calories were provided in the form of chocolate, their weight increased in a predictable fashion. This shows that the weight loss seen in some chronic alcoholics, is not due to diminished caloric intake because of a deficient diet, which was the usual explanation.

It would appear that this energy waste results from the facility to somehow interfere with the body's ability to derive calories from other foods. It is believed that this mechanism involves changes in liver function. Fat is metabolized primarily in the liver, and chronic alcohol intake may cause changes that interfere with this, and if heavy drinkers are placed on a very low fat diet, supplemental alcohol does cause weight gain.

However, this damage to the liver appears to interfere with its function as a "sophisticated garbage disposal system" that gets rid of wastes and toxins that are harmful. The accumulation of these chemicals can injure cells and genetic material and result in malignancy, as evidenced by the increased incidence of cirrhosis and cancer of the liver and esophagus in heavy drinkers. Cirrhosis of the liver rates are particularly high in French males because of their high consumption of alcohol, even in those who rarely drink enough to become inebriated. In the United States, cirrhosis of the liver is the fourth leading cause of death in the 25 to 65 age group, and the leading cause of death in heavy drinkers.

The New York Times, 2-4-92

"Always remember, that I have taken more out of alcohol than alcohol has out of me."

Winston Churchill

Vending Machine Mania

Human contact and personal relationships are rapidly being replaced by machines. As a recent New York Times article reported, in addition to soda, snacks, cigarettes, stamps and train tickets, attractive vending machines in Japan now dispense "jewelry, fresh flowers, frozen beef, rice, whiskey, hamburgers, pornographic magazines, video cassettes and batteries... tradition has given way to convenience with machines that supply underwear if you visit a sauna and want to feel fresh afterwards." For tourists there are disposable camera dispensers, and if you're on your way to an important appointment and don't have any more business cards a newly developed machine will print them out instantly. Others will even get you a date. For a few dollars, shy men can describe themselves and their qualifications, including the kind of car they own. Women seeking a compatible date put a few coins in the machine and retrieve the information on strips of paper providing this and other information on each prospective suitor.

Last year more than \$45 billion in goods were sold through more than 5.4 million Japanese vending machines. Some advanced devices now have video screens that deliver messages with their products. Others use solar energy to reduce electricity costs and include sophisticated feedback mechanisms that automatically radio headquarters with details on sales, inventories and whether the machine is functioning properly in these and other respects.

Critics are concerned about such things as increased teenage use of alcohol and tobacco, which vending machines cannot monitor. This fad is not likely to spread very rapidly to the U.S. since our much higher rates of crime would make most of these plastic instruments an easy target for theft. While there have been no losses due to vandalism in Japan, as one Coca Cola executive complained, "Can you see one of these things lasting in Dallas, Jacksonville or New York?" *New York Times, 1-5-92*

"Social advance depends as much upon the process through which it is secured as upon the result itself." Jane Addams

Can Sharks Provide A Cancer Cure?

Many of the latest anti-cancer drugs are derived from naturally occurring substances such as a variety of common fungi, and taxol from the yew tree. Researchers suspect that additional cancer cures may come from studying sharks, and their close cousins, skates and rays. Such species almost never develop cancer, even when exposed to powerful cancer causing chemicals early in life,

in contrast to bony fishes which are susceptible. Fishermen have also long noted that it is rare to find a sick shark, and for some reason, they appear to possess an unusual resistance to cancer as well as infections.

When tumors form in humans, blood vessels rapidly grow towards their location to furnish the extra nourishment required for increased cell growth. However, the shark skeleton is composed entirely of cartilage, which resists any penetration by blood vessels. It is believed that they contain a substance which prevents the accelerated blood vessel growth activity necessary for tumor growth and survival. Eight separate proteins have now been isolated from shark cartilage, and scientists are studying their effects on DNA, the genetic blueprint which determines the programs cellular operations. Hopefully, this may lead to strategies that mimic the efficient mechanisms of DNA repair that sharks have developed over 450 million years of evolution. Patent 5,075,112 was recently granted for a method of using powdered shark cartilage to treat cancer. In a test on eight terminally ill patients with uterine or cervical cancer in Mexico, tumors in seven shrank by more than 70 percent.

*Palm Beach Post, 12-15-91
New York Times, 2-15-92*

"When the finger points at the moon, the idiot looks at the finger." Chinese Proverb

Olive Oil, Red Wine And Heart Attacks

The American Heart Association urges Americans to reduce their fat intake to not more than 30 percent of total calories, instead of the current average of 40 percent. Some researchers feel that the problem is not that Americans eat too much fat, but not enough of the right kind. Villagers in Crete have very little heart disease and enjoy some of the highest longevity rates in Europe, despite high fat diets which often exceed 40 percent. However, the difference is that they consume relatively little meat and dairy products, and most of their fat intake comes from olive oil. Farmers often begin their day drinking a wine glass full of olive oil, everything is cooked in it, and it is usually poured or slathered on everything being served. It is not unusual for bowls of olive oil to be placed conveniently around the table so that bread can be dunked in it.

