HEALTH AND STRESS

The Newsletter of
The American Institute of Stress

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COPING WITH COLLEGE STRESS, A NEW JOB, OR ANY CHANGE

KEY WORDS: Holmes-Rahe scale, perception, control, time management, Type A behavior, optimism and health, job stress and heart attacks, female sexual dysfunction

College life can be very stressful, and since semesters start in September, this seemed to be an opportune time to provide some tips on how to survive. Stress levels are particularly for high school seniors entering their Freshman year, who are suddenly separated from family and friends, and thrust into strange surroundings. Alternatively, some may find this to be a welcome and exhilarating change and challenge that they enjoy. And for a few, there may be little effect or disruption, especially if they stay at home and pretty much follow their same routine.

Stress is a subjective phenomenon that differs for each of us. Things that are very distressful for some individuals can actually be pleasurable for others, or seemingly have little significance either way, judging from the way they appear to react. As a result, it is very difficult for scientists to define, much less accurately measure stress, and before proceeding further, it would be helpful to agree on exactly what we mean by "stress".

ALSO INCLUDED IN THIS ISSUE

Stress has become so ingrained in our vocabulary, that it's difficult to believe that the term, as we now use it, was essentially coined a little more than 60 years ago by Hans Selye. He used it to describe a series of responses in animals subjected to severely disturbing physical and emotional threats, that resulted in stomach ulcers, hypertension, heart attacks, arthritis, kidney damage, and other disorders. Selye reasoned that if stress could cause these problems in his laboratory animals, then perhaps it played a similar role in patients suffering from these diseases.

Selye's theory quickly spread into all branches of medicine and the social sciences, and eventually became a popular buzz word.. It's difficult to get through the day without reading or hearing something about "stress". Why all the sudden fuss? After all, stress has been around since Adam and Eve were in the Garden of Eden. Is it because there is much more stress today? Is it because the nature of contemporary stress is somehow different, and more dangerous? Or is it because scientific research has increasingly confirmed the important influence of stress in numerous disorders, and uncovered the mechanisms of actions responsible for its diverse effects on physical and mental health? All of these are undoubtedly ingredients. It is estimated that 75-90 percent of all visits to primary care physicians are for stress related complaints, and it is difficult to think of any illness in which stress does not play a contributory role.

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Paul J. Rosch, M.D., F.A.C.P.
Editor-in-Chief
home page: www.stress.org
e-mail: stress124@earthlink.net

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Another problem is that we not only react differently to the same stressful challenge, but we also use stress to signify things that are very different. For some, it is an unpleasant event or threat, such as the loss of a loved one, or having to constantly deal with a boss, co-workers, and customers they can't stand. For others, it is how they react to such situations, and this can range from anxiety and depression, to palpitations, anginal attacks, "agita" and stomach pain, diarrhea, sweaty palms, or dozens of other emotional and physical responses. And some use stress to refer to a heart attack, stroke, peptic ulcer, or some disorder that has resulted from such repeated insults and disruption of homeostasis.

This confusion about what stress really means was evident when I was helping Selye prepare his 1951 *Annual Report On Stress*, and included the comments of one critic that appeared in *The British Medical Journal*. He had concluded, based on excerpts from Selye's own writings, that "Stress, in addition to being itself, was also the cause of itself, and the result of itself." To clarify things, Selye coined a new word, stressor, but despite numerous attempts by him and many others, little progress has been made in defining stress to everyone's satisfaction. As he was fond of pointing out, "Everyone knows what stress is, but nobody really knows."

Can Stress Be Quantified Or Qualified?

If stress is so difficult to define, how can we measure it, much less show that it contributes to illness? One of the earliest attempts to do both of these is popularly known as The Holmes-Rahe Scale, which ranked and rated 43 stressful life change events. Death of a spouse was at the top of the list at 100, followed by divorce (73), marital separation (65), going to jail and death of a family member (63), with getting a traffic ticket (14) at the bottom. The scores for all events experienced over the last 12 months are totaled, and the higher the number, the greater the likelihood of health problems, accidents and injuries over the next year.

