1
00:00:01,190 --> 00:00:04,910
Good morning and welcome to today's
International Space Station update.

2
00:00:04,910 --> 00:00:10,460
The crew awoke today at about midnight,
central time, and started off the day

3
00:00:10,460 --> 00:00:13,690
with some morning prep work and
then a daily planning conference

4
00:00:13,690 --> 00:00:19,970
where they discussed the day's activities
with ground controllers all across the globe.

5
00:00:19,970 --> 00:00:27,690
Commander Dan Burbank, his major activity for
the day is updating the CUCU, which is C U C U,

6
00:00:27,690 --> 00:00:31,650
which stands for the COTS
UHF Communications Unit,

7
00:00:31,650 --> 00:00:36,780
COTS being the Commercial
Orbital Transport Services.

8
00:00:36,780 --> 00:00:40,010
And then the updates he's
doing are in anticipation

9
00:00:40,010 --> 00:00:44,110
of the launch of the SpaceX Dragon capsule.

10
00:00:44,110 --> 00:00:49,140
This update will allow that comm unit to
provide station to Dragon communications

11

00:00:49,140 --> 00:00:51,360
for any commands and telemetry reading.

12
00:00:51,360 --> 00:00:54,230
Those plan to take up about
four hours of his day

13
00:00:54,230 --> 00:00:58,450
and also included a checkout
of the COTS command panel.

14
00:00:58,450 --> 00:01:04,220
Other work that he's doing today included the
Integrated Cardiovascular ambulatory monitoring

15
00:01:04,220 --> 00:01:06,860
setup, which he did some of that yesterday.

16
00:01:06,860 --> 00:01:11,770
And that experiment determines just how much
cardiac atrophy occurs during a spaceflight

17
00:01:11,770 --> 00:01:14,200
and how fast it develops.

18
00:01:14,200 --> 00:01:17,870
And then this is due to the
micro-gravity environment

19
00:01:17,870 --> 00:01:20,910
that the astronauts are subject
to during their expeditions.

20
00:01:20,910 --> 00:01:25,940
And that will study whether this atrophy
causes any problems with the heart's pumping

21
00:01:25,940 --> 00:01:31,920
or its electrical function, and how both the
atrophy in any associated changes develop.

22
00:01:31,920 --> 00:01:35,970
And for that today's he's changing out
the data recording card and a battery

23
00:01:35,970 --> 00:01:39,160
to continue another twenty
four hour reporting period.

24
00:01:39,160 --> 00:01:44,910
Later in the day he got some exercise
in the CEVIS and the ARED devices,

25
00:01:44,910 --> 00:01:51,280
the CEVIS being a stationary cycle and the ARED
being more of a standard muscle workout system

26
00:01:51,280 --> 00:01:55,720
that the astronauts can do things like
squats and arm workouts to help fight

27
00:01:55,720 --> 00:02:00,430
that bone density loss and muscle atrophy as
they float around in micro-gravity environment

28
00:02:00,430 --> 00:02:02,240
of the International Space Station.

29
00:02:02,240 --> 00:02:05,800
Getting a look now here at the ARED device,

30
00:02:05,800 --> 00:02:09,440
again that stands for the
Advanced Resistive Exercise Device

31
00:02:09,440 --> 00:02:14,930
and that helps the astronauts again keep
those muscles and bones strong while they're

32

00:02:14,930 --> 00:02:19,340
on board station for extended periods of time.

33
00:02:19,340 --> 00:02:22,020
Later on in the day Commander
Burbank will do some more work

34
00:02:22,020 --> 00:02:25,600
with the Combustion Integrated
Rack alignment guides.

35
00:02:25,600 --> 00:02:30,040
Combustion Integrated Rack is an
experiment that provides an optics bench

36
00:02:30,040 --> 00:02:34,420
and a combustion chamber and a number
of cameras and oxidizer controls,

37
00:02:34,420 --> 00:02:37,140
and it's used to perform combustion experiments

38
00:02:37,140 --> 00:02:42,510
in the unique micro-gravity
environment onboard the station.

39
00:02:42,510 --> 00:02:49,420
Later in the day he was scheduled to do some
journals entry which is an ongoing experiment

40
00:02:49,420 --> 00:02:53,640
that studies any isolation or
confinement stressors of space flight

41
00:02:53,640 --> 00:02:58,550
that can affect crew health and morale,
but due to some delays this morning

42
00:02:58,550 --> 00:03:03,380
with the CUCU update, he may not

be able to get to that in time.

