



1
00:00:00,000 --> 00:01:18,180

I

2
00:01:23,290 --> 00:01:20,469

Columbia Houston your wake up this

3
00:01:25,960 --> 00:01:23,300

morning was provided by the 1980 US Air

4
00:01:33,010 --> 00:01:25,970

Force Academy drum and bugle corps good

5
00:01:35,380 --> 00:01:33,020

morning alright good morning k and just

6
00:01:38,020 --> 00:01:35,390

let everyone know we have to fund rebuke

7
00:01:41,280 --> 00:01:38,030

or members up here and three former

8
00:01:46,920 --> 00:01:41,290

caddy grads up here and it was really

9
00:01:55,630 --> 00:01:53,139

so we copy that this is Mission Control

10
00:01:58,630 --> 00:01:55,640

Houston wake up music for the crew of

11
00:02:01,749 --> 00:01:58,640

Columbia this morning was provided by

12
00:02:07,600 --> 00:02:01,759

the 1980s Force Academy drum and bugle

13
00:02:10,090 --> 00:02:07,610

corps featuring cadet Susan Helms on

14

00:02:13,960 --> 00:02:10,100

xylophone playing flight of the

15

00:02:15,970 --> 00:02:13,970

bumblebee actually three days into what

16

00:02:19,120 --> 00:02:15,980

NASA hopes will be a record-setting

17

00:02:22,630 --> 00:02:19,130

mission 17 days is the goal right now

18

00:02:25,360 --> 00:02:22,640

and joining us from space traveling

19

00:02:27,220 --> 00:02:25,370

along at about 28,000 kilometers per

20

00:02:29,530 --> 00:02:27,230

hour about two hundred and sixty six

21

00:02:32,530 --> 00:02:29,540

kilometers above the earth and I believe

22

00:02:34,539 --> 00:02:32,540

somewhere over Africa are five members

23

00:02:37,180 --> 00:02:34,549

of Columbia's crew let's begin with

24

00:02:39,880 --> 00:02:37,190

commander Tom Henrik's commander first

25

00:02:41,140 --> 00:02:39,890

of all the goal is seventeen days you on

26

00:02:43,090 --> 00:02:41,150

track right now as I understand it

27

00:02:47,199 --> 00:02:43,100

you're conserving power in an effort to

28

00:02:49,539 --> 00:02:47,209

stay up there and set that record so

29

00:02:52,000 --> 00:02:49,549

that's probably true we plan to conserve

30

00:02:55,150 --> 00:02:52,010

power in any event with what we call a a

31

00:02:57,310 --> 00:02:55,160

groupie fall down which is extended stay

32

00:02:58,660 --> 00:02:57,320

on all this power down and midway

33

00:03:00,430 --> 00:02:58,670

through the movement we hope that our

34

00:03:04,900 --> 00:03:00,440

management will give us the go for that

35

00:03:06,460 --> 00:03:04,910

70 a record 17 days I guess we had to

36

00:03:08,830 --> 00:03:06,470

put that in perspective a little bit

37

00:03:10,900 --> 00:03:08,840

because on the Russian space station Mir

38

00:03:12,970 --> 00:03:10,910

we heard last week that the crew which

39

00:03:15,490 --> 00:03:12,980

has been up there for some months will

40

00:03:17,349 --> 00:03:15,500

be delayed by 40 days so the delay for

41

00:03:19,990 --> 00:03:17,359

the Russians exceeds our record by about

42

00:03:21,640 --> 00:03:20,000

three times give me a sense of how you

43

00:03:23,500 --> 00:03:21,650

and the other crew members might feel

44

00:03:34,980 --> 00:03:23,510

about spending as long as 40 days or

45

00:03:40,210 --> 00:03:37,540

hi my name is Sarah rikler head on the

46

00:03:41,650 --> 00:03:40,220

end this one the flight and I actually

47

00:03:43,390 --> 00:03:41,660

look forward to spending more time in

48

00:03:45,550 --> 00:03:43,400

space after this if we get the

49

00:03:47,860 --> 00:03:45,560

International Space Station up will be

50

00:03:50,170 --> 00:03:47,870

staying up there for periods of two to

51
00:03:51,729 --> 00:03:50,180
three months at a time and this shuttle

52
00:03:54,250 --> 00:03:51,739
flight is play lead of things to come in

53
00:03:57,190 --> 00:03:54,260
that way we're trying to you all figure

54
00:03:59,620 --> 00:03:57,200
out how the human body reacts one

55
00:04:00,550 --> 00:03:59,630
relation space travel we get this data

56
00:04:01,930 --> 00:04:00,560