In one study of 100 college football players, total stress scores were added up for the previous year just prior to the start of the season, and they were separated into high and low risk groups. Three months later, only 9 percent of those in the low risk group had sustained injuries, compared to 25 percent for medium risk, and 50 percent at high risk. Of the ten injured more than once during the season, seven were in the high risk group. Other studies have shown a 70 percent rate of injury in high risk college student athletes. The validity of this approach has been confirmed in thousands of other reports over the past four decades, and there have been hundreds of revised versions based on different cultural norms and demographic groups.

Some of the additional items on this list are changing your line of work (36), leaving home (29), beginning formal schooling (26), a major change in living conditions (25), revision of personal habits (dress, manners, associations) (24), major change in working hours or conditions ((20), change in residence (20), changing to a new school (20), major change in usual type and/or amount of recreation (19), major change in social activities (19), major change in sleeping habits (16) major change in number of family get-togethers (15), and a major change in eating habits (15).

If you think about it, most, and sometimes all of the above may be experienced by first year college students. And if you total their scores, many will be in a high risk group that threatens their physical and mental health, unless they learn how to adapt and cope with these life change events.

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The magnitude of the problem can be appreciated by simply doing an Internet search on "college stress". One search engine, Alta Vista, has almost one and a half million entries under this listing! Many of these are chat groups and sites from desperate first year students detailing their woes and asking for assistance and support, such as the following:

" I've been unhappy before, but never anything like this. There were times when I thought life in general was bad and unfulfilling, but those times always passed, and they didn't make such frequent appearances. I don't know if it's college stress, or that something is seriously mentally wrong with me, but it feels as if my world is slowly falling apart at the seams."

Ten of the most common challenges that can contribute to college entry stress are:

- being homesick and missing family and friends
- suddenly being separated from your girlfriend or boyfriend
- getting thrown in with a roommate you can't stand, or who doesn't like you
- concerns about being accepted by the fraternity or sorority of your choice
- not having enough money
- worries about paying back a student loan
- not having enough time for usual recreational activities, like sports, or jogging
- concerns about competition and academic performance
- difficulties in choosing the correct curriculum because of uncertainties about goals and career decisions
- peer pressures that can make it difficult to avoid experimenting with illicit drugs or engaging in antisocial activities

What's the best way to prevent or deal with such problems? Since stress is such a highly subjective and individualized phenomenon that differs for each of us, it is difficult to give advice that applies to everyone. As previously emphasized, it is hard to define because events that are very distressful for one individual may be pleasurable for another, or have little significance either way. However, one thing that all our animal and clinical research confirms, is that the feeling or perception of having little control is always distressful.

Perception And Sense Of Control

That is readily illustrated by observing passengers on a steep roller coaster ride. Some, hunched down in the back seats with their eyes shut, jaws clenched, and white knuckled as they clutch the retaining bar, can't wait for the ride in the torture chamber to end so they can get their feet back on solid ground and scamper away. But up front are the wide-eyed, exhilarated thrill seekers, yelling, relishing every steep plunge, who actually race to get on the very next ride! And in between, you may find a few with an air of nonchalance that borders on boredom. So, was the roller coaster ride stressful?

Obviously, it's a case of "different strokes for different folks", but the roller coaster ride provides a very useful analogy for several reasons. What distinguished the terrified passengers hunched down in the back from the gleeful group up front was the sense of control they perceived over the event. While neither had any more or less control over what was going to happen, their perceptions and expectations were quite different. The sense or feeling of being out of control is always distressful, and that's what stress is all about. Roller coaster rides, people, jobs, and the first year of college are not inherently stressful. It depends on how we perceive these things. As with the roller coaster, we often create our own stresses because of faulty perceptions, and that's something you can learn to change. It's possible to teach people to learn how to move from the back of the roller coaster to the front, just as other phobias like fear of flying, crowds, and heights can be corrected. Nobody can make you feel inferior without your consent.

Stress is an unavoidable consequence of life. There are some stresses you can do something about and others you can't. The trick is in learning to distinguish between the two. The best way to accomplish this is to write down all the things that you find stressful, and separate them into two lists; those you can't possibly hope to avoid or control, and others that you might be able to influence. Forget about the first list, and prioritize items on the second. Have someone you trust see if they agree with your appraisal of both lists. That will help you to use your time and talents most effectively, rather tilting at windmills like Don Quixote. If you can't fight and you can't flee, you have to learn to flow.

