
PORT
TBD

1
00:00:09,430 --> 00:00:03,350
international space station this is

2
00:00:09,440 --> 00:00:12,310
yes i am

3
00:00:19,029 --> 00:00:14,549
c-span this is mission control houston

4
00:00:24,230 --> 00:00:20,870
station this is c-span how do you hear

5
00:00:30,310 --> 00:00:25,670
c-span station

6
00:00:33,430 --> 00:00:32,549
we go in five four

7
00:00:34,549 --> 00:00:33,440
three

8
00:00:37,190 --> 00:00:34,559
two

9
00:00:42,069 --> 00:00:39,430
joining us from the international space

10
00:00:44,709 --> 00:00:42,079
station is commander stephen swanson who

11
00:00:48,869 --> 00:00:44,719
is currently on board commander swanson

12
00:00:48,879 --> 00:00:52,389
thank you very much

13
00:00:56,389 --> 00:00:54,389

commander swanson if we wouldn't mind

14
00:00:58,150 --> 00:00:56,399
tell us a little bit about the current

15
00:00:59,910 --> 00:00:58,160
activities of the international space

16
00:01:05,429 --> 00:00:59,920
station how many members of crew do you

17
00:01:09,590 --> 00:01:07,670
good question we have six crew members

18
00:01:11,030 --> 00:01:09,600
up here right now

19
00:01:13,910 --> 00:01:11,040
three russians

20
00:01:15,910 --> 00:01:13,920
two americans and one german

21
00:01:19,270 --> 00:01:15,920
mostly we do is science up here we have

22
00:01:21,510 --> 00:01:19,280
over 170 experiments going on right now

23
00:01:23,030 --> 00:01:21,520
but also we have to maintain the station

24
00:01:26,630 --> 00:01:23,040
and keep it running smoothly and

25
00:01:30,469 --> 00:01:28,789
commander with the science experiments

26
00:01:31,749 --> 00:01:30,479
that you're currently conducting can you

27
00:01:34,230 --> 00:01:31,759
tell us a couple of things generally

28
00:01:36,469 --> 00:01:34,240
what areas do they fall into

29
00:01:42,469 --> 00:01:36,479
and why is it that these need to be

30
00:01:47,910 --> 00:01:45,510
yeah so they vary tremendously we have

31
00:01:49,830 --> 00:01:47,920
outside the alpha magnetic spectrometer

32
00:01:51,350 --> 00:01:49,840
which is looking for dark energy and

33
00:01:52,550 --> 00:01:51,360
dark matter

34
00:01:55,190 --> 00:01:52,560
something that we're trying to figure

35
00:01:56,870 --> 00:01:55,200
out just the basic physics of how

36
00:01:57,910 --> 00:01:56,880
our universe came to

37
00:01:59,590 --> 00:01:57,920
be

38
00:02:01,749 --> 00:01:59,600

from that we also go all the way to

39
00:02:03,590 --> 00:02:01,759
human research on our bodies

40
00:02:05,830 --> 00:02:03,600
how do we change

41
00:02:06,789 --> 00:02:05,840
in the microgravity environment

42
00:02:08,710 --> 00:02:06,799
can

43
00:02:10,710 --> 00:02:08,720
specifically our eyes our muscles our

44
00:02:13,030 --> 00:02:10,720
bones and we're looking at details about

45
00:02:14,710 --> 00:02:13,040
that and that can have applications all

46
00:02:16,309 --> 00:02:14,720
on earth on people with different

47
00:02:18,150 --> 00:02:16,319
diseases have the same kind of reactions

48
00:02:19,910 --> 00:02:18,160
we just get to see it at a more rapid

49
00:02:21,910 --> 00:02:19,920
pace up here and that's pretty much for

50
00:02:23,910 --> 00:02:21,920
all the science the idea here is uh

51
00:02:25,430 --> 00:02:23,920
things change up here enough that people

52
00:02:28,229 --> 00:02:25,440
can analyze

53
00:02:31,750 --> 00:02:28,239
how different uh

54
00:02:34,229 --> 00:02:31,760
pieces or or science uh objectives uh

55
00:02:36,150 --> 00:02:34,239
change in this microgravity environment

56
00:02:38,150 --> 00:02:36,160
it's just different than on earth and

