

# NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

## ORAL HISTORY TRANSCRIPT

DEE O'HARA  
INTERVIEWED BY REBECCA WRIGHT  
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WRIGHT: Today is April 23, 2002. This oral history interview, with Dee O'Hara, is being conducted at the Ames Research Center in Mountain View, California, for the Johnson Space Center Oral History Project. The interviewer is Rebecca Wright, with Carol Butler.

We'd like to thank you again for taking time out to do this. We'd like to begin by asking you, how did you enter the nursing profession?

O'HARA: Well, I'm really not sure. I liked what the nursing school looked like, and I wanted to work with people. There was a Career Day at high school. I guess most high schools have Career Days, and a nurse from Providence Hospital came, and she looked very smart in her uniform, and I thought, well, why not try that. I did, and it was a good decision on my part. I became a nurse, and after I graduated, I worked as a surgical nurse at the University of Oregon Medical School.

I had kind of a bad back, so standing at the operating table all day was kind of tough. So I decided, well, maybe I'd go try something else, and then I worked for three diagnosticians in Portland, Oregon, and learned how to do lab work and X-rays. Back then, you did everything as a nurse.

Then I decided, well, I think I'll go into the Air Force, and that's how I originally became involved with the space program.

WRIGHT: It was just a few years after you graduated that you were selected to be the first aerospace nurse, is that correct?

O'HARA: Yes. My roommate came home one day and she said, "Let's join the Air Force and see the world."

I said, "No, I don't think so. Nice girls don't do that." We're talking several centuries ago, you see. Anyway, we mulled it over for a while and thought, well, why not? It's a way to travel and to do something different.

So we went downtown Portland and walked into the recruiting office and said, "Well, here we are. Where do we sign?" Of course, the recruiter was a bit stunned at that point, because females just didn't walk in off the street and ask to join the Air Force.

We then went officers' training at Maxwell Air Force Base [Alabama], and my classmate, Jackie, went off to Mobile, Alabama, and I went to Patrick Air Force Base [Cape Canaveral, Florida]. This was in May of [19]'59.

The first seven astronauts were selected in April of [19]'59, and in November of [19]'59, I was working in the labor and delivery room at the hospital there at Patrick, working nights. I had a message the next morning that the "old man," meaning the commander of the hospital, wanted to see me when I got off duty the next morning. Well, naturally, I was terrified, because I'd only been there six months and I knew that when you went to see Colonel [George M.] Knauf, it was for two reasons: one, you were in trouble; or, two, it was for a promotion. Well, I knew it was not for a promotion because I'd only been there six months. So I kept thinking, oh, boy, what have I done? I didn't remember harming anybody or harming a baby.

I gave morning report the next morning and went to his office, and here sat his exec officer, the chief nurse, and all these people. I really was terrified because I didn't know why exactly I was there. I literally sat on the edge of the seat. Anyway, he started talking about Mercury, and I thought, well, there's a planet Mercury and there's mercury in a thermometer, and then he mentioned astronauts. That, of course, didn't mean anything to me. I didn't know what they were. He mentioned NASA [National Aeronautics and Space Administration], and I thought he was saying Nassau, because of the island of Nassau. I had just been there, and I thought, "How did the heck did he know I was down there?" Anyway, I was quite confused.

Anyway, he turned and said to me, "Well, do you want the job?" I kind of turned around, because I didn't think he was talking to me. He said, "Well, you haven't heard a word I've said, have you?"

I said, "No, sir."

And he said, "Well, do you want the job or not?"

I didn't know what else to say, so I said, "Well, I guess so," absolutely not knowing at all what I had committed myself to. Of course, the chief nurse, who was there, was furious with me afterwards, because she was losing me out of the hospital. Also, she thought NASA was crazy because they were to going to be putting a man on the top of a rocket.

Anyway, that's how it started. So in January of 1960, I then went out to Cape Canaveral, as it was known then, and set up the aeromed lab. It was the beginning, and that's how it happened.

WRIGHT: Since you were in the Air Force, did you feel this was more of an order, or did you see this was an opportunity?

O'HARA: No, it was really an opportunity. It was never an order, because the choice was certainly up to me. Colonel Knauf had been tasked by the agency, by NASA, to put together medical support teams from all of the military services—the Army, Navy, and the Air Force—and these support teams were to consist of surgeons and nurses and people of all disciplines, and they would go aboard recovery ships and be available and set up little hospitals aboard ships, should there be a problem upon landing. They were stationed all over the area, because in case there was a landing that was off-center or wherever, it wasn't quite where it was supposed to be, what we had to do was to put together these medical kits and everything that people on board the ships would need to treat an injured astronaut.

That's how I got involved. Colonel Knauf decided that he wanted a nurse, and NASA said, "Well, we don't want a nurse."

He said, "Well, you're going to have a nurse."

NASA said, "Well, we didn't want one, anyway."

He wanted someone that would get to know the astronauts so well that she would certainly know if they were ill, because, as we all know, pilots and, let alone, astronauts are not about to tell a flight surgeon when they're sick, and that's understandable because, as you know, pilots are so afraid of being grounded, and the flight surgeon's the only one that has that authority over them. So they're not usually very friendly with their flight surgeons.

Anyway, his whole idea and concept was to put someone out there out there at the Cape to be with them all the time and just to get to know them so well that she would certainly know if they were ill or not.

WRIGHT: Do you feel you were in the right place at the right time?

O'HARA: Oh, yes, there's no question. People have said, well, you must be this, you must be very special, you must be whatever, and, no, it was luck of the Irish. I was in the right place at the right time. I did have a varied background, and my understanding was that when he decided to have a nurse out there, he had gone to Washington, D.C., to the Department of the Air Force and went into the Air Force Nurse Corps office and looked through files there, looking for someone, and apparently he did not find what he was looking for and thought, "Well, why don't I go home and see what nurses I have back here at Patrick [Air Force Base]."

He came back and apparently pulled my record after looking at all the other nurse records, and, again, since I had a varied background in surgery and lab work, apparently he said, "Well, what about her?" So, unbeknownst to me, he apparently observed me for two weeks and said, "Okay, she's going to be the one." So I was in the right place at the right time. It was just as simple as that.

WRIGHT: You didn't have anybody to follow, no one's footsteps that you could follow into. So this was a whole new role of history.

O'HARA: Yes, it was a whole new everything because this hadn't been done before. I mean, putting a man on top of a rocket was a bit strange. No, there was no one. All of us, physicians, engineers, myself, and everybody associated, we were all kind of marching forward and not with a lot of guidance, just kind of making up the rules as we went along.

WRIGHT: Did you do anything special to prepare yourself mentally or emotionally to take you through these unmarked paths?

O'HARA: No, I just went along with whatever was going on, and obviously, it was a great learning experience, but, again, didn't know quite what to anticipate. Of course, my involvement was only from the medical side of the house. I had set up the crew quarters and the aeromed lab there in Hangar S at the Cape [Canaveral, Florida]. We had an exam area and a kind of a laboratory area and then my little office. Next door was a suit area where all the suits were checked out and tested, and then just past that was the crew quarters where the crew slept just before their launch or if they were down [at the Cape for] training. That's where they would spend the night. It was a very small area, but everything certainly functioned very well.

But back during the Mercury days, there wasn't a tremendous lot of people. It was a very small core group of people, mainly engineers, participating or supporting the Mercury project. The first seven were all stationed at Langley Air Force Base [Virginia], as were most of the engineers, and they would come to the Cape for their simulator training and their suit checkouts and whatever testing needed to be done in the spacecraft.

We would do their pre-flight physicals, and that's where I got involved. Even though I was there every day, I just participated in the medical pre-flight exams.

