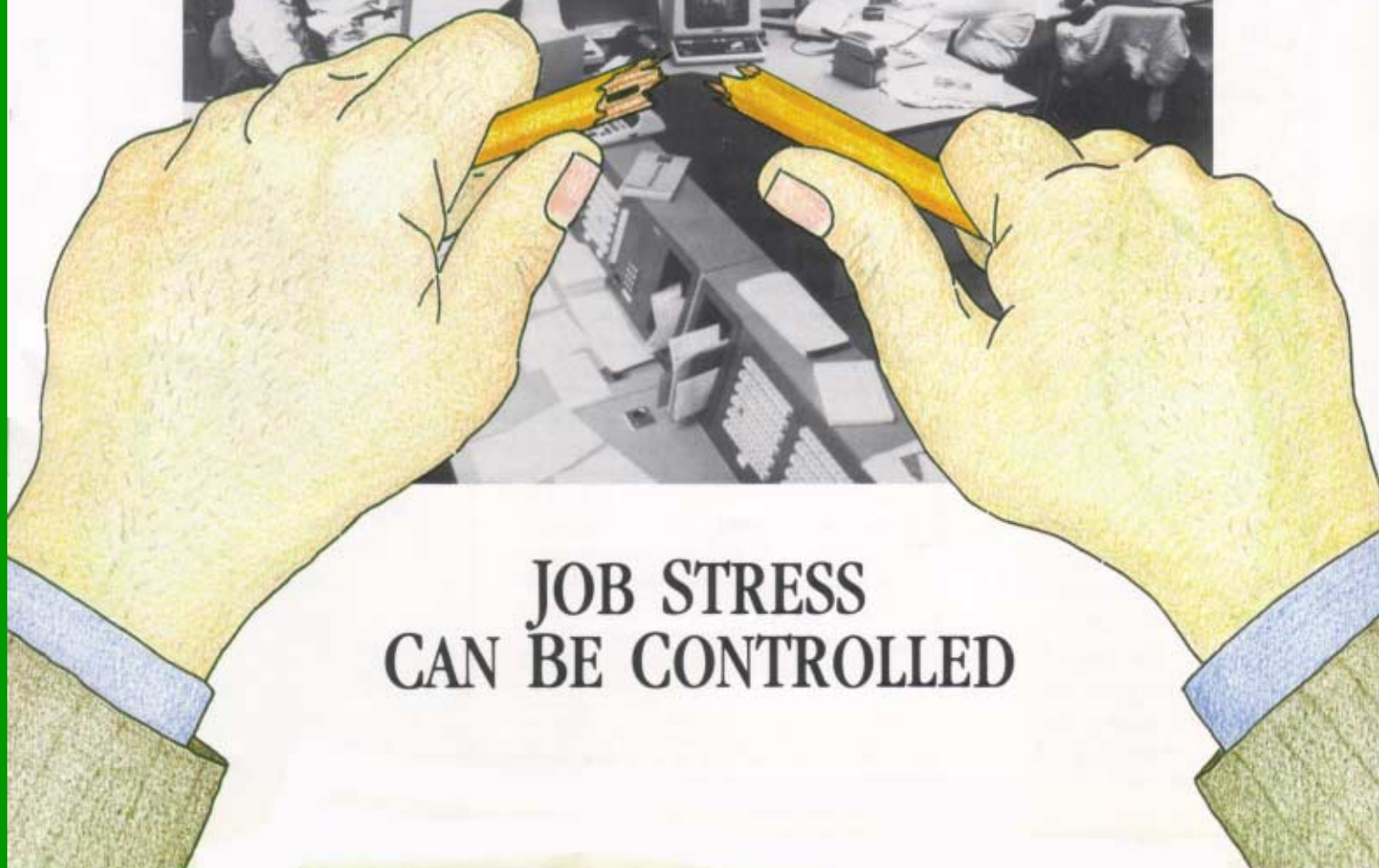


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**JOB STRESS
CAN BE CONTROLLED**

The Health Effects Of Job Stress

BY PAUL J. ROSCH

Job demands and lack of pride in work can contribute to heart disease and other illnesses.