we're getting a lot of good life

57
00:04:05,050 --> 00:04:01,940
sciences data will be able to put that

58
00:04:06,790 --> 00:04:05,060
to our work grunts also guts and data

59
00:04:10,170 --> 00:04:06,800
will be building a station with that and

60
00:04:12,580 --> 00:04:10,180
combining our resources and talents

61
00:04:14,830 --> 00:04:12,590
despite all the data that does exist

62
00:04:16,690 --> 00:04:14,840
between NASA and the Russians about

63
00:04:18,250 --> 00:04:16,700

longevity and space there's still a lot

64

00:04:20,080 --> 00:04:18,260

we need to know is that correct as I

65

00:04:21,970 --> 00:04:20,090

understand it there are all kinds of

66

00:04:23,710 --> 00:04:21,980

problems I guess you could call them

67

00:04:25,150 --> 00:04:23,720

problems which astronauts encounter

68

00:04:27,700 --> 00:04:25,160

whether they're in space among them bone

69

00:04:29,350 --> 00:04:27,710

loss muscle loss problems sleeping and

70

00:04:31,570 --> 00:04:29,360

not to mention the fact space adaptation

71

00:04:33,879 --> 00:04:31,580

sickness now as I understand it

72

00:04:35,710 --> 00:04:33,889

two-thirds of all astronauts have this

73

00:04:37,480 --> 00:04:35,720

space adaptation sickness and I don't

74

00:04:39,280 --> 00:04:37,490

not going to ask anybody here if they

75

00:04:40,930 --> 00:04:39,290

ever have had it but if you could tell

76

00:04:49,840 --> 00:04:40,940

me what the symptoms are how long it

77

00:04:51,790 --> 00:04:49,850

lasts and what can be done about it okay

78

00:04:53,590 --> 00:04:51,800

I'll be happy to take care what we have

79

00:04:56,290 --> 00:04:53,600

to do it's an excellent work up here

80

00:04:58,330 --> 00:04:56,300

looking for the answers of why and how

81

00:05:00,340 --> 00:04:58,340

those really things happen she a little

82

00:05:03,850 --> 00:05:00,350

bit of example solar systems people can

83

00:05:06,940 --> 00:05:03,860

experience normally the body explains as

84

00:05:08,950 --> 00:05:06,950

a major food shift immediately after the

85

00:05:10,990 --> 00:05:08,960

advent of complete and this food shift

86

00:05:14,159 --> 00:05:11,000

can bring on a lot of strange symptoms

87

00:05:18,430 --> 00:05:14,169

such as fullness of the head stuffy nose

88

00:05:20,680 --> 00:05:18,440

stomach awareness and headaches and is

89

00:05:23,050 --> 00:05:20,690

it done is it goes on on people get used

90

00:05:26,560 --> 00:05:23,060

to it and they adapted energy usually

91

00:05:27,940 --> 00:05:26,570

within hours and our case everybody

92

00:05:30,340 --> 00:05:27,950

hears you have two very very quickly

93

00:05:32,380 --> 00:05:30,350

we've had just helped standing flight

94

00:05:34,630 --> 00:05:32,390

from the standpoint of adaption so the

95

00:05:36,159 --> 00:05:34,640

scientists were hoping to capture a lot

96

00:05:37,930 --> 00:05:36,169

of date on down our career probably not

97

00:05:40,029 --> 00:05:37,940

going to get a whole lot our mission is

98

00:05:41,920 --> 00:05:40,039

looking at not only SMS which is the

99

00:05:44,500 --> 00:05:41,930

state versus sickness adaption but we're

100

00:05:45,100 --> 00:05:44,510

also looking at other areas of the life

101
00:05:47,560 --> 00:05:45,110
science

102
00:05:49,990 --> 00:05:47,570
rina to include both mom which is a very

103
00:05:51,580 --> 00:05:50,000
very important thing to look at when you

104
00:05:53,500 --> 00:05:51,590
took such a long duration space flights

105
00:05:56,200 --> 00:05:53,510
because as long as ones that have been

106
00:05:58,800 --> 00:05:56,210
documented in the past it is we got a

107
00:06:02,250 --> 00:05:58,810
real social experiment here looking at

108
00:06:05,620 --> 00:06:02,260
bachelor brought skeletal function and

109
00:06:07,300 --> 00:06:05,630
still be done on earth at sport velocity

110
00:06:10,090 --> 00:06:07,310
dynamometer meeting we have in the

111
00:06:11,770 --> 00:06:10,100
background here and it went very well

