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00:00:00,919 --> 00:00:04,100

Hey everyone, Amy Shira Tietel here at NASA's
Jet Propulsion Laboratory in

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00:00:04,100 --> 00:00:08,429

California and I am so excited that I'm about
to talk to astronaut Scott Kelly

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00:00:08,429 --> 00:00:11,530

and Kjell Lindgren on board the International
Space Station we're gonna

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00:00:11,530 --> 00:00:20,000

be talking that first year in space and the
journey to Mars.

5

00:00:20,000 --> 00:00:25,710

[music]

6

00:00:25,710 --> 00:00:30,720

How do you think your time on board the ISS
is a good analog for the challenges

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00:00:30,720 --> 00:00:32,419

of a mission to Mars

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00:00:32,419 --> 00:00:36,250

Well I think you know the duration is gonna
take to get

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00:00:36,250 --> 00:00:41,299

there is somewhere you know probably around
the six-month you know flight and

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00:00:41,299 --> 00:00:47,120

in depends on orbital mechanics and how much
propulsion you want to use

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00:00:47,120 --> 00:00:51,239

and the technology but you know from that perspective I think it's pretty similar

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00:00:51,239 --> 00:00:55,429
also the life support system we have up here is you know something that we're

13
00:00:55,429 --> 00:01:00,100
going to need to go to Mars and I think we do a good job and demonstrating

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00:01:00,100 --> 00:01:02,620
that that we have that capability.

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00:01:02,620 --> 00:01:05,680
So you know with the exception of what you

16
00:01:05,680 --> 00:01:09,770
do when you get on the surface and you know the re-entry, the entering

17
00:01:09,770 --> 00:01:14,299
entering into Martian atmosphere and the return from the surface there are

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00:01:14,299 --> 00:01:17,270
lot of similarities

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00:01:17,270 --> 00:01:20,899
Having to get all the training that we need in order to do the repairs that we have

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00:01:20,899 --> 00:01:25,740
on station into really have the mindset to be able to be in an enclosed space

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00:01:25,740 --> 00:01:29,820
for long duration of time with other crew members to be prepared for that

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00:01:29,820 --> 00:01:32,539

that will definitely be something that's a part of a Mars mission.

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00:01:32,539 --> 00:01:37,299

The psychology of being in space must be very different I can only imagine being able to

24

00:01:37,299 --> 00:01:38,299

see the

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00:01:38,299 --> 00:01:42,700

earth vs not seeing the earth how do you think how do you think that will differ

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00:01:42,700 --> 00:01:46,569

for a crew going to mars the psychology of being in space.

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00:01:46,569 --> 00:01:51,899

will differ there's no doubt about that you know we can look out the window and see see

28

00:01:51,899 --> 00:01:52,899

the

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00:01:52,899 --> 00:01:59,429

Earth in you know all its beauty at you know different you know times of day.

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00:01:59,429 --> 00:02:00,429

You

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00:02:00,429 --> 00:02:03,479

know it's it's you know sometimes during the day sometimes it's night.

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00:02:03,479 --> 00:02:08,679

I don't think something that people really

appreciate is that when you're going to

33
00:02:08,679 --> 00:02:13,230
Mars you know you're in sunlight all the time
you know every time you look out the window

34
00:02:13,230 --> 00:02:14,269
you it's not like you're going to

35
00:02:14,269 --> 00:02:18,580
see stars you're gonna see nothing because
the Sun is gonna be so bright on

36
00:02:18,580 --> 00:02:23,520
your whole trip there so you know after a
few days and you can no longer see

37
00:02:23,520 --> 00:02:30,690
earth it's gonna feel like you're really out
the middle of nowhere and you're on your own.

38
00:02:30,690 --> 00:02:33,840
There's obviously a lot of things that I can
only imagine both miss about Earth

39
00:02:33,840 --> 00:02:37,980
what do you think is going to be the biggest
challenge from a personal human

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00:02:37,980 --> 00:02:42,210
level for a crew going to Mars and what has
surprised you being on the ISS that

41
00:02:42,210 --> 00:02:44,930
we might not think about when we're talking
about a Journey to Mars in terms

42
00:02:44,930 --> 00:02:48,040
of things you miss things that are really
going to make it hard for a crew

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00:02:48,040 --> 00:02:49,480

g that far from home.

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00:02:49,480 --> 00:02:52,950

One thing I miss here is the ability to leave

so

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00:02:52,950 --> 00:02:57,620

even though this is an amazing place and it's

a privilege to get the fly in space

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00:02:57,620 --> 00:03:01,950

never get to go outside you're not leaving

and you know it's something that

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00:03:01,950 --> 00:03:07,360

the folks going to Mars are gonna experience

too.

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00:03:07,360 --> 00:03:11,519

Differences in an emergency we can we can

go home and we can be there pretty quickly

49

00:03:11,519 --> 00:03:12,519

if we really

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00:03:12,519 --> 00:03:16,700

had to take the other big difference is going

to be our ability to communicate

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00:03:16,700 --> 00:03:22,200

with folks on the ground it's a real advantage

we have both you know

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00:03:22,200 --> 00:03:25,950

operationally and and from a personal level

to be able to get on the phone and

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00:03:25,950 --> 00:03:31,750

call people but you know pretty soon after
we depart Mars ,for Mars she know

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00:03:31,750 --> 00:03:36,000

you're gonna get a time delay in communication
such that it's not going

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00:03:36,000 --> 00:03:40,849

to be usable so you know that's going to play
a big happen, you know big impact on

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00:03:40,849 --> 00:03:44,620

the psychological psychology of the of the
trip.

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00:03:44,620 --> 00:03:45,670

When you start a mission like

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00:03:45,670 --> 00:03:50,840

this you know a five-month month mission or
a year mission like Scott is doing in

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00:03:50,840 --> 00:03:56,159

for those crew members that will eventually
go to Mars think you start out with the

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00:03:56,159 --> 00:04:00,640

mindset that you start out with you anticipate
kind of what the challenges

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00:04:00,640 --> 00:04:04,370

are gonna be and I think one of the things
that I've experienced appears

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00:04:04,370 --> 00:04:10,700

that surprised me a little bit is really how
adaptable the human brain and

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00:04:10,700 --> 00:04:11,739

psychology is.

64
00:04:11,739 --> 00:04:14,790
You know I think that you adapt to the conditions
in Kinston

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00:04:14,790 --> 00:04:19,010
quickly normalized to them so the fact that
communications will be a little bit

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00:04:19,010 --> 00:04:23,160
delayed I think you're still gonna treasure
that opportunity to talk with friends and

67
00:04:23,160 --> 00:04:24,160
family

68
00:04:24,160 --> 00:04:28,290
even those are the there is a little bit of
the delay and I think that you're

69
00:04:28,290 --> 00:04:32,700
gonna have this long trip this really kind
of set in your mind already in so

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00:04:32,700 --> 00:04:34,910
that will make things a little bit easier.

71
00:04:34,910 --> 00:04:37,600
Well that was pretty incredible astronauts
are aboard the International

72
00:04:37,600 --> 00:04:40,720
Space Station right now running experiments
are helping push us forward