

## Machines as health hazards

There's not much room for error when it comes to trusting machines. The Food and Drug Administration (FDA) last week issued a warning to hospitals and rescue squads that certain rechargeable battery packs made by General Electric (GE) and incorporated into heart-shocking devices are not to be trusted. And the March 22 MORBIDITY AND MORTALITY WEEKLY REPORT describes a close encounter with a robot-operated die-casting machine that resulted in death.

Defibrillators are the sets of paddles rescue workers use to shock an erratic or stopped heart back into normal function. The FDA is recommending that defibrillators using the GE battery pack be operated on direct power when possible, or that spare batteries be available as a backup. The agency is investigating over 20 cases of "failures to revive" that may have been a result of the faulty batteries.

The problem battery packs were manufactured during late 1984 and early 1985, according to GE spokesperson Bud Schaller. Batteries made before and after that are fine, he says. But what caused the "electrochemical flaw" remains a mystery.

The robot fatality report describes a Michigan man's death in July 1984. The machinist entered a robot's "work envelope" while it was operating and was pinned by the robot's arm to a safety pole. It is the first U.S. robot-related death to be reported to the National Institute for Occupational Safety and Health.

## Herpes battle flurries

The "herpes is forever" dictum is slowly being eroded. Following the FDA's approval of acyclovir for recurrent genital herpes (SN: 2/2/85, p. 68) come advances in the search for a treatment for herpes zoster and in a vaccine to prevent genital herpes.

Herpes zoster virus, which causes chicken pox, often reactivates in adults, causing shingles — a painful, burning rash. The skin condition usually lasts five to 10 days and rarely recurs, but in some people the pain can continue for months or years.

S. Harvey Sklar of Englewood (N.J.) Hospital and colleagues tried adenosine monophosphate (AMP), which plays a key role in energy production and genetics. AMP eliminated the pain and speeded healing in 32 shingles victims, they report in the March 8 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

How AMP exerts its effect is unknown, but the treatment, Sklar told SCIENCE NEWS, "hasn't shown any side effects or toxicity." The best results come when treatment is instituted in the first few days of the shingles outbreak.

Henry H. Balfour Jr., a herpes expert at the University of Minnesota in Minneapolis, is concerned that AMP's exact mechanism of action is unclear, but says the research is worth pursuing. "The data look good but I would like to see more patients studied," he says.

With the idea that prevention may be better than treatment, the South San Francisco-based gene-splicing company, Genentech, Inc., has been pursuing a vaccine for another branch of the herpesvirus family, herpes simplex, whose members cause genital herpes and cold sores. By splicing into bacteria a gene that produces a part of the herpes I virus coat, they produced a vaccine that effectively protected guinea pigs from herpes simplex I and II. They reported their work in the March 15 SCIENCE.

## Warm-up interruptus

You've just started out on your evening run when you encounter a neighbor in the mood to chat. It takes 20 minutes to free yourself. With dusk edging in, you'd like to run while it's still light, but do you need to take the time to repeat the stretching you so carefully did before you left the house?

Maybe not, according to a report from University Hospital in Linköping, Sweden. Researchers there ran eight healthy male

volunteers through a 15-minute warm-up on exercise bikes followed by 15 minutes of stretching and isometric exercises. The increase in the range of motion of the various muscle groups stretched lasted for about 90 minutes, they report in the March ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION.

## Pass the olive oil

Switching from butter and other foods rich in saturated fat to polyunsaturated foods lowers blood levels of cholesterol, and this effect has formed the basis of many an advertisement for margarine and vegetable oil. But a fat "in between" these two types may actually be better, say Scott M. Grundy of the University of Texas in Dallas and Fred H. Mattson of the University of California at San Diego.

Saturation is determined by the number of double bonds along a fat molecule's 16- to 18-carbon-long chain. Saturated fats have no double bonds — their carbons are fully saturated with hydrogen. Polyunsaturates have two or more double bonds, and monounsaturates — "the middle ground" — have one.

Recent research has shown that high doses of polyunsaturates can promote cancer in animals, alter cell membranes and possibly increase the risk of gallstones.

"This makes people leery about using polyunsaturates in large amounts in the diet," says Grundy.

So he and Mattson took a look at monounsaturates. They suspected a beneficial effect because people in the Mediterranean basin who rely on olive oil, a monounsaturate, have a low rate of cardiovascular disease and, presumably, low cholesterol levels.

The researchers fed 20 men liquid diets in which 40 percent of the calories were from fat. The men got one month each of polyunsaturated, monounsaturated and saturated fat.

Blood evaluations showed that poly- and monounsaturated fat were about equal in lowering total cholesterol, and that the monounsaturated diet lowered harmful LDL cholesterol more effectively while lowering the "good" HDL cholesterol less frequently, they report in the current (February) JOURNAL OF LIPID RESEARCH.

"I think epidemiological data are a strong recommendation for olive oil. Our results provide a rationale for that," says Grundy. Currently marketed polyunsaturated fats could easily be treated and transformed into monounsaturated fats if industry saw a demand, he says.

## Zinc-lead link

Sometimes too little of one thing can lead to too much of another. Mary Hale Ashraf and Gary J. Fosmire of the Pennsylvania State University in University Park report in the March JOURNAL OF NUTRITION that rat pups with low levels of zinc accumulated more lead in their bodies than pups considered zinc-adequate.

Lead damages the nervous system, and is particularly dangerous to children. Indications are that many people in the United States don't get their "recommended daily allotments" of zinc, Fosmire says. Meat, eggs, milk and legumes are high in zinc. "Provision of an adequate level of zinc in the diet would seem to lessen the danger of lead exposure," says Fosmire. That's not to say high doses of zinc will stave off lead poisoning, he notes. Excess zinc doesn't add further protection and in large doses may have adverse effects.

Fosmire and Ashraf created the zinc deficiency by feeding the pups' dams a low-zinc diet so that their milk was also low in zinc. While other studies have shown a link between severe zinc deficiency and lead accumulation, the Penn State researchers created a marginal deficiency, closer to what happens in humans, Fosmire notes.