Reducing Life Change Event Stress

The best way to reduce or avoid stress is to find ways to gain a better feeling of control over your life. For those entering the first year of college or taking on a new job, some useful tips might be:

- Select your own goals, but make sure they are appropriate and meaningful. Don't live out choices that others have made for you.
- Anticipate potentially stressful situations, and determine whether these can be avoided or postponed. If it's something that must be dealt with now, weigh all the possible options, and practice what you intend to say and do.
- Explore ways to increase your circle of friends and don't hesitate to call on them if they might be able to help relieve your stress. Offer to help them when they are overloaded. A strong social support system is a powerful stress buffer, as is a firm religious faith.
- Take care of your health by getting enough sleep, regular exercise, eating a balanced diet, and avoiding alcohol or mood-altering drugs.
- Just as stress differs for each of us, there is no stress reduction strategy that works for everyone. Jogging, meditation, yoga, deep breathing exercises or progressive muscular relaxation are great for some people, but when arbitrarily imposed on others, they can be boring and stressful. Find out what works best for you.
- It makes much more sense to try to prevent problems by correcting faulty perceptions and behaviors that are frequently their cause, rather than looking for ways to diminish their annoying emotional and physical effects. Learning time management skills, and how to be more assertive and less submissive are particularly important for those who find it difficult to say no to any request, and rarely have enough time to get the job done to their satisfaction, or the best of their ability.

Not having enough time is a problem not only for college students and workers, but everyone in today's hectic world. There's simply too much to see, do, and learn about, and ready Internet access and e-mail has intensified the problem for many. Even retired individuals with apparently nothing to do but worry about what they will have for dinner, complain that they don't know where the time goes.

Tips On How To Manage Time

Everyone has certain daily, weekly, or other routine chores and assignments. However, many frequently find themselves well behind schedule, even when there are few unanticipated interruptions. In many instances, the problem is most likely to be due to the fact that they don't know how to manage their time, rather than laziness or lack of interest. People who manage time poorly tend to have certain common characteristics, such as:

- Being easily distracted.
- Usually seeming to be in a hurry.
- Frequently being late for appointments.
- An increased tendency towards irritability and frustration.
- Finding it difficult to set goals that can realistically be achieved.
- Not being able to say NO to any requests that you know you could probably do if you had enough time.
- Difficulty in making decisions, or vacillating back and forth between possible options.
- A tendency to procrastinate, or to put things off until the last minute.
- An underlying feeling or assumption that you need to do everything yourself, even when portions of some assignments could obviously readily be fulfilled by others.

To avoid such glitches, you need to set realistic goals for the day, week, and month. Make a list of all the things you know you have to do, and establish priorities by separating them into those that must be done today, and others that can wait until tomorrow, or later on in the week or month. Make an outline of where in your day you intend to do certain tasks, and stick to it. Since most people tend to work more efficiently during certain hours of the work day compared to others, more important assignments should be scheduled for that period. Limit interruptions and avoid distractions that may be intriguing or entertaining, but likewise will have you going off in different directions, rather than allowing you to stay on course. Don't automatically assume that just because you can do something, that somehow you will find the time to squeeze it in. The only person who ever got their work done by Friday was Robinson Crusoe.

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More often than not, deadline stress is self imposed. That's particularly true for Type A individuals with time urgency, who are always in a hurry, constantly thinking of what they are going to do next, and how much time they have to do it. They are bored or fidgety if they have nothing to do, and feel guilty when on vacation, or trying to relax. They tend to put things off until the last minute, leave their desks messy, draws open, or fail to finish some task, just because they know there will always be something for them to do. It has been suggested that Type A's may be addicted to their own adrenaline, and unconsciously seek little ways like those noted above, or creating needless challenges to keep their levels up.

Some college students as well as workers, who know on Monday that an assignment is due on Friday, start on it as soon as possible, so that it can be completed by Thursday, and they have a safety cushion of time to fall back on. Others will deliberately put it off until later on in the week, even if there is nothing else that is urgent or needs to be done, because they feel they work better under time pressure. For a few individuals, this may be quite true, since the rush of adrenaline does helps them get things done faster, and in some instances, possibly better for their immediate needs. Students who stay up all night cramming for an important exam the next day may do very well, which serves their purpose, but they are not as likely to retain this information months later, compared to others who learn at a more leisurely rate.