Stress in the work place has been labeled the number one health problem in the U.S., with costs to American industry estimated at \$75 to \$100 billion a year. Expenses come from absenteeism,

diminished productivity, increased health insurance charges and direct health related expenses.

Yet, studies show that absenteeism — and the cost of staying home with an illness — can be reduced significantly in companies that provide stress reduction programs.

Before employers can grapple with how to deal with work place stress, it is first necessary to get a clear understanding of what stress is and how it affects individuals on the job in terms of their health as well as their ability to work productively.

The Concept of Stress

Stress has become so popular and pervasive that it is hard to believe that the term came into common usage less than 35 years ago when it was “borrowed” from the field of physics by the Canadian researcher Hans Selye to describe the “nonspecific response of the organism to any demand for change.” Selye’s brilliant research revealed that laboratory animals exposed to a variety of noxious and even opposite stimuli (excessive heat, freezing, exercise to the point of exhaustion, loud noises, bright lights, psychological frustration, life threatening fear) showed certain identical findings at autopsy. Regardless of what the stressor was, hemorrhages in the lining of the stomach, enlargement of the adrenal glands, and shrinkage of the thymus gland and lymphatic tissues always resulted. The significance of these findings was not entirely clear, but appeared to be the result of intense stimulation of the adrenal glands resulting in an

Paul J. Rosch is president of the American Institute of Stress in Yonkers, N. Y., and clinical professor of medicine at New York Medical College.

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outpouring of hormones known to produce such changes.

Selye’s experiments had followed those of Walter Cannon, the Harvard physiologist, who several decades previously had investigated in detailed

fashion the effects of acute fear in dogs. His research demonstrated that, when faced with a life threatening situation, there was a marked stimulation of the sympathetic nervous system which caused the system to be flooded with adrenalin. Such activities were viewed by Cannon as being purposeful for primitive man since they would prepare him for “fight or flight” that might be essential for survival.

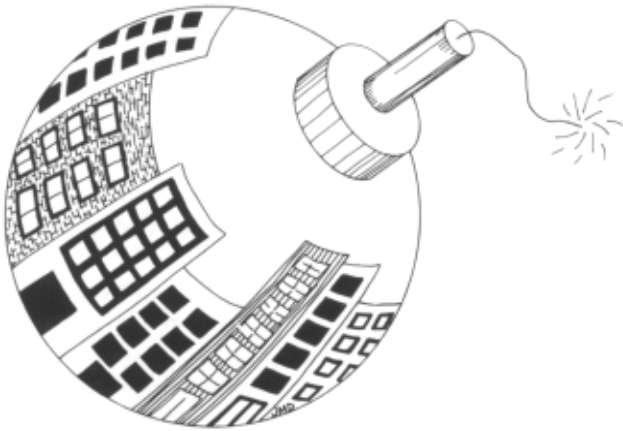
Thus, the pupils dilated to permit better vision and there was an increase in blood pressure as well as flow of blood to the brain to improve thought processes. Blood was shunted away from the gut, where it was no longer needed for digestion, to the large muscles of the arms and legs to provide greater strength. Carbohydrate stores were broken down into sugar to provide a rapid source of energy. The blood clotted more rapidly to minimize loss from hemorrhage and a host of other changes occurred, all of which were purposeful from a teleological or evolutionary point of view.

Unfortunately, the nature of stress for modern man is not a life or death confrontation with some ferocious assailant a few times a month, but rather a host of irritations and unpleasant situations which are apt to occur several times a day. The tragedy is that the human body still responds in that same old archaic fashion, which is now no longer useful but also inappropriate, harmful and quite likely a major contributor to such diseases of civilization as diabetes, hypertension, stroke, heart attack and peptic ulcer.

