



1  
00:00:01,720 --> 00:00:03,700  
Good morning and welcome  
to Mission Control Houston.

2  
00:00:03,700 --> 00:00:07,190  
We're inside the International  
Space Station flight control room.

3  
00:00:07,190 --> 00:00:11,370  
This team is monitoring systems  
onboard the space station

4  
00:00:11,370 --> 00:00:14,160  
and following along with activities of the crew.

5  
00:00:14,160 --> 00:00:19,230  
All the systems are functioning well onboard the  
spacecraft and the team is not working issues

6  
00:00:19,230 --> 00:00:23,030  
at this time, just working through  
the scheduled activities for the day.

7  
00:00:23,030 --> 00:00:29,510  
The team is being led by  
flight director Ron Spencer.

8  
00:00:29,510 --> 00:00:33,100  
He's in the darker shirt at  
the flight director console.

9  
00:00:33,100 --> 00:00:39,100  
And next to him is the Capcom or spacecraft  
communicator, astronaut Kjell Lindgren

10  
00:00:39,100 --> 00:00:42,460  
who is serving as the interface  
between the mission control team

11

00:00:42,460 --> 00:00:45,090  
and the crew on board the station.

12  
00:00:47,210 --> 00:00:53,760  
The crew members are working through the  
mid-afternoon of their day aboard the complex.

13  
00:00:53,760 --> 00:00:57,680  
There are six crew members living  
and working aboard the space station.

14  
00:00:57,680 --> 00:01:00,630  
Three of them are preparing to  
return to Earth after their five

15  
00:01:00,630 --> 00:01:03,660  
and half, five and half month mission.

16  
00:01:03,660 --> 00:01:08,630  
That include three crew members  
on the left in this view.

17  
00:01:08,630 --> 00:01:13,020  
The crew includes station Commander and  
NASA astronaut Dan Burbank who's seated

18  
00:01:13,020 --> 00:01:18,650  
and his fellow cosmonauts Anton  
Shkaplerov and Anatoly Ivanishin.

19  
00:01:19,750 --> 00:01:25,320  
They have been aboard the station since  
mid- November, then they were joined

20  
00:01:25,320 --> 00:01:30,270  
by these three crew members in  
December, astronaut Don Pettit

21  
00:01:30,270 --> 00:01:35,290  
and cosmonaut Oleg Kononenko and European

Space Agency astronaut Andre Kuipers.

22  
00:01:35,290 --> 00:01:40,230  
Those three crew members will be remaining  
aboard the space station until July.

23  
00:01:44,370 --> 00:01:49,930  
The preparations to return to Earth  
include getting the Soyuz spacecraft ready

24  
00:01:49,930 --> 00:01:55,080  
that brought Burbank, Shkaplerov and Ivanishin  
to the station and packing up equipment

25  
00:01:55,080 --> 00:01:58,950  
that will be returned Earth  
with the crew members.

26  
00:01:58,950 --> 00:02:04,870  
The cosmonauts completed an adjustment to  
one of the seat liners inside the Soyuz

27  
00:02:04,870 --> 00:02:09,180  
and are finishing up some  
packing, additional packing today.

28  
00:02:09,180 --> 00:02:19,710  
Also completed use of the lower body negative  
pressure device that simulates gravity

29  
00:02:19,710 --> 00:02:22,100  
by pulling the body's fluids toward the feet

30  
00:02:22,100 --> 00:02:26,550  
that the cosmonauts used  
before returning to Earth.

31  
00:02:26,550 --> 00:02:29,230  
Shkaplerov and Ivanishin did that yesterday

32

00:02:29,230 --> 00:02:32,770

and Kononenko's helping close out that equipment today.

33

00:02:32,770 --> 00:02:40,630

The crew members are also working on preparing for the next visiting vehicle

34

00:02:40,630 --> 00:02:44,930

to the station, the SpaceX Dragon spacecraft.

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00:02:44,930 --> 00:02:53,820

SpaceX and NASA agreed that after SpaceX needed to delay from the targeted launch of April 30

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00:02:53,820 --> 00:02:58,860

that May 7 would be the target launch date that they are working to now.

37

00:02:58,860 --> 00:03:01,920

So the crew members onboard the space station are continuing to prepare

38

00:03:01,920 --> 00:03:07,300

for that vehicle's arrival at the station for its first demonstration flight

39

00:03:07,300 --> 00:03:11,450

of rendezvous and berthing to the complex.

40

00:03:12,680 --> 00:03:16,750

Another cargo vehicle is at the space station called the Automated Transfer Vehicle

41

00:03:16,750 --> 00:03:19,190

from the European Space Agency.

42

00:03:19,190 --> 00:03:26,140

It brought up tons of cargo to the station, and

is also being used with its propellant onboard

43

00:03:26,140 --> 00:03:31,520

and thrusters to reboost the space station periodically, and that was done this morning

44

00:03:31,520 --> 00:03:37,080

to prepare for the arrival of that Dragon vehicle and also the next Soyuz and crew

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00:03:37,080 --> 00:03:42,510

so that the space station is in the correct position in space for those visiting vehicles.

46

00:03:42,510 --> 00:03:47,930

The crew members are also working on some maintenance onboard the space station.

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00:03:47,930 --> 00:03:53,980

Astronauts Don Pettit and Dan Burbank doing some maintenance of the Waste and Hygiene Compartment

48

00:03:53,980 --> 00:03:57,690

which is one of the toilet facilities aboard the station.

49

00:03:57,690 --> 00:04:04,030

And Burbank participated in an experiment today while he was exercising on the treadmill.

50

00:04:04,030 --> 00:04:08,470

It's the Biomechanical Analysis Of Treadmill Exercise onboard the International

51

00:04:08,470 --> 00:04:10,000

Space Station.

52

00:04:10,000 --> 00:04:15,730

This experiment called Treadmill Kinematics for short is the first rigorous investigation

53

00:04:15,730 --> 00:04:20,120

to quantify the biomechanics of the treadmill exercise conditions during

54

00:04:20,120 --> 00:04:22,390

long-duration spaceflight.

55

00:04:22,390 --> 00:04:27,150

Exercise prescriptions are developed under the assumption that walking and running

56

00:04:27,150 --> 00:04:31,610

in microgravity have the same training affects as during normal gravity.

57

00:04:31,610 --> 00:04:38,030

However if locomotion kinematics and kinetics differ between microgravity normal gravity,

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00:04:38,030 --> 00:04:41,530

understanding these mechanisms allows the development of better

59

00:04:41,530 --> 00:04:46,510

or appropriate exercise prescriptions to increase the exercise benefits

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00:04:46,510 --> 00:04:50,770

to the crew members and their health and well-being while living on board the station.

61

00:04:50,770 --> 00:04:55,150

And with the three crew members leaving the station on Friday there's a Change

62

00:04:55,150 --> 00:05:00,040

Of Command ceremony this afternoon where station Commander Dan Burbank will handover command

