

medical sciences

VIBRATION

Chain saw affects lumberjacks

A motor-driven chain saw used for at least three years by 22 lumberjacks in Finland has caused changes in their bones believed due to the vibrations.

The Helsinki Institute of Occupational Health, in collaboration with the World Health Organization, has studied the men, who complained of nocturnal pain and numbness or prickling in the arms. The pain occurred after regular use of the saw for one to two years.

The chain saw potentially triples the lumberjacks' output. When sawing, it turns at 2,000 to 3,000 revolutions per minute, the same frequency as the vibrations.

The Helsinki researchers used special radiographic techniques to estimate the mineral content and cortical thickness of the long bones. They found marked demineralization of the forearm bones of lumberjacks who had been longest on the job, and eight patients had cysts in the wrist or hand bones.

The study will be widened to include different types of vibration in different occupations.

BRAIN COOLING

Helmet-type refrigerator aids surgery

Russian scientists have made a small electric refrigerator, shaped like a crash helmet, to be worn on the head during surgery. It is designed to cool a patient's brain so surgeons can carry out operations on the heart and other vital organs in greater safety.

When the brain is cooled it does not require as much oxygen. Therefore there is less risk, for example, in connecting the patient's blood circulation system to a heart-lung machine.

Dr. Evgeny Polenko, head of a Leningrad research team that developed the helmet, claims that it will cool a patient's brain down to 72 degrees F. in two or three minutes.

Cooling the brain also leads to a general reduction of the body temperature, Dr. Polenko says, and this saves doctors the necessity of placing a patient in a cool bath for delicate operations. The team is working on a new version of the helmet to be used in such emergency situations as in an ambulance at the scene of a road accident.

BONE MARROW

Rare operation

An operation for a rare disease called myelofibrosis, meaning an overgrowth of fibrous tissue in the bone marrow that leaves no way of regenerating blood, has been performed at the Hadassah-Hebrew University Medical Center in Jerusalem.

Dr. Gordon Robin, an orthopedic surgeon, scraped out the fibrous tissue inside the iliac bones, which are the wing-like parts of the hip bones.

The expectation is that this will make it possible for the marrow to regenerate inside the bone and keep Ali Rabia, a 13-year-old boy from East Jerusalem, going for several years. This operation has been performed only twice before in the world, and in both cases the

patients have so far survived for a year, so there is some hope. There is no other conceivable way of saving him.

Sixteen donors gave blood for necessary transfusions for the boy.

CIGARETTES

German study links smoking to heart attacks

A team of doctors at a Hamburg University clinic has indicted heavy cigarette smoking as a factor in causing heart attacks in men and women under 45.

The group made up five percent of the clinic's heart attack patients. The study was limited to this age.

The study included 218 males and 35 females, the youngest of them 19 years of age. High cholesterol, diabetes and high blood pressure were seldom observed in the patients, although about a third of the men and a fourth of the women were overweight.

All but four of the 253 patients were heavy cigarette smokers. The men averaged 26 cigarettes a day, the women, 19. Only one percent of the male heart patients were nonsmokers, while the figure in the control group was 18.5 percent.

OBESITY

Outpatient clinic success

A study of 200 obese persons put on a diet at the Outpatients Dietetic Unit of the Hadassah-Hebrew University Medical Center in Jerusalem shows that a large number have lost weight.

The Metabolic Department of the center has had the unit in the center of Jerusalem for the past five years. It has had unusually good results, but the tendency to gain back the weight is hard to combat.

The patients come three times a day to the hospital to eat, and are given a small snack to take home to eat before bedtime.

The standard diet offered is low in carbohydrate and high in protein. It consists of 800 to 1,200 calories, of which about 40 percent are derived from protein, 30 percent from fat and 30 percent from carbohydrates.

Group therapy, with close patient relationships between dietitians and physicians, resulted in the loss of 20 pounds by a large number. Compared with a fasting diet, the high protein diet scored better in the long run.

WILMS' TUMOR

Treatment after surgery

Wilms' tumor, a cancer of the kidneys in children, may be more effectively cured with surgery and post-operative treatment with a chemical called Dactinomycin, than with radiation, Dr. R. H. Sagerman of Columbia University and the Babies Hospital, New York City, reported at the American Radium Society meeting in Philadelphia.

Radiation changes in the vertebrae were seen in 16 of 18 patients who survived surgery and later radiation, but when the drug was given, all patients are living without evidence of the disease 15 months later.