

TVIS

Treadmill with Vibration Isolation and Stabilization



1
00:00:05,990 --> 00:00:03,750
this is mission control houston

2
00:00:07,909 --> 00:00:06,000
wednesday has been a science day for the

3
00:00:10,629 --> 00:00:07,919
crew on board the international space

4
00:00:12,629 --> 00:00:10,639
station working on research in a range

5
00:00:14,950 --> 00:00:12,639
of disciplines to advance the mission of

6
00:00:16,790 --> 00:00:14,960
the station while getting set to receive

7
00:00:19,189 --> 00:00:16,800
a shipment of supplies that will

8
00:00:21,269 --> 00:00:19,199
continue to support that mission

9
00:00:23,750 --> 00:00:21,279
today commander kevin ford spent a part

10
00:00:26,630 --> 00:00:23,760
of his morning working on elements of

11
00:00:28,950 --> 00:00:26,640
the cruise experiment that's a urine

12
00:00:31,910 --> 00:00:28,960
european space agency technology

13
00:00:34,310 --> 00:00:31,920

demonstrator of possible ways to improve

14

00:00:36,549 --> 00:00:34,320

accrues efficiency on orbit

15

00:00:39,030 --> 00:00:36,559

ford worked with a voice activated

16

00:00:41,910 --> 00:00:39,040

procedure viewer and the procedural

17

00:00:44,310 --> 00:00:41,920

displays testing ways in which crew can

18

00:00:46,310 --> 00:00:44,320

be more autonomous as well as more

19

00:00:48,950 --> 00:00:46,320

efficient in their work something

20

00:00:51,590 --> 00:00:48,960

that'll be even more critical for future

21

00:00:53,910 --> 00:00:51,600

explorers on mission where communication

22

00:00:55,189 --> 00:00:53,920

with earth will be harder than it is for

23

00:00:57,590 --> 00:00:55,199

today's crew

24

00:01:00,549 --> 00:00:57,600

flight engineer evgeny tarelkin and

25

00:01:02,790 --> 00:01:00,559

roman romanenko worked this morning with

26

00:01:05,109 --> 00:01:02,800

the lower body negative pressure suit

27

00:01:07,910 --> 00:01:05,119

that's a routine for russian crew

28

00:01:09,990 --> 00:01:07,920

members who are preparing to come home

29

00:01:11,910 --> 00:01:10,000

that suit which is

30

00:01:15,270 --> 00:01:11,920

just the lower body

31

00:01:17,670 --> 00:01:15,280

uses suction to assimilate gravity and

32

00:01:20,550 --> 00:01:17,680

allows cosmonauts to test their

33

00:01:21,830 --> 00:01:20,560

orthostatic tolerance after months in

34

00:01:23,350 --> 00:01:21,840

zero g

35

00:01:25,670 --> 00:01:23,360

flight engineer

36

00:01:28,710 --> 00:01:25,680

oleg novitskiy who is going to be coming

37

00:01:30,069 --> 00:01:28,720

home with tarelkin and kevin ford in a

38

00:01:31,510 --> 00:01:30,079

couple of weeks

39

00:01:33,510 --> 00:01:31,520

he spent the morning working on

40

00:01:36,230 --> 00:01:33,520

maintenance and then moved on to

41

00:01:37,990 --> 00:01:36,240

replacing some condensate removal lines

42

00:01:39,429 --> 00:01:38,000

in the russian section of the space

43

00:01:41,749 --> 00:01:39,439

station

44

00:01:44,069 --> 00:01:41,759

flight engineer chris hadfield and tom

45

00:01:46,270 --> 00:01:44,079

marshburn worked together in the early

46

00:01:49,510 --> 00:01:46,280

part of the day on the integrated

47

00:01:52,469 --> 00:01:49,520

cardiovascular experiment that's looking

48

00:01:54,950 --> 00:01:52,479

at trying to quantify the decrease in

49

00:01:57,429 --> 00:01:54,960

the size of a crew member's heart muscle

50

00:02:00,469 --> 00:01:57,439

over time while in weightlessness crew

51
00:02:03,109 --> 00:02:00,479
members do exercise and they're assisted

52
00:02:05,270 --> 00:02:03,119
by a second crew member who are

53
00:02:07,429 --> 00:02:05,280
performing examinations of them to

54
00:02:09,589 --> 00:02:07,439
gather the data to

55
00:02:11,670 --> 00:02:09,599
for the investigators on the integrated

56
00:02:13,670 --> 00:02:11,680
cardiovascular experiment

57
00:02:16,150 --> 00:02:13,680
all of the crew members had one of their

58
00:02:19,190 --> 00:02:16,160
scheduled exercise sessions before the

59
00:02:21,430 --> 00:02:19,200
lunch break and a second afterwards

60
00:02:24,070 --> 00:02:21,440
it's a combination of exercise whether

61
00:02:26,229 --> 00:02:24,080
it's treadmill or stationary bicycle or

