

AHA JOURNAL REPORT**Patients whose heart defects reduce blood oxygen can safely travel by air, new study concludes**

DALLAS — Most patients with congenital heart defects that reduce their blood levels of oxygen "can enjoy the convenience of air travel" if certain precautions are taken, the Dutch authors of a small study conclude.

Data from 12 patients "clearly indicate that the commonly feared hazardous decrease (in bloodstream oxygen level) in these patients during air travel does not occur," according to the researchers conducting the study funded by The Netherlands Heart Foundation. Their findings are published in the January 15 issue of the American Heart Association journal *Circulation*.

While blood oxygen levels remained lower in the heart patients than in healthy "control" subjects throughout the study, the researchers found that in-flight reductions in the oxygen supply in the blood were greater in the controls than in the patients.

Ranging from 16 to 26 years old, the 12 patients (six men, six women) with "cyanotic" congenital heart disease (CCHD) and 27 healthy controls volunteered for the study. Cyanosis is blueness of the skin caused by the blood not being fully saturated with oxygen.

In contrast to healthy hearts, CCHD patients' hearts have structural defects that result in abnormal blood flow bypassing the lungs, for example, through a hole between the pumping chambers. Blood that's been circulated to the lungs and is oxygenated gets mixed with blood that hasn't received

oxygen, resulting in low levels of oxygen in their blood — and a blue-tinted skin — even at low altitudes.

Until now, CCHD patients have often been "discouraged from flying, forbidden to fly, or advised that in-flight supplementary oxygen must be available," say the scientists. Their research suggests supplementary oxygen is not helpful. Study co-author Paul Hutter, M.D., explains that this is because all blood reaching these patients' lungs is already saturated with oxygen, but part of the venous blood goes straight into the circulation, bypassing the lungs.

"Applying extra oxygen to the lungs has no effect on the 'blue' blood reaching the arteries," says Hutter, a pediatric cardiologist at Wilhelmina University Children's Hospital in Utrecht, the Netherlands.

"Fear of dangerous hypoxemia (inadequate blood oxygenation) in patients with CCHD during flight is particularly understandable" because the oxygen levels in their blood are so low at sea level, Hutter, Eric Harinck, M.D., Ph.D., and their colleagues note in their report.

If a CCHD patient experiences decreases in in-flight oxygen levels similar to the decreases that occur in healthy people, it could jeopardize the patient's health, say the scientists. But their new data suggest the decreases in the two groups are not similar.

The patients and controls in the study were first subjected to a short simulated flight in a

hypobaric (atmosphere-controlled) chamber. When no ill-effects were observed, a seven-hour flight was simulated in the chamber. The patients also tolerated this well, and 10 participants then flew in a DC-10 from Amsterdam to Malaga, Spain. After a two-night stayover, they flew back on an Airbus A-310.

During the prolonged simulated and actual flights, capillary blood pH, gases (including oxygen), and lactic acid were analyzed. The researchers report in-flight reduction of the capillary oxygen level was "considerable" in the control subjects but not in the patients.

The investigators say they don't yet know how to explain the biochemistry behind their observations, but they conclude that "atmospheric pressure changes during commercial air travel do not appear to be detrimental to patients with cyanotic congenital heart diseases."

But the authors say these patients still should take extra precautions, such as traveling with companions who know the patients' needs and can help with the handling of luggage and arranging ground transportation. The traveling patients should also be sure they drink "ample" amounts of non-alcoholic fluids, the experts add.

"The main problems that patients with CCHD have to cope with when traveling by air are the non-flight-related stresses, which can be very fatiguing and

HEALTH

must not be underestimated," they caution.

Current guidelines on air travel for patients with CCHD were extrapolated from studies of patients with lung disease, the authors say, because until now there was no scientific data available on CCHD patients'

"medical fitness to fly."

Healthy air passengers are unaware of their in-flight state of mild hypoxemia produced by the relatively low oxygen pressures in commercial aircraft cabins, they say. "Healthy people have little difficulty in adapting to this change and tolerate it by

increasing ventilation" — that is, by breathing faster, the scientists explain.

Other co-authors are Theo M. Hoorntje, M.D.; Marinus Simons, M.D.; Avram Benatar, M.D.; Johan C. Fischer, Ph.D.; Dagmar de Bruijn; and Erik Jan Meijboom, M.D., Ph.D.

