



1
00:00:00,000 --> 00:00:05,190
captain kelly it's scott pelley

2
00:00:08,950 --> 00:00:07,110
hi scott every time i hear your name on

3
00:00:15,190 --> 00:00:08,960
60 minutes i turn around and it sounds

4
00:00:19,029 --> 00:00:17,109
i to be honest with you i have to tell

5
00:00:21,429 --> 00:00:19,039
you how many people have stopped me on

6
00:00:22,950 --> 00:00:21,439
the street astonished to see me because

7
00:00:28,790 --> 00:00:22,960
they heard on the radio that scott

8
00:00:28,800 --> 00:00:34,870
that's pretty funny

9
00:00:38,549 --> 00:00:36,630
i kid you not i think some people in the

10
00:00:40,549 --> 00:00:38,559
audience would prefer

11
00:00:42,869 --> 00:00:40,559
that i'd be up there too i would gladly

12
00:00:47,110 --> 00:00:42,879
trade a consonant to switch places with

13
00:00:50,950 --> 00:00:49,029

well we enjoy watching 60 minutes up

14

00:00:53,270 --> 00:00:50,960

here so i guess if you were here with us

15

00:00:59,349 --> 00:00:53,280

you could do some uh you could do it

16

00:01:03,670 --> 00:01:01,750

absolutely we'd be proud to do it let's

17

00:01:05,830 --> 00:01:03,680

talk about the medical mission for just

18

00:01:08,390 --> 00:01:05,840

a moment a round-trip mission to mars

19

00:01:11,109 --> 00:01:08,400

would take a year and a half or so what

20

00:01:16,789 --> 00:01:11,119

are some of the big unanswered questions

21

00:01:21,030 --> 00:01:18,630

the big one we have right now is this

22

00:01:22,310 --> 00:01:21,040

issue with our vision and

23

00:01:24,070 --> 00:01:22,320

you know how

24

00:01:26,469 --> 00:01:24,080

astronauts some astronauts on

25

00:01:28,550 --> 00:01:26,479

long-duration space flights have had a

26

00:01:31,590 --> 00:01:28,560

uh you know degradation in their vision

27

00:01:33,830 --> 00:01:31,600

that is concerning you you wouldn't want

28

00:01:35,590 --> 00:01:33,840

you know some astronauts to get on mars

29

00:01:36,950 --> 00:01:35,600

after a year and a half or you know

30

00:01:38,789 --> 00:01:36,960

longer or when they're coming home and

31

00:01:40,069 --> 00:01:38,799

not be able to see

32

00:01:41,830 --> 00:01:40,079

it's something we don't understand but

33

00:01:43,670 --> 00:01:41,840

it's something we're working uh hard at

34

00:01:45,830 --> 00:01:43,680

understanding and mitigating the effects

35

00:01:47,510 --> 00:01:45,840

we've done a lot of research up here

36

00:01:49,109 --> 00:01:47,520

since i've been here to better

37

00:01:51,510 --> 00:01:49,119

understand that

38

00:01:54,149 --> 00:01:51,520

and then there's the more commonly uh

39

00:01:55,109 --> 00:01:54,159
discussed issues of bone loss and muscle

40

00:01:57,270 --> 00:01:55,119
loss

41

00:01:59,670 --> 00:01:57,280
uh that we you know have a pretty good

42

00:02:02,230 --> 00:01:59,680
handle on and understand how to mitigate

43

00:02:03,109 --> 00:02:02,240
those through exercise and diet

44

00:02:04,069 --> 00:02:03,119
um

45

00:02:06,550 --> 00:02:04,079
and then there's the effects of

46

00:02:08,389 --> 00:02:06,560
radiation and you know the study we're

47

00:02:09,350 --> 00:02:08,399
doing with my brother

48

00:02:11,270 --> 00:02:09,360
is

49

00:02:12,630 --> 00:02:11,280
you know partially looking into that and

50

00:02:14,229 --> 00:02:12,640
how that affects

51
00:02:20,550 --> 00:02:14,239
us and the the environment here on a

52
00:02:24,790 --> 00:02:22,309
you and your brother are the only

53
00:02:25,910 --> 00:02:24,800
siblings to have flown in space and i

54
00:02:29,430 --> 00:02:25,920
wonder

55
00:02:35,670 --> 00:02:29,440
what does having identical twins get you