57
00:02:41,030 --> 00:02:38,160
that gives them another data set to look

58
00:02:44,790 --> 00:02:41,040
at to compare to and that is gives them

59
00:02:47,990 --> 00:02:45,670
so

60
00:02:50,150 --> 00:02:48,000
commander because you're up there in

61
00:02:52,150 --> 00:02:50,160
microgravity talk a little bit about the

62
00:02:54,150 --> 00:02:52,160
the extent of the science is it are we

63
00:02:58,070 --> 00:02:54,160

talking basic research or advanced

64
00:03:02,790 --> 00:03:01,030
well it's most i mean i i feel

65
00:03:04,710 --> 00:03:02,800
advanced research is looking for dark

66
00:03:07,910 --> 00:03:04,720
energy there's also advanced research we

67
00:03:09,589 --> 00:03:07,920
do in combustion and cancer research

68
00:03:11,270 --> 00:03:09,599
we're looking at t cells but there's

69
00:03:13,350 --> 00:03:11,280
also just basic science research we're

70
00:03:14,869 --> 00:03:13,360
trying to understand certain uh basic

71
00:03:17,030 --> 00:03:14,879
physics properties and all sorts of

72
00:03:18,949 --> 00:03:17,040
other things so it is both there's just

73
00:03:21,750 --> 00:03:18,959
so much science going on it's just

74
00:03:24,789 --> 00:03:23,030
uh the

75
00:03:25,990 --> 00:03:24,799
experiments that you conduct how many

76
00:03:28,070 --> 00:03:26,000
are nasa

77
00:03:29,750 --> 00:03:28,080
sanctioned taxpayer-funded how many come

78
00:03:31,350 --> 00:03:29,760
from private sources

79
00:03:34,630 --> 00:03:31,360
experiments that you take on from other

80
00:03:37,430 --> 00:03:35,990
you know i don't really know the numbers

81
00:03:38,949 --> 00:03:37,440
but they're right there definitely come

82
00:03:40,789 --> 00:03:38,959
from different areas

83
00:03:42,390 --> 00:03:40,799
we do have some nasa ones we have some

84
00:03:43,830 --> 00:03:42,400
actually from the european space agency

85
00:03:46,149 --> 00:03:43,840
we have some from the japanese space

86
00:03:47,830 --> 00:03:46,159
agency we have some from the russians

87
00:03:50,229 --> 00:03:47,840
and then we have a whole

88
00:03:51,990 --> 00:03:50,239

group called cases which takes in

89
00:03:54,550 --> 00:03:52,000
science experiments from all over the

90
00:03:58,470 --> 00:03:54,560
u.s and combines them into

91
00:04:00,869 --> 00:03:58,480
a sort of a group from that area and

92
00:04:02,789 --> 00:04:00,879
they get to fly also on board too so

93
00:04:04,390 --> 00:04:02,799
it's a it's a whole bunch of different

94
00:04:05,589 --> 00:04:04,400
places that i know our science com our

95
00:04:09,270 --> 00:04:05,599
experiments come from i just don't know

96
00:04:13,589 --> 00:04:11,190
you spoke about life

97
00:04:15,190 --> 00:04:13,599
in microgravity i suspect and you kind

98
00:04:16,550 --> 00:04:15,200
of address this the toll it takes on a

99
00:04:18,629 --> 00:04:16,560
body could you give our folks an example

100
00:04:20,310 --> 00:04:18,639
of what it's like being you there living

101
00:04:21,590 --> 00:04:20,320
in an atmosphere without gravity and if

102
00:04:25,830 --> 00:04:21,600
you can move around a little bit just to

103
00:04:28,950 --> 00:04:27,270
yeah that's a good thing you know first

104
00:04:30,390 --> 00:04:28,960
of all you can see anything you hold

105
00:04:32,150 --> 00:04:30,400
just floats when you let go of it and

106
00:04:34,150 --> 00:04:32,160
that is good and bad one it doesn't drop

107
00:04:35,590 --> 00:04:34,160
to the ground but the bad thing is if i

108
00:04:36,870 --> 00:04:35,600
don't watch this in about 10 seconds

109
00:04:38,469 --> 00:04:36,880