Cannon also recognized that psychosocial stress in humans could cause a similar response that could be lethal. He was fascinated with accounts of voodoo deaths in certain aboriginal tribes and studied them firsthand. In

effect, the afflicted individuals appeared to die mysteriously and inexplicably right on cue. Cannon believed that the mechanism of such death by prescription was also due to a flooding of the system with adrenalin-like hormones which caused a lethal disturbance in the heart rhythm. These speculations have subsequently been corroborated by a variety of laboratory and clinical studies of sudden death due to acute and severe emotional stress.

It was against this background that Selye performed his thousands of experiments on the effects of stress in laboratory animals. At first there was the outpouring of adrenalin that Cannon had described, which in turn appeared to stimulate the pituitary and subsequently the adrenal cortex to produce large amounts of cortisone-like hormones. These had powerful effects on reducing inflammation and also consistently caused hemorrhages in the stomach and shrinkage of lymphoid tissue in what he termed an "alarm reaction." If the offending stimulus continued, the organism appeared to enter a "stage of resistance" during which the body's defenses were maximized. Finally, persistent stress led to a "stage of exhaustion and death." Selye named this three-phased response the general adaptation syndrome.



Autopsy studies conducted during the general adaptation syndrome revealed changes in various organs identical to those seen in human diseases such as rheumatoid arthritis, peptic ulcer, hypertension, coronary heart disease, kidney disease and stroke. It seemed plausible that such disorders in humans might also be due to stress, and Selye labeled them diseases of adaptation. Although in the course of his experiments he found that he could sensitize the animal to develop different diseases, he still viewed the stress response as being nonspecific and universal.

Over the past three decades, however, advances in biochemical and endocrine techniques have made it possible to identify a variety of other hormones, many of which, like the endorphins, are secreted by the brain under stress. Careful measurement has led to the application that in man the response to stress is a highly personalized phenomenon that varies from individual to individual, or even in the same person at different times. Thus, each person responds to stress quite differently and at times

unpredictably. In point of fact, there is no satisfactory scientific definition of stress. To further complicate things, stress signifies very different things to different people. Some use it to describe an unpleasant event or emotion, others to depict the biologic changes that are going on in the body, and still others to depict the pathologic consequences of that reaction. In addition, it seems quite clear that what is stressful for one person may be pleasurable or have no significance for others.

A good example of that is afforded by observing a roller coaster ride. Some cringe on the backseats with their eyes shut tight, teeth clenched, white knuckled, praying for the ordeal to end so that they can get out of the torture chamber to terra firma. Up front are the wide-eyed enthusiasts, howling and shrieking as they relish each steep plunge, and rushing to get on the very next ride to repeat the experience. In between are those with an apparent attitude of indifference and imperturbability that almost borders on boredom. So, was the roller coaster ride stressful? Obviously, it depends on who is answering the question.

A roller coaster ride emphasizes several points which are most germane to a discussion of job stress. The first is that stress is determined not so much by any external event, but the individual's perception of it. The second is that although it may be impossible to define stress, one thing that is very stressful is a feeling of being out of control. A third less obvious but equally pertinent observation is that the ability to purposefully pursue one's goals reduces the negative consequences of stress and may have health benefits.

The appreciation and study of stress in humans today bears little resemblance to the acute animal studies of Selye and Cannon. What stress researchers now know is that a host of chronic irritating minor hassles, such as getting stuck in a traffic jam or a fight with the boss, customers, or co-workers can also contribute to stress related illness. In addition, it is also apparent that more insidious and less quantifiable chronic psychosocial stress such as bereavement, social isolation, or poverty can also cause a significant depression of immune system function, rendering the individual susceptible to a variety of infections and viral linked disorders including cancer.

Job Stress Factors

It is difficult to discuss stress in the work place in general terms because certain occupations have their own specific problems. In the industrial setting, blue-collar workers, middle managers and chief executive officers are subject to different types of stress because of marked variation in their duties, responsibilities and authority. However, there are certain features common to all.

A Blue Cross-Blue Shield survey of a broad cross-section of workers in two midwestern states illustrates just how widespread the effects of stress are. According to the survey, five out of six workers at all levels of employment — from the executive suite to the assembly line — complained that job stress was a major factor resulting in anxiety, depression, a poor self-image, colds, asthma,

chest pains and difficulty in breathing. While job stress is generally thought of in terms of the harried, frenetic, Type A executive driving to get to the top of the corporate ladder, it is equally evident that dull, dead-end assembly line type of work can pose equal health hazards.

