

## MEDICINE

# Jets a Danger to Obese

Two overweight persons died from decompression sickness after jet flights at high altitudes. Surgeons believe fat cells had ruptured, releasing nitrogen bubbles.

► HIGH ALTITUDE flights in jet planes may be dangerous for fat people, it appears from two fatal cases of decompression sickness in jet plane flight reported to the Aero Medical Association meeting in Washington.

Both men were passengers on actual jet flights. Both were very heavy. With heights of five feet, 11 inches, they weighed 240 and 250 pounds. Both collapsed at altitude, one at 35,500 feet and the other at 39,500 feet. One died in 11 and a half hours and the other in six hours.

There was no sign of faulty oxygen supply during the flights. Post mortem examination showed, among other things, that plugs of fat (fat emboli) had gotten into blood vessels of the lungs and brain of one and in the kidney in the other.

Both men also had the "blue baby" opening between the two auricles of the heart. Apparently this had not given any trouble while the men were alive, since one was said to be in good health and the other to have normal electrocardiogram before the flights.

Piecing together the information available, Air Force surgeons figured that as a consequence of fairly rapid decompression as the jet sped aloft, there was gaseous supersaturation in fat depots in the men's bodies. Fat cells were ruptured and fat thus set free into the blood in the veins. Nitrogen bubbles were then carried to the right side of the heart, went through the "blue baby" opening, got into the general circulation and so were carried in sufficient number to the brain to bring on sudden, intensely severe collapse of the circulation and death.

Fat, the scientists pointed out, has long been known as a danger in decompression from increased atmospheric pressures. The reason is that fat serves as a nitrogen reservoir and is a highly important site of nitrogen supersaturation and bubble formation when decompression is relatively rapid.

Obesity predisposes to bends and chokes and other signs of decompression sickness in airmen. Recognizing the hazard, the USAF School of Aviation Medicine has a rule that no one grossly overweight may undertake "flights" in decompression chambers.

In very fat persons, the scientists said, the total amount of nitrogen to be given off through the lungs on rapid ascents would be greater than in lean persons and thus predispose the fat people to bubbles and embolus formation if nitrogen supersaturation should occur.

The two fatal cases were reported by Lt. Col. Webb Haymaker, MC, USAR, Capt. Austin D. Johnston, USAF (MC), and Col. Vincent M. Downey, USAF (MC).

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## AERONAUTICS

## Ejection Seat for VTO's

► A TOTALLY automatic ejection seat is now being used in the new vertical take-off fighter planes known as VTO's. It operates "in the shortest possible time and from the lowest possible altitudes."

Installing the system in all single-place aircraft equipped with ejection seats would result in "marked decrease" in deaths following air emergencies, the Aero-Medical Association meeting in Washington was told.

In 78 fatal accidents involving ejection seats, 41 pilots failed to free themselves from the seat before hitting the ground, Comdr. Roland A. Bosee (MSC) USN, and W. C. Buhler of the U. S. Naval Parachute Unit, El Centro, Calif., reported.

To cut down such deaths, an automatic escape procedure from vertical take-off planes has been devised. As the ejection seat is fired from the plane, the safety belt is opened. Strong nylon cords halt the seat for a fraction of a second when it is six feet out of the cockpit. The parachute is then opened and inflated, the pilot being free both from the airplane and seat.

Standing on their tails like rockets, vertical take-off planes literally pull themselves up by their own power.

When air speed is sufficient, they flop over to horizontal flight, operating like conventional aircraft.

In landing, the procedure is reversed, the planes pulling into a vertical position at about 300 feet. For 20 seconds or more they back down, hanging on counter-rotating turbo-props at zero forward speed and

## Questions

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## MEDICINE

## Mental Disease Drug Helps Headache Patients

► CHLORPROMAZINE, SYNTHETIC drug gaining fame as promising treatment for mental disease as well as for reducing high blood pressure, is also good medicine for migraine and other headaches.

Good results in this use of the chemical by himself and other physicians was reported by Dr. Herbert C. Archibald of Oakland, Calif., in the *Journal of the American Medical Association* (March 19).

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