it's going to float off and i'll

110
00:04:40,469 --> 00:04:38,479
probably take me another hour to find it

111
00:04:41,909 --> 00:04:40,479
so that's the negative of that but

112
00:04:43,990 --> 00:04:41,919
you're right moving around is also very

113
00:05:00,950 --> 00:04:44,000

much fun so i'll give you a quick

114
00:05:06,390 --> 00:05:02,950
yeah i'm not a gymnast on earth so i so

115
00:05:08,070 --> 00:05:06,400
this is the only place i get to do that

116
00:05:09,430 --> 00:05:08,080
how long did it take you to get the use

117
00:05:12,469 --> 00:05:09,440
of that do you hit your head and things

118
00:05:16,310 --> 00:05:14,790
oh definitely at the beginning

119
00:05:17,990 --> 00:05:16,320
it's definitely more difficult we have a

120
00:05:19,670 --> 00:05:18,000
little competitions now and it's the

121
00:05:21,590 --> 00:05:19,680
idea is you have to get the rotation

122
00:05:23,189 --> 00:05:21,600
without any side movement and then you

123
00:05:24,710 --> 00:05:23,199
can see how many rotations you can do

124
00:05:28,230 --> 00:05:24,720
before you hit something so that's a

125
00:05:31,430 --> 00:05:29,990
give our viewers a sense of how large

126
00:05:33,029 --> 00:05:31,440
the station is we're only seeing a small

127
00:05:36,790 --> 00:05:33,039
portion of it but what are we talking

128
00:05:42,150 --> 00:05:39,830
well it's about the volume of a 747

129
00:05:46,150 --> 00:05:42,160
really and so it's quite big it's quite

130
00:05:48,950 --> 00:05:46,160
large it's uh about 250 feet long and at

131
00:05:51,510 --> 00:05:48,960
certain spots it's maybe 130 40 feet

132
00:05:53,670 --> 00:05:51,520
wide at certain spots so it's actually

133
00:05:55,189 --> 00:05:53,680
quite quite big for volume wise it's

134
00:05:58,150 --> 00:05:55,199
only six people up here so it's not like

135
00:06:00,790 --> 00:05:58,160
you're crowded up here at all

136
00:06:02,629 --> 00:06:00,800
so you said there were six people uh

137
00:06:04,230 --> 00:06:02,639
again from different uh countries

138
00:06:05,590 --> 00:06:04,240

working together on this what's it like

139
00:06:09,670 --> 00:06:05,600
what's the working relationship like

140
00:06:12,390 --> 00:06:11,510
it's a very good working relationship up

141
00:06:15,270 --> 00:06:12,400
here

142
00:06:17,350 --> 00:06:15,280
um we've trained together beforehand as

143
00:06:19,510 --> 00:06:17,360
a crew and so we got to know each other

144
00:06:22,390 --> 00:06:19,520
very well and we still work together on

145
00:06:23,830 --> 00:06:22,400
a daily basis and we have really no

146
00:06:25,110 --> 00:06:23,840
issues i mean yes there's always

147
00:06:26,790 --> 00:06:25,120
cultural differences but we've learned

148
00:06:29,350 --> 00:06:26,800
those we've learned how to get around

149
00:06:31,189 --> 00:06:29,360
any issues and so we're all good friends

150
00:06:33,990 --> 00:06:31,199
now up here and it seems to go quite

151
00:06:35,510 --> 00:06:34,000
smoothly

152
00:06:37,430 --> 00:06:35,520
commander here on earth there are

153
00:06:39,590 --> 00:06:37,440
current issues concerning tensions

154
00:06:42,309 --> 00:06:39,600
between the united states and russia you

155
00:06:44,950 --> 00:06:42,319
have three russian cosmonauts on board

156
00:06:47,110 --> 00:06:44,960
do those issues get discussed on board

157
00:06:52,550 --> 00:06:47,120
and do you get any discussions about

158
00:06:56,309 --> 00:06:54,469
yes they do get discussed just like any

159
00:06:57,189 --> 00:06:56,319
news event that comes on we will discuss

