
NASA

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00:00:05,480 --> 00:00:06,480
Music

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00:00:21,480 --> 00:00:21,839
Why did you become an astronaut?

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00:00:21,840 --> 00:00:24,839
Michael Gernhardt/NASA Astronaut: So, I started out with the love of the ocean. And about early high

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00:00:24,840 --> 00:00:26,603
school, or even late junior high school, we were doing Skylab and then the underwater living experiment,

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00:00:30,010 --> 00:00:37,343
Tektite. And I loved the ocean, but I was starting to get interested in physics, so I set a distant goal to do

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00:00:37,780 --> 00:00:40,213
the most I could with the life I had both mentally and physically. And that, to me, was being an astronaut.

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00:00:42,480 --> 00:00:43,693
So, I pursued my interest in the ocean and, you know, engineering, subsea engineering, physiology and so

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00:00:48,200 --> 00:00:48,403
forth. But, set that distant goal of being an astronaut and the dream came true. So, it's been great.

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00:00:54,730 --> 00:00:56,370
How did underwater training prepare you for your spacewalking duties?

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00:00:57,690 --> 00:01:00,576
Michael Gernhardt/NASA Astronaut: So, they're different and they're similar. They're similar in the sense

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00:01:01,870 --> 00:01:04,990
that you're doing a job in a hostile environment. And you really have to think about it, you have to know

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00:01:05,750 --> 00:01:08,270
exactly what you're going to do and have Plan A and Plan B and Plan C and have that all worked out before

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00:01:10,230 --> 00:01:10,860

you get into the operation. Underwater, your world is closer in. I mean, you're looking, you know, two or

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00:01:16,600 --> 00:01:19,250
three feet in front of you. Sometimes there's no visibility at all. So, you're doing everything by feel, and

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00:01:21,150 --> 00:01:23,813
with, you know, sort of imagining things with your brain. When you're out in space, you've got unlimited

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00:01:25,420 --> 00:01:27,330
visibility. You can see, you know, millions of miles. And so, visibility's not a problem. And even at night, we

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00:01:30,910 --> 00:01:32,113
have helmet lights. The biggest difference is that you're in a pressurized spacesuit. And the suit is

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00:01:36,440 --> 00:01:37,783
pressurized to about the same pressure as a football or a basketball, at 4.3 pounds per square inch. So,

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00:01:42,030 --> 00:01:44,340
every time you move, you're working against that inflation pressure. Every time you close your hands in a

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00:01:46,720 --> 00:01:47,423
glove, you're working against that. And that, that is a big factor. The other thing that's very different is, you

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00:01:53,550 --> 00:01:55,796
know, we train underwater. Underwater you have the viscosity and the drag of the water. When you get

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00:01:57,970 --> 00:01:59,680
out in space, there's basically no gravity or microgravity and there is no drag. And so, between you and the

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00:02:03,460 --> 00:02:04,423
suit, you weigh about 500 pounds. And even though you have no weight, you have that mass, and so, you

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00:02:09,230 --> 00:02:09,413
have to move slow. My motto is always, you cannot go too slow. And never let your hands get going faster

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00:02:15,980 --> 00:02:17,740
than your brain. So, the EVA task, you're actually thinking a lot. You're thinking about what

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00:02:20,420 --> 00:02:23,173
you're doing, you're thinking what's next, you're thinking where your buddy is, where the

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00:02:23,600 --> 00:02:24,090
airlock is. So, you're mind is in high gear, but you want your body to move slow and

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00:02:28,710 --> 00:02:28,973
methodically and be very careful with respect to all the actions that you do.

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00:02:33,580 --> 00:02:34,706
How would you describe the sensation of your first spacewalk?

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00:02:36,520 --> 00:02:39,196
Michael Gernhardt/NASA Astronaut: So, you know, when you first get out the door, you

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00:02:39,510 --> 00:02:40,346
know, you're focused on your spacewalk and on the objectives and so forth. And you're

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00:02:44,340 --> 00:02:46,403
thinking ahead to all the tasks. And it's not very often that you get to pause and reflect that

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00:02:48,610 --> 00:02:49,963
hey, I am really out in space, I'm really above the Earth. And probably the time that it hit me

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00:02:53,590 --> 00:02:53,713
the most was my first spacewalk on STS-69. For 20 minutes one of my tasks was to go up

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high on the end of the robot arm in the middle of the night. They turned all the lights out.

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00:03:04,450 --> 00:03:06,556
And we had these new glove heaters because we'd had people get cold hands. And so, my

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00:03:08,010 --> 00:03:08,163
only job for 20 minutes was to sit up there to see if I would get cold. And, you know, that's a

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00:03:14,190 --> 00:03:14,810

big departure from most spacewalk activities where you're really working your tail off. So, I

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00:03:19,770 --> 00:03:22,353
was up there in the middle of the night, all the lights out, which doesn’t happen very often,

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00:03:23,520 --> 00:03:23,883
if ever, and I remember I can see Jupiter and its four moons with my naked eye. And then, I

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00:03:29,290 --> 00:03:31,186
was looking down and I could see a fine line of white light on the wing of the shuttle. And

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00:03:33,460 --> 00:03:34,733
then a few seconds later, a crescent of blue as the Earth was rising. And then, for about 15 or

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00:03:38,520 --> 00:03:39,993
20 seconds, you're hanging there in the middle of the terminator -- in between day and

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00:03:42,780 --> 00:03:43,890
night -- just floating in space. And we came out on the other side, over St. Thomas in the

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00:03:47,670 --> 00:03:49,043
Virgin Islands, right on top of Hurricane Marilyn. And, I had actually been a diving instructor

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00:03:52,630 --> 00:03:58,230
down there. And I remember looking down and seeing that hurricane and I was overcome

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00:03:58,620 --> 00:03:59,206
by a great sense of pride. Not for myself, but for humankind. That we can have the

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00:04:03,500 --> 00:04:05,423
technology to put me up there, you know, this great team as NASA. And here I was above

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00:04:07,310 --> 00:04:10,243
the hurricane looking down from the heavens.

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00:04:10,930 --> 00:04:12,493
What were some special moments that you experienced while spacewalking?

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00:04:14,100 --> 00:04:19,900
Michael Gernhardt/NASA Astronaut: So, most of the time on a spacewalk, I personally am

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so focused on my task that I, that that's my priority without a doubt. I don't even bother like

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00:04:22,910 --> 00:04:24,253
taking cameras out to take pictures until everything's all done. Having said that, there are

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00:04:27,700 --> 00:04:33,366
moments within a spacewalk where you really don’t have that much to do, i.e., we're

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00:04:33,970 --> 00:04:36,529
waiting on the station RMS to position the airlock. And so, we're holding in place just hanging

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00:04:36,530 --> 00:04:37,816
on handholds or riding the arm back and forth from the shuttle to the space station. And

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00:04:41,110 --> 00:04:42,480
during those moments, you know, you go for it. And you look at the stars and the Earth.