A list of other major sources of occupational stress follows:

- Inadequate time to complete the job to one's satisfaction;
- Lack of clear job description or chain of command;
- Absence of recognition or reward for good job performance;
- Inability or lack of opportunity to voice complaints;
- Lots of responsibilities but little authority or decision-making capability;
- Inability to work with superiors, co-workers, or subordinates because of basic differences in goals and values;
- Lack of control or pride over the finished product;
- Job insecurity due to pressures from within or possibility of takeover or merger;
- Prejudice and bigotry due to sex, race or religion;
- Unpleasant environmental conditions because of smoking, crowding, noise and air pollution exposure to toxic chemicals or carcinogens, or commuting difficulties;
- Concerns related to responsibility for employees;
- Not being able to utilize personal talents or abilities effectively or to full potential;
- The FUD factor — fear, uncertainty, doubt.

In some instances, stress in the work place is due more to the individual than the job. The Type A workaholic with self-imposed, unrealistic goals, who believes that only he or she can do the job best in the shortest amount of time, is a good example. Such coronary prone behavior is now recognized to be a most powerful predictor of heart attacks. Other risk factors such as elevated cholesterol, hypertension, and cigarette smoking may to a large extent merely represent consequences of such behavior. Moreover, such individuals, themselves, are vectors of illness at work as their aggressive, hostile behavior exerts deleterious effects on co-workers and subordinates.

A Case History

Often the problem comes from some incompatibility between the individual's personality and goals and those required by his or her position and duties. Some workers are motivated primarily by an attempt to gain power or wealth, others strive for the satisfaction and appreciation of a job well done, and still others simply want to please people or gain their friendship and respect. Some are happy only when in a position of authority and giving orders, whereas others shun such responsibilities. Unfortunately, the rewards for achievement in modern society are promotion and advancement with more and more responsibility, decision-making, and accountability

to higher authorities. These rewards cause all sorts of problems.

Consider the case of a "crackerjack" chemist who was so successful that his superiors plucked him out of the laboratory and promoted him to head the entire research department. He was quickly buried in an avalanche of paperwork, weekly reports and high level strategy planning conferences for which he had little desire, experience or preparation. Deprived of the research which he loved and the camaraderie of his fellow chemists, he had somehow become the object of jealousy and envy from those he had jumped over as a consequence of his promotion.

Former close associates now avoided and feared him because, in their subordinate roles, he might expose inadequacies and suboptimal work habits which had previously been unrecognized or tolerated. His secretary, who had worked for his predecessor for 12 years, still retained a fierce loyalty and resented him. She obviously knew many job routines and details better than he did and, in a manner that was not always oblique, let him and others know it. He was constantly called upon to settle a variety of personal problems and bickering disputes which occurred in the office staff simply because he was head of the department.

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Over a period of several months, he deteriorated into a severe depression, developed hypertension as well as drinking and drug problems by relying on tranquilizers, sleeping pills and antidepressants. The real reason for his complaints was not apparent to him or to his family and friends, all of whom constantly congratulated him on his new promotion and increased salary.

Fortunately, the problem was recognized because of an effective employee assistance program which the patient was urged to enter because of his problem with alcohol. Subsequently, he was allowed to return to the laboratory with a new title, no loss of income and in a position where he could not only pursue his own research interests but also assist others in a productive and noncompetitive fashion. He was placed at an executive level comparable to that of his successor to whom he was not responsible so that there was no sense of demotion or failure. His medical and social problems vanished almost as rapidly as they had appeared, and now, several years

later, he continues to be an extremely effective employee, contributing greatly to his company's success.

Taking the Job to Heart

Stress is a highly complex personalized phenomenon that can be one person's meat and another's poison — the spice of life or the kiss of death. For example, symphony conductors and performing artists are under a great deal of stress but, in general, seem to lead long and healthy lives. Analyses of such stress resistant personalities reveals that they generally have a strong commitment to what they are doing, have control over their activities, tend to be creative, and respond efficiently to challenges which would depress or frustrate others.