Then one of the fun things was going down to Grand Bahama Island, and this is where we set up a little fly-away hospital, so that if an astronaut, upon landing, was injured, it was a place to take them, particularly the first suborbitals, of Alan [B.] Shepard [Jr.] and [Virgil I.] Gus Grissom's flights. That is also where we would take them for their post-flight examinations. I went down and helped set this up, and what we set up was a surgical suite and an exam area.

This little hospital was collapsible, and it could be flown away anywhere it was needed. So that was kind of a fun thing to do. Fortunately, we never used it, except to see them after the flight for their post-flight exams.

WRIGHT: What type of authority did you have when you were doing these functions? Did you have to go through lots of battles or lots of discussion with lots of higher-ups to get whatever you needed to set this up?

O'HARA: No, surprisingly. Maybe it was because of the time, but back then, whatever those guys wanted, they got. I mean, the space program was new and it was much favored by everyone, and particularly all of the politicians. We had a wonderful NASA administrator, Mr. James [E.] Webb. He was just fabulous. He was very astute politically, and politicians were falling all over themselves to be a part of this wonderful, new adventure that this brand spanking new agency was doing.

Basically all I had to do was go out and find the furniture and tell procurement that's what I wanted. But I don't recall any hassles, certainly not like you have nowadays. As far as authority, I was out there by myself, and I kept Colonel Knauf informed, but I really worked independently. I've been extremely fortunate all my life to work independently, which is great. I've always had a boss, of course, and I've always kept them informed, but I didn't have someone hovering over me every day while at work. So I've been very, very fortunate from that standpoint.

WRIGHT: Once the quarters and the room was set up, how did your tasks change? When did you actually start getting to know those first seven [astronauts: M. Scott Carpenter, L. Gordon Cooper, Jr., John H. Glenn, Jr., Virgil I. "Gus" Grissom, Walter M. Schirra, Jr., Alan B. Shepard, Jr., and Donald K. "Deke" Slayton]?

O'HARA: Well, in January of 1960, the first seven started coming down to the Cape to start their training for the first suborbital flight, and at that time, the astronaut that was going to fly had not been chosen, or at least it certainly hadn't been announced. But that was pretty early on. They would come down, as I said, to do their simulator runs and work in the altitude chambers. The Mercury spacecraft had to go through all sorts of tests because it was a brand-new vehicle and certainly untested. Since I was there on a daily basis, more or less doing everything to support them, I just did whatever was necessary or whatever needed to be done.

WRIGHT: These first seven astronauts, you began to know them as individuals. Did you find yourself in the role of a sister or a mother, a good friend? Did you feel you were their nurse or a combination of all of these?

O'HARA: Well, the nurse part is kind of a misnomer, in a way. I mean, here were seven guys who were in top physical condition. They were all top fighter pilots. They were the cream of the crop, and being around them daily when in the area, we just became good friends.

The first time I met them, I was terrified of them. I was very intimidated by them. But they were extremely nice to me, and they made me feel very comfortable and welcome in this all-male world, if you will. Obviously, it's like with anyone that you meet and you're around



daily. You become more familiar with them, and you work it into a very nice friendship and relationship with them.

Occasionally their wives would come down, so it was nice for me to get to meet them, although I didn't get to know any of the wives really well until we all moved to Houston [Texas]. Again, they came down just once in a while and then for only brief periods of time, and that's because they all had small children and the kids were normally in school.

But I think the friendships just grew as I think they would normally under normal circumstances, because I'd help out in the suit room or I'd do the lab work or I'd do some communication checks. I would do whatever was required. Like I said, back then you do whatever it takes to get the job done.

WRIGHT: Once Alan Shepard had been chosen for that first flight, did you see a change in your role? Now there was a type of order; they weren't just all seven. He now became the first one to go on a flight. So did your day-to-day routine change, anything that you could help him prepare for that flight, or anything that you had to do to make sure he was ready to go on that first flight?

O'HARA: Well, it didn't change per se. It just became more medically oriented, if you will. Bill [William K.] Douglas[Astronaut Personal Physician] was their flight surgeon, and he was a wonderful, wonderful man. He was the kind that wouldn't allow them to go on the centrifuge or do a chamber run or any test unless he did it first. We had twenty-four-hour urine samples to collect and a number of other medical tests. So just prior to flight, there was more emphasis on the medical exams, and I was sort of the one person that was there all the time that they could either call or contact, and I would go out and get whatever was needed.

WRIGHT: Speaking of the flight surgeon, did he rely on your instincts and your input whenever making determination for these astronauts and their health?

O'HARA: Yes, he would ask, "Is everything okay?" or, "Have you noticed anything?" or, "Any problems that you've observed?" And I would certainly have a verbal input as to the status of the individual at that time.

WRIGHT: Would you walk us through some of those days prior to Alan Shepard's flight? Tell us how you felt, knowing that this person you'd become friends with was now going to make this historic mission, and share with us how you felt about putting one of your friends through the procedures to get him ready for this flight.

O'HARA: Well, it was probably the most emotional, excruciating time for me. Since we had never put a man on top of a rocket or launched one, so to speak, it was very nerve-wracking, and I think it was nerve-wracking for everyone simply because we didn't know quite what was going to happen. As you know, they were always testing missiles, and they'd go up and explode, or they'd nose-dive into the ocean, and now we were going to put some guy on top of one of these rockets. So it was very scary.

The night before the flight, I was out there all evening. One of my jobs was to call and wake the various support people and get them up well in advance of the launch. Then I would go and wake up the crew, and the crew would come in to the exam area, and we, of course, did his temperature, his blood pressure, heart rate, and got his weight. The weight was very important

so that we could determine—you know, you always need a weight before and a weight after. Then we'd make sure that we checked his skin and his ears and particularly his chest area, the skin on his chest area, to be sure there was no irritation because of wearing headphones and electrodes and that sort of thing, so that this didn't become an irritant for them during the flight.

But I could feel the anxiety building up, particularly in myself. It was kind of a scary time, and I'm sure it was for a lot of people, and you could kind of feel the tension in the air.

After the physical, he would then go have breakfast and then go back to crew quarters, which was about fifteen or twenty feet away, and get into the undergarments he would wear under his flight suit. He would then go into the suit room to be suited, and once that was done, he would walk down the hall and downstairs and off to the launch pad. Again, I hate to keep repeating this, but it was just a very apprehensive time for me.

I would then go over to what was called the forward med [medical] station. This was an old Snark [Air Force missile] hangar that I did set up as a trauma room in case there was an on-the-pad abort or a launch disaster, and this would be where they would bring him. I had a med tech and myself. We were stationed there during the hours pre-flight, and that's where we would watch the launch from. It was very emotional for me to watch.

I remember John Glenn's flight. We would see a cloud, maybe over Orlando [Florida], coming this way, and, well, they would scrub the launch. The least little thing would cause a launch delay or a launch scrub, simply because we had not done it before. And this was the same with Alan's and Gus', and every time anything out of the abnormal would happen, why, everything come to a screeching halt. But the tension was very, very high.

WRIGHT: I guess those moments in between must have seemed very long for you, waiting for the decisions to be made.

O'HARA: Very long, very long, indeed. After Alan's flight, as soon as he was launched, I don't think I breathed for quite some time, and even then, his flight was, what, sixteen minutes. But those were very, very long minutes until we got the word that he was down-range and he had landed exactly where he was supposed to.

Then I was taken over to the Cape air strip, and Dr. Douglas and I flew down to Grand Bahama Islands for the post-flight physical exams, and even though he had been recovered and was aboard the ship, he was going to be brought to GBI [Grand Bahama Islands] for his major physical exam. They were seen aboard a ship very briefly, but the more extensive medical exams were conducted there at GBI in that little fly-away hospital.

WRIGHT: Do you remember any part of the conversation you had with Alan Shepard after you saw him?

O'HARA: No, you know, I don't. I remember I was so relieved to see him. We all were. And there were so many people talking to him. I think I just smiled. I was just so glad to see him, I don't know that I said anything.