A major problem with low fat diets is that they are difficult to stick to. In addition, they result in a lowering of both good (HDL) and bad (LDL) cholesterol. On the other hand, olive oil, which is a mono-unsaturated fat, lowers bad cholesterol without adversely affecting the healthy kind. Inhabitants of Gascony, in the southern part of France, also

enjoy unusual longevity and protection from heart attacks. This has similarly been attributed to their high consumption of foie gras, which is composed of fats that more closely resemble olive oil than those found in meat and dairy products. Middle-aged men in Italy have nearly 60 percent less coronary disease than American counterparts, and this has been attributed to their low intake of such saturated fats. Olive oil is also a rich source of vitamin E, which appears to provide additional protective effects against heart disease.

However, many other influences may be involved in Europeans, such as a higher consumption of fiber and red wine, less sedentary lifestyle, the presence of an extended doting family and friends, more leisurely dining, and other stress-reducing, health-promoting factors. One authority suggested that it may be due to "the emotional effusions of an opera-influenced psyche." Another predicts that "olive oil may well become the oat bran of the nineties, turning up in everything from potato chips to ice cream."

Newsweek, 1-16-92; JAMA 2-5-92

"Eat, drink, and be merry, for tomorrow ye diet."

C.T. Copeland

Hopelessness and Heart Attacks

Relationships between mood, personality, behavior, and heart attacks have fascinated physicians for centuries. The most widely appreciated connection is found in those with aggressive, competitive, and hostile, Type A coronary prone behavior. Such individuals characteristically demonstrate a relative absence of anxiety and depression. Other studies have shown a link between cardiovascular mortality and loss of important relationships and social isolation, as evidenced by studies in individuals following retirement and heart attack survivors who live alone. A recent report now suggests that hopelessness, a depressive symptom, may also be an important independent risk factor of cardiovascular death. One could argue that depressed patients are more apt to exhibit other risk factors such as increased smoking, lack of physical activity, or being overweight. However, even when these were accounted for, it was found that "moderate and high levels of hopelessness were associated with 1.5 and 2.4 fold increases in death from cardiovascular disease."

Almost 3,000 healthy adults with an average age of 57½ were followed for an average of more than 12 years. Men and women were equally divided and 87 percent were white. At the beginning of the study, they had been asked "Have you ever felt so sad, discouraged, hopeless, or had so many problems, that you wondered if anything was worthwhile?" They replied by choosing a graded answer

from "extremely so" to "not at all." When compared to low hopelessness scorers, those with "moderate" ratings had a relatively greater 1.3 risk of dying from coronary heart disease by the end of the follow-up period, which increased to 2.4 for high scorers. However, the "extremely so" group had 3.6 times more deaths than those reporting "not at all."

Women were 1.5 times more likely to have higher scores than men, and hopelessness was also more frequent in the 55 to 65 age group and blacks. Educational status was inversely related to hopelessness, and individuals with fewer than 12 years of schooling were three times more likely to be in the highest score range. Cigarette smokers and unmarried subjects were also 1.5 times more likely to be in this category, but no correlation with cholesterol could be found at any level. Surprisingly, although the hopelessness/helplessness personality has been more closely linked with cancer, no such relationship was demonstrated in this study. Marital and socio-economic status and social isolation also are associated with increased cardiovascular mortality and perhaps hopelessness is the common denominator that accounts for this.

Internal Medicine News, 6/1-14/91

Car for Commuter Stress

Job stress has been described as America's leading adult health problem. For some workers, community concerns are a major contributor. That is largely because traffic jams are unpredictable with respect to time of day, degree, or duration. In other situations, the difficulty stems from the great distance that needs to be traversed twice a day, five days a week. It's a necessary evil for many who can't afford a home closer to the city where they work.

In some parts of California, two-hour car commutes to and from work are not uncommon, and have prompted a novel solution for relieving the stress of driving. Books on tape, and instructional cassettes to learn a new language have been around for a while, and sales are soaring. Soon, drivers may also take advantage of *The Commuter Audio Review*, appropriately abbreviated as CAR. Planned initially as a quarterly magazine to listen to, it will offer two hours of specially created stories, serials, articles and interviews dealing with the latest news in science, sports, the arts, entertainment, politics, etc., just like popular weekly magazines and TV shows. Serialized stories will be carried over to subsequent tapes, and a special attempt will be made to provide the latest attractive new musical selections designed to relieve the stress and boredom of driving. Programs will be oriented to male subscribers, and unlike television and periodicals, there will be no advertising.

CNN News, 2-5-92

Book Reviews • Meetings and Items of Interest

Stress, Neuropeptides, and Systemic Disease; McCubbin, J.A.; Kaufmann, P.G. and Nemeroff, C.B.; eds., Academic Press, San Diego, 1991, 485 pp., \$95.00.