One of the most serious health problems in the work place stems from jobs in which employees are not able to utilize talents fully, and more specifically, not able to take pride in what they do.

This was illustrated dramatically in an important study of some 2,000 telephone operators. Significant differences were noted between those who were habitually or chronically sick and those who were relatively free of illness. Most of the individuals in the chronically sick group had a professional background and a high school or some college education. They tended to describe their duties as confining or boring and generally considered themselves frustrated and stuck in the wrong jobs. They were often unhappy at home as well as at work.

In contrast, most of the healthy workers came from lower middle class backgrounds and only had an elementary school education. As a group, they appeared to be content with their lot in life and felt that their job was satisfying and not overly complex or difficult. Generally their attitudes also carried over into their home lives, which they found equally satisfying.

As more and more women enter the work place, two patterns are emerging that are related to stress. On the one hand, increasing numbers of women in middle to high level jobs are developing Type A behavior and previously male dominated disorders such as coronary heart disease and peptic ulcer. Women who are in clerical jobs are reporting stress related illnesses too. But these women essentially are in situations where they cannot express themselves and where they are not in a controlling position. A recent National Heart, Lung and Blood Institute study disclosed a 100 percent increase in heart attacks among secretaries, typists, clerks and bookkeepers when compared to housewives. Interestingly enough, working women in general did not appear to be at greater risk than housewives, but those in office occupations such as those cited above apparently were because they had been placed in situations where they were not able to express anger or emotions, and they literally "took it to heart."

The relationship between cardiac problems and job stress is so well acknowledged that in New York City any member of the police force who sustains a heart attack on or off duty is assumed to have a job related disability and is compensated accordingly. While heart disease is the

most dramatic manifestation, more prevalent symptoms of job related stress seem to be fatigue, nervousness, sleeping difficulties, depression, and dissatisfaction with life in general.

Basics of Life

Both stress and work are essential to life. Work in this context is defined as a productive and meaningful activity that the individual enjoys or wants to do. Too many people do not work in their jobs, but rather labor in them, which is doing something that someone else wants them to do.

The first step in addressing the problem of job stress should be the education of employers and employees in recognizing such fundamentals. While stress reduction techniques may be useful in modulating harmful somatic and emotional reactions, it makes much more sense to seek out correctable sources of stress and remove or modify them when feasible. If the nature of the job is such that no significant changes can be made, then the individual should be encouraged to pursue other paths such as social activities or hobbies which can provide a meaningful sense of pride and accomplishment.

Job stress has financial as well as health implications. Workers are increasingly applying for and receiving compensation for all kinds of stress related illness. Successful suits have included awards for nervousness to a secretary who complained that she was criticized for going to the bathroom too often, fear of the possibility of developing cancer in a worker because of being near potential radioactive materials, deterioration of sex life by a state trooper because he was on call 24 hours a day and never knew when the phone would ring, and mental strain endured by an automobile parts inspector because workers insisted on installing parts he had labeled defective. Aware of situations such as these, unions have begun programs to help their members identify and cope with occupational stress.

The California State Supreme Court has upheld compensation for gradual on-the-job stress, such as assembly line work. The state now receives 3,000 to 4,000 mental stress claims a year, and half of the applicants are granted awards. Indeed, one California law firm solicits occupational stress claims by running newspaper advertisements that ask: "Does your job make you sick?" Since workers who can prove that a disability is job related receive a tax free percentage of lost wages, the repercussions are clear and will undoubtedly force an increase in the \$16 billion annual premium tab for workers' compensation.

Employers who wish to ascertain the cost effectiveness of stress reduction programs should be cognizant of such trends and legal precedents that may be relevant. However, appropriate recognition and management of stress related problems are certain to provide still further benefits in terms of reduced health care costs, diminished absenteeism, improved productivity, and most importantly, a better quality of life in the work place for all concerned. ■