WRIGHT: I'm sure your smile said all there was to say to him, too. I'm sure he was glad just to see you as well.

O'HARA: Well, we were just so happy he was back, and it was a great accomplishment. Really, it was a great feat. I think we tend to forget that. With all the exotic technology we have now compared to what was done then, it was really an engineering feat that was unbelievable. The talent that NASA had back there, and really still has, but the talent back then was awesome. The best and the brightest wanted to work for NASA, and rightfully so, because it's a wonderful agency, and the opportunities were unlimited, just to be able to be a part of something as historic as these first flights or any of the flights, but particularly the first ones.

WRIGHT: Then Gus Grissom went next. Was it easier for you to see the second one of your friends to launch, or was it as if you were living it all again?

O'HARA: No, it never really got easier. I think we all had just a titch more self-confidence, but not much, because, again, it was still all very new and very experimental. Again, the same type of launch preparations was done for Gus as was for Alan, and then, of course, Gus got into trouble upon landing. As you know, the hatch blew, and the valve on his suit opened, and water started pouring in, and the helicopter that was hovering over him, here Gus was frantically waving at them and trying to tell them that he was in trouble, and they thought he was just waving and being friendly, and so they started waving back at him.

Gus was a very, very muscular guy and very strong, but he wasn't a big man. So, thank God he was as strong as he was. Of course, we lost the Liberty Bell [the name of Grissom's Mercury capsule]. It sunk right away, and we were just lucky that Gus didn't drown. The waters are very choppy that day, and with the helicopter hovering over him, that didn't help the choppy

waters, and, of course, again, there he was. He was waving frantically at them to come get him, and they just thought he was just being friendly, and that was a bit scary.

WRIGHT: Did you have any idea that this was going on while it was going on, or was it sometime afterwards when you heard the details of his recovery?

O'HARA: No, it was afterwards when we heard the details. We were on GBI and didn't have instant TV like they have now.

WRIGHT: When John Glenn went up, was there a longer time that you had to feel your anxiety, or did you feel a little bit more comfortable this time?

O'HARA: Well, yes. He was being launched on an Atlas, and we had watched those blow up right and left, and there was tremendous anxiety, at least, again, on my part. But John's flight, I don't remember how many times John's flight was scrubbed because of the weather, which was usually one of the determining factors, and in Florida, as you know, the weather can change instantly. But, again, we'd see a cloud coming, and so they would reschedule the time, or they'd put it into a hold, and that was simply because they just weren't going to take any chances.

WRIGHT: Every time that it was put on hold, did you have to start your procedures all over again?

O'HARA: Yes. Well, we started some of the procedures all over again. We really didn't do a lot of the in-depth exams on them. We just made sure that the heart, lung, and skin, and the ears were clear, and that sort of thing, before they left.

WRIGHT: The others that followed, were all the procedures the same as you had done before, or were they changed as they went through?

O'HARA: Well, the preparation before flight was very much the same, yes. I don't know that anything much changed except probably in their simulator training. When an astronaut returned from his flight and during the debriefing, you kind of learn what things need to be changed, and they would try to modify or either add or take away from, say, the flight plan. But there weren't a lot of drastic medical changes.

WRIGHT: Did that same method work for you in your medical area? Did you learn from what they had to say and then try to adapt based on what they were telling you?

O'HARA: Well, on the medical end of it, really didn't, again, just didn't change that much. Nowadays, of course, the medical exams are probably far more in depth than they were back then, and we have a lot more sophisticated equipment to work with than we did back there. We just didn't have much then.

WRIGHT: Everything you kept, all your records, everything was done by hand, is that correct? You didn't have any type of computer-based equipment.

O'HARA: Everything was handwritten. We didn't have computers. I'm sure there were some around, but we didn't have any, and I think they were kind of just first coming out. We had paper checklists, and you went and followed your routine, and you didn't vary much from that.

The other thing, too, is that all through the programs I was involved in, we really didn't change a lot of the way we operated, and we did not usually allow anyone new, a new face, if you will, because it really upset the crewmen. I know that sounds silly. You wouldn't think it would bother them, but it really did. We were very careful that the same people were there each time so that when they came in for their physical or any sort of a medical test, it was a familiar environment to them, and there weren't a lot of strange faces or people that they didn't know. We really worked as a team. Of course, the team kept growing as the flights became longer and more sophisticated, but the same team assigned to a mission, and they usually stayed there. So that when the crew came in, they saw the same faces and were familiar with what we were going to do to them, and we tried never to change that.

WRIGHT: The follow-up was all under your responsibility as well, all the files and all the records?

O'HARA: Yes, all of the files and the medical records. Whenever I would go down for a flight, I would take their medical records with me, and I was always terrified the plane would go down, and the medical records would be gone, and they'd never forgive me for that. But we would collect all of the data from the physicals and bring everything back to Houston, and it would be analyzed and filed. Then we soon started, of course, a computer database. One of the fellows



there set up a wonderful system for collecting and storing all of the information and to archive all of the medical records.

WRIGHT: before that was done, that must have been some load that you carried physically back and forth. Wherever you had to go, you had boxes that were under your charge as well.

O'HARA: Oh, yes. I really just took their medical records on board with me in the aircraft, but we would ship a lot of the other stuff. The rolls of data and rolls of EKGs [electrocardiograms] and a lot of the other medical information was shipped back. I didn't bother to bring that back. But I would certainly make sure that I got the medical records back. Again, the investigators that were doing certain medical tests on them, they were really responsible for their own data and to cart their own data back. I just took responsibility for the medical records, the pre- and the post-flight medical information.

WRIGHT: Once the Mercury astronauts had finished the Mercury Program, you must have been transitioned into the Gemini Program, and now you had two to get ready for a flight instead of one.

O'HARA: Yes, the workload did increase. They started selecting more astronauts, and I think the second group was selected in 1962, and I think there were nine, and then the next group was fourteen. They all started arriving, you see, with children and wives. Well, we had a couple of bachelors, but it was a pretty heavy workload. There was just myself and five flight surgeons, and I was very busy because I'd do all of the pre-flight stuff, and then I'd go to the Cape, and I'd

stay there until the crew was recovered and brought back to the Cape, and we'd do the post-flight exams, and then we'd all fly back to Houston.

So, in the meantime, everything that I normally did in the flight medicine clinic was still waiting for me. I did all their EKGs and eye exams and all of the administrative forms and the hearing tests and you name it and, of course, the immunizations on the families, plus the guys. So I was kept pretty busy.

WRIGHT: You must have not had much time for a personal life.

O'HARA: Well, no, not much of a one. What's that saying? "I'm a girl that can't say no." It's just the way it was. I think at one point I had a patient census of 500, if you will, and finally about the third year or so, we finally did get a secretary to at least answer the phone. But there was so much correspondence, and she took care of at least some of the administrative duties. But I maintained all the medical records and the FAA [Federal Aviation Administration] records and typed up their physicals and histories, their FAA exams.

In addition to taking care of the astronaut families, we took care of the NASA aircraft ops [operations] pilots and all the crew personnel, anyone that flew NASA aircraft.

WRIGHT: Well, you certainly were involved with the NASA community, but I was curious to see if the outside world reached in and touched you. Were there people asking questions of you since you were the one that the astronauts knew as their nurse?

O'HARA: Oh, yes, there was a lot of fan mail, if you will, which always surprised me, at least particularly during the Mercury Program. Asked to speak to various groups all over the United States, and I hated it with a passion. I absolutely hated it. When I was an Air Force nurse, I did it because I was ordered to, and everybody always wanted to know things about *them*. Well, I don't talk about them. So I was very uncomfortable doing this, because it just isn't my right to talk about them.

WRIGHT: Even though you were friends with them and they were friends with you, you got to know each other as individuals, did you have to maintain a fine line between your medical role with them and your personal role?

