



SPACE TO GROUND

1
00:00:00,600 --> 00:00:02,580
"HOUSTON, STATION
ON SPACE TO GROUND."

2
00:00:04,040 --> 00:00:08,100
A SHORT TIME AGO ON A SPACE
STATION NOT FAR AWAY....

3
00:00:09,680 --> 00:00:12,040
WELCOME TO SPACE TO
GROUND, I'M DAN HUOT.

4
00:00:12,446 --> 00:00:15,626
HEALTHY BONES ARE IMPORTANT,
WHETHER YOU'RE AN ASTRONAUT

5
00:00:15,626 --> 00:00:17,796
ON THE STATION, A
PERSON ON PLANET EARTH,

6
00:00:18,036 --> 00:00:21,436
OR ZOOMING THROUGH THE KESSEL
RUN IN LESS THAN 12 PARSECS.

7
00:00:22,366 --> 00:00:25,876
THE OSTEOOMICS STUDY IS
TAKING A CLOSE LOOK AT BONES

8
00:00:25,876 --> 00:00:28,076
ON THE MOLECULAR
LEVEL TO LEARN MORE

9
00:00:28,076 --> 00:00:31,706
ABOUT WHAT CHANGES TAKE PLACE
WHILE IN SPACE OR ON THE GROUND.

10
00:00:32,376 --> 00:00:35,806
OUR BONES GET CHEMICAL MESSAGES
THAT CAN RESULT IN BONE LOSS

11
00:00:35,876 --> 00:00:40,236
OR BONE FORMATION, MESSAGES THAT
CAN TIP TOWARDS LOSS WHEN WE'RE

12
00:00:40,236 --> 00:00:42,216
IN MICROGRAVITY OR
SICK ON EARTH.

13
00:00:42,980 --> 00:00:46,640
LEARNING MORE WILL HELP US KEEP
ASTRONAUTS OF THE FUTURE STRONG

14
00:00:46,640 --> 00:00:49,700
FOR ANY SPACE ADVENTURES
WHILE HELPING THOSE SUFFERING

15
00:00:49,700 --> 00:00:52,620
FROM A RANGE OF DISORDERS
ON OUR HOME PLANET.

16
00:00:53,506 --> 00:00:55,916
WE'RE STILL A FEW YEARS
AWAY FROM HYPERDRIVE,

17
00:00:55,916 --> 00:00:58,686
SO A NEW FLUID PHYSICS
STUDY ON STATION IS LOOKING

18
00:00:58,686 --> 00:01:01,296
AT OPTIMIZING SPACECRAFT
FUELS SYSTEMS.

19
00:01:02,436 --> 00:01:04,846
THE FLUIDICS STUDY IS
TAKING A CLOSE LOOK

20
00:01:04,846 --> 00:01:09,086
AT WHAT EXACTLY HAPPENS TO FUEL
IN A TANK WHILE IN MICROGRAVITY.

21
00:01:09,626 --> 00:01:12,036
KNOWING MORE COULD LEAD
TO BETTER FUEL SYSTEMS

22
00:01:12,036 --> 00:01:15,776
IN NOT JUST SPACECRAFT BUT ALSO
SATELLITES, KEEPING THEM FUELED

23
00:01:15,776 --> 00:01:17,406
AND FUNCTIONAL EVEN LONGER.

24
00:01:18,066 --> 00:01:20,736
THE EXPERIMENT ALSO
PROVIDES A UNIQUE INSIGHT

25
00:01:20,736 --> 00:01:22,586
INTO HOW EARTH'S OCEANS WORK,

26
00:01:22,816 --> 00:01:25,376
SPECIFICALLY THE
PHENOMENON OF "ROGUE WAVES."

27
00:01:26,100 --> 00:01:28,100
KNOWING MORE ABOUT
THESE COULD HELP

28
00:01:28,100 --> 00:01:31,120
WITH CLIMATE PREDICTION
SYSTEMS OR EVEN IMPROVE THE USE

29
00:01:31,120 --> 00:01:33,420
OF OCEAN RENEWABLE ENERGY.

30
00:01:34,560 --> 00:01:37,320
THIS WEEK'S TWITTER QUESTION
COMES FROM RIKS WHO WANTS

31
00:01:37,320 --> 00:01:40,900
TO KNOW ABOUT THE RECORD FOR

MOST SPACEWALKS BY AN ASTRONAUT.

32

00:01:41,326 --> 00:01:43,836

IT'S HELD BY A RETIRED
RUSSIAN COSMONAUT

33

00:01:44,056 --> 00:01:45,876

AND IT'S A PRETTY SIZEABLE LEAD.

34

00:01:45,986 --> 00:01:50,966

ANATOLY SOLOVYEV TOPS THE
LEADERBOARD WITH 16 SPACEWALKS

35

00:01:51,300 --> 00:01:53,540

WHICH HE ACCUMULATED
ON SEVERAL TRIPS

36

00:01:53,540 --> 00:01:55,360

TO THE RUSSIAN MIR
SPACE STATION.

37

00:01:56,120 --> 00:01:58,040

THE NASA RECORD STANDS AT 10,

38

00:01:58,040 --> 00:02:02,500

SET BY FORMER ASTRONAUT MIKE
LOPEZ-ALEGRIA WHILE HE HELPED

39

00:02:02,500 --> 00:02:04,940

BUILD THE STATION DURING
SEVERAL SHUTTLE MISSIONS.

40

00:02:05,596 --> 00:02:07,946

PEGGY WHITSON IS CLOSE
BEHIND THOUGH AND IS SET

41

00:02:07,946 --> 00:02:10,860

TO DO HER NINTH SPACEWALK
ON MAY 12TH.

42

00:02:11,700 --> 00:02:14,380

KEEP SENDING YOUR
QUESTIONS USING THE HASHTAG