160
00:07:03,749 --> 00:06:57,199
it

161
00:07:05,909 --> 00:07:03,759
understand all that we also understand

162
00:07:07,110 --> 00:07:05,919
it doesn't affect our work and our

163
00:07:09,430 --> 00:07:07,120

relationship with each other we're

164
00:07:13,589 --> 00:07:09,440
always friends and so it really doesn't

165
00:07:19,270 --> 00:07:14,950
what are the nature of the discussions

166
00:07:23,029 --> 00:07:21,270
oh that's a good question it varies

167
00:07:26,230 --> 00:07:23,039
depending of course on the topic but on

168
00:07:27,909 --> 00:07:26,240
say the the u.s russian relations we uh

169
00:07:30,870 --> 00:07:27,919
just could delve into you know more in

170
00:07:31,510 --> 00:07:30,880
the politics of each country and and uh

171
00:07:38,870 --> 00:07:31,520
and

172
00:07:40,710 --> 00:07:38,880
break it down that way you can kind of

173
00:07:42,830 --> 00:07:40,720
see what's going on a little clearly a

174
00:07:45,589 --> 00:07:42,840
little more

175
00:07:47,909 --> 00:07:45,599
clearly the science side commander for a

176
00:07:49,510 --> 00:07:47,919
for instance if russia decided once at

177
00:07:51,589 --> 00:07:49,520
one point because of relations here they

178
00:07:53,749 --> 00:07:51,599
wanted to pull back on work of uh the

179
00:07:55,510 --> 00:07:53,759
space station how is the united states

180
00:07:57,189 --> 00:07:55,520
affected by that and what goes on and

181
00:08:01,110 --> 00:07:57,199
how is the science experiments affected

182
00:08:04,710 --> 00:08:02,790
well right now the science is pretty

183
00:08:06,790 --> 00:08:04,720
much separated between the

184
00:08:08,230 --> 00:08:06,800
u.s side or since the u.s

185
00:08:10,950 --> 00:08:08,240
which includes

186
00:08:12,629 --> 00:08:10,960
the european european space agency

187
00:08:14,550 --> 00:08:12,639
jackson canada

188
00:08:16,550 --> 00:08:14,560

all those and then the russian side so

189
00:08:19,270 --> 00:08:16,560
the science is somewhat separated

190
00:08:21,189 --> 00:08:19,280
however we do require the

191
00:08:23,029 --> 00:08:21,199
russians for us to get up here and to

192
00:08:25,029 --> 00:08:23,039
get back down right now hopefully in a

193
00:08:26,869 --> 00:08:25,039
few years we won't need that but right

194
00:08:28,629 --> 00:08:26,879
now we need that to

195
00:08:29,990 --> 00:08:28,639
happen and that is probably the biggest

196
00:08:33,430 --> 00:08:30,000
deal right there and if we can't get up

197
00:08:35,750 --> 00:08:34,709
commander you can move around if you

198
00:08:37,350 --> 00:08:35,760
wish if you're tired holding that

199
00:08:40,709 --> 00:08:37,360
position if you want to take the the mic

200
00:08:43,829 --> 00:08:40,719
with you um as far as manning and

201
00:08:46,150 --> 00:08:43,839
staffing the station um many of much of

202
00:08:48,790 --> 00:08:46,160
that now depends on commercial aircraft

203
00:08:50,310 --> 00:08:48,800
uh commercial spacecraft what's been the

204
00:08:52,790 --> 00:08:50,320
experience with these commercial

205
00:08:56,870 --> 00:08:52,800
spacecraft staffing and supplying the

206
00:08:58,949 --> 00:08:58,070
right now they're just supplying the

207
00:09:02,389 --> 00:08:58,959
station

208
00:09:04,710 --> 00:09:02,399
and uh we're very happy that we have uh

209
00:09:06,389 --> 00:09:04,720
american cargo vehicles coming up it's a

210
00:09:07,670 --> 00:09:06,399
great uh advancement these are good

211
00:09:10,630 --> 00:09:07,680
vehicles

212
00:09:11,590 --> 00:09:10,640
so it does offload our dependence upon

213