O'HARA: Yes. I think what a lot of people don't understand is that they allowed me to be close to them, and you just can't betray that. I never could, and to this day I wouldn't betray that. I took it as a sacred obligation, if you will, and that's why I would never write a book about them.

WRIGHT: You were so close with them through all their accomplishments, but you were also were there helping them through the tragedies, especially the Apollo 1 fire.

O'HARA: Yes, there were the tragedies, and, no question, the Apollo fire was horrendous. I think one that hit me particularly hard was when [Clifton C.] C.C. Williams was killed in October of '63. His wife was my best friend and still is, and she was two months pregnant with their second child when he was killed. Their first child, Catherine, was ten months old. And that was extremely difficult for me to deal with. The deaths were all very painful. So it's not only

losing the guy, but then you go through the tragedy with the family and the children. There was a lot of emotional—well, I don't want to say turmoil, but there was a lot of emotional issues to deal with, and you can't be that close to that many people and not expect it. They were doing very dangerous work. Spaceflight is certain not sissies. It's like getting old is not for sissies either. Spaceflight is dangerous, and I think we lose sight of that because we've been so successful, very successful.

Back to the fire, that really was horribly difficult, I think, for everyone, but a lot of lessons were learned that needed to be learned. So fortunately a lot of things obviously changed for the better. The *Challenger* was certainly a devastating blow to everyone. I only knew three of the crewmen on board. But I think for all of you who were there when it happened, that had to have been a very difficult time, because it affects so many people.

WRIGHT: On the other hand, you were also involved with NASA during the time that it had one of its greatest accomplishments, and that was landing on the Moon.

O'HARA: Yes, the Moon landing, now, that was a spectacular engineering feat. I think on occasion you would hear, "Oh, they were so lucky." Well, it was not luck. It was hard work, and it was brilliant planning and engineering. Like Apollo 13, we were so lucky to get them back. Well, yes, we were lucky, but it took a lot of teamwork and brain power to figure out how to get them home, not only on the part of the crew, but the mission control people and all of the ground support people. The ground support people should never be sold short. I know the astronauts certainly don't sell them short. They're very complimentary about the people that have supported them throughout their missions. And, boy, if you want to see teamwork in

action, the space program is the place to watch. It's not any one individual. Nobody can do it by themselves.

WRIGHT: All of those teams, as well as the world, was watching when Neil [A.] Armstrong walked on the Moon, but, of course, before he left, he walked down that hallway, and now you were sending more people up into space that you had become friends with. What were your thoughts, or how did you feel about knowing they were going to go some place that no one's ever gone before? Did you have anxiety even more at that point?

O'HARA: Yes, a high level of anxiety on my part. Neil didn't seem to be bothered by it at all. Of course, he's a very laid-back guy, and even though I'd been to all the launches, this one was very different for me, and probably because of the fact that they were going to the Moon.

A week or so before the launch, the crowds started arriving, and the Cape was just inundated with people. A couple of days before the launch, I remember walking across the breezeway with Neil there at the MSO [Mission Operations System] building, where our offices and the pre-flight exam was. I said to Neil, "You will not believe the number of people that have congregated down here. The causeways are jammed. They've been out there for a week. It's just this mass of people."

Neil kind of laughed, and his comment was, "Well, yeah, I suppose people are going to make a big deal out of this."

I said, "Neil, do you realize what you've just said?"

He said, "Yes, it's no big deal."

I said, "Well, maybe not to you, but it's certainly is to the rest of us." But that was his attitude.

I don't remember particularly Buzz's [Edwin E. Aldrin, Jr.] attitude or comments then. But Mike [Michael Collins] was very jovial and his usual witty self. Neil was just very laid back about all of this and said, "Well, I suppose they are going to make a big deal out of this." I just thought it was the most bizarre statement. But that was Neil. It was his way of dealing with things, very cool.

As I said, I've always been very, very grateful for the opportunities that I've had, particularly to be a tiny part of this great adventure.

WRIGHT: And your adventure never seemed to stop, did it? It kept going for you?

O'HARA: Well, at times it seemed endless.

WRIGHT: Because you watched these men and you watched them land on the Moon, but when they were on their way back, you were already getting the next crew ready. So your process just kept continuing?

O'HARA: Yes, that's true, and particularly during Gemini and Apollo, I really had no life of my own, because I was at the Cape for two months, I'd be home for two or three weeks, then I'd go back down to the Cape, and it was back and forth and back and forth. I have to confess that it really got old after a while because I was constantly living on the road. I had the same room at

the Holiday Inn in Cocoa Beach for nine years. I've often joked that we need to make a shrine out of it one of these days.

WRIGHT: Were you able to leave some of your things there, or did you have to start over?

O'HARA: No, I would pack everything back up and then haul it right back down again.

WRIGHT: Well, at least you knew where you were going every time.

O'HARA: Yes. Oh, it was wonderful. It really was like going home whenever I would go down there, and you knew the same people, and everything was very familiar. I had the pleasure of going back for John's [John H. Glenn, Jr.] flight in October, and I couldn't believe how much the Cape had grown and changed, and to see, well, Paul [C.] Donnelly and Walter [J.] Kapryan and so many of these engineering people that I had worked with in Hangar S, and it was just wonderful to see everybody. Everybody was having such a good time reminiscing and remembering, and, of course, I was very pleased we were all upright and still walking around. But it was wonderful. It was very heart-warming just to be at the Cape again and to go to Bernard's Surf and to see the people you've worked years and years ago. It was fun, and it was just a very special time.

WRIGHT: And such a wonderful success.

O'HARA: Oh, and it was so successful, yes, and that's the other part, and I was so glad that John got to fly again. I know there was some criticism and criticism of NASA, but, come on, it didn't hurt anything, and he deserved to fly again.

WRIGHT: Have you had a chance to talk with him since he's returned?

O'HARA: No, not since he's been back, no. But his son, David, and his wife and the grandkids live there in Berkeley [California], and I met his grandson, who's just a darling youngster. He came down to interview me for one of his school projects. They're very nice kids, and, of course, very proud of Grandpa, and rightfully so.

WRIGHT: This mission that you were talking about, with John Glenn, had such a lasting impression on you. As you mentioned, all of them have. But was there one that you remember more than the others, or did they just mesh into each other?

O'HARA: Well, one would think that they would kind of mesh. But as far as the flights, each one was really very special because it was that particular guy's flight, and you're always so happy for them that they finally got to fly and do what they'd worked and trained for and wanted to do for so long.

WRIGHT: It must have been special for you then to watch Deke Slayton finally get to go.



O'HARA: Ah, that was wonderful. The crew had asked me to come back for the mission. I was here at Ames at the time, and, of course, the flight was in July of '75. What a thrill to see Deke. I don't think anyone begrudged him that flight. I mean, he finally got to fly, and, as you know, he wasn't allowed his Mercury flight. So everyone was thrilled to death that he got to go on this ASTP [Apollo Soyuz Test Project] mission.

WRIGHT: You got to know Deke Slayton as one of the seven, but his role changed when he became in charge of the astronaut corps. Were you still able to have a close relationship with him after he moved into that management position?

O'HARA: Yes, because he was always at the Cape whenever the crews came down for their flight. There was a certain cadre of people, and Deke was definitely always there. He was in charge of the astronauts. He made the flight selections. He made the crew selections. That never changed. When I was in Houston, he always came for his physical exams. So I did see him then, and I would see him around the center. But the relationship never really changed at all.

WRIGHT: And once you had these guys in your life, they just didn't go away, did they?

O'HARA: I never let them get away. They tried, but they were never successful.

WRIGHT: Yes, I bet they knew where to find you, too.

O'HARA: [Laughs] Oh, yes, they did know where to find me.

WRIGHT: When you came to the Manned Spacecraft Center in Houston, there was some transition. Did you still have your authority as far as your management was concerned? Because you were changing locations, did you have to change roles? Could you share with us some of those changes that went on with that?

