Angiex

Cancer Therapy in Space

1
00:00:06,470 --> 00:00:02,710
hey good morning and welcome to iss

2
00:00:08,870 --> 00:00:06,480
today i am working on the angie x

3
00:00:09,990 --> 00:00:08,880
cancer trials up here on iss we've

4
00:00:11,270 --> 00:00:10,000
actually spent quite a bit of time

5
00:00:12,470 --> 00:00:11,280
working on this

6
00:00:14,709 --> 00:00:12,480
and what we're looking at here is

7
00:00:17,029 --> 00:00:14,719
something called an endothelial cell and

8
00:00:19,189 --> 00:00:17,039
an endothelial cell you find these cells

9
00:00:20,870 --> 00:00:19,199
in every blood vessel in your body and

10
00:00:23,990 --> 00:00:20,880
so people wonder why we're growing these

11
00:00:25,029 --> 00:00:24,000
cells up on iss and scientists believe

12
00:00:27,670 --> 00:00:25,039
that

13
00:00:28,550 --> 00:00:27,680

cells in the body grow very similar up

14
00:00:30,870 --> 00:00:28,560
here

15
00:00:32,229 --> 00:00:30,880
on iss a lot of times scientists try and

16
00:00:34,310 --> 00:00:32,239
grow these endothelial cells in the

17
00:00:35,910 --> 00:00:34,320
ground and they don't live for very long

18
00:00:37,910 --> 00:00:35,920
and they think for some reason they grow

19
00:00:39,830 --> 00:00:37,920
better up here in space and that's one

20
00:00:41,350 --> 00:00:39,840
of the things we're testing on on orbit

21
00:00:43,430 --> 00:00:41,360
here and you can see some of these cells

22
00:00:44,389 --> 00:00:43,440
right here on the computer so why is

23
00:00:46,790 --> 00:00:44,399
this important

24
00:00:49,590 --> 00:00:46,800
well endothelial cells help form blood

25
00:00:51,510 --> 00:00:49,600
supply and tumors need blood supply to

26
00:00:53,670 --> 00:00:51,520
get bigger and bigger and all of us have

27
00:00:55,830 --> 00:00:53,680
had someone impacted by cancer whether

28
00:00:57,430 --> 00:00:55,840
it's a family member or a friend and so

29
00:00:59,349 --> 00:00:57,440
we're always thinking how can we fight

30
00:01:01,990 --> 00:00:59,359
this cancer well one thing we're looking

31
00:01:05,189 --> 00:01:02,000
at is can we grow these cells on orbit

32
00:01:07,750 --> 00:01:05,199
to test new cancer drugs to prevent that

33
00:01:09,510 --> 00:01:07,760
blood supply from growing and if we can

34
00:01:11,030 --> 00:01:09,520
stop that tumor blood supply from

35
00:01:12,950 --> 00:01:11,040
growing then we can help beat that

36
00:01:14,710 --> 00:01:12,960
cancer so that's just one of the science

37
00:01:16,070 --> 00:01:14,720
experiments we're looking at here on the

38
00:01:17,590 --> 00:01:16,080

space station

39
00:01:20,070 --> 00:01:17,600
this is where all the cells live in

40
00:01:22,469 --> 00:01:20,080
their biocell habitat

41
00:01:24,390 --> 00:01:22,479
and when we're done working with them we

42
00:01:27,350 --> 00:01:24,400
put them in something called sable 2

43
00:01:28,390 --> 00:01:27,360
which is up in the ceiling for iss

44
00:01:31,350 --> 00:01:28,400
and

45
00:01:32,710 --> 00:01:31,360
comfortable because it is because it's

46
00:01:35,109 --> 00:01:32,720
just like the temperature of the human

47
00:01:37,109 --> 00:01:35,119
body and so we let the cells live and

48
00:01:39,190 --> 00:01:37,119
grow there and we've had them for almost

49
00:01:41,350 --> 00:01:39,200
two months now up here on iss we feed

50
00:01:43,749 --> 00:01:41,360
them we give them nutrients

51
00:01:45,830 --> 00:01:43,759
and they basically live they're like

52
00:01:47,990 --> 00:01:45,840
miniature crew members living with us so

53
00:01:49,749 --> 00:01:48,000
we're going to this new biocell

54
00:01:51,610 --> 00:01:49,759
which is

55
00:01:53,429 --> 00:01:51,620
delta seven

56
00:01:55,270 --> 00:01:53,439
[Music]

57
00:01:57,910 --> 00:01:55,280
and these biocells here have been

58
00:01:59,910 --> 00:01:57,920
treated with varying levels of

59
00:02:02,870 --> 00:01:59,920
a cancer chemotherapy drug that is being

60
00:02:04,950 --> 00:02:02,880
tested out here on iss and so we are

61
00:02:06,789 --> 00:02:04,960
looking at the cells the researchers

62
00:02:08,869 --> 00:02:06,799
look at the images that i take for them

63
00:02:11,350 --> 00:02:08,879

on the microscope to see how well that

64
00:02:13,030 --> 00:02:11,360
drug is impacting the connection between

65
00:02:14,949 --> 00:02:13,040
those endothelial cells to see if it

66
00:02:19,260 --> 00:02:14,959
will stop this tumor blood supply from

67
00:02:19,270 --> 00:02:24,309
[Music]

68
00:02:24,319 --> 00:02:28,790
make sure that's level

69
00:02:33,350 --> 00:02:31,270
same position for forest and face slider

70
00:02:39,110 --> 00:02:33,360
at the left push position for the first

71
00:02:43,990 --> 00:02:40,949
and you can see some of these

72
00:02:45,750 --> 00:02:44,000
tubule formations here also

73
00:02:48,390 --> 00:02:45,760
yeah it's a good spot you do see

74
00:02:49,750 --> 00:02:48,400
definitely some of the tubule formations

75
00:02:51,030 --> 00:02:49,760
here

76
00:02:55,830 --> 00:02:51,040
and some of the gaps in between the