



Patients attach two sensors to each shoe and then go about their daily lives | Photo source [National University of Singapore](#)

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WEARABLE GAIT SENSOR PROVIDES IN-HOME PHYSICAL THERAPY

 HEALTH & WELLBEING

Patients can reduce the number of trips they take to a hospital and clinicians gain access to a greater volume of data

Spotted: The MANA 2.0 is almost as accurate as the best clinical gait monitoring mats and allows clinicians to track patients' spatial foot placements from afar. Developed by Dr Boyd Anderson and his team at the National University of Singapore, it incorporates the combined accelerometer and gyroscope that current wearables tend to use. The system also uses ultra-wideband radio sensors that monitor how far apart the wearer's feet are when walking.

Patients attach two sensors to each shoe and then go about their daily lives. The data gathered is sent to the accompanying app, through which clinicians can monitor progress and assess each person's regular level of activity. Not only does the MANA 2.0 help patients to better reflect on their level of fitness and how it can be improved, but it allows them to reduce the number of trips required to a healthcare setting. With social distancing requirements likely to remain in place, this helps keep busy clinicians safer as well as providing a high quality of continuity of care.

The commercial cost of one of the MANA 2.0 systems is estimated to be €300, which compares well to the €6200 cost of one of the top-end clinical gait monitoring mats. MANA 2.0 is patent-pending, and the team continues to refine the capabilities of the sensors in order to continue gathering more and increasingly accurate healthcare data.

Healthcare isn't the only area in which wearables are proving valuable. Personal privacy, via a [bracelet](#) that blocks microphones from picking up on conversations, and a [smart cattle halter](#) that collects gas from burps are two recent innovations spotted by Springwise that are taking wearable technology in new directions.

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Takeaway:

As wearables move off the wrist to almost everywhere else on the body, both the types and accuracy of data capable of being collected grow. Remote monitoring is already hugely beneficial in healthcare, for patients with long-term conditions and clinical teams providing care across wide geographical areas. With PPE remaining part of most peoples' everyday apparel, opportunities abound for incorporating new technologies into face coverings as well as for expanding lung and respiratory care.