O'HARA: Well, I went from being an Air Force employee to a NASA employee, obviously another government employee. My duties certainly expanded because now we had wives and children, and that entailed other things, other than just flight-type activities or pre-flight medical activities. It became busier because the population kept growing and growing.

Now we were dealing with the wives and with the children. It had been decided that the flight medicine clinic not only would see the astronauts, but the charter was for us was to see and care for the families, in addition to all the pilots that flew NASA aircraft that are based there at Ellington [Field, Houston, Texas]. But the medical care was, again, to be afforded to the families, and the reason we were designated as family physicians was that the astronauts were usually always on travel or gone and rarely ever home, and at least this way they knew that they could go away from home, knowing that if anything happened, we were there to take care of their families. If it was above what we could do in flight medicine, they were referred to a specialist. But the flight surgeons and myself became the family physicians for them, if you will.

WRIGHT: That must have been a comfort to the families and to the astronauts, though, that they could go anywhere they needed to go and that their families were safe and kept private, the dealings with them.

O'HARA: I think it was, because many of them were military wives and used to military outpatient clinics. They would say, "Oh, you have no idea what a luxury it is to come here and be seen by friendly faces," because as military wives with a sick child, they would go and sit in these outpatient clinics and wait and wait and wait and either never see the same doctor twice or they'd have such long waits. In flight medicine it was someone that they were familiar with and that they could call, and that gave not only astronauts assurance that their families were taken care of, but it was a place for the families to come that was familiar to them, and they were usually seen right away. We had great capability in the flight medicine clinic to do this. So it worked out very well. It became a family medical unit for them. In fact, I think it still is today.

WRIGHT: Through all those years, you had so much on-the-job training. Were you ever able to slip away and get some other types of training that would help you with your skills?

O'HARA: I really never got to do much with that. There just was no time. The flights were so close together. If you look back at the launch dates, there really wasn't time to be gone, or at least I felt I couldn't be gone. It was probably some of that also. No, for me, it was just OJT [on-the-job training] most of the way, believe me, and after a while I could do it in my sleep practically. But, as with any job, when you become so familiar with it, that's what happens.

People are people. The problems are the same. Medical conditions are the same. Equipment changes, but the people don't, and there's obviously a lot of—

O'HARA: —high-technical equipment used for diagnosing and monitoring and that sort of thing that we didn't have back then. But basically everything is still pretty much the same. A cold is a cold, and an ear ache is an ear ache.

WRIGHT: Do you ever remember a time that things slowed down long enough for you to figure out where you were, or was it just a constant nonstop movement in your program?

O'HARA: Well, it seemed that it was a very busy time. I was there, what, ten years, and I think there was only one year out of the ten that I was able to take most of my annual leave. We'd have flights over Thanksgiving and Christmas. So holidays really weren't a big issue. But nobody really seemed to mind, because your whole goal was to be there and to get the guy launched safely and recover it safely. So holidays became almost nonexistent much of the time.

WRIGHT: No day was routine, but yet, did you have many days, or can you remember a day that you had a surprise or incidents or a situation that came up that you felt that you had to deal with on a real-time basis that just hadn't occurred before?

O'HARA: [Laughs] Well, a couple of times when the astronauts were out training in the lunar vehicle, in what we used to call the "flying bedstead" out there at Ellington's, and a couple of them happened to land in chiggers. This one, particularly, came racing into the office, dropped

his pants, and said, "My god, I'm dying. Do something." Of course, that was a wonderful sight. [Laughter] I'd say, "God, the blinds are open. Don't—." Well, anyway, they'd finally end up closing the door, and we'd pull the blinds. But wonderful, fun things like that fortunately didn't happen all that often.

WRIGHT: I guess that expression "You've seen everything" must have come true at some point. [Laughter]

O'HARA: Yes. Nothing surprised me, believe me, or very little surprised me. You're right. The days weren't routine, and yet, in many ways, they were.

WRIGHT: Sometimes the astronauts would play practical jokes, as many times that people get together, they do. Do you feel that that helped them bond with each other, or did they ever surprise you with any of those types of things?

O'HARA: Well, the jokes were unbelievable, and they were quite naughty at times, yes, and they were always, of course, extremely funny. But I remember one year, what, in 1968, I think, I guess it was, at least for me, they had a Christmas party every year, and it wasn't uncommon for them to invite me. So, anyway, we were down at my friend Beth Williams's house, and Frank Borman got up and started into this spiel about what a great organization NASA was, and within that organization there was always great divisions and offices. Then he said, "But then there are those that are just a complete disaster." Anyway, they gave me, that year, the most exquisite, one-of-a-kind, if you will, silver tray with all of their names inscribed on it, that had been in the

making for, like, two years and had been on display in downtown Houston. Of course, I didn't know about it. I was overwhelmed that they had gotten together and done this. Of course, I've always been kind of frightened of it, because I was afraid something would happen to that silver tray since it is kind of a one-of-a-kind. But, yes, they would do things like that, and, of course, the jokes and practical tricks and what-have-you, those went on all the time, and particularly when the crews got to the Cape. They'd come over and say, "Hey, we want to do such-and-such to so-and-so, and can you do this?" So we'd do it, and we had great fun. Then they would put these things on board so that the astronauts would find them sort of mid-flight somewhere, and, of course, that was always a surprise for them. So, yes, I got to be a part of a lot of that, and it was great. They were deadly serious about their work, but they also had tremendous senses of humor, and they were very, very clever.

WRIGHT: Having a great sense of humor is an invaluable trait, isn't it?

O'HARA: Oh, I think you have to, particularly in that kind of work. You have to have a great sense of humor, and, oh, boy, do they have one, because you deal with so many personalities and so many different kinds of people.

But one of the things I probably should mention about the medical aspect is the business with the flight surgeons. I'd made an agreement with the astronauts, actually each group that came in, a long time ago that they could come to me with anything. It didn't matter what it is, and that I would never betray them. But there is one condition. I said that "You have to understand that if, in my opinion, it would jeopardize you or the mission, then ethically I will go to a flight surgeon with this. So don't come to me with anything you don't want them to know,"

and that was the understanding, and that's the way it worked all these years. It was always that way, that I would never betray them, but they had to know that if it was serious, we had to tell someone.

WRIGHT: Did the flight surgeons know you had that deal with the astronauts?

O'HARA: I don't know. I never told them. I just never simply discussed it with them. It didn't matter because it was my bond and my word with them, and it was my agreement with the guys, and that's the way it was. On two or three occasions, they did come to me with situations, and we would check it out, and if it wasn't serious, then nobody knew about it. I don't know. That's just the way I operated, and it worked very well.

WRIGHT: You mentioned earlier that when you first met the first seven, you were a little terrified of them, but then you also mentioned that they had accepted you. Was there a span in time that this happened, or was it an immediate acceptance with you right away?

O'HARA: No, the acceptance, it wasn't immediate. I think during the early Mercury days I remember opening the door to the conference room, which was between the suit room and the crew quarters, and there they were, and I just froze. I said, "Oh, excuse me," and I slammed the door shut, and I remember racing back up to my office.

John Glenn came up, and he got me, and he said, "Oh, come on back. Meet the guys." He introduced me to all of them, and I was so nervous that I blurted, "Would you like something to drink?" and, of course, they all wanted something, which meant I had to go back and get it and

then bring it back. I thought, why did they want something to drink? Fortunately I had enough soft drinks in the refrigerator in the lab area there, so I took them all back the soft drinks, and they said, "Oh, stay and talk."

I said, "No, that's okay," and, boy, I got out of there. So little by little, that went away. The first astronaut I ever saw, I hadn't met him before, was Deke Slayton. He was standing with a group of people, and Colonel Knauf and I were down on the hangar floor, and he said, "Oh, there's one of the astronauts, Deke Slayton," and, man, I almost got a whiplash, whipping around to see what one of these guys looked like. I had no idea what they would look like, and I don't know what I expected them to look like, but he was the first one I saw, and then when I inadvertently walked in on them down in their little conference room.

