

NASA Doctors Trained at Wright State Will Support John Glenn's Return to Space

by: Mark Willis

When Senator John Glenn returns to space late in October, he'll have around-the-clock medical coverage by NASA flight surgeons who were trained in the Aerospace Medicine Program at Wright State University School of Medicine. Denise Baisden, M.D., is NASA's designated crew surgeon for space shuttle mission STS-95, which will carry the 77-year-old Ohio senator and six other astronauts into space on October 29. The mission's deputy crew surgeon is Phil Stepaniak, M.D.

Both Drs. Baisden and Stepaniak are graduates of Wright State's Aerospace Medicine Residency Program, the world's longest-running civilian training program for doctors specializing in medicine related to air and space travel. Supported by NASA and the aerospace medicine programs at Wright-Patterson Air Force Base, Wright State has provided NASA with a steady supply of flight surgeons since 1978. Wright State also has trained the medical leadership for start-up space programs in a dozen other nations. Two Japanese doctors who trained at Wright State — Akira Miyamoto, M.D., and Kaz Shimada, M.D., from Japan's National Aeronautic and Space Development Agency — will support astronaut Chiaki Mukai during the STS-95 mission.

NASA flight surgeons are trained to perform multiple duties to support a space mission, according to Stanley Mohler, M.D., director of Wright State's Aerospace Medicine Program. "First of all, flight surgeons serve as primary care physicians for the astronauts and their families on the ground. They develop close working relationships with the astronauts," Dr. Mohler explains.

When an astronaut crew is selected for a space mission, a NASA flight surgeon is designated as crew surgeon for the mission. The crew surgeon certifies astronauts for flight readiness and trains them in the health and safety aspects of the mission. An integral member of NASA's Mission Control team, the crew surgeon participates in all aspects of the mission's planning and preparation, including flight simulations.

"NASA flight surgeons develop an intimate knowledge of the mission's crew and its payload of scientific experiments," Dr. Mohler says. "In orbit, the space shuttle becomes a very specialized work place, and not only because of the weightless environment. The experiments sometimes include hazardous materials. Flight surgeons and astronauts need a thorough knowledge of accident prevention and treatment procedures."

At launch time in October, Dr. Baisden will be deployed in a mobile medical unit at Kennedy Space Center in Florida, prepared to handle an emergency on the launch pad. After lift-off, she will return to Johnson Space Center in Houston to support the mission around the clock on rotating shifts with Stepaniak and another deputy crew surgeon. During long hours at the surgeon console in Mission Control, they will pay close attention to all communication with the astronauts. If the mission goes as planned, the crew surgeons won't have much to do. But they're prepared to respond immediately if something doesn't go right.

NASA policy requires a private medical conference between crew and crew surgeon before undertaking unscheduled EVA's (extra-vehicular activities, or space walks) or early landings.

Private medical conferences are scheduled routinely every day of a shuttle mission just in case there are issues to discuss. Most minor medical problems are handled by astronauts trained as crew medical officers.

At mission's end, Dr. Baisden will travel to NASA's landing site in Florida or California to conduct a medical examination immediately after the astronauts return to earth. As crew surgeon, she will continue to perform medical evaluations after the mission is completed to monitor the long-term effects of life in orbit.

"Thorough planning and preparation make the mission. Most of the work takes place before the space craft ever leaves the ground. As a result, the flight surgeon's job appears pretty routine — and that's the way all like it," Dr. Mohler says. "Throughout the mission, the flight surgeon is an advocate for the astronauts, for their safety and health."

A longtime advocate for the capabilities of older pilots, Dr. Mohler is unequivocally enthusiastic about Senator Glenn's return to space. "Arbitrary age limits shouldn't stop an aging pilot or astronaut who is physically and mentally fit," he says. "At one time in the early years of flight it was believed that no one over age 30 should fly an airplane. Years of experience and aerospace medicine research have shown that an individual's evaluation for flight readiness is more meaningful than arbitrary age limits. There is still much to be learned from the participation of older individuals in all aerospace activities, including space flight."

Editor's note: For more information about Wright State's Aerospace Medicine Residency Program, visit its Internet site at:

<http://www.med.wright.edu/som/resident/asm/asmhome.html>