00:09:13,829 --> 00:09:11,600

russia

214
00:09:15,670 --> 00:09:13,839
and other countries for that

215
00:09:17,030 --> 00:09:15,680
so we are happy about that and we are

216
00:09:19,750 --> 00:09:17,040
definitely looking forward to the next

217
00:09:21,750 --> 00:09:19,760
development when we do get to do crew on

218
00:09:23,990 --> 00:09:21,760
an american vehicle and that will change

219
00:09:26,949 --> 00:09:24,000
our dynamic quite a bit

220
00:09:28,870 --> 00:09:26,959
but for right now it's just uh the cargo

221
00:09:30,470 --> 00:09:28,880
coming up and uh matter of fact

222
00:09:32,070 --> 00:09:30,480
hopefully we'll have one here in less

223
00:09:37,030 --> 00:09:32,080
than a month to come up here and give us

224
00:09:40,389 --> 00:09:37,040
some new food and new science to work on

225
00:09:42,310 --> 00:09:40,399
uh as far as you said the the next step

226
00:09:46,550 --> 00:09:42,320
what's involved in the next step and how

227
00:09:51,190 --> 00:09:48,550
oh sorry yes the next step well the next

228
00:09:52,630 --> 00:09:51,200
step is actually proving out the vehicle

229
00:09:54,630 --> 00:09:52,640
is safe for

230
00:09:56,470 --> 00:09:54,640
uh humans which are we have a few

231
00:09:59,430 --> 00:09:56,480
companies now who are bidding for that

232
00:10:01,190 --> 00:09:59,440
uh opportunity right now and uh once

233
00:10:03,750 --> 00:10:01,200
they start into their project the end of

234
00:10:06,870 --> 00:10:03,760
that project hopefully by 2017 we will

235
00:10:09,269 --> 00:10:06,880
have a manned test of an american

236
00:10:11,350 --> 00:10:09,279
vehicle at that time and they'll

237
00:10:12,949 --> 00:10:11,360
probably do one test flight and maybe

238
00:10:14,790 --> 00:10:12,959

just station maybe not

239
00:10:16,790 --> 00:10:14,800
but then the next one from then on we'll

240
00:10:19,910 --> 00:10:16,800
start being rotating crew members on the

241
00:10:23,670 --> 00:10:22,310
how much input do you and the other crew

242
00:10:25,829 --> 00:10:23,680
members have

243
00:10:29,670 --> 00:10:25,839
to these private companies how is it

244
00:10:34,630 --> 00:10:31,910
well i personally don't have input but

245
00:10:36,389 --> 00:10:34,640
our astronaut office and nasa does have

246
00:10:38,150 --> 00:10:36,399
input and so

247
00:10:40,389 --> 00:10:38,160
i believe it's received quite well from

248
00:10:41,190 --> 00:10:40,399
talking to the folks who do that work

249
00:10:44,069 --> 00:10:41,200
and

250
00:10:45,750 --> 00:10:44,079
because these companies want to

251
00:10:47,430 --> 00:10:45,760
succeed they want the contracts and they

252
00:10:49,829 --> 00:10:47,440
want to build a good vehicle they really

253
00:10:51,829 --> 00:10:49,839
do and so they do listen and they try to

254
00:10:54,470 --> 00:10:51,839
make the best vehicle they can of course

255
00:10:56,630 --> 00:10:54,480
it is a cost analysis

256
00:10:58,710 --> 00:10:56,640
going on at the same time so they can't

257
00:11:00,710 --> 00:10:58,720
build you know the most luxurious

258
00:11:04,389 --> 00:11:00,720
cadillac out there however they build a

259
00:11:08,710 --> 00:11:06,069
commander you talked about moving

260
00:11:10,790 --> 00:11:08,720
forward these dates of 2017 that you

261
00:11:13,030 --> 00:11:10,800
talked about as far as the station

262
00:11:16,870 --> 00:11:13,040
itself how long is it going to remain

263
00:11:21,509 --> 00:11:18,630

that's a good question right now i

264
00:11:24,310 --> 00:11:21,519
believe it's done paper to 2024

265
00:11:27,829 --> 00:11:24,320