This is a marvelous volume that is sorely needed, and long overdue. It succinctly, but comprehensively, illustrates the rapid advances that have been made in our appreciation of the crucial role of brain neurotransmitters in responses to stress. The editors have judiciously selected authorities in appropriate disciplines to portray the panorama of endogenous peptide participation in a host of illnesses ranging from arthritis and gastrointestinal disorders to cardiovascular disease and cancer. The initial section, "Basic Mechanisms," provides a valuable introduction to the anatomy and physiology of neuroendocrine regulation, methods of measurement, and the relevance of specific peptides such as corticotropin-releasing factor to such diverse things as cardiovascular reactivity and animal behavior. Subsequent sections are devoted to Endocrine Regulation, Immune Function, Gastrointestinal Function and Cardiovascular Regulation. What is particularly valuable throughout is the skill with which basic research findings are integrated into clinical medicine. It is not possible in a review of this length to adequately describe the many other merits of this book, but the chapters on atrial natriuretic systems, and endogenous opioids and cardiovascular function are particularly noteworthy. This book is a must for stress researchers, but will prove equally valuable for clinicians and anyone who wishes to gain important insights into the mechanisms that mediate the complex links between mind and body.

Meetings and Items of Interest

March 2-5, 11th Annual Role of Exercise and Nutrition in Preventive Medicine, ISC Division of Wellness, Breckenridge, CO, (813) 686-8934.

March 7-14, Minding the Body, Mending the Mind Conference: 3rd Annual Meeting, Vail, CO, (800) 525-5810.

March 9-12, 11th Annual Role of Exercise and Nutrition in Preventive Medicine, ISC Division of Wellness, Orlando, FL, (813) 686-8934.

March 13-14, Behavioral Pediatrics: Clinical Problems in Primary Care, Boston University, Cambridge, MA, (617) 638-4605.

March 13-15, The Psychiatric Interview, University of Chicago, Chicago, IL, (312) 792-1056.

March 19-24, Annual Meeting, Association for Applied Psychophysiology and Biofeedback, Colorado Springs, CO (303) 422-8436.

March 22-27, Physician in Transition, Menninger Management Institute, Topeka, KS, (913) 273-7500, x5686.

March 25-28, Annual Meeting, Society of Behavioral Medicine, New York, NY, (301) 251-2790.

March 31-April 4, 50th Anniversary Meeting, American Psychosomatic Society, New York, NY, (703) 556-9222.

April 2-5, Memorial Sloan-Kettering Cancer Center—Pain and Symptom Control, New York, NY, (212) 639-6754.

April 3-4, Scripps Clinic & Research Foundation—Pharmacotherapeutics in Clinical Sleep Medicine, LaJolla, CA, (619) 554-8556.

April 3-5, 7th Annual International Conference on The Positive Power of Humor & Creativity, Saratoga Springs, NY, (518) 587-8770.

April 10-11, U. of California—The Cutting Edge 1992—Erotic Mysteries: Intimacy, Sexuality and Gender in the 90's, San Diego, CA, (619) 565-9921.

April 10-12, American College of Emergency Physicians—Emergency Medicine Burnout: Guidelines for Survival, Williamsburg, VA, (804) 966-5966.

April 10-14, U. of California—The Power of the Art: Introduction to Medical Hypnosis, San Diego, CA, (619) 481-9537.

April 17, Assn. for Advancement of Mental Health Research & Education—Computer Applications in Mental Health Research & Education—Computer Applications in Mental Health: 1992, Indianapolis, IN, (317) 634-8401, x583.

April 23-25, American Academy of Medical Hypoanalysts—Anxiety, Panic Disorders, Post-traumatic Stress Disorders & Agoraphobia, Chicago, IL, (800) 344-9766.

April 23-26, Med. College of Georgia—International Pain Symposium, Atlanta, GA, (800) 221-6437.

April 24-26, Albert Einstein Coll. of Medicine, 5th International Conference on Eating Disorders: Research and Clinical Findings, N.Y., NY, (212) 920-6674.

April 25-May 9, American Inst. of Medical Education—Creativity and Madness: Psychological Studies of Art and Artists, Museum Visits, Italy, (818) 789-1029.

April 26-May 11, International Medical Seminars—Stress Reduction Workshop, Asia Minor, Turkey, (805) 686-1165.

April 28, JHU—6th Annual Mood Disorders Symposium, Baltimore, MD, (301) 955-2959.

May 2-8, American College of Occupational Medicine—American Occupational Health Conference: Health of the Worker, Washington, DC, (708) 228-6850, x19.

May 9-14, College of Family Physicians of Canada and British Columbia Chapter—13th WONCA World Conference on Family Medicine, includes Workshop on Physician Well-being, (416) 493-7513.

May 13, McMaster U.—Stress Management Level 1, Hamilton, Ont., (416) 525-9140, x2219.

June 14-19, First World Congress for Electricity and Magnetism in Biology & Medicine, Orlando, FL.

Aug. 17-21, Hans Selye Symposia on Neuroimmunology and Stress Advances in Psychoneuroimmunology, Satellite Meeting of the 8th International Congress, Budapest, Hungary. In North America (204) 788-6320, In Europe 36-1-185-2255.

ISSN # 1047-2517

The Newsletter of
**THE AMERICAN INSTITUTE OF
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