62
00:02:28,710 --> 00:02:26,239
strength work on the advanced resistive

63
00:02:30,710 --> 00:02:28,720

exercise device that serves the crew

64

00:02:33,509 --> 00:02:30,720

members to help maintain their physical

65

00:02:36,229 --> 00:02:33,519

fitness and counteract the muscle and

66

00:02:37,910 --> 00:02:36,239

bone loss that they suffer during a time

67

00:02:39,430 --> 00:02:37,920

in the environment where their body

68

00:02:41,270 --> 00:02:39,440

doesn't even have to fight against the

69

00:02:43,750 --> 00:02:41,280

pull of gravity

70

00:02:46,470 --> 00:02:43,760

after lunch romanenko hadfield and

71

00:02:48,949 --> 00:02:46,480

marshburn had a routine emergency

72

00:02:52,390 --> 00:02:48,959

descent drill they're not scheduled to

73

00:02:54,630 --> 00:02:52,400

return to earth until may but a

74

00:02:57,589 --> 00:02:54,640

practice descent drill in the case of an

75

00:02:59,670 --> 00:02:57,599

emergency is a standard thing for crew

76

00:03:01,990 --> 00:02:59,680

members on board the station

77

00:03:04,470 --> 00:03:02,000

nowitzki and tarekin gathered equipment

78

00:03:07,190 --> 00:03:04,480

that's associated with a new russian

79

00:03:09,509 --> 00:03:07,200

plasma wave apparatus that's going to be

80

00:03:12,309 --> 00:03:09,519

installed on the outside of the station

81

00:03:16,149 --> 00:03:12,319

during a spacewalk by romanenko and

82

00:03:17,830 --> 00:03:16,159

cosmonaut pavel vinogradov in april that

83

00:03:20,550 --> 00:03:17,840

apparatus will measure the

84

00:03:21,750 --> 00:03:20,560

electromagnetic field around the space

85

00:03:24,070 --> 00:03:21,760

station

86

00:03:26,149 --> 00:03:24,080

kevin ford spent time in his afternoon

87

00:03:28,949 --> 00:03:26,159

setting up the combustion integrated

88

00:03:32,070 --> 00:03:28,959

rack for its experiment operations

89

00:03:34,229 --> 00:03:32,080

and then we'll move on to join hatfield

90

00:03:36,630 --> 00:03:34,239

and marshburn for a conference with

91

00:03:39,589 --> 00:03:36,640

specialists on the ground about cargo

92

00:03:41,430 --> 00:03:39,599

operations with the dragon spacecraft

93

00:03:43,430 --> 00:03:41,440

today the international space station

94

00:03:45,270 --> 00:03:43,440

mission management team conducted its

95

00:03:47,430 --> 00:03:45,280

launch readiness review

96

00:03:49,910 --> 00:03:47,440

and all are go for the second

97

00:03:53,190 --> 00:03:49,920

operational mission of the supply ship

98

00:03:54,789 --> 00:03:53,200

provided by spacex it is due to launch

99

00:03:58,070 --> 00:03:54,799

from the cape canaveral air force

100

00:04:00,789 --> 00:03:58,080

station on friday morning at 9 10 a.m

101
00:04:02,789 --> 00:04:00,799
houston time and will be grappled and

102
00:04:04,390 --> 00:04:02,799
birthed to the station's harmony module

103
00:04:06,710 --> 00:04:04,400
on saturday morning

104
00:04:08,630 --> 00:04:06,720
hatches to the dragon are due to be

105
00:04:12,149 --> 00:04:08,640
opened up on sunday

106
00:04:14,390 --> 00:04:12,159
so the crew can begin to unload to 1200

107
00:04:16,629 --> 00:04:14,400
pounds of supplies and experiment

108
00:04:18,789 --> 00:04:16,639
equipment to be found inside

109
00:04:21,430 --> 00:04:18,799
then over the course of about the next

110
00:04:24,710 --> 00:04:21,440
three weeks they will also

111
00:04:27,270 --> 00:04:24,720
be loading about 2300 pounds of science

112
00:04:30,710 --> 00:04:27,280
experiments samples and other returning

113
00:04:34,230 --> 00:04:30,720

equipment before the dragon departs and

114

00:04:35,270 --> 00:04:34,240

lands in the pacific ocean on march 25th

115

00:04:37,990 --> 00:04:35,280

ford

116

00:04:40,550 --> 00:04:38,000

hadfield and marshburn will be enjoying

117

00:04:43,270 --> 00:04:40,560

some off-duty time on thursday and

118

00:04:45,909 --> 00:04:43,280

friday while they finish packing return

119

00:04:48,870 --> 00:04:45,919

items and getting some final training

120

00:04:51,270 --> 00:04:48,880

flying the canadarm2 before they go to

121

00:04:53,430 --> 00:04:51,280

work this weekend the busy weekend of