and that's just more to certify the life

266
00:11:30,470 --> 00:11:27,839
of certain components and also for the

267
00:11:32,470 --> 00:11:30,480
resupply missions for certain things

268
00:11:34,069 --> 00:11:32,480
so it could it could go longer if we

269
00:11:38,230 --> 00:11:34,079
wanted it all depends on where we want

270
00:11:38,240 --> 00:11:42,630
uh what do you mean by that

271
00:11:47,030 --> 00:11:45,110
well if we want to go the nasa budget is

272
00:11:49,269 --> 00:11:47,040
limited and there is a you know a

273
00:11:51,269 --> 00:11:49,279
portion of it goes to space station and

274
00:11:52,629 --> 00:11:51,279
keeping it running and so if we also

275
00:11:54,710 --> 00:11:52,639
have a different

276
00:11:56,629 --> 00:11:54,720
task that we want to take on say going

277
00:11:58,710 --> 00:11:56,639
to the moon or mars or an asteroid or

278
00:12:00,389 --> 00:11:58,720
wherever it happens to be and we might

279
00:12:01,829 --> 00:12:00,399
not be able to do both at the same time

280
00:12:05,829 --> 00:12:01,839
given how

281
00:12:13,190 --> 00:12:08,069
what's the role of the station in future

282
00:12:17,590 --> 00:12:15,430
all right now i think what i mean for

283
00:12:19,990 --> 00:12:17,600
helping out our future space flight the

284
00:12:21,670 --> 00:12:20,000
station is a test bed we test all sorts

285
00:12:23,750 --> 00:12:21,680
of things out up here you know right now

286
00:12:26,069 --> 00:12:23,760
we have a recycling system for water

287
00:12:28,150 --> 00:12:26,079
that we're working on and so we recycle

288
00:12:29,829 --> 00:12:28,160

all our water you know condensate urine

289
00:12:31,590 --> 00:12:29,839
everything and we need that if we're

290
00:12:32,710 --> 00:12:31,600
going to go other places and that's just

291
00:12:34,310 --> 00:12:32,720
one example there's many different

292
00:12:36,310 --> 00:12:34,320
examples we have like that we're testing

293
00:12:39,590 --> 00:12:36,320
out new technologies up here that will

294
00:12:41,190 --> 00:12:39,600
enable us to go farther

295
00:12:45,750 --> 00:12:41,200
so you would say the station's needed

296
00:12:49,190 --> 00:12:47,590
that's a good question

297
00:12:50,710 --> 00:12:49,200
i'm not sure it's needed it would

298
00:12:52,790 --> 00:12:50,720
definitely be a good test bed for all

299
00:12:54,949 --> 00:12:52,800
sorts of things we can easily get things

300
00:12:56,310 --> 00:12:54,959
up and down from here

301
00:12:58,230 --> 00:12:56,320
more than you could if you're going on a

302
00:12:59,430 --> 00:12:58,240
long mission somewhere else so that's

303
00:13:01,829 --> 00:12:59,440
where you can if you want to make an

304
00:13:03,829 --> 00:13:01,839
update to your your product or your your

305
00:13:05,509 --> 00:13:03,839
equipment you can do that more easily so

306
00:13:07,670 --> 00:13:05,519
it's a great testbed

307
00:13:08,870 --> 00:13:07,680
however again though it's all about

308
00:13:10,150 --> 00:13:08,880
having a limited amount of money and

309
00:13:13,430 --> 00:13:10,160
where you want to spend your money and

310
00:13:17,590 --> 00:13:16,310
so if say by 2024 nothing's decided as

311
00:13:23,269 --> 00:13:17,600
far as the future of the station what

312
00:13:26,389 --> 00:13:24,870
well

313
00:13:27,910 --> 00:13:26,399

again that's going to be a decision uh

314
00:13:30,389 --> 00:13:27,920
for uh

315
00:13:32,230 --> 00:13:30,399
for a management you know the the

316
00:13:35,269 --> 00:13:32,240
i guess i would consider the our

317
00:13:37,670 --> 00:13:35,279
