

To relieve pain, the venom is either dropped into the eye or injected into the membrane that lines the eyelids and covers the eyeball.

This pain-relieving use of snake venom and the hemorrhage-checking use during operations give the best results of all the many uses to which snake venoms have been put in eye diseases, it appears from Prof. Alvaro's exhaustive report of his own and other investigators' research.

The pain-relieving principle of rattlesnake venom has been isolated from the venom, by other scientists, in the form of pure crystals, and this crystalline material, Dr. Alvaro reported, is twice as active in relieving pain as the pure venom.

"Trachozid," derived by a Viennese doctor through a secret process from the venom of vipers and also of bees, is useful in treating trachoma, an infectious eye disease that often results in blindness. Trachozid, however, cannot yet be considered a specific remedy for trachoma, Dr. Alvaro pointed out.

The use of snake venom for cancer of the eye may be dangerous, he said, because while the venom can destroy cancer tissue, it can also cause spread of cancer from bits of cancerous tissue chewed off the cancer but not destroyed.

The isolation, by different scientists, of the pain-relieving principle of snake venoms and of the blood-coagulating principle, is important, Dr. Alvaro declared, because only by having these and other active materials in pure form can snake venom treatment be made really effective.

Short Circuiting Operation

A SHORT-CIRCUITING operation to relieve chronic watery eyes was reported by Dr. William H. Stokes of Omaha, Nebr.

When infection or inflammation permanently blocks the tube through which the tears naturally leave the eye after bathing it, Dr. Stokes cuts a new opening from the tear sac into the nose.

The operation is not new, but Dr. Stokes has improved it by placing the short-circuit higher than has been customary before. In this way he uses more of the normal lower end of the tear sac and upper end of the duct. The result is closer to nature's own tear drainage arrangement.

Split "Adam's Apple"

IMPROVEMENTS in the operation for removal of cancer of the larynx, or voice box, were described by Dr. M. C. Myerson of New York.

If the cancer is limited to one vocal cord, it is now possible to operate so that after the wound has healed the patient has a fairly good though somewhat weak voice and is able to breathe naturally without the necessity of an opening in the windpipe lower down in the neck.

In the operation, the "Adam's Apple" is split and the cancer cut out. After the cancerous vocal cord has been removed, neighboring tissues are examined immediately in frozen microscopic sections to make sure no cancer cells have been left behind, and the split larynx is sewed up tightly again.

Get Advice on Hearing Aids

DEAFENED persons should seek the advice of doctors specializing in ear diseases when they choose hearing aids, Drs. Horace Newhart and Henry E. Hartig of Minneapolis said.

They warned against "racketeering instrument salesmen" who "exact high

prices for instruments which rapidly wear out, batteries which run down quickly, and provide no means for servicing the instrument in order to keep up its efficiency."

The final test of a hearing aid is intelligible, clear speech. Magnifying all sounds for people who are only deficient in certain parts of the scale creates unbearable noise, the two doctors pointed out. Ear specialists can check on this point and also can advise the kind of hearing aid needed by those deafened persons who require sound conduction through the bone back of the ear drum in order to hear.

One guard against the "racketeering instrument salesmen" is seen in the standards for hearing aids set by the American Medical Association, standards to which all reputable manufacturers now adhere.

Science News Letter, October 29, 1938

MEDICINE

Emergency Bank Can Give Blood at Cost of a Dollar

BLOOD to save a life can be furnished in 45 minutes at a cost of one dollar by the blood bank of Cook County Hospital, Chicago, members of the American College of Surgeons were told at the Hospital Standardization Conference.

Blood for 4,400 transfusions, 7.6 per cent. of them definitely life-saving, has been drawn from the bank since its establishment in March, 1937, Dr. Karl A. Meyer, medical superintendent of the hospital, and Drs. Leonard H. Weissman and J. Lester Wilkey of the hospital staff, reported. In less than one out of every 100 cases was any harm done by transfusions with this blood.

Blood from living donors only is deposited in this bank. Cadaver blood, used in blood banks elsewhere, is not favored by the staff because a suitable and sufficient source of supply would not be available.

All the blood in the Cook County

This Handy Coupon

IS FOR NEW OR RENEWAL SUBSCRIPTIONS

To Science News Letter, 2101 Constitution Avenue, Washington, D. C.

Please start 1 year, \$5
 renew my subscription to SCIENCE NEWS LETTER for 2 years, \$7

Name.....
 Street.....
 Address.....
 City and.....
 State.....

Books

SCIENCE NEWS LETTER will obtain for you any American book or magazine in print. Send check or money order to cover regular retail price (\$5 if price is unknown, change to be remitted) and we will pay postage in the United States. When publications are free, send 10c for handling.

