2019/07/11


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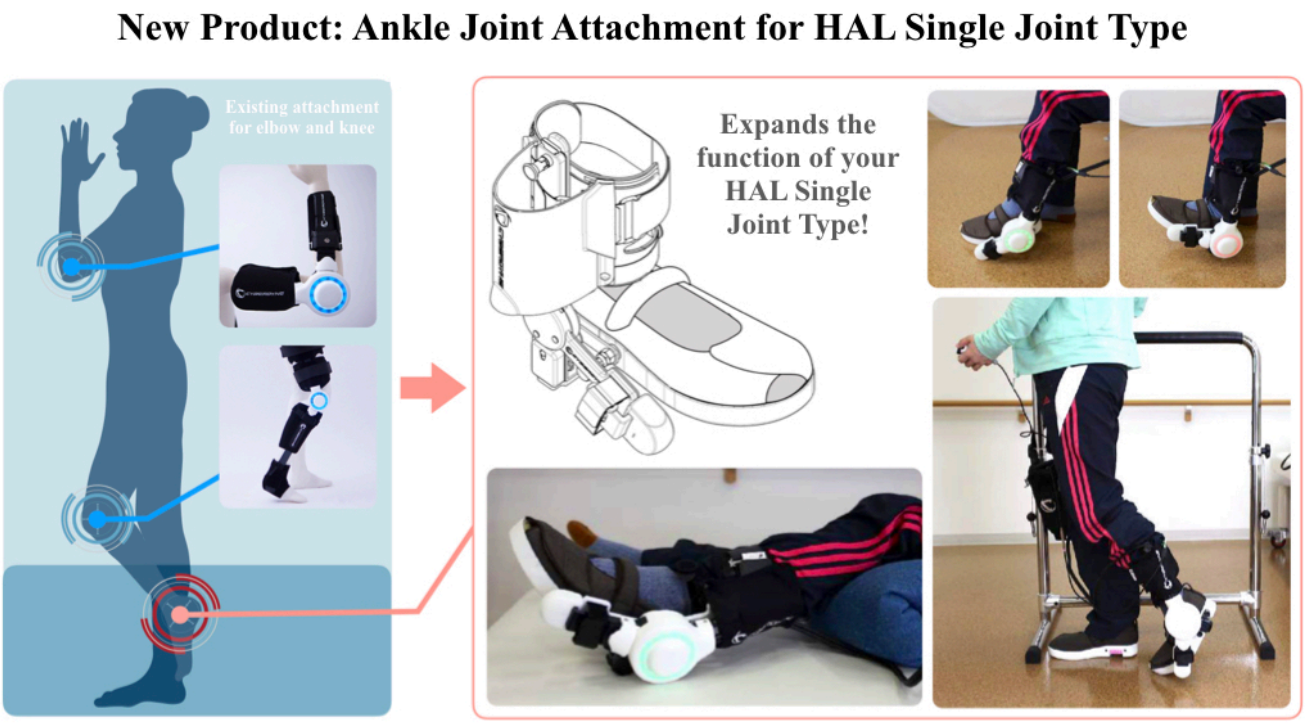
| Company: | CYBERDYNE, INC. |
| Name of Representative: | Yoshiyuki Sankai, President and CEO |
| Code: | 7779 (Mothers Section of the Tokyo Stock Exchange) |
| Contact: | Shinji Uga, Director and CFO (Tel. +81-29-869-9981) |


# A new product that promotes voluntary movement and improved gait of the ankle (ankle joint) ~ HAL Single Joint Type "Ankle Joint Attachment" launched in July 2019 ~

CYBERDYNE, INC. [Tsukuba, Ibaraki, CEO: Yoshiyuki Sankai (the "Company")] announced to commence sales of "HAL Single Joint Type Ankle Joint Attachment" as an expansion attachment that enables voluntary movement training of ankle joints so that the gait can be improved. The product is the Company's first model compatible for ankle joints and it is scheduled for launch on July 11, 2019.