politicians and the ness administration

318
00:13:40,069 --> 00:13:37,680
uh however if it does if they decide

319
00:13:42,389 --> 00:13:40,079
that was no longer needed yes they will

320
00:13:45,990 --> 00:13:42,399
deorbit the station and it will burn up

321
00:13:51,030 --> 00:13:49,189
uh commander swanson we uh every day go

322
00:13:53,269 --> 00:13:51,040
through our normal lives here on a

323
00:13:54,949 --> 00:13:53,279
gravity atmosphere what's it like on a

324
00:13:56,790 --> 00:13:54,959
day-to-day level in a weightless

325
00:13:58,230 --> 00:13:56,800
atmosphere tell our viewers some of the

326
00:13:59,829 --> 00:13:58,240
things they might not expect about

327
00:14:01,430 --> 00:13:59,839
living in space the things you kind of

328
00:14:05,110 --> 00:14:01,440
have to overcome because of the

329
00:14:08,710 --> 00:14:06,230
yeah

330
00:14:11,670 --> 00:14:08,720
it's really the simple things that are

331
00:14:12,790 --> 00:14:11,680
much more difficult up here i mean uh

332
00:14:15,350 --> 00:14:12,800
you know you're getting up the morning

333
00:14:16,949 --> 00:14:15,360
just shaving and getting yourself ready

334
00:14:18,790 --> 00:14:16,959
in the morning i have to admit my

335
00:14:20,949 --> 00:14:18,800
commute is awful uh short it's from

336
00:14:22,870 --> 00:14:20,959
about 20 feet behind me so i don't have

337
00:14:24,710 --> 00:14:22,880
to go far but i still just little things

338
00:14:27,430 --> 00:14:24,720

like that in the morning just you don't

339
00:14:29,030 --> 00:14:27,440
have a sink to wash up in and your water

340
00:14:30,629 --> 00:14:29,040
doesn't of course run down so then you

341
00:14:32,550 --> 00:14:30,639
have to shave totally differently you

342
00:14:34,550 --> 00:14:32,560
have to brush your teeth differently

343
00:14:36,069 --> 00:14:34,560
eating is also a chore

344
00:14:37,829 --> 00:14:36,079
because everything floats again and it

345
00:14:38,870 --> 00:14:37,839
comes in packages and it all wants to go

346
00:14:41,189 --> 00:14:38,880
everywhere

347
00:14:42,550 --> 00:14:41,199
so all these little things and even

348
00:14:43,990 --> 00:14:42,560
you know tying your shoe actually ends

349
00:14:46,069 --> 00:14:44,000
up being difficult for some reason we

350
00:14:48,389 --> 00:14:46,079
use gravity to bend over to get to your

351
00:14:50,310 --> 00:14:48,399
your shoe uh you don't have that here so

352
00:14:51,829 --> 00:14:50,320
you have to be a little more flexible

353
00:14:53,590 --> 00:14:51,839
just all these little things that you

354
00:14:56,230 --> 00:14:53,600
didn't think about

355
00:14:58,310 --> 00:14:56,240
make it just a little less efficient

356
00:15:00,470 --> 00:14:58,320
to be up here however i say there are

357
00:15:01,829 --> 00:15:00,480
many benefits we do love it up here uh

358
00:15:04,230 --> 00:15:01,839
this whole the whole floating thing is

359
00:15:06,870 --> 00:15:04,240
just a very fun thing to do looking out

360
00:15:09,269 --> 00:15:06,880
the window is fantastic it just can't be

361
00:15:12,790 --> 00:15:11,430
so commander swanson though once you

362
00:15:14,389 --> 00:15:12,800
return to earth living in the

363
00:15:19,110 --> 00:15:14,399

environment you're currently living in

364
00:15:23,910 --> 00:15:21,430
that's a good question we work out two

365
00:15:26,150 --> 00:15:23,920
hours every day up here to help in that

366
00:15:27,990 --> 00:15:26,160
return and the idea is that we so our

367
00:15:30,550 --> 00:15:28,000
muscles will be strong and our bones

368
00:15:32,470 --> 00:15:30,560
