1
00:00:38,819 --> 00:00:36,750
taxi here and today if you know we have

2
00:00:41,389 --> 00:00:38,829
here John Dillinger there's a student

3
00:00:45,720 --> 00:00:41,399
with the chicken embryo determine and

4
00:00:48,210 --> 00:00:45,730
sponsor here mark duty who represents a

5
00:00:50,960 --> 00:00:48,220
Kentucky crime ticket and we appreciate

6
00:00:53,970 --> 00:00:50,970
all the support the crew gives us and

7
00:00:55,319 --> 00:00:53,980
we're happy to have the sponsor and the

8
00:00:57,899 --> 00:00:55,329
students here with that I'll turn it

9
00:01:00,180 --> 00:00:57,909
over to you John and you can tell us

10
00:01:02,970 --> 00:01:00,190
about your experience well I'm very

11
00:01:04,799 --> 00:01:02,980
excited to be here because it's really

12
00:01:07,650 --> 00:01:04,809
one of my dreams I've been working on

13
00:01:09,980 --> 00:01:07,660

for a long time when I started out in

14
00:01:12,210 --> 00:01:09,990
the ninth grade I thought to myself

15
00:01:14,790 --> 00:01:12,220
imagine this chicken egg in the back of

16
00:01:16,859 --> 00:01:14,800
the barn yard gravity's causing yoke to

17
00:01:19,050 --> 00:01:16,869
fall to the bottom of the egg that a hen

18
00:01:21,660 --> 00:01:19,060
has a natural instinct of turning over

19
00:01:23,249 --> 00:01:21,670
that egg around it's there for the yoga

20
00:01:24,570 --> 00:01:23,259
fault go back up to the top and gravity

21
00:01:27,749 --> 00:01:24,580
pulls it back down to the bottom again

22
00:01:29,430 --> 00:01:27,759
now what would happen to that egg up in

23
00:01:31,320 --> 00:01:29,440
space when you don't have gravity

24
00:01:33,810 --> 00:01:31,330
pulling that yoke down to the bottom how

25
00:01:37,080 --> 00:01:33,820
would that embryo develop from that

26
00:01:39,270 --> 00:01:37,090
basic basic hypothesis I developed a

27
00:01:40,789 --> 00:01:39,280
little broader range of what I'm trying

28
00:01:43,590 --> 00:01:40,799
to accomplish with my experience

29
00:01:46,020 --> 00:01:43,600
experiment since the ninth grade I've

30
00:01:48,270 --> 00:01:46,030
gone into what I consider four key areas

31
00:01:50,910 --> 00:01:48,280
of science that I'm looking for the

32
00:01:54,380 --> 00:01:50,920
first one is embryo development can we

33
00:01:58,469 --> 00:01:54,390
maintain embryo development up in space

34
00:02:00,450 --> 00:01:58,479
can-can an embryo develop up in space

35
00:02:02,370 --> 00:02:00,460
you know we can grow a better crystal in

36
00:02:05,940 --> 00:02:02,380
space is Earth the best place to have

37
00:02:08,370 --> 00:02:05,950
children the second area of interest

38
00:02:10,080 --> 00:02:08,380

that I'm looking at my project is one of

39
00:02:11,729 --> 00:02:10,090
bone calcium and I'm sure you're all

40
00:02:14,460 --> 00:02:11,739
aware of the bone loss that astronauts

41
00:02:15,630 --> 00:02:14,470
experience up in space for when they're

42
00:02:17,789 --> 00:02:15,640
up there for an extended period of time

43
00:02:19,979 --> 00:02:17,799
and what I'm going to do with my

44
00:02:23,400 --> 00:02:19,989
experiment is look at the mineralization

45
00:02:24,930 --> 00:02:23,410
and a demineralization process of the

46
00:02:27,180 --> 00:02:24,940
bone development and see how the

47
00:02:29,810 --> 00:02:27,190
calcification process occurs within the

48
00:02:32,310 --> 00:02:29,820
developing embryos of the chicken egg

49
00:02:34,680 --> 00:02:32,320
the third thing that I'm going to be

50
00:02:37,380 --> 00:02:34,690
looking at is what I call production

51
00:02:39,330 --> 00:02:37,390
performance I'm going to actually let

52
00:02:40,900 --> 00:02:39,340
some of the eggs hatch take them through

53
00:02:42,550 --> 00:02:40,910
the launch

54
00:02:45,040 --> 00:02:42,560
the space environment the landing and