43
00:03:03,380 --> 00:03:07,790
His last scheduled activity for the day will
be to close some shutters on the windows

44
00:03:07,790 --> 00:03:11,930
of the US segment in preparation
for a planned reboost.

45
00:03:11,930 --> 00:03:18,230
Russian cosmonaut Anton Shkaplerov started his
day with some work on the MOLNIYA experiment,

46
00:03:18,230 --> 00:03:21,880
transferring some data and
tagging up with ground specialists.

47
00:03:21,880 --> 00:03:26,290
This is an investigation of any optical
emissions in the Earth's atmosphere

48
00:03:26,290 --> 00:03:31,430
and ionosphere associated with any
thunderstorm or seismic activity.

49
00:03:31,430 --> 00:03:36,920
There you can see Anton Shkaplerov the Russian
cosmonaut and flight engineer of Expedition 30.

50
00:03:36,920 --> 00:03:42,010
Later he spent a few hours doing some more
cargo transfer from the 45 Progress vehicle

51
00:03:42,010 --> 00:03:47,100
which docked back on November 2, and in
conjunction with that doing some updates

52
00:03:47,100 --> 00:03:51,720
to the station's inventory management

system making sure everything is in place.

53
00:03:51,720 --> 00:03:55,950
Later he did some, got a work out in on
the TEVIS, which is one of you treadmills

54
00:03:55,950 --> 00:04:01,760
on board the station before returning to
that MOLNIYA experiment to perform setup work

55
00:04:01,760 --> 00:04:05,410
and downlink work to renew data collection.

56
00:04:05,410 --> 00:04:10,460
The last experiment he's scheduled to
interact with is the Interactions experiment

57
00:04:10,460 --> 00:04:16,960
which is a setup of weekly questionnaires that
are used to identify any interpersonal factors

58
00:04:16,960 --> 00:04:18,920
that may impact the performance of the crew

59
00:04:18,920 --> 00:04:22,210
and their ground support
personnel during their expeditions.

60
00:04:22,210 --> 00:04:27,090
Rounding out the crew of Expedition 30
is Russian cosmonaut Anatoly Ivanishin

61
00:04:27,090 --> 00:04:31,810
who earlier this morning ended a twenty
four-hour electrocardiogram experiment

62
00:04:31,810 --> 00:04:38,240
that he began yesterday and that was studying
his heart functions over a day's time.

63
00:04:38,240 --> 00:04:43,050
That experiment part of the
PNEUMOCARD collection of experiments

64
00:04:43,050 --> 00:04:48,270
which is a Russian investigation that
helps understand any of the mechanisms

65
00:04:48,270 --> 00:04:53,570
of adapting the cardio respiratory system to
the micro-gravity space flight conditions.

66
00:04:53,570 --> 00:04:58,300
Studying the synchronization of heart
activity and breathing factors as well

67
00:04:58,300 --> 00:05:01,880
as the cardio respiratory
system's control processes.

68
00:05:01,880 --> 00:05:06,240
He got some exercise time in on the ARED
and TEVIS devices, the TEVIS being one

69
00:05:06,240 --> 00:05:08,460
of the treadmills on board the station,

70
00:05:08,460 --> 00:05:13,410
before doing some routine replacement
work on the Russian toilet system.

71
00:05:13,410 --> 00:05:16,070
He'll then take a few hours
to continue transferring items

72
00:05:16,070 --> 00:05:21,820
from the crew's Soyuz vehicle the
TMA-22, and then checking out everything

73

00:05:21,820 --> 00:05:24,850
in the station's inventory management system.

74
00:05:24,850 --> 00:05:29,120
Crew will then have a second daily planning
conference at the end of the day before moving

75
00:05:29,120 --> 00:05:33,650
into their pre-sleep period where they
perform any wrap up work or get-ahead work

76
00:05:33,650 --> 00:05:36,400
for the day's activities tomorrow before moving

77
00:05:36,400 --> 00:05:39,860
into their sleep period at
3:30 p.m. central time.

78
00:05:39,860 --> 00:05:43,440
After the crew goes to sleep a
reboost is currently scheduled

79
00:05:43,440 --> 00:05:46,270
to take place at 5:11 p m central time.

80
00:05:46,270 --> 00:05:53,640
And this will be in order to position the
station in its proper attitude for the launch

81
00:05:53,640 --> 00:06:00,130
and docking of the Soyuz TMA-03M
spacecraft planned to launch on December 21

82
00:06:00,130 --> 00:06:06,570
which will carry the remainder of the
Expedition 30 crew, rounding out that Expedition