will not lost any bone density and that

369
00:15:33,670 --> 00:15:32,480
way when we get back we used to really

370
00:15:36,310 --> 00:15:33,680
have to worry about what they call it

371
00:15:37,910 --> 00:15:36,320
our neural vestibular system and uh once

372
00:15:39,749 --> 00:15:37,920
that gets back under control which it

373
00:15:41,430 --> 00:15:39,759
varies

374
00:15:43,670 --> 00:15:41,440
a lot between people

375
00:15:44,949 --> 00:15:43,680
and so uh but once that gets it back

376
00:15:46,470 --> 00:15:44,959
under control

377
00:15:48,310 --> 00:15:46,480
you're still strong and your bones are

378
00:15:50,230 --> 00:15:48,320
good so it just takes about six weeks

379
00:15:52,870 --> 00:15:50,240
worth of rehab right now and you're back

380
00:15:54,550 --> 00:15:52,880
up into the 95 percentile maybe even

381
00:15:57,910 --> 00:15:54,560
higher than that how you're feeling and

382
00:16:05,509 --> 00:16:00,629
um when you return to er how long have

383
00:16:11,430 --> 00:16:06,870
i've been on board about two and a half

384
00:16:15,829 --> 00:16:14,389
your background is in computer science

385
00:16:20,069 --> 00:16:15,839
how do you end up an astronaut on a

386
00:16:24,389 --> 00:16:22,150
a good question well i did go to work

387
00:16:26,310 --> 00:16:24,399
for nasa which was a big help for me

388
00:16:28,949 --> 00:16:26,320

and and i decided that being an

389
00:16:30,230 --> 00:16:28,959
astronaut was a goal so um

390
00:16:31,910 --> 00:16:30,240
really what i also worked on was

391
00:16:34,150 --> 00:16:31,920
aircraft control systems that's where my

392
00:16:35,829 --> 00:16:34,160
main work at nasa was on and that of

393
00:16:38,069 --> 00:16:35,839
course could play into working on the

394
00:16:40,550 --> 00:16:38,079
shuttle and also then helping out and

395
00:16:42,230 --> 00:16:40,560
then i just got lucky in the selection

396
00:16:44,069 --> 00:16:42,240
process that's really there's so many

397
00:16:46,150 --> 00:16:44,079
qualified people who try to be

398
00:16:48,150 --> 00:16:46,160
astronauts it takes a little bit of luck

399
00:16:50,230 --> 00:16:48,160
just to get in and i just happened to

400
00:16:52,310 --> 00:16:50,240
get a little lucky i had all the the

401
00:16:55,430 --> 00:16:52,320
requirements needed and just a little

402
00:16:57,670 --> 00:16:55,440
bit of luck and i made it

403
00:16:59,590 --> 00:16:57,680
so commander in about 30 seconds tell us

404
00:17:04,230 --> 00:16:59,600
about the best experience you've had on

405
00:17:08,870 --> 00:17:07,270
oh the best experience is uh well

406
00:17:10,150 --> 00:17:08,880
probably always looking out the window

407
00:17:11,270 --> 00:17:10,160
and the best way to look out the window

408
00:17:13,270 --> 00:17:11,280
is not have a window in front of you

409
00:17:14,710 --> 00:17:13,280
that's going on a space walk and so

410
00:17:16,309 --> 00:17:14,720
that's probably the best experience

411
00:17:18,630 --> 00:17:16,319
heading out the door

412
00:17:21,110 --> 00:17:18,640
it's a it's a good time it's a fantastic

413
00:17:23,270 --> 00:17:21,120

feeling it is a little pressure uh on

414
00:17:25,110 --> 00:17:23,280
you at the same time but boy it's quite

415
00:17:28,390 --> 00:17:25,120
a experience and it's something i'm

416
00:17:33,270 --> 00:17:31,029
commander steven swanson who is on board

417
00:17:35,590 --> 00:17:33,280
the international space station talking

418
00:17:40,710 --> 00:17:35,600
to us about experiences there

419
00:17:40,720 --> 00:17:44,950
my pleasure take care