Stress is not necessarily bad, and increased stress boosts productivity—up to a point, but this level differs for each of us . It's very much like the tension or stress on a violin string. Not enough causes a harsh, raspy sound, and too much produces a shrill irritating note, or will make the string snap. However, just the right amount of tension can create a beautiful tone. Similarly, we all have to find the optimal level of stress that allows us to make pleasant music during our daily duties.

The freshman year in college or the first day on a new job can be very stressful, but it can also be very fulfilling and rewarding. You can swing the balance in this direction if you learn how to manage stress, so that it makes you productive, rather than self destructive.

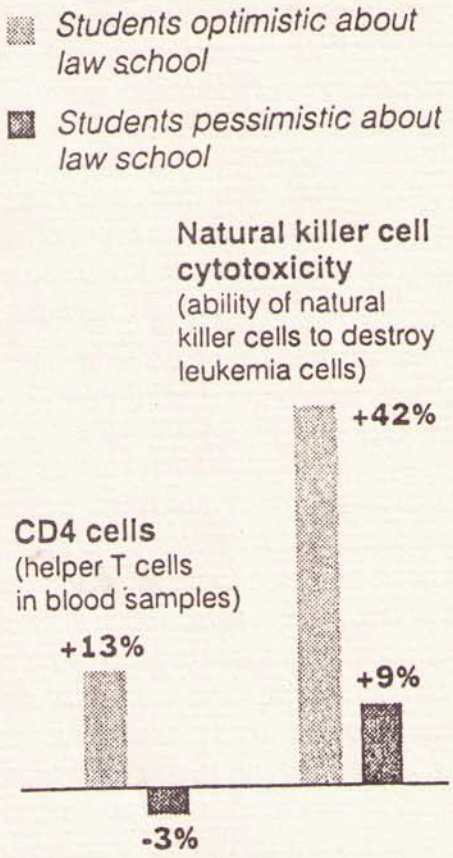
Optimists Are Healthier And Live Longer

It has long been observed that people who look at the brighter side of things are not only happier, but have a better quality of life and live longer. Optimistic patients do much better following bypass surgery, and have fewer clinical symptoms and greater longevity if they are HIV positive. Stress produces an increase in hormones that can cause cardiovascular damage, and it also disrupts immune system function. Several studies have shown that stress related depression of immune defenses delays the healing process, lowers resistance to infections ranging from the common cold to herpes and AIDS, and causes other derangements that result in arthritis and other autoimmune disorders. One possibility is that optimists are healthier because their immune systems are more resistant to the injurious effects of stress, and a recent study appears to confirm this.

Researchers measured immune system function in 90 healthy students just before they started law school, and halfway through their first semesters, a notoriously stressful period. They also administered questionnaires that evaluated both dispositional and situational optimism, which are slightly different. Dispositional optimism reflects how you tend to perceive most things, and your expectations about life in general, and an example of this would be strongly agreeing with the phrase "When things are uncertain, I usually expect the best." Situational optimism deals with your appraisal of a specific situation, and in this instance, expectations for success in law school, as appraised the degree of agreement with statements such as "It's unlikely that I will fail."

Although situational optimists and pessimists tend to fall in the same dispositional categories, this is not always so. There is some evidence that dispositional optimism is influenced by heredity, and is usually a fixed trait in adults that is difficult to change. Dispositional optimism and pessimism usually reflect people's circumstances, and as one authority commented, "You can't just tell people to be more optimistic if their life stinks." However, even if you tend to be a pessimist, it's possible to have a sense of optimism about some specific circumstance. Situational optimism had a more significant impact on the immune system in this study, which has important implications. (*Continued on Page 6*)

All of the students had comparable levels of helper T-cells and natural killer cell activity at the start. Repeat testing 8 weeks later revealed that the more optimistic the students were, the greater the increase in these immune system measurements. This was particularly true for those who scored high on situational optimism. As noted below, the number of helper T-cells rose by 13 percent, but fell 3 percent in the situational pessimists. Natural killer cell activity was up 42 percent in situational optimists but only 9 percent in those classified as pessimists.



In another study, AIDS patients, who believed strongly that their illness could be controlled, had higher T-cell counts and lived nine months longer than men with negative expectations. Such situational optimism can be developed, even in pessimists, by using strategies designed to identify and change habitually negative thoughts. Cognitive therapy using similar restructuring strategies is increasingly being incorporated into the overall treatment of many stress related disorders.