Address Book Department
 SCIENCE NEWS LETTER
 2101 Constitution Ave. Washington, D. C.

blood bank comes from friends and relatives of patients receiving transfusions and from patients who need to have some blood withdrawn.

The blood is, of course, typed to determine its group. It is examined by two tests to rule out syphilis. Chemical tests are made to determine its nitrogen content, since too high a level of this might be dangerous to the recipient. It is then stored in the refrigerator. No blood is used after 10 days of storage, although in many other institutions blood four and five weeks old is used.

Other charitable institutions have been allowed to establish credit with the blood bank and blood is furnished these institutions on short notice.

X-Ray of Larynx

PATIENTS with cancer of the larynx, or voice-box, who escape a critical period six years after X-ray treatment are still living and free of the disease 15 years later, Dr. Henri Coutard, of the Chicago Tumor Institute, said in reporting to the American College of Surgeons on a new way of adjusting X-ray dosage to kill cancer of the larynx which cannot be removed by surgical operation.

The new method consists of giving daily very small X-ray doses for two or three weeks as a preparatory treatment. This is followed by a very high dose the last day of continuous treatment. More patients survive for five years—the time limit for calling cancer cured—when they are given this preparatory treatment. If, however, the daily doses are not large enough during the last three days a recurrence of the cancer is provoked after about six years.

Sterilization for Cancer

ABOUT one-third of the women who suffer a recurrence of breast cancer in a form that cannot be operated can be helped by sterilization, Dr. Grantley Walder Taylor of Boston reported.

Most striking benefit occurs to those patients in whom the cancer has spread to the bones. The malignant growth in these cases is temporarily checked and even reduced in extent. Sterilization, however, does not prevent recurrence of breast cancer.

The idea of sterilizing women to prevent recurrence of breast cancer comes from the discovery made some years ago that one of the female sex hormones plays a part in the mechanism that causes cancer.

Science News Letter, October 29, 1938



Starvation by Fire

FOREST fires like the great conflagration that raged near the head of Lake Superior can kill men and animals long after the last red embers have died out and new green growth has begun to hide the wide black scars. How this delayed death can come to burned-over timber country is told by Hoyes Lloyd, superintendent of wildlife protection in the Canadian National Parks. (*Journal of Forestry*, October)

In past years, great forest fires of unknown origin devastated large areas in northern Ontario. When new growth came in, it was not the same kind of trees that had been burned, but a vegetation type representing an earlier stage in ecological succession. This is usual after forest fires.

The new vegetation, in its turn, supported an entirely different array of animal life; it was the home of deer instead of the caribou that had dominated the animal community of the burned forest. Some have said that the caribou migrated, but Mr. Lloyd believes that the animals that survived the fire simply failed to reproduce, and that the caribou just weren't anywhere any more.

On the caribou a population of Indians, estimated at 10,000, once depended for their principal food supply. These Indians were fairly prosperous, and it was profitable for the whites to operate trading posts among them. After the caribou vanished, however, starvation among the Indians became the rule rather than the exception. Their population dropped to a tenth of the original number and their prosperity vanished. The trading posts had to be closed.

The story is the same in other regions, Mr. Lloyd declares. Where "big woods"

are burned, "little woods" take their place, and their game population is quite different. It is usually dominated by deer. But if the fire follows logging-off operations the burning is apt to be repeated several times, and the scanty vegetation that comes in is so little able to support animal life that the region becomes comparatively a biological desert.

Science News Letter, October 29, 1938

METALLURGY

Machine Gun Barrel Has Life of 1,000 Seconds

SCIENTIFIC studies are now being made of the erosion which occurs in machine gun barrels during firing, and which quickly leads to inaccuracy of fire.

W. H. Snair, metallurgist of the American Can Company and Prof. W. P. Wood of the University of Michigan described how the barrels of machine guns build up a whitish layer of nitrides upon firing.

The average life of a machine gun barrel, they indicated, is only 4,000 to 5,000 rounds. In a short burst of fire of 10 seconds duration, a typical machine gun will fire 50 bullets.

This means that a hundred bursts of fire of this duration would represent the barrel's practical life. During a very heavy attack a defensive machine gun might easily fire this number of bursts and so lose its effectiveness. War veterans, who saw first-hand fighting in France, know that such situations actually arose.

The new studies, identifying the nature of the whitish deposit, may lead to knowledge showing how its formation may be delayed. Supplementary work on the temperatures of its formation tie in with other studies on more effective cooling of machine gun barrels.

Science News Letter, October 29, 1938

LANGUAGES Made Easy By LINGUAPHONE

This amazing new Method enables you, in your own home, to speak and read any of 23 foreign languages in an incredibly short time. Endorsed by leading university professors and thousands of men and women as the quickest, simplest and most thorough language method. Send for catalogue and FREE Trial Offer.

LINGUAPHONE INSTITUTE
31 Rockefeller Center New York City