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## MEDICAL GUIDELINES FOR COMMERCIAL ORBITAL SPACEFLIGHT: WHO GETS TO GO?

**Abstract**

Orbital human spaceflight to date has largely been restricted to space agency-selected astronauts, who have undergone meticulous screening with stringent medical ‘select-in’ and ‘select-out’ criteria. At the same time, a handful of spaceflight participants have completed successful orbital sojourns to the International Space Station (ISS), despite having pre-existing conditions that might be considered disqualifying for governmental space agency selected astronauts. Now, with the rise of the commercial space sector and proposed space tourist access to orbital and even cis-lunar missions, there is a current push to make commercial orbital spaceflight more inclusive, with a dedicated effort to recruit astronauts of all abilities and medical backgrounds. In 2021, the Inspiration4 all-civilian crew successfully completed a 3-day commercial orbital mission aboard the SpaceX Crew Dragon, ‘Resilience.’ This trend towards increased access to orbital spaceflight continues with the planned 2022 Axiom Ax-1 and SpaceX Polaris Dawn missions. Japanese billionaire Yusaku Maezawa funded his private sojourn to the International Space Station in late 2021, and proposes to follow this journey with up with a week-long cis-lunar mission with up to 8 civilian crew members in 2023. Successful suborbital flights like the 2021 flights of octogenarian Wally Funk and nonagenarian William Shatner, and terrestrial programs like the 2021 AstroAccess parabolic flight campaign to fly ambassadors with disabilities in microgravity may further offer insight into health conditions previously deemed too risky to fly. Interestingly, the ongoing European Space Agency astronaut selection also created a dedicated call for ‘para-astronauts,’ or astronauts with lower limb disabilities. This paper is a follow-up to the Association of Spaceflight Professional’s Life Sciences Team’s review and recommendations on Medical Guidelines for Commercial Suborbital Spaceflight, and focuses on historical and present medical guidelines for commercial orbital and cis-lunar human spaceflight, culminating with recommendations for next steps.