55
00:02:46,210 --> 00:02:45,050
see what results okay can we have and

56
00:02:48,400 --> 00:02:46,220
they go through that type of environment

57
00:02:50,950 --> 00:02:48,410
and hatch what type of chicken is

58
00:02:53,290 --> 00:02:50,960
produced after it's been in that kind of

59
00:02:55,300 --> 00:02:53,300
environment and we can compare we can

60
00:02:57,670 --> 00:02:55,310
compare and see okay does it does the

61
00:03:00,040 --> 00:02:57,680
bird grow faster what type of blood

62
00:03:02,320 --> 00:03:00,050
quality does it have the semen

63
00:03:04,060 --> 00:03:02,330

production and all kinds of different

64
00:03:05,950 --> 00:03:04,070
areas of interest that we can look at as

65
00:03:08,770 --> 00:03:05,960
far as the production performance is

66
00:03:10,300 --> 00:03:08,780
concerned another area that we can look

67
00:03:12,430 --> 00:03:10,310
at is what i'd like to term the inner

68
00:03:14,560 --> 00:03:12,440
ear that's one that's responsible for

69
00:03:16,690 --> 00:03:14,570
your equilibrium and your motion

70
00:03:18,190 --> 00:03:16,700
sickness and we're going to look at the

71
00:03:20,740 --> 00:03:18,200
inner ear of the developing chicken

72
00:03:22,180 --> 00:03:20,750
embryo you see okay what kind of effect

73
00:03:23,920 --> 00:03:22,190
does this weightless environment have on

74
00:03:28,390 --> 00:03:23,930
the developing embryo and how the inner

75
00:03:30,940 --> 00:03:28,400
ear develops to obtain the optimum

76
00:03:33,340 --> 00:03:30,950
amount of data from this project I had

77
00:03:36,190 --> 00:03:33,350
to divide the age of the eggs into two

78
00:03:38,980 --> 00:03:36,200
groups it takes 21 days for an egg to

79
00:03:41,920 --> 00:03:38,990
hatch there be 16 eggs there are two

80
00:03:44,949 --> 00:03:41,930
days old maybe 16 eggs that are nine

81
00:03:48,340 --> 00:03:44,959
days old all the studies I have two

82
00:03:50,800 --> 00:03:48,350
identical hardware units all the studies

83
00:03:52,360 --> 00:03:50,810
will be done on a comparative basis the

84
00:03:55,480 --> 00:03:52,370
only variable that will be different as

85
00:03:57,699 --> 00:03:55,490
a weightless environment of space for

86
00:04:00,100 --> 00:03:57,709
this project I've composed a team of

87
00:04:02,199 --> 00:04:00,110
seven of the top scientists in their

88
00:04:05,580 --> 00:04:02,209

respective field two of them are from

89
00:04:08,770 --> 00:04:05,590
Purdue where I was from Tulane and and

90
00:04:11,140 --> 00:04:08,780
14 of them from Boston University they

91
00:04:14,710 --> 00:04:11,150
serve as my scientific advisors for this

92
00:04:16,690 --> 00:04:14,720
experiment as a mechanical engineering

93
00:04:20,110 --> 00:04:16,700
student I enjoy working with the

94
00:04:22,560 --> 00:04:20,120
hardware and the hardware we have given

95
00:04:26,680 --> 00:04:22,570
you all a folder and where we have a

96
00:04:29,080 --> 00:04:26,690
hardware we have outlined what we call a

97
00:04:30,909 --> 00:04:29,090
hardware description and I could let

98
00:04:32,020 --> 00:04:30,919
would just like to take you through some

99
00:04:34,870 --> 00:04:32,030
of the things that we've highlighted in

100
00:04:38,440 --> 00:04:34,880
that report and explain to you why the

101
00:04:39,760 --> 00:04:38,450
hardware is here and how it works the

102
00:04:42,310 --> 00:04:39,770
first thing we have is what we call the

103
00:04:45,659 --> 00:04:42,320
ecs is our environmental control system

104
00:04:48,700 --> 00:04:45,669
what this is composed of is we have an

105
00:04:51,760 --> 00:04:48,710
on-off controller it hooks up to the

106
00:04:54,640 --> 00:04:51,770
shuttle 28 volt DC power the controller

107
00:04:57,280 --> 00:04:54,650
is on the back side of the front plate

108
00:05:00,280 --> 00:04:57,290