WRIGHT: You didn't find one. You found them all at once.

O'HARA: All at once, and, yes, I was terrified. But that went away quickly. But I don't think it was instant bonding. But then it's like with anything. The more you're exposed, either a friend or whatever, the better you get to know them, and that takes time. Friends take time, and friendships develop over time.

WRIGHT: Were you easily recognizable to them? Were you in a nurse uniform?

O'HARA: Oh, yes, I wore a white Air Force nurse's uniform and wore an Air Force nurse's cap. Well, I was the only female out there, so I sort of stood out like a sore thumb.



WRIGHT: You were easy to find in that crowd.

O'HARA: [Laughs] Well, yes, and I'm not very short either.

WRIGHT: At the time, becoming a nurse was a comfortable position for a woman. People accepted that. But you definitely were in an environment filled with men.

O'HARA: Back then it was completely a man's world. In fact, when I was growing up, you either became a nurse, a teacher, or a secretary. Those were people's life ambition, and there was probably the odd female engineer, but women really weren't encouraged to, as they say now, "be all that you can be," and I'd always wanted to be a schoolteacher. But fortunately, I got over that.

So at the Cape, it really was totally a man's world. I was the only female in Hangar S, except for maybe there was probably a secretary here or there. It was all men, and never once was I ever discriminated against or never made to feel uncomfortable. It was a wonderful, absolutely wonderful environment. Of course, I wasn't really the sensitive kind, if you will, or looking for every little nuance, that I think is prevalent today. But I was just treated beautifully by everyone and nicely and with respect, and we had a lot of fun. We joked and kidded around, but we were also very professional, and we each had our job to do. But I was never discriminated against. In fact, in my entire career, I've never felt that.

WRIGHT: Although you were the only female, you were the only nurse, and you began creating this position and this role that had never been thought of before, did you see yourself as the astronauts' nurse or an aerospace nurse or a nurse filling a job? How did you see yourself?

O'HARA: Well, I was called and referred to by all sorts of titles, astronauts' nurse, aerospace nurse, what have you, and I never called myself any of those. I was always embarrassed by that title. I was just lucky to have a very elite group of patients, if you will, and they really weren't patients, of course, because they were certainly never ill. But I was always embarrassed by that title, astronaut nurse. Of course, I'm not really big into titles. You have a job to do, and the point is just do it, and it doesn't matter what they call you as long as you do whatever it is you're supposed to be doing. I just never called myself that. Other people have, and I guess it's probably the proper term. I don't know what else you would call it, but I don't use the term, and I've certainly been afforded a wonderful life.

Trips, I was invited everywhere, and I was treated like a celebrity and accorded so much. I know it wasn't me per se. It was because of my association with them, and I have never really lost sight of that, because you can certainly become very self-important and go on and on about your so-called accomplishments. But, no, it was simply because of my association with them.

WRIGHT: You were a person who created a field, where now there's a lots of women and men going into medicine specifically designated for the aerospace field.

O'HARA: Yes, for aerospace, definitely. But that whole field has grown over the years, and I don't think through anything I've done. But the whole field of aerospace medicine has definitely

grown because, again, there are more pilots and now there are more astronauts, and it's a whole specialty field now. It's like sports medicine.

WRIGHT: Do you have something that you feel is the greatest accomplishment that you were able to do when you were in this part of your life?

O'HARA: No, not really. I don't know of any one thing. I was probably the only consistent medical person in their life, if you will, from Mercury through the Skylab program all those years. I don't know that you would consider that a great accomplishment, and I don't know that I accomplished anything spectacular, that I did myself. Again, it was my association with them and what that brought, really.

WRIGHT: But you did keep going through all this one long continuous stay that ended up being your career. Did you find that to be one of your hardest parts, was just to keep going?

O'HARA: Well, yes, there were days when I wondered if I was going to make through the day. I got very tired. In fact, when I left to come here in '73, I remember I was at the Cape, and it must have been the last Apollo flight, and I was walking down the hall, and I thought, "What are you doing here?" I was so tired. I didn't have any help, and it just became overwhelming. So finally at that point I decided I just had to have a change, and at that time a lot of my favorite people were leaving and going on to other jobs. Well, obviously, I think it could be diagnosed as true job burnout. But I was very, very tired, and I was just worn out at that point.

WRIGHT: Tell us about the change in duties and the change in responsibilities for NASA now that you have moved on to Ames.

O'HARA: Well, I went from a very operational environmental, totally operational, into a research environment. Boy, that was not an easy transition.

WRIGHT: Did you find your pace slowed down?

O'HARA: [Laughs] At first I couldn't believe they operated like this. Nobody was running around and checking their watches, and I was constantly looking over my shoulder, thinking I had to be somewhere, do something. I was frantic. I just figured I was really losing out on a lot of things, and the management people here would say, boy, look at what we've done, taking on this woman. She's become so neurotic.

But I was used to a very, very tight schedule, and when you deal with the flight crews, you only have a finite amount of time that's allotted to you, and you bloody well better get your act together and get your tests done because there were no repeats, and that's the premise we operated under. Besides, they didn't want to be doing these tests anyway, so you didn't mess around or be late. Boy, I was never late, I'll tell you, because if you were late, you didn't get your data.

Well, when I got out there, they put me in charge of the Human Research Facility [HRF], and my first research study, which I didn't know how to conduct, and I had no one to show me the way, either. I remember they had a Ph.D. upstairs that sort of did it by remote control, if you will, and his idea of putting a study together was to point to a corner and say, "Well, you can put

your stuff over there." Well, that really doesn't work. So I kind of came in and was stumbling around, not knowing what I was supposed to be doing. But I remember during that study, I thought, boy, if this is how they do things, this is not a good way to do it.

So I started trying to get things organized. I was getting schedules out, and I was trying to organize people, because with flight crews you had to be organized, and I'm a bit of an organizer myself. Anyway, I was trying to run an experiment or these studies, much like we would run the pre-flight tests prior to a flight and adhering to the strictest sense of the protocol, and if lights are to go on at seven, they go on at seven. They don't go on at ten after seven.

One of the things I had to learn was to back off and calm down a bit and not be on everybody's back so much about everything. I treated the subjects much like I would treat a flight crew. They deserved their respect and for us to be on time, because we certainly expected them to be on time. So when they would come in here to the facility to do a project or an experiment, it's a job, and we treated it as a job. These studies are very expensive to do, and there's very serious business. So out of respect for the subject, I felt we had to all have our act together before they got here.

Well, that didn't go over too well with everyone. Most scientists are used to going at their own pace and pretty well laid back. So I was not very popular when I got here, and that was understandable. But my thing was, hey, NASA's paying for this, and NASA needs this information, so either do it right or we don't do it at all. Maybe that's been my driving force, is that you need to do it right the first time. Yes, mistakes can be made, but I didn't want a lackadaisical attitude in here, because that sort of drives me crazy.

The transition period was very difficult for me, again, because I was constantly looking over my shoulder, and I thought, boy, I've been here all this time, and I haven't done anything. I

was a nervous wreck for about the first two years, until I could learn to pace myself, and then it was a matter of learning a different pace, because it's is more laid back here and it wasn't earth-shattering if such-and-such didn't get done right, right as scheduled or right at ten o'clock.

It took me a long time to learn to back off and let up a bit on people. In 1975, I think it was, we remodeled the HRF, and by then I had a better feel for what needed to be done. Much to the relief of the investigators, I decided to take their protocol and their experiment, and what I would do is totally put it together for them, from getting the subjects to the daily schedule. Poor guys, they had more schedule than they knew what to do with. In fact, they were drowning in schedules. But I would take all the aspects of the experiment and laid everything out to the nth degree so that everybody knew what to do. I think the bottom line is that, again, this is another support role, which is the role I certainly had with the astronauts. I just simply supported all of the investigators here with their research experiment.

