

aerospace medicine

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AIRBORNE MEDICINE

Call for a nurse

Some military patients experience hemorrhaging and other emergency situations while being flown across the Pacific, and a noisy transport plane is a poor place to try to call a nurse.

So an aerial call system for nurses is needed, say Major Charles S. Lessard, Capt. Richard Paschall, Second Lieutenant Gary E. Ford and Gillig Fromme, all from the USAF School of Aerospace Medicine, Brooks AFB, Texas.

The Department of Defense reports that more than 45,000 military patients were returned from the Pacific area by air last year and another 60,000 were moved from one hospital to another within the continental U.S.

The group cited one case, on a transfer from Clark AFB to Travis AFB, where a patient with a gunshot wound had to resort to whistling to attract a nurse when he began to hemorrhage.

A call system would consist of tiny radio frequency transmitters using a frequency which would not interfere with any of the equipment aboard the aircraft.

CRASH INVESTIGATIONS

Truth serum probes causes

Sodium amytal, one of the so-called truth serum drugs, has been used successfully to determine the cause of an aircraft accident, according to two military doctors.

Capt. Arthur M. Farris Jr., U.S.A., battalion surgeon, 268th Combat Aviation Battalion, and Capt. P. Browning Hoffman, chief of the psychiatry function, Neuropsychiatry Branch, USAF School of Aerospace Medicine at Brooks AFB in Texas, described the method.

Pilots, especially young ones, have a tendency to develop amnesia after a crash, they say, particularly concerning the details about how it happened.

This is dismaying when authorities are trying to determine the cause of the crash so steps can be taken to prevent that particular type of accident from happening again.

They say that one young pilot was injured in a crash which was identical to several that had happened before; he could not recall the details of his actions prior to going down.

Under the influence of the drug he was able to relive the exact events leading up to the crash.

He even moved his arms and one uninjured leg as if they were on the controls of his plane, they report.

DECOMPRESSION

Pilot capsule for SST

An automatic capsule that would protect the pilot and co-pilot of a supersonic airliner in case cabin pressure failed is recommended by two aerospace scientists.

About once every three or four years jet aircraft lose compression. The pressurized air inside the plane whooshes out when a window pops open or some other

mishap occurs, hurling objects about and leaving the passengers and crew gasping for breath.

Experience has shown that about 70 percent of passengers and crew can get oxygen masks on in time to keep breathing and the rest usually can be kept alive until the plane can descend into breathable atmosphere. But the problem will be more serious at the 60,000-foot altitudes to be flown by the SST.

A. Peter Holm, a compression suit engineer from North American Rockwell Corp., and A. G. Koestler, a research psychologist at Holloman Air Force Base, say the main problem with the SST would be to keep the pilots functioning during decompression.

To do this, Holm suggests a capsule that would literally gobble up both men and provide them with a sea-level atmosphere. The device would push the two men backward automatically and clamp down on them.

A prototype of the capsule has been tested on a research plane, Holm says.

SAFETY

Self-inflating life raft

When an aircraft comes down in the water the only chance its occupants have for survival is to clamber into a life raft and wait to be picked up.

Present rafts, however, have a number of inherent disadvantages, according to B. L. Tiep of the U.S. Army Aero Medical Research Laboratory at Ft. Rucker, Ala.

The biggest problem, he says, is the frequent failure of gas cartridges to operate and inflate the device.

In addition, present rafts need frequent checks for rotting and cracking.

Tiep proposes a new type of raft consisting of a rubberized nylon skin enclosing highly elastic foam.

The raft would be deflated, he says, by a vacuum pump. As soon as a valve was opened, air would rush into the foam and nylon skin, causing it to inflate.

SPACE SAFETY

Fireproofing beards

Hair and beards are extremely flammable in the oxygen-rich atmosphere of a spacecraft, but astronauts apparently prefer to take their chances rather than look like human cueballs.

Dr. R. L. Durfee of Alexandria, Va., an engineer at the Atlantic Research Division of the Susquehanna Corp., says his company is looking for ways to fireproof the hirsute adornment of the astronauts.

"Our information is that astronauts simply will not shave their faces and heads daily, so we have been trying to find other ways," he says.

Various fire retardant chemicals have been tried, but all have failed for one reason or another.

The company has proposed swathing the faces and heads of the spacemen in glass fiber bandages, but the idea has so far not received much enthusiasm from the astronauts, Durfee says.

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