

ON JUNE 16 one of your M.D. editors accepted a luncheon invitation extended to "members of the press" to meet and interview the Air Force Surgeon, General Oliver K. Niess, who was in Denver on an official "tour of inspection" of the Martin Company to check on progress being made with their part of the Aerospace Medical Program.

## Man In Space

Major General Niess is no stranger to Denver, having had his internship at Fitzsimons back in 1927-1928 and having been Wing Surgeon and Hospital Commander at Lowry Air Base from 1948 to 1950. He met his wife-to-be here in Denver and lives, votes and pays taxes in Denver, so we can almost call him a native son.

The Martin Company has many active research projects, both medical and technical, related to the Man in Space project. Two aspects of this project are sponsored directly by Air Force research grants and other aspects are financed by the Martin Company itself.

Martin's main local research program concerns "Space Life Support Systems" or the problems related to the construction and maintenance of "regenerating life support systems for long-distance flights." Flights "to the moon" are simple. A few "box lunches" and a squeeze-bag full of hot coffee, and both crew and passengers have arrived. But long-distance flights will take from months to years to complete and stores of food and oxygen will be out of the question. Therefore, the Titan-makers are working on a system of life in which "farms" of green algae will absorb  $\text{CO}_2$  expired into the air of the space vehicle and will in return produce  $\text{O}_2$  for the passengers to breathe. At the same time, human wastes will have to be purified and reconstituted into food and drink. Needless to say, these problems are far from satisfactory solution. James Gaume, M.D., in charge of the biotechnology research programs at the Martin Company, explained some of the other medical problems. Too well-publicized

ones are the problems of radiation and weightlessness. One aspect of which your editor had not been fully aware was that weightlessness has long-term physiologic effects on the body, not just mechanical and psychologic effects. The skeleton was created by our Maker to support our body tissues against the constant effects of gravity. Once gravity no longer exists, the skeleton loses its usefulness, the body begins to reject calcium, and demineralization occurs. Some of these effects are duplicated by chronically bedridden patients where demineralization also occurs plus the concomitant changes of renal calculi formation. Nitrogen is also lost when no effort is expended. Because of this, spacemen will have to have daily programs of resistive exercises to keep muscles in tone and prevent loss of nitrogen.

Another area of research, both at the Martin Company and other installations, is the study of the toxicology of fuels. Many by-products of this research have application in health matters generally. Through studies of the fuel Hydrazine, drugs have been developed which are useful in fighting tuberculosis and others which are one of our popular tranquilizers.

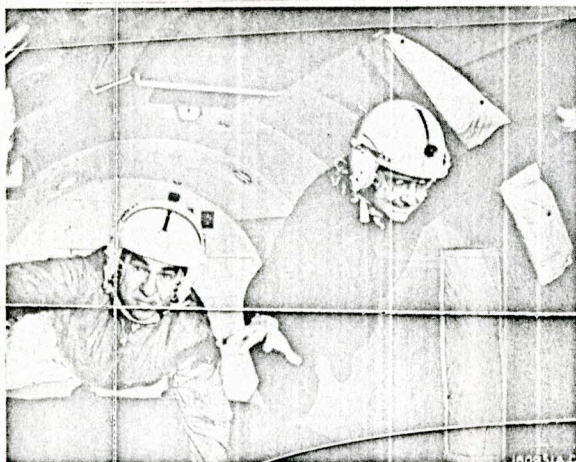
Another of the research medical brains at Martin is Dr. Harry Gorman (D.V.M.). His assignment naturally concerns itself with the preliminary animal experimentation end of this program to find a home for human beings in the heavens. Dr. Gorman became widely known among orthopods when his successful prosthetic hip for animals was adapted for human use.

These men feel strongly that this research is vital to the entire Man in Space Program and they also feel that mechanical problems of getting a man on the moon will be solved much sooner than the medical problems of keeping him healthy and well nourished. They would not predict whether the Russians were ahead of us in the solution of the medical problems.

Those of us at the meeting were impressed



with the caliber of men at work on these projects and we were also favorably impressed with the quality of supervision and coordination carried on by the Air Force and last, but not least, we were gastronomically ecstatic over the quality of the lobster newburg served by the Martin Company.



**MEN IN SPACE**—Literally floating in space during a weightlessness experiment in an Air Force C-131 transport aircraft are (left to right) USAF Surgeon General Maj. Gen. Oliver K. Niess and Col. John Paul Stapp, pioneer researcher in medicine and commander of the Aero Medical Laboratory at Wright Air Development Center, Wright-Patterson Air Force Base, Ohio. Doctors Niess and Stapp made several of the weightless or zero-gravity flights recently at Wright AFB, Ohio, in the specially modified Convair transport. Maximum duration of the total absence from normal pull of the Earth's gravitational force for these flights was fifteen seconds. During orbit around the Earth or in free space flight, space crews are expected to be weightless for periods ranging from hours to months, or even years.

—Official U. S. Air Force Photo

**A**DHESIVE TAPE with stick but no ouch is here at last, say recent informants regarding matters medical. Sounds like an answer to prayers of patients, especially those who think that one of our few pleasures in life is pulling tape off of people.

### *Elements of the Art of Medicine*

However, there is an answer as good or better. It has been available since Hippocrates, or whoever invented the stuff. Did you ever try taking the patient off of the adhesive tape? Simply pick up

one small corner or end of the tape and hold it steady; then, with a digit or two of your other hand, push the skin away from the stickum in quick easy stages.

A few of our colleagues and nurses have found this out after anywhere from one to fifty years in the profession. It has never dawned on others, and many simply don't seem to care—that is, unless they are the pullee instead of the puller! Give it a try, Doctor, and then get the habit. The art of medicine is composed of a lot of little thoughtful things, the presence of which is endearing, and the absence of which is obnoxious.

**N**OT LONG AGO one of us bluntly but gently chastised a "patient" because he and his wife would blithely flit back and forth between doctors for their medical care. "We like both of you," he explained. "You were our first doctor, but Dr. So-and-so has his office near our house."

### *Touche*

"I have no objection at all," he was told, "and Dr. So-and-so practices good medicine and we're close friends. However, both of us would prefer that you pick one doctor as your family doctor and call on the other only in emergencies. We all get a bit peeved when patients think no more of which doctor they go to than they do of which filling station to stop at." The man agreed to use the other doctor as his family doctor and "the chastiser" only as a consultant. The latter thought he had heard the last of it.

However, when the phone rang on Wednesday (Dr. So-and-so's day off), the consultant started girding his defenses until the patient shattered them by saying, "I wouldn't have called you, Doc, except my other filling station is closed!"

The consultant gave in gracefully and took care of the man's ulcer complaints.

Speed is still the number one killer on our highways. During 1960, 10,970 persons lost their lives in accidents blamed on speed. More than 1,000,000 were injured.