WOMEN'S HEALTH**Initiative Addresses Health Concerns of American Women**

HOUSTON — Kris Mulligan decided to change the course of her family health history after seeing her mother suffer from cancer.

Mulligan is one of the more than 800 women at Baylor College of Medicine participating in the Women's Health Initiative (WHI), the first long-term study to address the health concerns of American women. The multi-center study is being conducted by the National Institutes of Health.

Designed to look at leading causes of death and disability in post menopausal women, the WHI focuses on the effects of hormone replacement therapy, low-fat diet, and calcium and Vitamin D supplementation on heart disease, breast cancer, colorectal cancer and osteoporosis.

The 12-year project involves 40 clinical centers nationwide and is recruiting more than 163,000 post menopausal

women.

"The findings from this long-term study will decide definitively the most effective treatment and prevention strategies doctors should use for women," said Dr. John Foreyt, principal investigator for the Baylor Clinical Center.

Baylor Clinical Center investigators are following the health of the participants for an average of nine years in either an observational study group or a clinical trial group.

Mulligan is enrolled in the clinical trial's hormone replacement therapy and dietary intervention groups. The 54-year-old widow favors the dietary group, which requires her to attend nutrition classes.

Mulligan says the nutrition classes have shown her how to turn her junk-food eating habits into a more nutritious routine. She and her fellow classmates share low-fat recipes and are taught by Baylor nutritionists how

to incorporate a low-fat diet into their lifestyle.

"My fat-free lentil soup recipe won second prize at a cooking contest in my class," Mulligan said. "I have even lost a little weight."

Mulligan believes from experience that a high-fat diet can increase the cancer risk in women — information WHI researchers hope to confirm.

"When I was a young girl living in Germany, my mother would serve chicken with the skin and butter, not margarine," Mulligan recalls. "Maybe she would have lessened her chances of illness if she had eaten healthier foods."

Mulligan often encourages her friends and co-workers to join the study.

"I have two grown daughters, and I know this study will provide subsequent results that will benefit them and my grandchildren," Mulligan said.

American Heart Association Kicks Off "Dear Neighbor Campaign"

The American Heart Association, Nevada affiliate, kicked off its 1996 Residential Campaign with a Dear Neighbor Campaign in Las Vegas February 1.

The AHA's efforts throughout February will be directed toward educating people about the importance of medical research. Today, the chances of saving lives and reducing disability from heart disease and stroke — this country's leading cause of death — are better than ever because of what we learn from research. At the same time, AHA volunteers will work to raise \$75,000 to support AHA education programs and cardiovascular research.

More than two thousand-five

hundred volunteers from the Las Vegas area are expected to join their friends and neighbors in support of the American Heart

Pharmaceutical companies have 10 AIDS medicines in development

WASHINGTON, D.C. — America's pharmaceutical research companies have 110 AIDS medicines in development — the largest number ever, according to an annual drug industry survey.

Among the medicines found in the survey are 34 that had not yet been identified in previous surveys.

"While we still have no cure, we see a remarkable surge in drug company AIDS research,"

Association. This year these volunteers will write letters to their neighbors requesting a

(See *Heart Association*, Pg 17)

said Gerald J. Mossinghoff, President of the Pharmaceutical Research and Manufacturers of America, which released the survey results recently.

Over the last 12 months, the U.S. Food and Drug Administration has approved two new AIDS medicines.

In addition, an FDA advisory committee has recommended two more for approval, including the first protease inhibitor — a new class of AIDS drugs.

The FDA has so far approved 30 drugs for AIDS and AIDS-related conditions.

It takes an average of 15 years and some \$400 million to bring a drug from the laboratory to the pharmacy.

Free single copies of the survey report, "New Medicines in Development for AIDS," are available by writing PhRMA, 1100 15th Street, N.W., Washington, D.C. 20005.



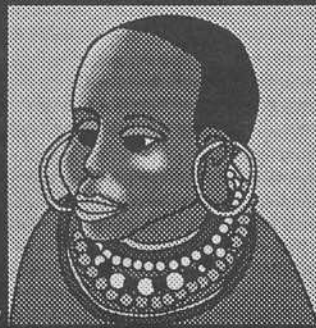
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