J. of Personality & Social Psychology, June 1998

The optimist says that we live in the best of all possible worlds, and the pessimist fears this is true. - J. B. Cabell

More On Job Stress And Heart Attacks

Most of the scientific reports linking occupational pressures with cardiovascular disease are based on the "demand-control" model proposed by Karasek and Theorell. This postulates that workers who perceive that they have a great deal of responsibility, but little authority or decision making capabilities, have higher rates of heart attacks, other coronary events, and hypertension. Several other researchers have confirmed this, but in general, these have been long term studies following various groups of employees working under the same conditions for many years.

However, there is little research to prove that a specific stressful incident could actually trigger a heart attack. In recent years, there has been an increase in abrupt layoffs due to mergers, acquisitions, downsizing, and hostile takeovers. To determine whether this or anything else that happened in the preceding days or weeks might contribute to a coronary event, researchers at 45 hospitals across the United States interviewed almost 800 heart attack victims over a period of five years. They went into detail about their recent activities at work and home, and whether they had experienced anything unusual that they believed might have been responsible for their problem.

The results were surprising. While we tend to feel sorry for workers who are axed, it would appear that those who do the firing are at greater risk. The strongest links were for those who were working under a high-pressure deadline, or who had to fire someone. The researchers concluded that firing someone or having a high-stakes deadline actually doubled the usual risk of a heart attack during the following week. Although they felt that being fired could undoubtedly also be a contributing factor, there were only two patients in this category, not enough to reach any statistical significance.

This research project, called the Onset Study, identified a variety of other non work stresses that were relevant, such as shoveling snow, having sex and other heavy exertion, and outbursts of anger. Most heart attacks occur between 6AM and noon, and this study again confirmed that the stress of simply getting up in the morning could trigger a heart attack.

American Heart Association Meeting, 3/19/98

Still More On The Vagaries Of Viagra

The Viagra story just won't go away. Since our last Newsletter, there have been a number of legal challenges and law suits. The Federal government has backed down on its insistence that all Medicaid programs must cover the drug because of pressure from various states, including some who defied the order. A previously healthy 63 year old man has sued Pfizer for $85 million dollars because of a heart attack after intercourse. He claimed that neither the company nor his physician had warned him about this possibility.

As previously noted, Viagra has become popular with women, despite the fact that very little is known about its effects in females. However, this is now under intensive investigation. A Boston University urologist who has given it to dozens of postmenopausal patients says "it's remarkably useful for vaginal lubrication and intensifying sexual arousal." An OB-GYN specialist in Minneapolis said that 14 of 16 women for whom Viagra had been prescribed reported much better sexual responses, and so did half of the women who took it at a Loyola University Medical Center study. Research is also underway at the Sexual Dysfunction and Infertility Center at University of Miami Medical School. Pfizer is testing the drug in some 500 European women, and evaluating their responses to a questionnaire which asks them to rate any changes in interest in sex, enjoyment at being touched, arousal, and lubrication.

One of the most important things Viagra has accomplished is to bring female sexual dysfunction out of the closet by encouraging scientific research studies. For years, lack of interest in sex, (present in one out of three in a large national survey) and failure to be aroused or achieve an orgasm, were assumed to due to psychological or emotional problems. Funding for impotency research was limited almost entirely to men because the potential payoff was much greater and it was easier to obtain objective evidence in animal studies and clinical trials to satisfy FDA efficacy requirements. That has now changed, and a Boston laboratory, long funded for its research on the role of stress and anxiety in male impotency, recently got its grant renewed only because it agreed to include women in its protocol. Female rabbit studies showing that reducing blood flow to the genitalia inhibits sexual arousal, suggests that the same problem occurs in women, and that Viagra can correct this.

Neither the FDA or NIH have indicated what the requirements might be to gain Viagra approval for women. But once a drug is approved for a specific indication, there is nothing to restrict a physician from prescribing it for anything else. Pfizer does not endorse such off-label use, and there are special concerns in younger women, because of the possibility that it might impair fertility or cause birth defects. Nobody knows what the proper dosage should be, since female response patterns are not as obvious or easy to measure. In one University of Maryland study, a 100 mg. tablet appeared to double the flow of blood to the genital region. Proving that this will induce or intensify arousal and orgasms is more difficult, but there are numerous testimonials.