56
00:02:40,630 --> 00:02:38,150
well you know we are very uh very

57
00:02:41,430 --> 00:02:40,640
similar genetically um

58
00:02:45,190 --> 00:02:41,440
not

59
00:02:48,710 --> 00:02:45,200
you know 100 percent the same but 99.9

60
00:02:53,910 --> 00:02:50,949
similar or identical with regards to our

61
00:02:54,949 --> 00:02:53,920
dna our rna you know and proteins now

62
00:02:57,509 --> 00:02:54,959
those things

63
00:02:59,350 --> 00:02:57,519

manifest themselves differently in in

64

00:03:01,110 --> 00:02:59,360

individuals based on

65

00:03:03,509 --> 00:03:01,120

you know various factors including their

66

00:03:05,270 --> 00:03:03,519

environment but you know the two of us

67

00:03:07,190 --> 00:03:05,280

are as close as you can get with the

68

00:03:08,070 --> 00:03:07,200

people that have flown in space

69

00:03:09,990 --> 00:03:08,080

and

70

00:03:12,710 --> 00:03:10,000

you know there are a lot of factors here

71

00:03:14,949 --> 00:03:12,720

that can affect us on a genetic scale

72

00:03:16,550 --> 00:03:14,959

for instance of the radiation or you

73

00:03:18,630 --> 00:03:16,560

know even the microgravity environment

74

00:03:20,550 --> 00:03:18,640

so having my brother as a control

75

00:03:22,710 --> 00:03:20,560

subject you know someone that nasa has

76

00:03:26,869 --> 00:03:22,720

studied for a long time knows

77

00:03:27,830 --> 00:03:26,879

knows him very well have has samples um

78

00:03:31,030 --> 00:03:27,840

you know

79

00:03:33,270 --> 00:03:31,040

for him from from decades ago it's a you

80

00:03:35,509 --> 00:03:33,280

know a perfect opportunity to see

81

00:03:37,030 --> 00:03:35,519

how we change on a genetic basis over

82

00:03:43,110 --> 00:03:37,040

the course of the year i'm going to be

83

00:03:47,030 --> 00:03:44,869

now i know the answer to this question

84

00:03:52,949 --> 00:03:47,040

but tell the folks at home why you have

85

00:03:57,910 --> 00:03:55,110

well um it's interesting you know it's

86

00:04:01,429 --> 00:03:57,920

kind of awkward the position you you've

87

00:04:02,949 --> 00:04:01,439

your natural like floating position

88

00:04:04,470 --> 00:04:02,959

it's i don't know it's sort of

89

00:04:07,429 --> 00:04:04,480

comfortable but it's awkward to have

90

00:04:10,309 --> 00:04:07,439

your arms out like this i think um

91

00:04:12,630 --> 00:04:10,319

it's also a little chilly in here

92

00:04:14,390 --> 00:04:12,640

so it's kind of a combination of the two

93

00:04:17,030 --> 00:04:14,400

i would put my hands in my pockets but

94

00:04:18,069 --> 00:04:17,040

then people tell me hey

95

00:04:24,710 --> 00:04:18,079

why are you putting your hands in your

96

00:04:27,590 --> 00:04:26,150

and if you move your arms around too

97

00:04:29,270 --> 00:04:27,600

much you start to float around isn't

98

00:04:33,670 --> 00:04:29,280

that right you start to

99

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

i guess you you could

100

00:04:39,030 --> 00:04:38,000

maybe a little bit but you're really the

101
00:04:45,030 --> 00:04:39,040
major

102
00:04:47,030 --> 00:04:45,040
is that this is not comfortable i mean

103
00:04:49,510 --> 00:04:47,040
it's somewhat comfortable but it's also

104
00:04:58,230 --> 00:04:49,520
awkward to be floating around like this

105
00:05:02,150 --> 00:05:00,310
this is your fourth mission

106
00:05:04,390 --> 00:05:02,160
in space you've been the commander of

107
00:05:05,990 --> 00:05:04,400
the space station before

108
00:05:08,550 --> 00:05:06,000
the first element of the station was

109
00:05:13,189 --> 00:05:08,560
launched in 1998.