we have five silicon rubber heater

109
00:05:02,590 --> 00:05:00,290
strips the on-off controller functions

110
00:05:05,020 --> 00:05:02,600
in conjunction with the silicon rubber

111
00:05:07,870 --> 00:05:05,030
heater strips that produce the uniform

112
00:05:10,150 --> 00:05:07,880
temperature by locating the heater

113
00:05:11,710 --> 00:05:10,160

strips in that location and by putting

114
00:05:14,200 --> 00:05:11,720
the fan of having to act like a ceiling

115
00:05:15,790 --> 00:05:14,210
fan we've created uniform temperature so

116
00:05:18,879 --> 00:05:15,800
that all the eggs are seeing the exact

117
00:05:22,360 --> 00:05:18,889
temperature we have what i call a

118
00:05:24,520 --> 00:05:22,370
humidity control system which is down

119
00:05:27,340 --> 00:05:24,530
below the fan on the bottom i have what

120
00:05:29,770 --> 00:05:27,350
is called a humidistat that senses the

121
00:05:32,680 --> 00:05:29,780
humidity on the inside of the incubator

122
00:05:34,629 --> 00:05:32,690
and it's an on-off controller when the

123
00:05:37,570 --> 00:05:34,639
humidity gets over a certain level it

124
00:05:40,689 --> 00:05:37,580
turns on an air pump located directly

125
00:05:44,200 --> 00:05:40,699
below squirrel that air pump circulates

126
00:05:46,390 --> 00:05:44,210
air through a desiccant tube so when the

127
00:05:48,760 --> 00:05:46,400
humidity gets over a certain level the

128
00:05:50,350 --> 00:05:48,770
humidistat turns on turns the air pump

129
00:05:52,270 --> 00:05:50,360
on circulates the air through the

130
00:05:54,969 --> 00:05:52,280
desiccant the moisture is removed and

131
00:05:57,070 --> 00:05:54,979
when the air humidity in the air gets

132
00:05:59,409 --> 00:05:57,080
below the desired level that it'll shut

133
00:06:01,480 --> 00:05:59,419
off and it will maintain a uniform

134
00:06:03,610 --> 00:06:01,490
humidity because what we're trying to do

135
00:06:04,930 --> 00:06:03,620
duplicate the conditions that the hen

136
00:06:06,610 --> 00:06:04,940
provides in the back of the barn yard

137
00:06:08,500 --> 00:06:06,620
and the normal humidity would be

138
00:06:15,760 --> 00:06:08,510

sixty-five percent and a temperature

139
00:06:19,420 --> 00:06:15,770
would be 99.5 okay I've put in a time

140
00:06:21,370 --> 00:06:19,430
line within the crew integration the

141
00:06:24,730 --> 00:06:21,380
time line starts when we load the

142
00:06:26,320 --> 00:06:24,740
incubator in the laboratory the first

143
00:06:30,159 --> 00:06:26,330
career interaction would take place at

144
00:06:32,649 --> 00:06:30,169
24 to 30 hours the first thing we want

145
00:06:34,600 --> 00:06:32,659
to do is what we call a unit operations

146
00:06:37,390 --> 00:06:34,610
check and that's nothing more than

147
00:06:41,080 --> 00:06:37,400
making sure that the switch is on that

148
00:06:42,700 --> 00:06:41,090
the power on light is on and just

149
00:06:48,010 --> 00:06:42,710
checking the system out to make sure the

150
00:06:50,790 --> 00:06:48,020
fan is running the system is running the

151
00:06:54,159 --> 00:06:50,800
second thing that needs to be done is

152
00:06:56,110 --> 00:06:54,169
temperature and humidity recordings now

153
00:06:59,200 --> 00:06:56,120
this will be done with the squirrel

154
00:07:00,700 --> 00:06:59,210
meter longer and as you can see there's

155
00:07:02,860 --> 00:07:00,710
three buttons on the squirrel million

156
00:07:04,930 --> 00:07:02,870
logger a B and C like I've outlined in

157
00:07:08,410 --> 00:07:04,940
the integration plan

158
00:07:11,130 --> 00:07:08,420
button a will be pushed once which will

159
00:07:15,370 --> 00:07:11,140
bring up the display if button a is

160
00:07:17,620 --> 00:07:15,380
pushed again and I have to be pushed the

161
00:07:21,040 --> 00:07:17,630