112
00:06:13,810 --> 00:06:11,780
we're hoping to bring back lots of good

113
00:06:17,800 --> 00:06:13,820

times for the right scientist back on

114

00:06:19,120 --> 00:06:17,810

earth you all are sort of acting as

115

00:06:20,440 --> 00:06:19,130

guinea pigs up there and we're gonna

116

00:06:22,030 --> 00:06:20,450

want to talk a little bit about some of

117

00:06:23,710 --> 00:06:22,040

the tests that are ongoing but let me

118

00:06:25,810 --> 00:06:23,720

introduce to you release of a syllabus

119

00:06:27,610 --> 00:06:25,820

itting here beside me here at CNN center

120

00:06:30,190 --> 00:06:27,620

she has a couple of questions for you go

121

00:06:33,820 --> 00:06:30,200

ahead Lisa I'm interested a once you're

122

00:06:35,230 --> 00:06:33,830

back on earth how do you adapt to the

123

00:06:37,390 --> 00:06:35,240

earth conditions again what do you

124

00:06:40,780 --> 00:06:37,400

experience you've had bone walls you

125

00:06:42,400 --> 00:06:40,790

have muscle loss motion sickness how do

126

00:06:50,770 --> 00:06:42,410

you feel when you when you get off the

127

00:06:52,960 --> 00:06:50,780

shuttle for you readapt it's one of the

128

00:06:54,520 --> 00:06:52,970

things that happen is it you feel very

129

00:06:56,380 --> 00:06:54,530

heavy because we've been floating around

130

00:06:59,350 --> 00:06:56,390

here in our case will be two and a half

131

00:07:01,720 --> 00:06:59,360

weeks also your balance is a little bit

132

00:07:04,210 --> 00:07:01,730

off your inner here those long hair

133

00:07:06,070 --> 00:07:04,220

follicles tell you where gravity is but

134

00:07:08,130 --> 00:07:06,080

we haven't been used them all up your

135

00:07:11,950 --> 00:07:08,140

space and so they're out of calibration

136

00:07:15,450 --> 00:07:11,960

so you tend to stagger a bit and you've

137

00:07:19,660 --> 00:07:15,460

never passed any up we spend DWI test

138

00:07:22,420 --> 00:07:19,670

bed Yuri adapt to gravity very quickly

139

00:07:26,080 --> 00:07:22,430

and in my case after just one day and go

140

00:07:27,670 --> 00:07:26,090

back from the news well must confess

141

00:07:29,020 --> 00:07:27,680

looking at it all behind you it looks a

142

00:07:31,510 --> 00:07:29,030

little bit like a health club an

143

00:07:34,150 --> 00:07:31,520

orbiting health club tell me what's it

144

00:07:42,860 --> 00:07:34,160

like exercising in space I guess there's

145

00:07:47,309 --> 00:07:45,540

well believe it oh it's pretty similar

146

00:07:50,189 --> 00:07:47,319

to what you would do back on earth

147

00:07:51,450 --> 00:07:50,199

except you just don't have to still have

148

00:07:53,909 --> 00:07:51,460

the gravity that'll hold you down to

149

00:07:56,969 --> 00:07:53,919

think so because of that we have to use

150

00:07:59,129 --> 00:07:56,979

special seats dropping Tippett harnesses

151
00:08:00,839 --> 00:07:59,139
that'll keep it so on spot while we

152
00:08:04,170 --> 00:08:00,849
exercise you can see if we let go we

153
00:08:05,730 --> 00:08:04,180
just photo and that can't happen so

154
00:08:08,159 --> 00:08:05,740
right now it back a bit shocked you

155
00:08:10,320 --> 00:08:08,169
Sonny odometer it's probably a little

156
00:08:12,989 --> 00:08:10,330
tough to see but he's coming off now you

157
00:08:16,290 --> 00:08:12,999
just strapped down to a special seat and

158
00:08:20,089 --> 00:08:16,300
with using special panels raising pedals

159
00:08:23,040 --> 00:08:20,099
actually keep in the contraption and

160
00:08:24,689 --> 00:08:23,050
exercise and get up to you are just

161
00:08:26,249 --> 00:08:24,699
about the same workers you with down on

162
00:08:28,800 --> 00:08:26,259
the tracks are more comfortable because

163
00:08:31,890 --> 00:08:28,810

you kind of float relax while you're

164

00:08:34,079 --> 00:08:31,900

exercising now everyone knows why they

165

00:08:36,899 --> 00:08:34,089

invented velcro I guess tell me a dr.