110
00:05:20,590 --> 00:05:17,430
so i was here in uh in 2007 uh as a

111
00:05:23,430 --> 00:05:20,600
shuttle crew member and then in

112
00:05:26,870 --> 00:05:23,440
2010 i launched in october came home in

113
00:05:27,749 --> 00:05:26,880

2011. so it was about four years uh a

114

00:05:29,749 --> 00:05:27,759

gap

115

00:05:32,629 --> 00:05:29,759

between the time i lived here for six

116

00:05:34,230 --> 00:05:32,639

months and now and i was surprised at

117

00:05:36,310 --> 00:05:34,240

how

118

00:05:37,670 --> 00:05:36,320

similar it looked um

119

00:05:39,670 --> 00:05:37,680

you know it really didn't look like it

120

00:05:41,270 --> 00:05:39,680

had aged much at all

121

00:05:43,590 --> 00:05:41,280

the systems are still operating very

122

00:05:44,469 --> 00:05:43,600

well of course as as things get older

123

00:05:46,790 --> 00:05:44,479

you

124

00:05:49,110 --> 00:05:46,800

generally will have more problems and we

125

00:05:50,390 --> 00:05:49,120

expect that but we plan for it but the

126

00:05:52,150 --> 00:05:50,400

you know the space station is in pretty

127

00:05:54,230 --> 00:05:52,160

good shape and you know i think we can

128

00:05:55,590 --> 00:05:54,240

fly it for a long time and do a lot of a

129

00:05:57,590 --> 00:05:55,600

lot of great research here we're going

130

00:05:59,749 --> 00:05:57,600

to have 400 experiments running while

131

00:06:06,629 --> 00:05:59,759

i'm here for this year and you know we

132

00:06:10,469 --> 00:06:08,230

you know there are a lot of things you

133

00:06:13,029 --> 00:06:10,479

can't tell from television what what

134

00:06:14,950 --> 00:06:13,039

does it sound like in there what does it

135

00:06:19,029 --> 00:06:14,960

smell like in there does it smell like a

136

00:06:25,110 --> 00:06:22,469

you know the the smell is a combination

137

00:06:28,230 --> 00:06:26,550

you know and it smells differently in

138

00:06:30,710 --> 00:06:28,240

different places but you know

139

00:06:34,550 --> 00:06:30,720

occasionally like an antiseptic

140

00:06:37,189 --> 00:06:34,560

uh smell combined with like garbage

141

00:06:40,950 --> 00:06:38,870

but it doesn't really smell bad but it

142

00:06:43,110 --> 00:06:40,960

does have a unique smell now space has

143

00:06:45,510 --> 00:06:43,120

its own unique smell so whenever a

144

00:06:47,990 --> 00:06:45,520

vehicle docks

145

00:06:49,350 --> 00:06:48,000

or you know if guys are out doing a

146

00:06:51,670 --> 00:06:49,360

space walk

147

00:06:55,270 --> 00:06:51,680

the smell of space when you open up the

148

00:06:58,150 --> 00:06:55,280

uh the hatch is very uh distinct it's

149

00:07:00,230 --> 00:06:58,160

kind of like a burnt uh

150

00:07:02,469 --> 00:07:00,240

like a burning metal smell if you could

151
00:07:04,070 --> 00:07:02,479
imagine what that would smell like and

152
00:07:05,670 --> 00:07:04,080
as far as the sounds on the space

153
00:07:08,309 --> 00:07:05,680
station it's uh

154
00:07:10,870 --> 00:07:08,319
you know it's pumps fans motors

155
00:07:12,309 --> 00:07:10,880
certain modules are louder than others

156
00:07:14,390 --> 00:07:12,319
but it's uh

157
00:07:16,950 --> 00:07:14,400
you know it's generally a pretty nice

158
00:07:24,629 --> 00:07:16,960
working environment it's not

159
00:07:30,469 --> 00:07:27,270
now you're going to be up there about a

160
00:07:39,670 --> 00:07:30,479
year and i wonder does that feel like a

161
00:07:44,390 --> 00:07:41,270
you know there

162
00:07:47,189 --> 00:07:44,400
are probably some similarities i would i

163
00:07:48,070 --> 00:07:47,199

would suspect you know you can't leave

164

00:07:49,510 --> 00:07:48,080

uh

165

00:07:53,189 --> 00:07:49,520

you know no matter what happens you're

166

00:07:56,950 --> 00:07:55,189

you know we don't get to go outside so

167

00:07:59,189 --> 00:07:56,960

that's a little bit different i would

168

00:08:02,390 --> 00:07:59,199

