The Stress Disorders and the Industrial Physician

By WILLIAM P. SHEPARD, M.D.

How damaging is work? What produces stress? Contending that "work per se is not necessarily harmful," an industrial physician considers these questions and assigns to his profession a major responsibility for "evaluating occupational stresses and assaying the degree of tolerance of the human material" and preventing and curing the stress disorders.

THE STRESS disorders have been variously listed as nervousness and neurosis, arthritis, overweight, high blood pressure, gastric and duodenal ulcer, gout, coronary disease, asthma and bronchitis, and many others (*1*). They are frequently brought to our attention dramatically in the press as sudden death from "heart attack" or "stroke." Occurring in relatively young people, especially business executives, they are almost always attributed to the stress of overwork. To a considerable degree, all the stress disorders tend to be attributed to the strains of occupation (*2–4*). One wonders if this tendency has not been exaggerated and if perhaps physicians themselves are not inclined to overemphasize the physical and mental damage of work.

The relationship of work to the stress disorders is one of several problems for which the industrial physician must assume a major responsibility. He, more than any other physician, must lead the way in studying the etiology, pathology, diagnosis, therapy, and prevention of the stress disorders. It is the purpose of this brief paper, therefore, to discuss some of the foundation stones upon which a program to meet this responsibility may be built.

Dr. Shepard is the vice president for health and welfare of the Metropolitan Life Insurance Company. *He presented this paper at the medical conference of the 18th annual meeting of the Industrial Hygiene Foundation of America, which was held at the Mellon Institute, Pittsburgh, Pa., November 18, 1953.*

How Damaging Is Work?

Carey McCord (*5*) has said that "a little bit of man" goes into every job and that every worker thereby suffers some attrition because of pardonable pride in his own workmanship. Nevertheless, there is much good to be said about work, and perhaps too much bad has been said. In the words of Emerson, "Man doth not live

by bread alone, but by faith, by admiration, and by sympathy." Who is more fortunate at any age than the one who has faith in the importance of his job, admiration of his fellows for a job well done, and sympathetic consideration by his superiors and fellow workers? Personnel experts tell us that job satisfaction is essential to a good worker. How often has each of us seen the man who has been deprived of his job decline rapidly, both physically and mentally, because he finds nothing left worth living for?

It might be wise, therefore, for those of us who have an opportunity to guide the medical destiny of industry to be a little cautious in attributing all the so-called stress disorders solely to occupation. My contention here is that work per se is not necessarily harmful. Many of the so-called stress diseases have nothing to do with stress, and many of those related to stress may not be related to work. They may be the results of accident, including infection; or of the kind of nervous system with which one is endowed; or of the inexorable aging process which begins at birth; or of improper habits.

What Produces Stress?

Stress comes from the Latin "strictus," the past participle of "stringere," which means to bind tight. Stress means to subject to the action of external forces, especially to overstrain. To the engineer, it means mutual force or action between contiguous surfaces or bodies caused by external force, as tension or shear, commonly expressed as pounds per inch.

Engineers deal extensively with stress in materials of many kinds, and we may learn something from them. Limits of stress are known as the breakpoint at which the material under observation disintegrates or fractures. The factor which withstands stress is called tolerance. Tolerance to increasing degrees of stress is what the engineer wishes to measure before he decides the appropriate use of a given material.

The industrial physician's responsibility to industry is somewhat similar. He must try to evaluate the stresses of occupation and to assay the degree of tolerance of the human material. His objective, like the engineer's, is to avoid imbalance so that no substantial damage is done.

It is difficult to evaluate the tolerance of the human organism because of enormous variation between individuals. It is almost equally difficult to evaluate the degree of occupational stress since "one man's meat is another man's poison." Nevertheless, the industrial physician must do his best. Determining the balance between stress and tolerance is one of his greatest contributions to industry, and one of his greatest challenges. There are no other skills available to industry which equal his in this area. Because of the importance of this task, the physician must proceed objectively and in accordance with the tenets of his scientific training, never forgetting that the art of medicine, in addition to its science, is as important in industry as in all other forms of medical practice.

The Physician's Assay

In order to exert his best professional judgment based on years of training and experience in this question of stress versus tolerance, the physician must first have thorough knowledge of the material at hand, in this case human material. He must understand each individual's points of weakness and his points of strength. He must try to judge whether for the particular individual under observation increased responsibility is a burden or a joyous challenge.

Physical points of weakness, such as visual and hearing defects, flat feet, deformities, diminutive size, and weak muscles are fairly easy to assay and record. It is equally important, however, for the physician in industry to make some estimate of the individual's psychological weaknesses and strengths. This obviously requires some psychiatric orientation, with a full appreciation of the many psychosomatic disorders which may develop as a result of the many types of mental conflict. Among the commonest of these, which the industrial physician must try to understand, are the stresses and strains arising in the home and family.

Second, the physician in industry must have a thorough knowledge of the various stresses inherent in certain jobs. Whether it be in terms of the number of pounds a man can safely lift

in loading a cargo, or the number of complex problems a top executive may safely take on without becoming upset and frustrated, the industrial physician is by training and experience best qualified to detect the early signs of the individual's breakpoint.

Industrial Physician's Tools

In approaching this task of determining the balance between stress and tolerance in the human organism, the industrial physician has a well-equipped armamentarium.