second time it will come up and it'll

162
00:07:24,750 --> 00:07:21,050
say 21 and there at that point in time

163
00:07:27,760 --> 00:07:24,760

this first temperature can be recorded

164
00:07:29,230 --> 00:07:27,770
when button be is pushed there's four

165
00:07:30,790 --> 00:07:29,240
channels because there's two humidity

166
00:07:34,720 --> 00:07:30,800
probes and there's two temperature

167
00:07:37,480 --> 00:07:34,730
probes and once you put push button a to

168
00:07:39,100 --> 00:07:37,490
get it to channel 2 and then button be

169
00:07:41,260 --> 00:07:39,110
will be pushed to switch from channel

170
00:07:42,880 --> 00:07:41,270
from the first temperature second

171
00:07:44,380 --> 00:07:42,890
temperature first humidity second

172
00:07:47,560 --> 00:07:44,390
humidity and that's a continuous cycle

173
00:07:48,880 --> 00:07:47,570
you can sit here and push button be like

174
00:07:50,680 --> 00:07:48,890
for example there's humidity there's

175
00:07:53,230 --> 00:07:50,690
humidity temperature temperature and you

176
00:07:55,690 --> 00:07:53,240
can just go around the clock rotating

177
00:07:59,020 --> 00:07:55,700
temperature and humidity before just by

178
00:08:00,310 --> 00:07:59,030
pushing button number B button number C

179
00:08:03,370 --> 00:08:00,320
will not have to be used at all that's

180
00:08:06,460 --> 00:08:03,380
de strictly to program the squirrel meat

181
00:08:08,230 --> 00:08:06,470
logger oh yeah are you manually

182
00:08:09,220 --> 00:08:08,240
recording the temperatures or is it when

183
00:08:12,430 --> 00:08:09,230
you say you record the temperature

184
00:08:17,710 --> 00:08:12,440
you're you're actually recording it in

185
00:08:20,530 --> 00:08:17,720
your squirrel meter right as the neg

186
00:08:23,650 --> 00:08:20,540
develops the response wash so therefore

187
00:08:26,770 --> 00:08:23,660
as the mission increases the amount of

188
00:08:29,500 --> 00:08:26,780

oxygen consumption increases that's why

189
00:08:30,850 --> 00:08:29,510
the crew interactions become at a closer

190
00:08:32,620 --> 00:08:30,860
interval towards the end of the mission

191
00:08:34,959 --> 00:08:32,630
whereas at the beginning of the mission

192
00:08:36,510 --> 00:08:34,969
it's not the incubator does not have to

193
00:08:38,800 --> 00:08:36,520
be attended to quite as frequently

194
00:08:40,810 --> 00:08:38,810
because of the oxygen consumption the

195
00:08:43,150 --> 00:08:40,820
eggs are getting larger required more

196
00:08:45,130 --> 00:08:43,160
oxygen so I had the crew interaction

197
00:08:47,530 --> 00:08:45,140
what you have to do is open up the hatch

198
00:08:54,840 --> 00:08:47,540
door this is done just strictly by

199
00:09:05,080 --> 00:09:01,150
removing the hat store it's tethered 10

200
00:09:06,760 --> 00:09:05,090
what I call capillary pads the first pad

201
00:09:09,160 --> 00:09:06,770
will be removed at the first crew

202
00:09:12,250 --> 00:09:09,170
interaction the pad will be opened up

203
00:09:15,010 --> 00:09:12,260
and exchange this will be this packet

204
00:09:18,670 --> 00:09:15,020
will be airtight and pre charged with

205
00:09:20,980 --> 00:09:18,680
about five CCS moisture the pad will be

206
00:09:22,810 --> 00:09:20,990
exchanged this one will be taken off the

207
00:09:26,410 --> 00:09:22,820
back of the hat store put back on the

208
00:09:27,670 --> 00:09:26,420
side and the fresh one we takin off open

209
00:09:34,660 --> 00:09:27,680
up and put it on the back of the hatch

210
00:09:43,750 --> 00:09:34,670
store after the five minutes the hat

211
00:09:50,300 --> 00:09:47,720
and is it going to affect the moisture

212
00:09:53,870 --> 00:09:50,310
content of that if you I assume you

213
00:09:56,420 --> 00:09:53,880

prefer to leave the putting the ad until

