

Capsules

► Puffing through a park or panting along a highway, joggers are unquestionably helping their hearts. But are they shedding poundage as well? No, say three U.S. Air Force researchers in the *A.M.A. Journal*: exercise alone can't do it. A runner of medium weight who wishes to shed a pound of fat on a one-shot basis must expend 3,500 calories, which means that he must run for well over an hour.

Still, say the doctors, exercise is an important element of any weight-control program. The trio figured the actual caloric consumption for men of var-



MASS JOG IN TEXAS
Ten pounds a year.

ious weights running a jogger's common distance of 1.5 miles in times ranging from eight to 16 minutes. They found that a 170-lb. man who can cover this distance in eight minutes burns 175 calories. This may not seem like much, but the Air Force physicians note that a runner who does this regularly can lose ten pounds a year—if he does not increase his caloric intake. In fact, if a runner on a 2,600-calorie-per-day diet can burn off 200 calories a day, he can treat himself to a small piece of cake every night and still keep his weight constant.

► Large numbers of Westerners have come to accept the idea that acupuncture can help alleviate pain. But doctors have expressed doubts about another claim advanced for the ancient Oriental art: needle welding can relieve nerve deafness, a hearing loss caused by damage to the cranial nerve that serves

the ear. Their skepticism has been bolstered by two new reports.

A team of Michigan State University researchers states in the *A.M.A.'s Archives of Otolaryngology* (a journal for ear, nose and throat specialists) that it observed an acupuncturist with 15 years of experience administer eight treatments to a deaf World War II veteran. Testing the man's hearing before, during and after the treatments, the researchers could discern no measurable improvement.

The other report—to the American Laryngology, Rhinology and Otology Society—was presented by Dr. Samuel Rosen, a New York City otologist who learned acupuncture three years ago as one of the first American physicians to visit Communist China. Rosen studied 40 children who received acupuncture therapy for their hearing disorders and found that only two showed improvement, and that was slight.

► Doctors have long been puzzled about the cause of primary dyslexia, a common learning disorder that afflicts between 2% and 5% of all U.S. schoolchildren with average or superior intelligence, and interferes with their ability to read. Most researchers assume that the root of the problem is in the cortex, site of the brain centers involved with thinking and learning. But two New York City doctors offer a different explanation—one that could lead to earlier diagnosis of this disorder.

Drs. Jan Frank and Harold Levinson of Downstate Medical Center report in the *Journal of Child Psychiatry* that primary dyslexia is caused by some as yet unexplained defect in the nerve pathways that connect the inner ear, which helps control balance, with the cerebellum, the part of the brain that controls coordination. The result of this defect, they claim, is a sort of permanent motion sickness that affects a child's balance and scrambles incoming visual signals. In fact, they say, 112 out of 115 New York City children known to have primary dyslexia were tested and found to be afflicted with an inner-ear disturbance.

Frank and Levinson have devised an instrument that a school nurse can use to detect the ear disturbance. Thus, they suggest, primary dyslexia can now be diagnosed in preschool children. The two doctors are also searching for a physiological treatment for the disorder; in a small pilot program, they have begun to study the effect of cyclizine, a motion-sickness drug, on the reading ability of dyslexic children.

► Many marijuana users claim that smoking pot improves their sex lives. That widely held belief has now been challenged by the findings of a group that includes researchers from St. Louis' Reproductive Biology Research Foundation, the outfit headed by Dr.

William Masters and Virginia Johnson. The research team, which includes Masters, reports in the *New England Journal of Medicine* that marijuana smoking appears not only to reduce the production of male sex hormones but also to impair both the fertility and potency of males.

The conclusion is based on a study of 20 men, age 18 to 28, who used marijuana (but no other drugs) at least four times a week for six months. At the end of that period the testosterone levels among the pot smokers were an average of 43% lower than they were in a group of non-smoking controls. Six of the marijuana users had lowered sperm counts, and two of them reported that they had become impotent. After abstaining from marijuana for two weeks, several subjects regained normal hormone levels and sexual function. One preferred the pleasures of pot to those of the pad. Despite a potency problem, he declined to give up marijuana.

