

LOWERING BLOOD PRESSURE

Relaxation, biofeedback and even psychotherapy look promising as ways of lowering blood pressure in stress-prone persons

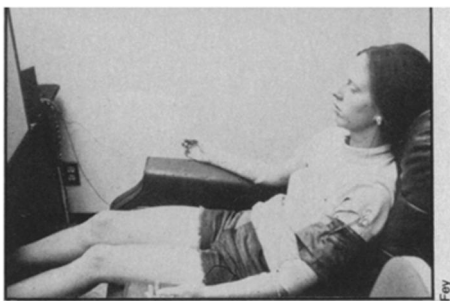
BY JOAN AREHART-TREICHEL

In recent years, stress has joined obesity, salt, water softness and genetics as culprits in high blood pressure, which in turn can lead to heart attacks, stroke and kidney failure.

Epidemiological studies, for instance, have shown that as simple rural societies move to cities and a complex way of life, they acquire high blood pressure for the first time in their lives, apparently because they gain more weight, but also because they are exposed to new levels of stress. Individual case studies have shown that combat troops during World War II were often victimized by high blood pressure; that when male executives were under emotional stress at work, their blood pressure shot up dramatically; and that when women with high blood pressure were questioned about their life situations, their pressure also increased markedly. Animal studies, too, link stress and high blood pressure. Crowding makes mice blood pressure increase.

Thus one might assume that if stress can trigger high blood pressure, then perhaps behavioral or psychological therapy might successfully counter it. And indeed, isolated clinical reports and several animal studies have shown that this is the case. Some subjects were taught to lower their blood pressure by suggestion, still others through relaxation, biofeedback or psychotherapy. One investigator found that if he rewarded rats every time their blood pressure decreased slightly, they lowered their blood pressure on a regular basis.

However, crucial questions remain about these novel therapies for high blood pressure: How do they compare to standard drug treatment for high blood pressure? Is one form of behavioral or psychological therapy more effective than another? How long do the effects of these treatments last? Might some persons be helped more by them than others? Such questions can obviously only be answered by carefully controlled, long-range scientific studies. And happily some studies of this nature are getting underway and are already providing preliminary answers to some of the above questions. Their results were reported at the recent 1977 National



Using biofeedback to monitor pressure.

Conference on High Blood Pressure Control in Washington.

In one study discussed at the conference, Paul F. Christoph Jr., a research specialist at the University of Pennsylvania in Philadelphia, put mild to moderate hypertensives (persons with elevated blood pressure) into four study groups. Five of them received standard drug treatment for their high blood pressure, six were instructed to exercise to lower their blood pressure (actually a placebo group) and six were taught to relax to lower their blood pressure, but with the help of a biofeedback machine. (In this setup, a subject actually viewed a graph of his blood pressure while it was being monitored.)

Although the study has been underway for only several months now, preliminary results are in for the first three groups. Drugs significantly lowered subjects' blood pressure, exercise (a placebo) did not help, and relaxation led to a modest lowering of blood pressure. If relaxation continues to lower subjects' blood pressure over a longer period of time, Christoph says, then it may prove to be effective in combating high blood pressure. One of the most interesting of his results: Persons who lower blood pressure best with relaxation are also persons who are especially responsive to stress.

In a second study reported at the conference, S. Thomas Elder and his colleagues at the University of New Orleans used 24 young volunteer students with normal blood pressure as subjects. Some were instructed to try to change their blood pressure to see what effect simple suggestion might have. Others were required to relax. A third group was trained to change their blood pressure up and down with a biofeedback device developed in Elder's laboratory. Biofeedback conditioning was superior to simple suggestion or relaxation, the researchers found. Those in the biofeedback group learned to raise and lower their blood pressure between 10 and 50 percent over five consecutive days of training. Elder thus sees biofeedback as a means of teaching people how to control their blood pressure.

In a third study, reported by Steven G. Fey of the University of Oregon Health Sciences Center, Portland, one group of subjects with normal blood pressure received relaxation therapy with biofeedback, another group relaxation with no biofeedback and a third group white noise and biofeedback (a control group).

Whereas the control group reduced their pressure only in the direct training sessions, the relaxation group and relaxation-biofeedback group did it in all sessions, with relaxation-biofeedback being especially effective. The latter group was also able to lower their pressure even when the feedback apparatus was disconnected.

In a second study described by Fey, seven mild hypertensives, who were not conscientious about taking drugs for their high blood pressure, were taught relaxation and counseled how to reduce life stress. Four were able to change their pressure, with two actually able to discontinue their medications. However, two of the patients eventually gave up relaxation on a daily basis because they found it too time-consuming. Still, as Fey points out, some patients who will not take drugs will relax. "We are just beginning to understand some of the psychological variables that make up these differences," he says.

Finally Marcel Sufrin, a psychiatrist at the medical department of the Workmen's Circle in New York City reported how comprehensive psychiatric therapy can sometimes lower blood pressure. He treated 63 patients with high blood pressure and with various emotional disorders by using behavioral therapy, biofeedback and psychotherapeutic medications when necessary. Anti-high blood pressure drugs were *not* used. These treatments normalized the patients' blood pressure.

One patient, for example, had been treated for high blood pressure for 30 years. None of the physicians she had gone to had ever asked her about her mental state. Yet she frequently suffered from hearing voices and threw herself on the floor to escape them. Once Sufrin helped her combat this psychological stress and overcome it, her blood pressure dropped to normal and remained so for some six years.

So it looks as if relaxation, particularly with biofeedback and psychotherapy, is effective to some degree in helping people—especially persons particularly susceptible to stress—in lowering blood pressure. Such therapies may be valuable adjuncts to drugs, or possibly even replacements for drugs. They are not for everyone, of course. As Fey points out, two of his patients who learned how to control high blood pressure with relaxation eventually dropped it because they found it too time-consuming. On the other hand, persons who are poor at taking drugs for high blood pressure may be good at relaxing in order to combat it.

Obviously the above studies must be continued longer, and with a larger number of subjects, and psychotherapy must be compared to drugs and relaxation or relaxation and biofeedback before all the questions about the value of behavioral and psychiatric methods for treating high blood pressure are answered. □