

Toyota Robots Help People Walk Again

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Tokyo, Japan, May 28, 2014 —Toyota Motor Corporation (TMC) will begin trial leasing of newly developed clinical research versions of its “Walk Training Assist” and “Balance Training Assist” robots to 20 medical

facilities in Japan this autumn. The clinical research versions are improved versions of those announced in 2011 as part of the Toyota Partner Robot series. The improved robots are aimed to help in the rehabilitation of patients who find it difficult to walk or maintain balance due to illness or injury.

Development of the new robots began at the end of 2007 in collaboration with Fujita Health University Hospital in Toyoake, Aichi Prefecture. Since 2011, Toyota has been working with medical facilities to test and improve the robots, particularly in regard to improving user-friendliness by streamlining training functions based on motor-learning theory.

With the ultimate goal of helping to achieve mobility for all, Toyota is aiming to commercialize the Walk Training Assist and Balance Training Assist robots as soon as possible.

Name	Walk Training Assist	Balance Training Assist
Features	<ul style="list-style-type: none">• Aids all stages of rehabilitation for patients that are unable to walk due to lower limb paralysis• Assists limb movement by aiding leg swing, knee straightening and body-weight support	<ul style="list-style-type: none">• Uses a game interface for enjoyable balance training• Two-wheeled Winglet personal robot assists body movement with an in-game
Main improvements (over model announced in 2011)	<ul style="list-style-type: none">• Leg mount fitted with lifting mechanism to lessen weight burden• Variable assistance levels according to degree of rehabilitation• Real-time monitoring of joint angle and other walking data with audial and visual feedback• Redesigned for quicker mounting	<ul style="list-style-type: none">• Skiing and rodeo games added to enable training in shifting center of gravity while maintaining balance• Response between user and in-game character• Difficulty level set automatically according to rehabilitation progress
Size	Width: 1,200 mm; length: 2,560 mm; height: 2,350 mm	Width: 1,870 mm; length: 3,040 mm; height: 2,350 mm

Toyota will exhibit the newly developed clinical research models at the 51st Annual Meeting of The Japanese Association of Rehabilitation Medicine, to be held from June 5 to June 7 at the Nagoya Congress Center.