

OFFICE OF INFORMATION SERVICES  
SCHOOL OF AVIATION MEDICINE, U. S. AIR FORCE

Third of Three-part Series on the  
USAF School of Aviation Medicine

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San Antonio, Texas.--It was a tiny, little known School of Aviation Medicine which moved into a cavernous balloon hangar at Brooks Air Force Base nearly 32 years ago.

The drafty, noisy hangar has since vanished, but the School of Aviation Medicine is still very much around.

Today it is the oldest organization in the U. S. Air Force with a continuous record of operation in the field for which it was originally founded. Since 1918 it has been charged with aeromedical research and with the training of aeromedical personnel. It also provides a consultative service for flyers with obscure or difficult problems of diagnosis or treatment.

In July, 1959, the School--transferred from Brooks to Randolph Air Force Base in 1931--will go back to Brooks. This time, though, it will enjoy first class accommodations, as befit a veteran of more than 40 years' service to American aviation.

The new School of Aviation Medicine now rising at Brooks will encompass more than 255,000 square feet of floor space. Its buildings will contain the most modern equipment available for aeromedical research, in the drive to keep pace with man's supersonic urge to fly literally out of this world.

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Equally important, the new School will occupy 16 modern, fully equipped classrooms with a total capacity of 735 students, and will use a 433-seat Assembly Hall.

Now nearing completion on the new site is a four-floor Research Institute, an Academic Building, an Altitude Laboratory, a building for instrument shops, a Flight Medicine Laboratory, and a heating-cooling plant.

An additional \$12 million was authorized this year by Congress for additional construction, but was omitted from the supplemental appropriation bill later passed. When it becomes available, it will provide a two-floor structure for nuclear, biological, and toxicological laboratories; an acceleration laboratory containing a large centrifuge, and a combined Library-Professional Building. An appropriation for this construction is expected to be offered for Congressional approval again next year.

Planning on the new institution began in 1946. Then nearing the 30-year mark, the School was cramped into a hodgepodge of elderly buildings scattered all over Randolph. Today, 12 years later, it still works in less than 175,000 square feet of floor space, while its research responsibilities have been growing with the space age. In just six classrooms, seating a total of 279 students, it tries to teach medical officers how to care for tomorrow's satellite crews and Moon pilots.

It was Maj. Gen. Harry G. Armstrong, then Commandant of the School and second Surgeon General of the independent Air Force, who first proposed construction of a brand new, vastly enlarged School.

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Today, thanks to the work and support of a long list of military and civilian leaders, the new School of Aviation Medicine is fast becoming a reality. When the institution takes over its quarters at Brooks, it will have entered its brightest, most promising era.

In the four decades of its existence, the School of Aviation Medicine has graduated nearly 9,000 doctors from its courses in aviation medicine, plus several thousand Flight Nurses and aeromedical technicians.

Through its unrelenting research, it has made the selection of flight training candidates a highly dependable procedure, and has brought the maintenance of flying personnel to an unequalled level.

All this began with an astounding discovery by the British early in World War I. They found that out of every 100 pilot fatalities, only two were due to enemy action and eight to airplane failure. Of the remaining 90, 30 died through their own carelessness or recklessness. The remaining 60 were killed by physical unfitness!

Thus, by the time America entered the War, the need for some kind of specialized medical care for pilots was clear. In October, 1917, Lt. Col. Theodore C. Lyster was appointed the first chief surgeon of the Army's Aviation Section. He immediately recommended permanent establishment of a Flight Medicine Research Board and a Medical Research Laboratory.

The Laboratory was located at Hazelhurst Field, Mineola, Long Island, New York, and began work in January 1918. It graduated its first three flight surgeons the following May. By July it had established branch laboratories to examine and classify pilots at 20 flying training fields in the U. S.