Then later on I started doing the budgets and becoming much more familiar with how Ames operated and how we should operate in here. I was able to write the policies for how we should conduct experiments and the ethical side of human research and the medical side of it also. I set up and maintained the medical records and files on all the subjects. The research investigator was responsible for collecting his research data, but the rest we did in here.

I had a wonderful nursing staff. They were so good with the subjects, and I think my greatest accomplishment or feeling of accomplishment was to see a study go off without a hitch, whether it be a forty-five-day study or a ninety-day study. As you know, the subjects would come and live here twenty-four hours a day during these experiments.

Of course, I worked seven days a week during that period of time, and it was important that if we asked the subjects to be here every day that one of us had to be here also, and it was

usually me, and that was fine, because as manager of the facility I was familiar with every aspect of the experiment and certainly knew where everything was.

So every day I'd bring the newspapers in, first things, and I wanted them to have a newspaper as soon as their eyes were opened, because there were so few pleasant things that happened to them while they were here because of the various tests, that I wanted them to know we did care about them and for them to feel comfortable. Working here in the facility became a very pleasant experience for them as opposed to the lab rat or the guinea pig, that sort of thing. At least we tried to make it a very pleasant thing for them.

So little by little I grew into the job here, and that sort of made it what it is today.

WRIGHT: The studies that you've done here at Ames, how do they affect NASA and the space agency as a whole?

O'HARA: Well, the purpose here is that we use bed rest as a way of simulating weightlessness. As you know, you can experience brief periods of weightlessness during parabola flights, that they do there at Johnson Space Center in a KC-135. But here we put subjects to bed for twenty-four hours a day in a minus-six-degree head-down position. What this does is it causes the fluid to shift headward, much as it does when you go into orbit and become weightless, and we found that the results are very, very similar to what they have found at the end of space flight. So by using bed rest, you can study various systems, cardiovascular system, endocrine, bone, muscle, on a large group of people all at the same time for not near what it costs on a space flight.

We started to look at problems that were anticipated once the Shuttle began to fly and astronauts would be staying for longer periods of time. What other problems are going to occur?

What are the effects of cardiovascular deconditioning, and when do they recover?

The first study I did looked at the rate of onset of deconditioning of the heart, and what we did was we put four subjects down for three days of bed rest and another four for seven days and fourteen and another four for twenty-one days of bed rest. What they found was that by seven days, the deconditioning of the heart has occurred, and it levels out at that point and really doesn't decondition much more. So there was no sense in doing long-term bed rest studies when you could accomplish probably in ten days the effect of the deconditioning in the other systems.

Then we've got one investigator here, who's trying to find out countermeasures for space sickness and what will work and what won't. She's got a rotating chair, and the investigator, what she does is spin the subjects and tries to make them sick, and then she would give them Compazine or another drug that would be applicable for an astronaut to use. We've also looked at bone loss, and so the theme of the research would be something that definitely would benefit the astronauts.

WRIGHT: This job, of course, was different for you. So has the job benefited you? You could have probably worked somewhere at the Cape in an area that you were familiar to, but you chose a completely different adventure.

O'HARA: Well, yes. Well, I've always loved the West Coast, and I'm from Oregon, and I've lived in Oregon many, many years. Of course, my mother lived in Oregon, and she was getting on in years, and I hadn't been home, say, for holidays in about eighteen years. So that was part



of the reason for wanting to come to the West Coast, and job burnout, of course, was the other, and I wanted to stay with NASA, so fortunately here at Ames, which was a NASA center right next door to Oregon. So it was extremely beneficial for me to come here, even though it was a new adventure.

It also allowed me time for a life. I was able to buy a home, a townhouse, and able to have more time and freedom to do things, which I've certainly thoroughly enjoyed, having the free time, and I've certainly loved the excitement of the studies. They've been fun. Subjects are delightful.

We're very careful in who we select, because that's the crux of your study. If you don't have good subjects, you don't have a good investigation. Some of our subjects have been in ten or twelve of our studies, and these were very difficult studies. We're talking bone biopsies and muscle biopsies and, as I call them, they're very tough-guy type of studies. So I figure, well, we've done something right in here. I believe we've made them feel very much a part of this study, as you have to, and I think any time you participate in any project, and you know that yourself, you want to be a member of the team. So it's been very rewarding from that standpoint, of getting the studies together, and I've enjoyed the different aspects of it.

It's been a lot of hard work, mainly because you don't always have cooperation among the investigators. You have their personality issues, but it's been fun meeting a lot of the different and interesting people.

In fact, the last one we did, just before I retired, was the LMS study, the flight that flew in June of [19]'96. We did the ground-based pilot study for that mission. All of the investigators, including the foreign investigators, came here, did their experiment to see if it was going to work

in space. This is something that really should be done before all flights, but unfortunately it isn't. That was a wonderful experience, meeting all of those foreign investigators, particularly.

Four members of the crew came out towards the end to witness the muscle biopsies that we were doing, because they were going to have these muscle biopsies following their flight. Then they debriefed the subjects, and, well, of course, the subjects were just thrilled to death. But they told the astronauts what to watch out for, and "You're not going to like this test," and, "This experiment hurts."

But what came from that study is these investigators had never meshed their protocols together, and they found that some of the experiments interfered with others. So they were able to modify their experiment, get their data so that everything would mesh, so that when the experiment flew, these experiments went off like clock work, which really helped, and, of course, granted it's a little different when you do it in space simply because of the weightless environment, but that was a very rewarding study to do, and it was fun.

So that when that mission flew, we knew all the crew, and we knew the experiments when they mentioned them. But it was a real challenge putting that one together.

WRIGHT: So once more you were indirectly involved in a mission.

O'HARA: Yes, I hadn't thought of it that way, but you're right. Of course, we had subjects that I've known and worked with for years. So those were the only ones I wanted in this study because I knew that it was a difficult project to do. I mean, muscle biopsies are not very easy. They're not as bad as bone biopsies, but these subjects I knew would come through and give the best data that you're ever going to get from a group of subjects. The staff had a good time. I

think the investigators had a wonderful time, and the subjects had a good time here, and so there was a great sense of accomplishment when it was over. It went very well, and I could ride out of here on my Blue-Tail-Fly.

WRIGHT: Well, you didn't fly very far because now you're back again. Tell us, in what role are you here?

O'HARA: Well, I'm now what they called an Ames associate, which is nothing more than an unpaid volunteer. It's also called a guest worker. I've been coming in and cleaning out the files here and stuff that should have been done before I retired, but I just didn't have the time. I've labeled all of the research data and cataloged it all, so that it can easily be found. Now I'm trying to sort out the files and throw away twenty-some years of accumulation of stuff. There's a lot of stuff that needs to be tossed out, but a lot needs to be saved, and, again, I'm about the only one that knows what probably should be saved and what is okay to toss out. I only come a couple of mornings a week.

I also sit on the Human Research Institutional Review Board. This is the board that reviews all protocols. I've sat on the board for a number of years, but now that I'm retired, I now serve as the outside member. So I enjoy doing that.

WRIGHT: Well, before we close today, I was going to ask you about one area that we didn't talk about that has to do with studies. It's the long-duration studies of Skylab. Could you tell us how you were involved with any of the experiments or any of the materials related to the Skylab missions?

O'HARA: Well, I wasn't really involved in any of the experiments, the planning, or the execution of them. I only got involved in any, was when the crews would resist having to do an experiment or carry around a bottle of urine sort of thing. The investigator would then come to me and said, "Would you mind going over and taking these to the astronauts and cajoling them into doing it?" So I would do that. But I really certainly wasn't involved in setting up any of the experiments. One of the things that I tried to make sure happen was that a lot of the times the astronauts would say, "Well, you didn't tell me what you wanted." These were bright guys, and if they knew what you really wanted and they had agreed to do it, they certainly would.

