

Emily Santurri  
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Talk 02

**INDEPENDENCE® iBOT® 4000**  
**Mobility System**



The first wheelchair dates back to ancient Egypt and were used for people who had trouble moving around. Today's wheelchair still has the same purpose, but is far more technologically advanced. In 1995 Johnson & Johnson, began work on a mobility system to allow users to climb stairs and change height. This idea was first created by Dean Kamen, who is most famous for his creation of Segway. The iBOT 4000 is unlike any other wheelchair. It allows users to climb curbs and stairs, raise the wheelchair level, and travel on uneven terrain. These are made possible through its five functions: Balance, Stair, 4-Wheel, Standard, and Remote. The user can even remain in the seat while in a van, as long as they are properly fastened, or the iBOT is compactable for travel.

How the iBOT works is that it works off the user's center of gravity. When the user moves forward or leans backward, the mobility system moves as well, to keep the user stable and in upright position. It contains a technology called iBALANCE®. This iBALANCE contains computer and software

components that work with motion sensors called gyroscopes.

The iBOT comes equipped with user control panel, a lighting system, armrests, lap belt, footrests, INDEPENDENCE® maxPRO™ Seat Cushion, and security. This system can be used in the rain. It uses two 67.2V batteries allowing it to cover 13-15miles of movement, depending upon the functions being used. To qualify for the



iBOT the person ( and his/her items) must be between 75-250lbs. The person must also be able to operate the control panel and be able to bend his/her knees to fit in the footrest (this does not apply to people with amputations).

Since March 2005, the FDA approved of the iBOT 4000 and in the summer of 2005 people were able to test drive them. There are many steps in order to own an iBOT. First this requires a prescription from a doctor and training from an iBOT Evaluation Clinician. This clinician will teach the user how to operate the iBOT safely. Lastly, a driver's test is given after the training.

*References:*

- <http://www.cnn.com/TECH/computing/9911/26/ibot.idg/>
- <http://www.independencenow.com/ibot/remote.html>
- [http://kidshealth.org/kid/feel\\_better/things/wheel\\_chairs.html](http://kidshealth.org/kid/feel_better/things/wheel_chairs.html)
- <http://www.atnet.org/journal/1090103.htm>