MAYO CLINIC

Taking Mayo Clinic research beyond the lab and into space

Video	Audio
	A historic mission to space.
Larry Connor **Philanthropic Partner**	"We will be the first all-private crew that will launch from U.S. soil and we'll go to the International Space Station."
	And on board will be Mayo Clinic research. Mayo Clinic benefactor Larry Connor will not only be bringing Mayo Clinic research on board, he will be one of the civilian astronauts that will be studied by Mayo Clinic scientists and researchers throughout the 10-day mission.
	The hope is to spot signs of senescence in the crew, a process where a cell ages and stops dividing but doesn't die, so it builds up in tissues throughout the body.
James Kirkland, M.D., Ph.D. **General Internal Medicine** **Mayo Clinic**	"These cells can accumulate with aging in multiple tissues. They tend to be associated with conditions like frailty."
	Looking for signs of senescence could help in longer-haul trips, such as a mission to Mars.
Dr. Kirkland	"The Mars mission may be very difficult to accomplish, unless we can find ways to monitor for senescent cell burden."
	And based on that, potentially use agents called senolytics, which selectively remove senescent cells.
Dr. Kirkland	"What Mr. Connor and the others on the flight have agreed to do is allow us to sample their blood and other fluids to look for markers of senescent cell burden in them before they take off and after they return to Earth."
	They are taking normal human cells in dishes on the mission to check if these cells become senescent in space.
	Also on board the mission will be research from Dr. Andre Terzic that aims to advance knowledge about how to better safeguard the heart for space travel.

Andre Terzic, M.D., Ph.D. **Cardiovascular Disease** **Mayo Clinic**	"Overall, the execution of this project will offer valuable insight into the determinant of heart adaptation in space with the potential to support expansion of human reach in space now that space becomes increasingly accessible."
Dr. Terzic	"But, also, there is always the possibility that information we gather in space will also help us to better understand our own hearts here on Earth."
	For Connor, he sees this mission as an opportunity but also a real responsibility.
Larry Connor	"The net result is this will benefit, if done correctly, all mankind."
Dr. Kirkland	"The goal is to extend health span, the period during life when people live free and independently, and without pain and disability."
Larry Connor	"What better way could you give back than doing truly inspirational and potentially groundbreaking research that at one of the best research centers in the world, right here at the Mayo Clinic."
	For the Mayo Clinic News Network, I'm DeeDee Stiepan.