Periodic Health Examinations

The periodic health examination is one of his most important tools. The technique of this examination and its importance need not be labored here. Suffice it to say that the examination must be good, that is, it must be as complete as may be necessary under the requirements of the individual case. A careful history, beginning with the question, "Is there anything you'd like to tell me?" is essential. It would seem that the skilled physician who has full knowledge of the stresses under which the individual labors might find many who could be examined in a matter of hours. He also might find some who need much more attention than that.

A second tool, closely related to the first, is health education. He who is skilled and experienced in this field has not lost sight of the teachings of one of our greatest exponents of the periodic health examination, Dr. Eugene Lyman Fiske (*6*), who showed that counseling, that is the unhurried discussion, which follows the health examination is fully as important as any other part. This is the time and place for the physician in industry to take full advantage of the time at his disposal and, more importantly, of the many health educational devices now available to impress the examinee with the significance of each of the findings on his physical examination and precisely what he should do about them.

Some industrial medical directors display considerable originality in this important component of the periodic health examination. One has a small slide projector on his desk with slides illustrating the more common lessons to be taught. Another amuses, but also impresses, his executives' monthly meetings with clever poster cartoons showing the effects of overweight, overexercise, oversmoking, and other excesses. It is encouraging to note that in 1 or 2 medical schools, at long last, students in their senior year are being taught the art and science of health education in their dealings with the patients.

If anyone thinks there is no room for improvement in this field, let him interview the average dispensary patient as he leaves the physician's office, starting the interview with the question, "What did the doctor say?" There is surprise in store for the interviewer when he learns what the patient thought the doctor said.

Science and Art

Third is the physician's clinical judgment. Although his judgment is not as accurate as the judgment exercised by the engineer after he has tested strains and tolerance in a piece of inanimate material, there is no substitute for the experience and judgment of the industrial physician who has learned all he can learn about the strengths and weaknesses of the piece of human material before him and who has studied carefully the types of stress imposed by that individual's job. No one else in industry or elsewhere has this judgment, and no physician in industry or outside can afford to fail to develop it to the utmost degree.

Finally, among the unique items in the industrial physician's armamentarium is what we must still call the art of medicine. This art is exercised to a great degree in the physician's skill in health education, and the success of the physician here can be measured by the degree to which he has been able to persuade the patient to do the things which are best for him. Under the art of medicine, rather than the science, the physician will himself be tolerant with the decisions of the individual, recognizing that some may prefer to take a calculated, or even an unknown risk, rather than to change their habits, undergo surgery, or shed responsibility. Once the intelligent individual, especially the executive, has the facts well before him, it is his decision to make, and the physician must respect it.

Conclusions

From this brief examination of the stress disorders, we might conclude that:

1. The stress disorders are varied, often nebulous, and always important in industry, especially with executives.

2. They are not always occupational in origin; work per se is not necessarily harmful.

3. The stress disorders are the result of a maladjustment somewhere: too much stress, too little tolerance.

4. They are easier to prevent than cure.

5. Their prevention and cure is one of the industrial physician's most important responsibilities.

6. Fortunate is the worker, especially the executive, who, with or without the physician's help, can learn to pace himself for the long pull, adjusting his speed to his load, learning to lighten his load by delegating responsibility to well-chosen subordinates; and who has a high tolerance to pressure from a master above, be that master a foreman, a board of directors, or his own distraught conscience.

REFERENCES

(1) Alvarez, W. C.: How to care for the health of executives. Chicago, Wilcox and Follett Co., 1951, 39 pp.

(2) Schweisheimer, W.: Standard Oil studies executive health. American Business 22: 12–13 (Dec. 1952).

(3) LaCerda, J., and Ramsey, M. A.: Where brakes are put on breakdowns. Nation's Business 38: 43–45, 72–73 (July 1950).

(4) Ross, W.: Keeping the boss alive. Esquire 40: 109, 158–159 (Oct. 1953).

(5) McCord, C. P.: A blind hog's acorns. Chicago, Cloud Inc., 1945, pp. 95–98.

(6) Fiske, E. L., and Crawford, J. R.: How to make the periodic health examination. A manual of procedure. New York City, Macmillan Company, 1927, 393 pp.

Conference on College Health

The Fourth National Conference on Health in Colleges was held in New York City May 5–8, 1954. Meeting to consider ways of improving the health of college students were 46 national health and education organizations, including the Association of Schools of Public Health, the American Public Health Association, the American Medical Association, and the American Hospital Association. Among the Federal agencies represented were the Public Health Service and the Office of Education of the Department of Health, Education, and Welfare, and the Bureau of Human Nutrition and Home Economics of the Department of Agriculture.

Reports of committees considering college health problems will be published, and will set standards for the next decade. The earlier conferences were held in 1931, 1936, and 1947.

A panel of chief executives of American colleges keynoted the conference. "The President Looks at the College Health Program" was discussed by Nathan M. Pusey, president, Harvard University; Sarah G. Blanding, president, Vassar College; Henry T. Heald, chancellor, New York University; William E. Stevenson, president, Oberlin College; and Frederick L. Hovde, president, Purdue University. J. L. Morrill, president of the University of Minnesota, presided.