The Plastic Peril

Vinyl chloride is a colorless gas that has been used as a propellant in such popular products as hair, disinfectant and insect sprays. It is also the principal ingredient of polyvinyl chlorides, the plastics that go into a host of familiar products including food wrappers and containers, suitcases, detergent bottles and garbage bags. No one questions vinyl chloride's utility, but a growing number of doctors now suspect its safety. Increasing evidence links vinyl chloride to a crippling bone disease and a rare but invariably fatal form of cancer.

Evidence of vinyl chloride's toxicity has been around for years. Production of polyvinyl chloride (PVC) was begun in 1938 by B.F. Goodrich Co. That year experiments showed that the vinyl chloride gas used at the plant was dangerous to animals. A 1949 Russian study showed that vinyl chloride (VC) caused nonmalignant liver damage in 15 of 48 workers exposed to the chemical; surveys in other European countries over the next decade and a half confirmed the connection. In 1966 and 1967 British scientists examining PVC workers reported a high incidence of acro-osteolysis, a condition partially characterized by distortion of the skin and bones of the fingers and feet.

Mini-Epidemic. The connection between VC and cancer was first made in 1970 by Publio L. Viola of the University of Rome, who found tumors in the lungs, skin and bones of rats exposed to high concentrations of the gas. The link was strengthened in 1973 when researchers from Bonn University found evidence of liver damage in 19 out of 20 PVC workers at a single plant. The bombshell really burst early this year when B.F. Goodrich Co. reported that



The Wild Bunch sits for a family portrait. Left, The Sundance Kid. Butch Cassidy is at right. This swashbuckling crew plagued banks and railroads all over the West until the Pinkertons forced them out of business.

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MEDICINE

three men who worked with VC in its Louisville, Ky., plastics plant had died of angiosarcoma of the liver since 1971. Since then doctors have identified nine more cases of the cancer in the U.S., one in Great Britain and another in Norway.

Their findings are all the more significant because angiosarcoma of the liver is so rare that it has been reported only about 100 times in medical history; a major hospital in Los Angeles found only one case in 52,000 autopsies. The discovery of a dozen closely linked cases thus constitutes a sort of mini epidemic of the disease. Since such cancers may not develop for at least 15 years after initial exposure, environmental health researchers suspect that more cases will be uncovered. Says J. William Lloyd, of the National Institute for Occupational Safety and Health (NIOSH): "I would suspect that this is going to be the occupational disease of the century."

His prediction could prove correct, for in the U.S. alone some 6,500 workers are involved in making VC gas or converting the gas into PVC; thousands more are engaged in converting the plastic into finished products. European and Japanese firms are also heavily involved in VC production.

Whopping Levels. So far, at least, there is no clear evidence that consumers are in any danger from VC. The U.S. Food and Drug Administration and the Environmental Protection Agency have, as a precautionary measure, put a halt to the distribution of spray products using VC propellants.* The FDA had already ordered companies to stop bottling whisky in PVC bottles; whisky dissolves the plastic. Other PVC products offered to the consumer have yet to be proved unsafe.

But the risks to plastics workers are real. A research team headed by Dr. Irving Selikoff of New York's Mount Sinai School of Medicine has found that workers at one plant are exposed to VC levels of 400 to 500 parts per million of the gas, more than enough to cause liver disease in rats. Workers involved in cleaning the reactors in which VC is converted to PVC are exposed to even higher concentrations of the gas. One study showed that VC levels in these cookers range from 600 to a whopping 1,000 parts per million.

Neither Japan nor the European nations have done more than start studies on VC, but American authorities are moving to reduce the risks from the plastic peril. The Department of Labor's Occupational Safety and Health Administration has issued emergency regulations reducing allowable VC levels to 50 parts per million. Whether this is adequate to provide long-term protection for plastics workers remains to be seen. An industry-sponsored study has shown that when mice are exposed to those levels, they develop angiosarcoma.

*The majority of spray-product manufacturers use Freon gas.

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