HAL for Well-being Single Joint Type
https://www.cyberdyne.jp/english/products/SingleJoint.html




Easily enables voluntary training of the ankle joints – training can be done on bed, while seated or while holding a guide rail

## ■ Background

Previously, elbow joint attachment and knee joint attachments were the only two systems prepared for HAL Single Joint Type. As the use scene of the device expanded, CYBERDYNE adopted the users voice who requested the assistance of the ankle joints. Using the Cybernic Voluntary Control System of HAL Single Joint Type, the new ankle joint attachment allows the user to intensively train his/her planter and dorsiflexion movements* on their ankle joints.



Knee joint



Elbow joint



【New】Ankle joint

(*) a person with aftereffects of stroke (such as spasticity) or a person with muscle weakness
Approximately 38% of the stroke survivors are said to have a remaining spasticity 12 months after they are struck by stroke. Out of 1.2 million stroke patients in Japan, approximately 450 thousands patients has a remaining spasticity

[1] Watkins, C. L. et al. (2002) 'Prevalence of spasticity post stroke', Clinical Rehabilitation, 16(5), pp. 515–522. doi: 10.1191/0269215502cr512oa.

## ■ Feature of Ankle Joint Attachment

**1. Enables voluntary assistance of ankle joint movement with compact size device**

The new attachment can be attached on HAL Single Joint Type very easily. Due to its compact size that enables someone to carry with their hand bag, it will keep the simple usability of HAL intact while adding an extra feature that allows voluntary training of the ankle joint.

**2. Compatibility with the existing device.**

Ankle Joint Attachment is compatible with existing HAL Single Joint Type. So it is not necessary for the user to purchase an additional device of HAL it self. Instead one would simply have to purchase the attachment to start training the ankle joint. New client of HAL Single Joint Type may purchase the attachment from the beginning by selecting the option to do so.

**3. Adaptable to various situation**

By taking advantage of the compactly designed HAL, the user can use it for training in various situation. Such as training while the wearer lies on bed, while the wearer sits on a chair or while the wearer is holding onto guiderail as they keep standing. It can be used for various situation from the beginning level (lying on the bed) to more practical level (standing).



## ■ Outline of the attachment

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| Name | HAL Single Joint Type Ankle Joint Attachment |
| Launch date | July 11, 2019 |
| Size | Attachment：W200mm x D270mm x H 430mm<br>Shoes for the attachment：23cm/25cm |
| Weight | 1.3kg　(2.4kg when connected to HAL Single Joint Type) |
| Movable range | Dorsiflexion 15° - planter 40° |
| Sales contact | CYBERDYNE, INC. |

## ■ Prospect

Following the introduction of the device, CYBERDYNE will improve the satisfaction of its operators and wearers, while seeking an introduction to a new client.

CYBERDYNE will continue to work together with its clients in order to make products and services that can really solve problems. CYBERYDNE will continue to expand the function of its product that reflexes the requests from its customers while continuing its endeavors to increase the number of units in operation and facilities using its products.

## ■ CYBERDYNE, INC.

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| URL | https://www.cyberdyne.jp/english/ |
| Founded | June 2004 |
| Share capital | 26.778 billion Japanese yen (as of March 31, 2019 : non-consolidated, Japanese GAAP) |
| CEO | President and CEO Yoshiyuki Sankai |
| Address | 2-2-1 Gakuen-minami, Tsukuba, Ibaraki, Japan |

The Group's business is to realize "Society 5.0/5.1", a future society based on the idea of Techno-Peer-Support where human and technology live together and support each other. This goal is attained through revolutionary changes in industry and society, and The Group seeks to utilize "Cybernics Technology" (fusion and combination of systems of human, robot and information) that handles "human" + Cyberspace" + "Physical space", to create a "Cybernics Industry" for this transition following the breakthroughs of the Robotics Industry and IT Industry.

The Group's business has a unique advantage in its ability to access and integrate information within the human body (e.g. Brain-nerve and vital systems) in addition to information outside the human body (behavior, life and environmental information) and applying them to different fields such as medicine, nursing care, production, household, and work places. All of the Group's devices and interfaces are compatible with Internet of Humans/Internet of Things ("IoH/IoT"), and through these products, information of the brain- nerve, vital,

physiological, behavioral, life and environmental systems can be integrated and connected to a super computer. The Group aims to realize a system where Big Data of the aforementioned information are accumulated, analyzed and processed with AI. The Group simultaneously works on research and development, business development and formation of business alliances to further accelerate the emergence of a Cybernic Industry that will solve the problems facing society.