One 38 year old sex therapist, trained to help others, had her own problems following a hysterectomy 4 years previously. While she had been multiorgasmic, sexual sensations suddenly became weak, and "The difference was like night and day". She still had the desire, but her body just couldn't respond. Physical examination and laboratory tests were normal, and she tried all the techniques she used for her patients, including fantasy, erotica, extended foreplay, etc., but nothing helped. After starting Viagra, she noticed "an immediate difference. It was the way I used to be . . . . more lubrication and engorgement in the vaginal area, heightened sensitivity. It was Nirvana." Basically, I got back all my sexual pleasure and more."

There was also an immediate change in a 45 year old suburban Chicago school teacher. She had been experiencing increased vaginal dryness and lack of sensitivity, and had not had an orgasm for about four years. Her response to the very first pill was dramatic. "I was multiorgasmic. It was incredible. My muscle tone inside the vagina feels rejuvenated . . . . I was amazed at the difference it made. It took me way, way back, like before I had kids."

Testosterone has been used to increase sexual desire and performance in women, and appears to enhance Viagra effects. At least six companies are developing products specifically targeted to women, including testosterone patches, and drugs to increase blood flow, so stay tuned.

Handbook Of Stress Medicine: An Organ System Approach, Hubbard, JR and Workman, EA eds. CRC Press Boca Raton, 1998, 423 pages, $ 99.95

This compendium is divided into five sections, The first, which covers concepts about the nature of stress, deals with various definitions of stress and their attendant problems, the importance of perception and coping, and challenges for future stress research. Section II, The Effect of Stress on Organ Systems, has chapters devoted to the cardiovascular, respiratory, gastrointestinal, neurological, immune, and endocrine, systems, with special ones devoted to problems of both male and female sexual dysfunction. Section III has chapters on the role of stress in specific disorders, including malignancy, AIDS, addiction, pain, anxiety states, and dental diseases. Other topics such as job stress, the psychodynamics of stress, biochemical indicators and other techniques to measure stress are found in Section IV. The final section has chapters on cognitive and behavioral methods of stress control, and pharmacologic treatment for anxiety disorders.

As stated in the Preface, the purpose of this book was to provide a scientifically based review of the relationship between stress and alterations in physiology of the major organ systems in the body and their pathological consequences, and this goal has been admirably achieved. While only a handful of the more than 40 authors would be considered luminaries in the field of stress research, this provides an advantage, since they have no private agenda or bias, as is often the case with experts who want to promote their own theories, and are less apt to give a balanced and unbiased presentation because of their own pet theories. Since the scope of this book obviously extends far beyond a discussion of the effects of stress on organ systems per se, it is unfortunate that other relevant topics of great popular interest and controversy were not considered. Some of these include alternative medicine approaches to stress reduction, such as the use of herbal medicines like kava, valerian, ginkgo and ginseng. No reference was made to the explosion of subtle energy therapies like aromatherapy, music, and the use of devices that emit various types of electromagnetic fields. Some of these, and particularly the latter, have now undergone rigorous clinical trials and double blind studies that have confirmed their efficacy and safety. In many instances, they are much more cost effective than drugs, and devoid of their harmful side effects and addictive tendencies, as has been shown with the Symtonic device for the treatment of insomnia and anxiety, and the use of neuroelectric therapy for addictive disorders and withdrawal symptoms. Other examples include the use of cranioelectrical stimulation in depression, which has been effective in patients who had failed to antidepressant medications.

There are some other minor shortcomings. Selye's original definition of stress was "the non specific response of the body to any demand for change", rather than "the rate of wear and tear", which he adopted decades letter when attempting to explain his theories to a lay public. The chapter on measuring stress omitted several important instruments, had none dealing with Type A, and no update on the Holmes-Rahe scale. Nevertheless, this is a very useful and authoritative text. It is well referenced, diagrams are of high quality, and can be highly recommended.

Paul J. Rosch, MD., F.A.C.P.
Editor-in-Chief

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Sessions Include Magnetotherapy And Electromedicine Breakthroughs, Stress Reduction Effects Of Music And Other Subtle Energies, Workplace Violence, Job Stress Around The World, Road Rage, Post Traumatic Stress Disorder, Stress In Athletes, Celebrities — And Much More. Special Holistic Medicine Day - March 6