

MEDICINE

Addiction by Overuse

Certain tranquilizers and pain killers have been added to the list of drugs which cause withdrawal symptoms when discontinued after overuse.

► **TRANQUILIZERS**, pain-killers and other drugs not related to narcotics or barbiturates can cause addiction and dangerous withdrawal symptoms. This can happen when patients increase the doctor's recommended dosage.

Dr. Harvey Kelman of the University of Minnesota, Minneapolis, lists typical cases in *Medical Times*, Feb. 3, 1965.

Meprobamate, although an excellent minor tranquilizer used for the control of anxiety and for muscle relaxation, can be a "truly" addicting drug. There are approximately 20 meprobamate and meprobamate-containing drugs on the market, among which are Miltown, Equanil, Meprospan and Meprothalis. Dr. Kelman says at least one death has been attributed to cardiovascular collapse during withdrawal of the drug, and that other withdrawal symptoms have included major epileptic seizures.

Chlordiazepoxide, or Librium, is another tranquilizer that can cause addiction when the dose is increased by patients. Abrupt withdrawal can also cause seizures and other symptoms similar to those observed with meprobamate.

Two drugs recommended to curb the appetite of obese persons are related to

amphetamine, a stimulant, and have caused addiction when overdoses have been taken. They are phenmetozine, trade name, Preludin, and diethylpropion, trade name, Tenuate.

Dextro-Propoxyphene, trade name, Darvon, is a non-narcotic pain killer that has caused only one reported case of addiction in U.S. medical literature. Because the drug is capable of partially suppressing morphine withdrawal symptoms, Dr. Kelman says it should be considered a potentially addicting drug even though the possibility seems to be small.

Three sedative drugs found to cause addiction when used to excess are glutethimide, or Doriden, ethchlorvynal, or Placidyl, and chloral hydrate, sold under a number of trade names.

Prolonged abuse of chloral hydrate results in a condition similar to chronic alcoholism, and withdrawal symptoms may resemble those of delirium tremens.

The type of patient who abuses these non-narcotic, non-barbiturate drugs often has misused many drugs and sometimes has a history of alcoholism.

Withdrawal of such drugs should be slow and cautious rather than abrupt, Dr. Kelman warned.

• Science News Letter, 87:69 January 30, 1965

MEDICINE

'Staph' Resists Antibiotics

► **HOSPITALS** are still battling "staph" infections within their own wards. Staphylococcus organisms cause simple pimples or boils but may also cause more important infections in organs of the body. In spite of the newer antibiotics, they continue to plague hospitals. These germs build up tolerance and toughly resist treatment.

Dr. Maxwell Finland of Harvard Medical School and Boston City Hospital reported in *Medical Times* that although penicillin reduced the death rate after 1946, by 1957 "staph" accounted for nearly 40% of all bacteremic infections at his hospital, and about the same proportion of infection-caused deaths.

Dr. Finland pointed out that the greatly intensified use of hospitals, including 95% of all births taking place in large city institutions, exposes the most susceptible elements of the population to staphylococci, which are the most important causes of hospital-acquired infection.

With their increased use, hospitals often are unable to cope with infections.

Sanitary measures such as those that have helped to reduce and almost eliminate some

intestinal infections like typhoid fever in this country, can hardly be expected to solve the staphylococcal problem, Dr. Finland says.

Isolation nursing for all patients with every type of staph infection, including minor or healthy carriers, could help but is not practical, because of the nursing shortage and the expense of attending personnel even if available.

The use of open drainage for suppurative infections is still the most important feature of treatment. The use of more than one antibiotic is also often recommended.

Unless the patient is allergic to penicillin or the staph germ produces penicillinase, a substance that combats the effect of penicillin, the drug of choice is penicillin G. If this is resisted by the organism, the new semisynthetic penicillins, namely, methicillin, oxacillin or nafcillin, or the cephalosporin derivative cephaloridine are recommended.

Vancomycin is another antibiotic recommended, but side effects consisting of chills, fever, rashes and chemical thrombophlebitis of the veins used to inject the drug

have occurred in many patients. Deafness also has been reported in a few patients along with severe impairment of kidney function.

Antibiotics should be used only to treat serious staph infections, not for simple boils and abscesses, Dr. Finland advises.

In all cases in which erythromycin, novobiocin, streptomycin or oleandomycin is given, another drug that has been shown to be active against the staph organism should be used simultaneously.

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Westinghouse

LASER BLAST—A beam of light from this experimental ruby laser gives off a shower of molten metal as it blasts its way through a piece of aluminum. The experiment, being conducted at the Westinghouse Research Laboratories, Pittsburgh, demonstrates the tremendous concentration of light energy that can be obtained from a laser.

SPACE

Pulse Rocket Engine Passes 26-Hour Test

See Front Cover

► A **ROCKET MOTOR** fueled by 40 solid propellant "wafers" passed what may be the longest duration rocket test firing on record—26 hours.

Seen on this week's cover is a "pulse motor" which can be fired in repeated pulses by igniting additional fuel wafers. In the test, the motor was fired in bursts of five wafers each, with each wafer ignited two seconds after the burnout of the preceding pulse. After each burst, the motor was shut down for an hour so that engineers could take readings from a battery of test instruments.

The test was run by Lockheed Propulsion Company, Redlands, Calif., as part of a series that began last summer. All of the previous tests were considered successful.

Fuel wafers could be useful in space for course corrections, changes in orbit, reentry and other situations requiring several restarts.

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