214
00:09:58,490 --> 00:09:56,430
the last right right just before you

215
00:10:00,890 --> 00:09:58,500
right close it up before the before the

216
00:10:02,960 --> 00:10:00,900
hash stores closed back up and then what

217
00:10:04,190 --> 00:10:02,970
that will do is that will recharge the

218
00:10:06,980 --> 00:10:04,200
system with the right amount of moisture

219
00:10:09,140 --> 00:10:06,990
and then the humidity control system

220
00:10:11,620 --> 00:10:09,150
will compensate if it goes over you know

221
00:10:13,670 --> 00:10:11,630
goes under that will keep it in line

222
00:10:18,320 --> 00:10:13,680
it's all humidity you're trying to

223
00:10:27,950 --> 00:10:18,330
maintain a 65 person right what the legs

224
00:10:29,750 --> 00:10:27,960
doing Houston 80 any questions that

225
00:10:32,360 --> 00:10:29,760
you'd like to ask her let me ask a dumb

226
00:10:35,300 --> 00:10:32,370
question Jenna I'll get it from the kids

227
00:10:38,510 --> 00:10:35,310
if you put the eggs in two days before

228
00:10:41,060 --> 00:10:38,520
launch right where do you get the eggs

229
00:10:42,650 --> 00:10:41,070
man well we have we talked in Florida

230
00:10:44,390 --> 00:10:42,660
eggs yeah we're talking Florida eggs

231
00:10:46,010 --> 00:10:44,400
what happens is there's a lot of

232
00:10:48,800 --> 00:10:46,020
districts involved in trying to have two

233
00:10:50,840 --> 00:10:48,810
different age group of eggs we have a

234
00:10:53,060 --> 00:10:50,850
supplier to kentucky fried chicken at

235
00:10:55,250 --> 00:10:53,070
live oak florida which is called cold

236
00:10:57,350 --> 00:10:55,260
kiss hatcheries and they have rooms full

237
00:10:59,900 --> 00:10:57,360
of eggs probably the size of this room

238
00:11:03,110 --> 00:10:59,910

right here and what we will do is we

239
00:11:05,750 --> 00:11:03,120
have them set back eggs like starting 10

240
00:11:08,810 --> 00:11:05,760
days before the mission so that they

241
00:11:10,460 --> 00:11:08,820
have eggs at every day from ten days on

242
00:11:12,530 --> 00:11:10,470
a case there be any kind of delay and

243
00:11:15,080 --> 00:11:12,540
what we do is we have designed and built

244
00:11:16,700 --> 00:11:15,090
a portable generator an incubator system

245
00:11:19,340 --> 00:11:16,710
to carry the eggs from live oak florida

246
00:11:22,310 --> 00:11:19,350
down to the cape then we'll load them up

247
00:11:24,890 --> 00:11:22,320
in hangar l and it'll be loaded like 12

248
00:11:26,120 --> 00:11:24,900
2 hours prior to flight what you wants

249
00:11:27,950 --> 00:11:26,130
to record the temperatures and humidity

250
00:11:29,930 --> 00:11:27,960
rights right before we open it right

251
00:11:31,010 --> 00:11:29,940
would it not be interesting since you

252
00:11:34,030 --> 00:11:31,020
really don't know what's gonna go in

253
00:11:36,080 --> 00:11:34,040
there to record them after you close it

254
00:11:37,250 --> 00:11:36,090
sure so yeah that would really want

255
00:11:38,720 --> 00:11:37,260
understand how the brain works from the

256
00:11:39,920 --> 00:11:38,730
engineering strike point you really

257
00:11:42,860 --> 00:11:39,930
getting right here for how much mass

258
00:11:44,240 --> 00:11:42,870
exchange right that'd be great and I

259
00:11:46,470 --> 00:11:44,250
just mean as long as you're right in the

260
00:11:50,160 --> 00:11:46,480
mini when there's that when this way you

261
00:11:51,329 --> 00:11:50,170
all right i mean i don't know it's

262
00:11:56,240 --> 00:11:51,339
probably not i mean as long as you're

263
00:12:00,720 --> 00:11:56,250

doing it channel 2 second temperature

264
00:12:03,750 --> 00:12:00,730
channel 3 first humidity channel 4 2nd

265
00:12:05,430 --> 00:12:03,760
humidity third channel that is that is

266
00:12:06,960 --> 00:12:05,440
