

New Barnes Physician Served as Urologist on Moon Trip

High on today's list of best-selling paperback novels is a science-fiction spine-tingler, **The Andromeda Strain**, written by Michael Crichton. The book outlines how an unmanned research satellite, on an outer-space flight, returns to earth mysteriously and lethally contaminated with an unknown, rare micro-organism that threatens to destroy civilization unless an antidote is found.

A new physician at Barnes, Dr. James G. Bucy, 33, an assistant surgeon and a member of the urology division, could have easily been the principle character of Crichton's suspenseful book because Dr. Bucy formerly was the chief urologist assigned to the U. S. astronauts who completed successful moon landing in July, 1969, and to the subsequent two Apollo flights.

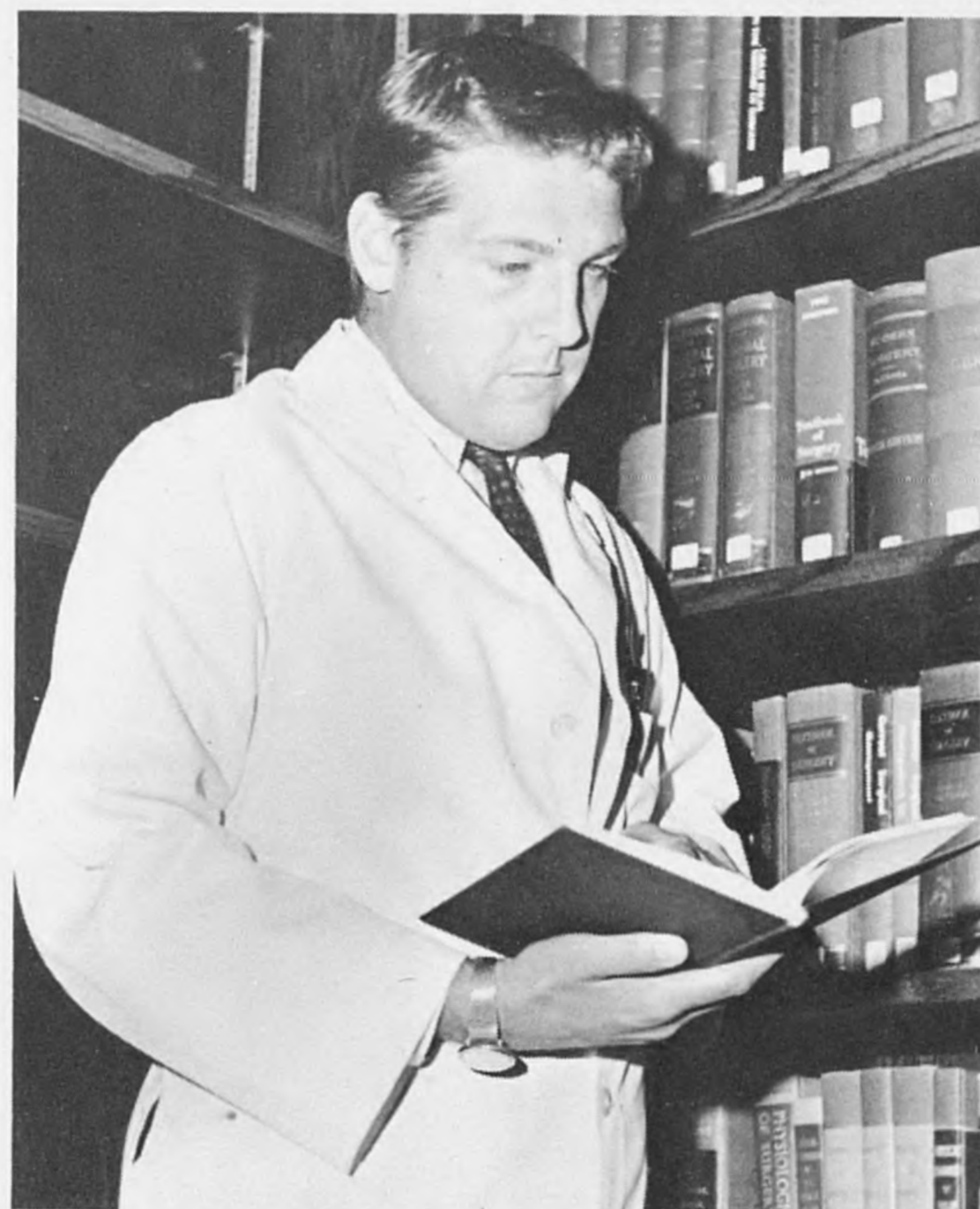
Dr. Bucy, who was then a major in the U.S. Air Force at Wilford Hall USAF Medical Center at San Antonio, was chosen a member of a special medical-supervisory team composed of a neurosurgeon, anesthesiologist and several NASA medical personnel. They were on call 24 hours a day as trouble-shooters should the astronauts' examining physicians encounter any unsolvable problems during the astronauts' 21-day stay in the lunar recovery isolation chamber at NASA headquarters in Houston.

Dr. Bucy said, "In the event we encountered some infectious organism that was unknown to man, we would have treated the strain on a 'hit and miss' basis until an effective counteracting agent could be found. Of course, no living foreign organisms were found.

"The security precautions were extremely tight on the first mission because of this

possibility. One of the astronauts developed a minor urinary problem, but it was not of a foreign nature.

"It may take many years before the researchers can fully understand the scope and meaning



Dr. James G. Bucy, new urologist at Barnes, was the U. S. Astronauts' urologist on Apollo space flights. 11-13.

of the newly-acquired data from the space flights. We found that a weightless state produces several renal and metabolic changes. Accumulated data suggests that one of the big concerns, especially for urologists, is that the astronauts expend considerable amounts of calcium while in a weightless state.

"It's similar to a patient who is bed-ridden for many weeks. The lack of any gravita-

tional force that affects the calcium supply and could increase the chances for the formation of kidney stones, especially on flights lasting 180 days to a year."

Another area of urological research that interests Dr. Bucy is need to successfully develop a bladder-pace-maker for paralyzed patients whose nerves are damaged. The bladder pace-maker is similar to the cardiac pace-maker in that a battery-powered stimulator is implanted in the patient's bladder, and, at the desired interval, every two to four hours, the patient can push a button and trigger the mechanism, which, in turn stimulates the bladder into performing its normal function.

"Until now, we have not been successful—the bladder pace-maker works well over short periods of time, but it needs refinement to be suitable for lasting effectiveness. I hope to be able to continue research in this area," Dr. Bucy said.

Dr. Bucy came to Barnes at the invitation of Dr. Saul Boyarsky, who also came here in July as the new urologic surgeon in chief, in charge of the urology division.

Dr. Bucy said, "Dr. Boyarsky and I have similar interests, particularly in the long-range establishment of a rehabilitation center for victims of spinal cord injuries or paraplegics. Many times these patients survive the primary injury, but during their convalescence, they contract urinary or kidney illnesses which may eventually lead to their demise."

Dr. Bucy is organizing and training nurses at Barnes in urological concepts and techniques so that eventually a specialized team of nurses would evolve with a greater knowledge of urinary problems.