



*Heart
to
Heart*

1
00:00:06,309 --> 00:00:03,669
hi i'm dr natasha cho flight surgeon at

2
00:00:09,030 --> 00:00:06,319
johnson space center in houston texas i

3
00:00:11,509 --> 00:00:09,040
got into this line of work by first

4
00:00:14,310 --> 00:00:11,519
going to college i decided to major in

5
00:00:16,470 --> 00:00:14,320
biology and then i did a nasa internship

6
00:00:18,550 --> 00:00:16,480
in what's called astrobiology at ames

7
00:00:20,310 --> 00:00:18,560
research center in california that's

8
00:00:22,790 --> 00:00:20,320
where i learned about space medicine and

9
00:00:24,310 --> 00:00:22,800
that nasa actually hires doctors so then

10
00:00:25,429 --> 00:00:24,320
i went to medical school to become a

11
00:00:27,589 --> 00:00:25,439
doctor

12
00:00:29,349 --> 00:00:27,599
i specialized in emergency medicine and

13
00:00:31,029 --> 00:00:29,359

then i did additional training in space

14

00:00:32,310 --> 00:00:31,039

medicine before coming to nasa and

15

00:00:34,150 --> 00:00:32,320

getting hired

16

00:00:36,630 --> 00:00:34,160

are you ready to see the stem behind

17

00:00:38,229 --> 00:00:36,640

space nasa is gearing up for a journey

18

00:00:40,389 --> 00:00:38,239

to mars a mission that will take

19

00:00:41,830 --> 00:00:40,399

astronauts into space for the longest

20

00:00:43,990 --> 00:00:41,840

duration yet

21

00:00:45,910 --> 00:00:44,000

astronaut scott kelly and nasa's one

22

00:00:48,069 --> 00:00:45,920

year mission helped us learn what

23

00:00:49,990 --> 00:00:48,079

happens to body systems during a long

24

00:00:52,150 --> 00:00:50,000

duration space flight

25

00:00:54,150 --> 00:00:52,160

the knowledge gained is critical in

26
00:00:56,150 --> 00:00:54,160
helping us determine how we will prepare

27
00:00:58,630 --> 00:00:56,160
for missions that will leave low earth

28
00:01:00,470 --> 00:00:58,640
orbit nasa and texas instruments have

29
00:01:03,349 --> 00:01:00,480
teamed up to create activities

30
00:01:05,910 --> 00:01:03,359
integrating science technology

31
00:01:07,670 --> 00:01:05,920
engineering and mathematics

32
00:01:10,070 --> 00:01:07,680
in this activity you'll focus on the

33
00:01:12,230 --> 00:01:10,080
cardiovascular system and first learn

34
00:01:14,469 --> 00:01:12,240
how the heart pumps blood as well as the

35
00:01:16,550 --> 00:01:14,479
direction of blood flow

36
00:01:18,630 --> 00:01:16,560
once you've learned basic heart function

37
00:01:20,870 --> 00:01:18,640
you will observe how microgravity could

38
00:01:22,310 --> 00:01:20,880

affect the heart and how exercise can

39

00:01:24,710 --> 00:01:22,320

help avoid problems with a

40

00:01:26,710 --> 00:01:24,720

cardiovascular system

41

00:01:28,870 --> 00:01:26,720

the reason we study the cardiovascular

42

00:01:30,950 --> 00:01:28,880

system in space is because it can relate

43

00:01:33,670 --> 00:01:30,960

to how the cardiovascular system works

44

00:01:35,590 --> 00:01:33,680

on earth for other patients astronauts

45

00:01:38,149 --> 00:01:35,600

hearts and their circulations go through

46

00:01:40,550 --> 00:01:38,159

a lot of changes in space that help us

47

00:01:42,310 --> 00:01:40,560

understand how we can treat older

48

00:01:44,789 --> 00:01:42,320

individuals on the ground who may have

49

00:01:46,069 --> 00:01:44,799

heart conditions and other circulatory

50

00:01:48,149 --> 00:01:46,079

issues

51
00:01:50,230 --> 00:01:48,159
so the best piece of advice that i got

52
00:01:52,630 --> 00:01:50,240
when i was speaking to astronauts is to

53
00:01:55,109 --> 00:01:52,640
do what you love because if you do what

54
00:01:57,109 --> 00:01:55,119
you love you're gonna love what you do

55
00:01:59,030 --> 00:01:57,119
and you're gonna do it better and that's

56
00:02:00,149 --> 00:01:59,040
when opportunities will really open to