if you want to play back at that's

267
00:12:08,879 --> 00:12:06,970
that's something you don't have to worry

268
00:12:10,560 --> 00:12:08,889
about this kind of get a feel this was

269
00:12:12,210 --> 00:12:10,570
from a previous testimony right in other

270
00:12:18,030 --> 00:12:12,220
words that's all the temperatures that

271
00:12:20,340 --> 00:12:18,040
the incubator would be seen that's the

272
00:12:26,610 --> 00:12:20,350
time now we call on the column first

273
00:12:28,710 --> 00:12:26,620
number to a channel and then the motive

274
00:12:31,379 --> 00:12:28,720
yeah samode this would be a modem this

275
00:12:33,990 --> 00:12:31,389
video's Netanyahu channel them yeah you

276
00:12:36,660 --> 00:12:34,000
go modes 13 17 angles would have one

277
00:12:39,569 --> 00:12:36,670
through four actually there's nine modes

278
00:12:42,569 --> 00:12:39,579
yeah there's nine okay yeah those are

279
00:12:44,009 --> 00:12:42,579
kinds yeah tues on Jeffrey's on Channel

280
00:12:45,720 --> 00:12:44,019
Four's on but that's even open your

281
00:12:48,620 --> 00:12:45,730
thickness that'll be will have that done

282
00:12:52,319 --> 00:12:48,630
before we start and then first channel

283
00:12:56,100 --> 00:12:52,329
it'll flash off and that's all right

284
00:12:58,319 --> 00:12:56,110
it's all so sure do it you're no idea

285
00:12:59,879 --> 00:12:58,329
tree again before you turn it on kid

286
00:13:02,490 --> 00:12:59,889
right did you know go on channel

287
00:13:06,050 --> 00:13:02,500
whatever the write up is always right I

288
00:13:08,040 --> 00:13:06,060

did it again that's really hard right

289
00:13:09,329 --> 00:13:08,050
well what you want to do is once you

290
00:13:15,540 --> 00:13:09,339
call it up then you want to push it

291
00:13:16,800 --> 00:13:15,550
again otherwise just gonna disappear go

292
00:13:22,519 --> 00:13:16,810
ahead try it i think you get a better

293
00:13:25,819 --> 00:13:24,170
now you gotta hit it wallah just play

294
00:13:27,679 --> 00:13:25,829
again right in Christ chance if we could

295
00:13:32,480 --> 00:13:27,689
build no but I what's the best I was mad

296
00:13:37,929 --> 00:13:32,490
as I say the hand on a step include man

297
00:13:45,949 --> 00:13:40,549
now see go ahead and push that again and

298
00:13:47,150 --> 00:13:45,959
you see it goes back to channel one yeah

299
00:13:48,769 --> 00:13:47,160
you could yeah you can all this will

300
00:13:51,199 --> 00:13:48,779
sound pro right right you just won't

301
00:13:53,179 --> 00:13:51,209
disappear right exactly once you get out

302
00:13:59,809 --> 00:13:53,189
of mode 1 it's gonna stay whatever motor

303
00:14:03,499 --> 00:13:59,819
ever and you see that piece of velcro

304
00:14:05,030 --> 00:14:03,509
would be going this way right right dope

305
00:14:06,949 --> 00:14:05,040
on the outside of the leg and then

306
00:14:10,790 --> 00:14:06,959
there's about girl on the sponge exactly

307
00:14:17,960 --> 00:14:10,800
this one does not happen because we want

308
00:14:20,150 --> 00:14:17,970
to save the anessa proof help grow any

309
00:14:21,739 --> 00:14:20,160
particular wine this region not really

310
00:14:24,049 --> 00:14:21,749
what we've done and we can maybe market

311
00:14:25,340 --> 00:14:24,059
if you guys would prefer but we've put

312
00:14:26,990 --> 00:14:25,350
that towards the bottom corner the other

313
00:14:29,179 --> 00:14:27,000

yeah you know you were in lung

314
00:14:30,980 --> 00:14:29,189
concentration yeah we thought you wanted

315
00:14:32,059 --> 00:14:30,990
them where no it's just it's just

316
00:14:47,590 --> 00:14:32,069
thought you know just to keep

317
00:15:07,340 --> 00:15:03,799
we won't change that sure I'll just tell

318
00:15:10,040 --> 00:15:07,350
you yeah we anybody at any time and no