imagine a lot of jails people get fresh

169

00:08:05,189 --> 00:08:02,400

air so you don't you don't get that here

170

00:08:06,629 --> 00:08:05,199

and you don't get real sunlight you know

171

00:08:08,710 --> 00:08:06,639

there's a little sun coming through the

172

00:08:09,749 --> 00:08:08,720

windows but

173

00:08:10,950 --> 00:08:09,759

so

174

00:08:12,629 --> 00:08:10,960

you know it's

175

00:08:14,469 --> 00:08:12,639

in some ways i guess it's similar in

176

00:08:15,430 --> 00:08:14,479

some ways it's uh

177

00:08:17,029 --> 00:08:15,440

different

178

00:08:19,430 --> 00:08:17,039

the big difference though is here we're

179

00:08:22,070 --> 00:08:19,440

here but here by choice so that makes i

180

00:08:27,430 --> 00:08:22,080

guess the situation feel a little bit

181

00:08:31,350 --> 00:08:29,430

but in all serials but in all

182

00:08:34,149 --> 00:08:31,360

seriousness what are the psychological

183

00:08:40,550 --> 00:08:34,159

effects of being confined in that space

184

00:08:44,470 --> 00:08:42,149

yeah so i've been up here you know

185

00:08:45,590 --> 00:08:44,480

almost 90 days and uh

186

00:08:46,750 --> 00:08:45,600

i got

187

00:08:50,389 --> 00:08:46,760

you know about

188

00:08:51,829 --> 00:08:50,399

250 to go or something like that uh and

189

00:08:55,030 --> 00:08:51,839

yeah it seems like i've been up here for

190

00:08:57,350 --> 00:08:55,040

a long time already

191

00:08:58,870 --> 00:08:57,360

but the psychological effects are one of

192

00:09:01,590 --> 00:08:58,880

the reasons we're doing this is to

193

00:09:04,230 --> 00:09:01,600

better understand that now i think

194

00:09:06,070 --> 00:09:04,240

at least where i am at this point i'm

195

00:09:08,070 --> 00:09:06,080

not going to have any major issues with

196

00:09:10,070 --> 00:09:08,080

it but i'm very conscious of the fact

197

00:09:11,910 --> 00:09:10,080

that i have to manage my fatigue level

198

00:09:14,470 --> 00:09:11,920

and you know rest when i have time to

199

00:09:16,949 --> 00:09:14,480

rest and exercise and you know do all

200

00:09:19,269 --> 00:09:16,959

those things that that can you know just

201
00:09:21,030 --> 00:09:19,279
help me get to the end of this with the

202
00:09:22,710 --> 00:09:21,040
amount of energy and

203
00:09:24,630 --> 00:09:22,720
you know attention to detail and the

204
00:09:26,150 --> 00:09:24,640
enthusiasm i have at the beginning but

205
00:09:27,350 --> 00:09:26,160
certainly you know that's one of the

206
00:09:29,190 --> 00:09:27,360
reasons we're doing this if we're going

207
00:09:31,430 --> 00:09:29,200
to go further from earth you know to

208
00:09:32,070 --> 00:09:31,440
mars or somewhere else someday we have

209
00:09:34,230 --> 00:09:32,080
to

210
00:09:36,710 --> 00:09:34,240
you know have a good understanding of

211
00:09:38,870 --> 00:09:36,720
the psychological impact on people and

212
00:09:40,870 --> 00:09:38,880
not only you know psychologically but

213
00:09:42,389 --> 00:09:40,880

how it affects their cognition you know

214

00:09:44,550 --> 00:09:42,399

we're doing a lot of research on my

215

00:09:46,150 --> 00:09:44,560

cognitive abilities and you know some of

216

00:09:48,150 --> 00:09:46,160

those tests i'm doing will compare it to

217

00:09:50,070 --> 00:09:48,160

my brother over the course of this year

218

00:09:52,630 --> 00:09:50,080

although my cognition i think is

219

00:09:55,670 --> 00:09:52,640

generally better than his in general but

220

00:09:58,070 --> 00:09:55,680

we're still you know he's the closest

221

00:10:00,310 --> 00:09:58,080

comparison we have but yeah all those

222

00:10:06,230 --> 00:10:00,320

factors are one of the reasons why we're

223

00:10:11,990 --> 00:10:09,190

scott kelly about 200 miles up traveling

224

00:10:16,150 --> 00:10:12,000

at 17 000 miles an hour we're grateful

225

00:10:16,160 --> 00:10:21,670

my pleasure