So one of the things that I wanted to make sure happened was that they start a medical briefing for the crew and that the investigators go and explain exactly what is to happen. Then once they started doing that, then there was never a problem. If an astronaut or crewman agreed to do your test, whether it be urine, blood, or whatever, then they would do it. So, again, the only time I got involved is either to take things over to the crew or—and it was easier for the crew to yell and holler at me than it was to the investigator. But once again, once they started doing these medical briefings, then that eliminated a lot of the problems.

WRIGHT: Another area that we didn't talk about was Apollo 13. There were some medical concerns while the mission was being rescued. Were you at all involved in those discussions on how to help the astronauts getting back to Earth?

O'HARA: No, not at that point, no. I got involved when they got back because Fred [W.] Haise, [Jr.] as you know, was desperately ill, but no involvement during the mission. Of course, they

were so concerned on how to get them back, and at that point nothing medically had cropped up or at least that I knew about. Again, the major thrust of everybody's concern was how the hell do we get them home and can we get them home.

Then, give the circumstances of the water, well, thank god they hadn't landed on the Moon, because, as you know, the LM [Lunar Module] became their life boat. But they were afraid to drink or do anything because they weren't sure how much of the expendables they had left, and, as you know, Fred was quite ill when he returned with a kidney infection. Then I became involved at this point. I'd go over to his house because he was just too ill to come in to the clinic. I would go over to his house and give him antibiotic injections. Then, just for a change in pace, once he got to feeling better, he'd come to my house. But my involvement was all post-flight, if you will, and that was another terrible time and very scary, because he was so ill.

WRIGHT: I'm sure that was. The whole episode must have been like one large, long, continual day for you.

O'HARA: Oh, yes. The whole thing was endless. I know the other astronauts were all in the simulators all night long, and I think that when the news came out that there was a problem, the flight controllers, who had just left, did a big turnaround and came back. I had heard that some of them, as they leaped out of their cars, had left their car doors open and their engines running. This is teamwork and dedication to the crew at its best. But I wasn't involved. It was certainly way above me.

WRIGHT: Well, Apollo 13 didn't work out, and we've briefly talked about you watching the crew move out toward the capsule for Apollo 11. But where were you when you actually saw them land on the Moon?

O'HARA: Oh, I was with Joan [Ann Archer] Aldrin [wife of Apollo 11 Lunar Module Pilot Edwin E. "Buzz" Aldrin, Jr.] that night. I had gone over that evening, and several of her friends and other wives were there, and it was probably the only time I've experienced a surreal moment. I don't know quite to describe it, but it was truly unreal. I saw the TV flickering and the LM was there, and we were told it was the Moon, and the LM was on the surface of the Moon. Of course, we were so relieved that they had landed. But it just simply wasn't real. Intellectually you know it is, and, of course, Joan, as was everyone, was terribly relieved that they had landed. I remember sitting there. I kept shaking my head. I thought, this can't be real, it just can't be. Here we are, on another planet. It was goose bumps all around. It really was just unreal.

WRIGHT: I guess there was a sense of relief for the families to see them leave there just as much as it was for them to land.

O'HARA: Yes. I think, it wasn't like a dream sequence sort of thing. I just don't know how to describe it. It was just simply unreal.

WRIGHT: They had a chance to watch this historic, and they were watching them land, but at the same time, then, once again, they had to go through the anxiety of watching leave the Moon. So

you were there as well, with those families, or how did you feel when you saw your friends leave the Moon?

O'HARA: Well, yes. You see, this was another terribly scary part, was that liftoff, and this is where you have to think, again, of those engineers that came up with all of this planning and technology that was needed to get them off the surface, and it worked flawlessly. The capability is just mind-boggling, even today when I think about how far advanced we are in the medical, technical world, the cyberspace, etc. But when you think of the lunar landing and figuring out all the mechanics of getting there, lift-off, mating with the spacecraft, everything, it's just overwhelming. Then to have them land right where they said they were going to land, I find it truly amazing. It's kind of mind-boggling.

WRIGHT: How soon after they landed back on Earth did you get to see the crew?

O'HARA: Well, let's see. They were in isolation for twenty-one days because, again, we didn't know what they might be bringing back, which everybody was kind of fighting about. I think I saw them as soon as they got back and landed at Ellington but saw them through glass, as everyone else did. They went right into the lunar receiving lab, the "looney bin," as we used to call it, followed by the rocks, in these big transport vans, and, oh, boy, the entourage, all police cars, the flashing blue lights. It was right out of a movie, believe me. But it was for real. Then once they were out of isolation, I saw them very soon after that. In fact, I was with their families the night they came out. But I don't remember all the details of that.

WRIGHT: Well, it could be because you might have been working on the next flight.

O'HARA: Oh, I probably was. Who knows where I was? [Laughs]

WRIGHT: Well, we've enjoyed talking with you today. We know that your life has changed, that you are, of course, still at Ames, and even though that you're retired, you're still doing more. Would you like to share with us what your next adventure is going to be, and if you plan to make the next adventure still part of space?

O'HARA: Well, I'm certainly enjoying the luxury of time. I know that sounds kind of like a cliché, but I think I was ready to retire. Again, many of my favorite investigators that are here are gone. They were leaving, and the funding just wasn't what it was. So I could see the work in here slowing down considerably, and I knew I could never come and just sit and accept a salary. So I thought it was probably, now's the time to fix up my house and get a dog and enjoy some free time. So I am enjoying my free time, and I'm now working three mornings a week for the Chief Medical Officer, Dr. Ralph Pellegrini. I work, again, for him three mornings a week, and that's been fun. I work six-thirty to eleven-thirty, and I still have lots of free time, and it does keep my hand in things.

WRIGHT: Do you think you'll always be watching developments in space travel?

O'HARA: Oh, yes. I'm still fascinated and, of course, interested, and I continue to subscribe to *Space News*, which keeps me kind of informed. I'm getting so I don't know half the people they



mention anymore. But I do. I follow the flights, because I still know some of the astronauts, like Scott [E.] Parazynski, who flew as a mission specialist with John Glenn on STS-95, and, as you know, Scott was a medical student here, and he's such a nice guy. I really, really like him. But, no, I do follow everything, and I think if they had another project in the HRF and invited me back, I would certainly do it, and I'm always ready for projects at JSC, well, at those two cool weeks in October. But, no, I'm enjoying things now. I do enjoy my free time.

WRIGHT: Well, I hope that Houston is some place that you would like to come back to visit. I know that you still have some friends there and places and people to see while you're there in Houston.

O'HARA: Oh, yes, I always enjoyed going out there. I don't get to go out enough. But surprisingly, as much it may sound bizarre, but my heart is still in Houston. Even though I didn't like the weather and I didn't like living there, I loved the center and I loved the people and, again, I think my heart is definitely there. In fact, I was there not too ago. Well, no, it's been two or three years ago, and John [W.] Young [Johnson Space Center Associate Director (Technical)] and his wife Susie [Feldman Young] had a lovely dinner party for me, which was so much fun. I gave them a guest list, and so it was a chance to see a lot of people, and it was kind of like when I walked in, it was as if I had never left. So that's kind of, I think, a nice sign of true friendship. It's interesting. Even though I've lived out here longer than I'd lived in Houston, again, as I said earlier, my heart is still there, and I find when I hear myself saying it, it's really true because I've said it a number of times.

WRIGHT: We're always hoping that you'll come back, and if you do, you'll need to come visit with us as well. We certainly enjoyed visiting with you this morning.

O'HARA: Thank you.

WRIGHT: Thank you for your time.

O'HARA: Thank you very much.

[End of interview]