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Tele-echocardiography use on earth and in space

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The field of tele-medicine has carved a niche in health care medicine globally due to the increasing number of 'e-patients'. Using cloud technology, many distant locations in the world can be better contacted and therapy offered to patients cutting travel time, cost as well as relieving the extensive shortage of health-care professionals. This concept also applies to tele-echocardiography which is utilized on the International Space Station (ISS) that orbits the earth. This is challenging as the characteristics and performance of the cardiovascular system undergoes changes in the environment of prolonged microgravity in space. Studies conducted by the European Space Agency have used remotely controlled ultrasound systems allowing expert specialists on earth to remotely perform echocardiography on astronauts in space. As a spin-off from ISS technology, this technology transfer is now being introduced to hospitals with patients examined remotely via a robotic arm and an internet connection. Ultimately, whether for earth or space based missions, the principle of telemedicine is essentially the same: it is much easier and cheaper to move medical data around then it is to move patients. With rapid surge in scientific research, new data and discoveries as well as space exploration such as the journey to Mars planned by the National Aeronautics and Space Administration (NASA), it is invariable how long distance consultations, guidance and even remote controlled examinations are going to be viewed in the near future. As such, tele-echocardiography holds great promise for future enterprising innovations of mankind.

Biography

Manohari Balasingam completed her Post-graduation studies in Internal Medicine from University Malaya, Malaysia and the Royal Colleges of Physicians of the UK. Her subspecialty training was in non-invasive cardiology from the National Heart Institute in Malaysia with visiting fellowships at the Mayo Clinic, Rochester and BIDMC, Boston, USA. Currently, she is senior consultant physician and head of the Department of Medicine at Kajang Hospital, Malaysia. He has travelled widely and presented in a number of international seminars, forums and conferences and has published papers in international journals. She was also the recipient of international awards for clinical and academic medicine.

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