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Then, in August, 1918, General John J. Pershing cabled the Mineola Lab for all the flight surgeons, medical technicians, and equipment it could send abroad. Some 49 men, including the Laboratory's Commandant, answered the call, arriving in France in September, 1918. They found their work all cut out for them.

A survey revealed that pilot morale was at an all-time low. The flyers had a fatalistic outlook, and were in poor physical condition. The accident rate was zooming.

Immediately the flight surgeons established a program of exercise, rest and medical attention. Results were dramatic: morale quickly improved and the accident rate dropped. Then the War ended--a happy event but one which very nearly killed off aeromedical research and instruction in America.

For, with the Armistice, general interest in aeromedical research ground to a halt. Hamstrung by lack of personnel and starved by slim budgets, the laboratory at Mineola came close to extinction.

Things began looking up in March, 1919. Major Louis H. Bauer, who was to become President of the American Medical Association and a distinguished Long Island specialist, but then was Commandant of the Laboratory, received a phone call from Washington, D. C. A class of students was enroute to him, Dr. Bauer was told. They were to be turned into Flight Surgeons.

We had no school, no set course, nobody knew what to teach, how long, or anything," the Major wrote later. He called his department heads together. After much debate, they outlined courses which they thought would be satisfactory. The first class began in May, 1919.

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Instead of slackening, interest in what the Laboratory was doing increased. In late 1919 it was moved to larger quarters at Mitchel Field, Long Island. It was made a Special Service School, the flight surgeon rating was officially recognized, and the institution's name was changed to "The School of Aviation Medicine." In 1926 it moved to Brooks, near San Antonio, Texas, where it would be close to the flying training bases established there. In 1931 it went to Randolph Air Force Base, newly opened north of the same city.

During World War II, the School expanded until temporary branches had to be set up elsewhere around the country. In 1941 the research program was made a separate function, and it ultimately completed more than 500 major projects of direct importance to the war effort. At the War's end, the School had graduated more than 4,200 medical officers and several thousand nurses and aeromedical technicians.

Unlike the post-World War I days, the School's activity after the last War did not falter. Development of jet aircraft and the advent of rocket missiles and planes posed new medical problems for the flyer. These in turn created a need for continuing research, which has since grown more insistent.

A new, controversial area of aeromedical research was opened in 1948 when General Armstrong called a panel meeting of well-known scientists to discuss the aeromedical problems of space flight. At that meeting, the School's Dr. Hubertus Strughold and Dr. Heinz Haber set forth their findings on problems which would be encountered in space. The following year, General Armstrong founded the now-famous Department of Space Medicine, with Dr. Strughold as its head.

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In 1951 Dr. Strughold and his colleagues of that time published a classic research paper called, "Where Does Space Begin?" It defined, for the first time, the space-equivalent levels for the human body within the Earth's atmosphere, at altitudes ranging from 10 to 120 miles. This paper was the foundation on which all medical studies of the flyer's reactions in space have since been based.

The School now has under way several major research projects directly concerned with space medicine and space flight. The space-cabin simulator test in February, 1958, which sent A/1C Donald G. Farrell on a mythical week-long trip to the Moon, was just one in a long series of similar experiments. Maj. Gen. Otis O. Benson Jr., the present Commandant and a distinguished research specialist in his own right, has said that the School could now write specifications for a liveable cabin built to operate for a limited time in outer space.

The School's scientists are also exploring the effects of weightlessness--a characteristic condition in space--and the possibility of producing both oxygen and food in a tank of green algae, which would be cultivated in a space cabin. Many other projects, dealing with space flight and with the problems now being encountered in our jet age, are also moving ahead.

Some time in the near future, the Air Force will try to send an unmanned instrumented rocket around the Moon. Early in 1959 the X-15 is expected to carry a man to altitudes far beyond any previously attained.

As General Benson has pointed out, the new School at Brooks will be ready none too soon. In February of this year he wrote: "From the ground up--to heights beyond any limit that we can foresee--it will belong to the Rocket Era."