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**\*\*UT Health Science Center cardiologist named to space shuttle crew**

DALLAS -- Dr. Drew Gaffney, assistant professor of Internal Medicine and of Health Care Sciences at The University of Texas Health Science Center at Dallas, has been named as a payload specialist on the crew of the space shuttle tentatively scheduled for April 1986. Gaffney will conduct cardiovascular experiments aboard the spacelab carried in the shuttle's cargo bay.

On receiving news of his selection for the shuttle crew, Gaffney said, "I'm very pleased and excited. I was certain I'd go, but there is a big difference between being confident and knowing that you've been selected for a scheduled flight. I've been training for a year and a half, but there were no guarantees that I'd fly. It's good to have the commitment from NASA that the flight has been scheduled and that I will fly."

The mission will be the first shuttle flight devoted entirely to studying the life sciences. A second mission dedicated to the life sciences is planned to follow in late 1986 or early 1987. NASA officials expect that Gaffney will also participate in the second mission either aboard the shuttle or as a Houston-based backup. "My commitment is to fly one mission and to assist on the second in any way that NASA thinks best, which may be flying again or working from ground control. Certainly, the person on the ground is in an important and unique position. He's the communicator for the crew aboard the shuttle, and he serves as the interface between ground control and the scientists performing the experiments," Gaffney said.

Working with a research team headed by Dr. Gunnar Blomqvist, UTHSCD professor of Internal Medicine and of Physiology, Gaffney developed a series of spacelab experiments aimed at understanding the regulation of human blood pressure. Astronauts returning to earth after extended space flights exhibit low blood pressure brought on by a loss of body fluids during weightlessness. Their blood pressure stays low for some time after their return to earth and can be "low enough to cause problems," Gaffney says.

Gaffney will continuously monitor the heart rate and blood pressure of the shuttle astronauts during the flight, compiling a basic history of changes occurring during weightlessness.

Also, sophisticated heart-imaging equipment will be aboard the shuttle to make cross-sectional echocardiographic images of the beating heart. Echocardiography uses ultra-high sound frequencies in a sonar-like process to create clear and precise moving images of the heart. These images will be compiled by computer to give a detailed record of changes in the heart's pumping capacity during the flight.

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"The goal of the experiments," Gaffney says, "is to understand the regulatory mechanisms of blood pressure. We use the zero-g environment and the return from it--which is where the problem occurs--to get a better idea of regulatory mechanisms."

Among the less conventional experiments scheduled for the flight is the "System for Venous Plethysmography," or SVOP, designed by Gaffney, Blomqvist and their team. The SVOP is a small instrument package strapped to an astronaut's leg to record the changes in the limb's blood capacity as body fluids are lost during weightlessness. The readings taken during the flight will be compiled into a schedule of an important aspect of the body's cardiovascular adaptation to weightlessness.

Gaffney says that the results of these experiments will help solve some of the problems associated with space travel and will also benefit low-blood-pressure patients on earth. In designing the experiments, Gaffney says, "we studied lots of patients with orthostatic hypotension--low blood pressure resulting from heart disease, diabetes and other causes--and learned a lot about how to help those patients maintain blood pressure."

Gaffney, a native of Carlsbad, N.M., received his M.D. degree in 1972 from the University of New Mexico at Albuquerque. He has been an assistant professor of Internal Medicine and of Health Care Sciences at UTHSCD since 1979. Since then, Gaffney and his colleagues have published more than 30 research papers, many focusing on the cardiovascular impact of space travel.

Gaffney's other research interests include diseases of heart valves, particularly mitral valve prolapse syndrome in women. "Mitral valve prolapse has the same symptoms that are often associated with hysteria--chest pains, palpitations, shortness of breath, anxiety, dizziness or fainting spells and excessive fatigue," Gaffney says. Therefore, he says, the syndrome is sometimes misdiagnosed as a nervous condition. He has also been researching anxiety attacks.

Gaffney plans to return to teaching and research at UTHSCD and to his practice at Parkland Memorial Hospital when his work with the space program is finished. "I am involved with the space program now, but I am a cardiologist before anything else," Gaffney said. "Despite all of the things I've learned from being involved in the space program, and despite all of the fun I've had, I miss cardiology. Part of the challenge now will be finding ways to get back to Dallas to practice medicine."

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