166

00:08:38,370 --> 00:08:36,909

Linehan we've been talking about the the

167

00:08:40,050 --> 00:08:38,380

life science aspect as it relates to

168

00:08:42,149 --> 00:08:40,060

humans they got a lot of critters on

169

00:08:43,680 --> 00:08:42,159

board which are taking care of house all

170

00:08:49,650 --> 00:08:43,690

that doing give us kind of a broad brush

171

00:08:54,060 --> 00:08:49,660

and what you have going on there well

172

00:08:56,460 --> 00:08:54,070

we're flying off a road that fish

173

00:09:00,900 --> 00:08:56,470

embryos actually applying some white lab

174

00:09:03,030 --> 00:09:00,910

rats and fish embryos study a biological

175

00:09:04,680 --> 00:09:03,040

development and what we're really

176

00:09:06,930 --> 00:09:04,690

looking out there is that they're

177

00:09:08,310 --> 00:09:06,940

spending their time up the pace I saw

178

00:09:09,810 --> 00:09:08,320

and though we're going to look at the

179

00:09:11,460 --> 00:09:09,820

developmental changes that might occur

180

00:09:13,650 --> 00:09:11,470

the fish up yours due to a lack of

181

00:09:16,800 --> 00:09:13,660

gravity or should I say microgravity not

182

00:09:18,870 --> 00:09:16,810

a lack of gravity and also look at the

183

00:09:22,199 --> 00:09:18,880

changes physiological changes that might

184

00:09:25,199 --> 00:09:22,209

occur in the rats that we have and

185

00:09:28,800 --> 00:09:25,209

compare them to the physiology of humans

186

00:09:30,259 --> 00:09:28,810

we get back but a lot that way putting

187

00:09:32,939 --> 00:09:30,269

them on the treadmill let's talk to the

188

00:09:34,650 --> 00:09:32,949

this mission excuse me the payload

189

00:09:36,990 --> 00:09:34,660

specialist I didn't catch who that is

190

00:09:44,490 --> 00:09:37,000

who just got off the machine there how

191

00:09:49,750 --> 00:09:44,500

do you feel that's dr. Chuck Berry is

192

00:09:55,400 --> 00:09:53,030

feel great in fact exercising really

193

00:09:57,050 --> 00:09:55,410

helps you up here I first a real good

194

00:09:59,750 --> 00:09:57,060

exercise I've had and we're doing some

195

00:10:02,660 --> 00:09:59,760

studies on the maximal oxygen uptake

196

00:10:04,910 --> 00:10:02,670

that the body can do in space but feel

197

00:10:07,880 --> 00:10:04,920

wonderful coming off of it and get to be

198

00:10:09,500 --> 00:10:07,890

back my crewmates here you seem out of

199

00:10:14,270 --> 00:10:09,510

brass I'm very impressed you must be in

200

00:10:16,190 --> 00:10:14,280

good shape thanks for coming aboard

201
00:10:24,320 --> 00:10:16,200
we're signing off from 12 me a hundred

202
00:10:26,000 --> 00:10:24,330
forty-six miles over here this is

203
00:10:29,120 --> 00:10:26,010
Mission Control Houston this television

204
00:10:30,950 --> 00:10:29,130
is from Columbia's cargo bay cameras

205
00:10:33,110 --> 00:10:30,960
showing the East Coast the United States

206
00:11:01,490 --> 00:10:33,120
Columbia just now passing off at the

207
00:11:14,030 --> 00:11:09,980
it's from countries for LC doesn't just

208
00:11:20,210 --> 00:11:14,040
remind that oxygen tank valve should be

209
00:11:23,060 --> 00:11:20,220
open before the next three ft test or ms

210
00:11:31,940 --> 00:11:23,070
ones you scattered in about 15 minutes

211
00:14:31,840 --> 00:11:31,950
from now okay look of it so we don't

212
00:14:41,690 --> 00:14:36,590
and there's something like 60 bit of a

213
00:14:47,329 --> 00:14:41,700

mess and I'm ready to accept the beauty

214

00:14:49,730 --> 00:14:47,339

magazine number three oh wait the bag is

215

00:14:51,949 --> 00:14:49,740

snowing on the control panel it does

216

00:14:53,769 --> 00:14:51,959

appear that it's really at all and of