

Development of Laparoscopic Right Hemicolectomy Training Simulator

COLOMASTER

-An anatomically accurate simulator capable of reproducing the entire surgery from start to finish -

This collaborative research achievement between EBM Corp. and the National Cancer Center Hospital East

EBM Corp. (Headquarters: Ota-ku, Tokyo, Research Institute: Fukushima City, Fukushima Prefecture, Representative: Youngkwang Park) released a new product, the Laparoscopic Right Hemicolectomy Training Simulator COLOMASTER, on January 12, 2024 (Friday). This new product is a commercialization of a prototype developed through collaborative research with the National Cancer Center, Japan (President: Hitoshi Nakagama, Chuo-ku, Tokyo).

Training for surgeons typically involves the use of animals, cadavers, and simulators. However, the use of animals or cadavers presents ethical and cost barriers, and it is difficult to ensure adequate environmental conditions. Furthermore, there was no simulator available for training surgeons to perform all stages of surgery using the forceps and devices commonly used in actual surgeries. Therefore, our company collaborated with the Department of Colorectal Surgery at the National Cancer Center Hospital East to develop an anatomically accurate simulator capable of reproducing the entire surgery from start to finish (location: NEXT Medical Device Development Center). With this simulator, surgeons can acquire skills such as understanding anatomical structures, expanding their field of view, and mastering dissection techniques, which are crucial during surgery. This enables the realization of high-quality, cost-effective training environments anywhere in the world, further contributing to the improvement of surgical skills.



Laparoscopic Right Hemicolectomy Surgery Simulator "COLOMASTER"

The intricate structures of blood vessels and membrane tissues are replicated with ultra-precision at the millimeter scale.

In previous simulators, surgical training was conducted by extracting and deforming certain parts of the overall surgical process. With COLOMASTER, however, crucial anatomical structures such as the mesentery and peritoneum, as well as organs including the stomach, duodenum, pancreas, colon, small intestine, and kidneys, are meticulously and anatomically accurately reproduced with precision down to 1mm. This precision allows for the precise training of laparoscopic right hemicolectomy surgery, which was previously challenging. Additionally, this simulator can be effectively utilized for function

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evaluation during the development process of surgical robots, which have shown remarkable advancements in recent years, as well as for training in robot-assisted surgery.



Perspectives

In the future, we anticipate rapid nationwide adoption through collaboration with major medical device manufacturers, utilizing COLOMASTER for training on the safe and appropriate use of their respective products. Additionally, our company established a local subsidiary, Sim Force One Inc., in Philadelphia, Pennsylvania, USA, on July 4, 2023. This allows us to commence direct sales to the global market.

About EBM Corp.

EBM Corp.

4-6-15 Omoriminami, Ota-ku, Tokyo 143-0013 JAPAN

Founder & President & CEO Youngkwang Park Ph.D.

Established: August 9, 2006

Business Activities:

Development of surgical training simulators, curriculum development, and provision of medical training logistics.

Web <https://ebmc.jp>



Youngkwang Park

The NEXT Medical Device Development Center

The NEXT Medical Device Development Center is a center with a mission to develop innovative medical devices for the next generation based on clinical needs through collaboration among industry, academia, government, and medical engineering. We promote medical device development through collaboration with medical device companies, manufacturing companies, academia, and the local

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community, and support medical device development in the field of clinical trials and studies. Additionally, we nurture talent and disseminate information as an incubation facility closely associated with clinical practice.

【施設概要】

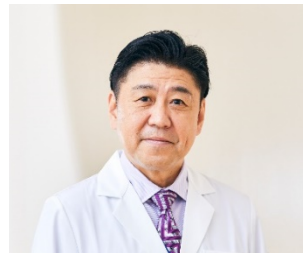
Location: 6-5-1 Kashiwanoha, Kashiwa City, Chiba Prefecture, 277-8577, Japan

Established: May 8, 2017

HP : https://www.ncc.go.jp/jp/nccce/division/next_mdi_center/index.html



Facility



Principal Investigator: Masaki Ito (Associate Hospital Director for Research (Medical Devices) at the National Cancer Center Hospital East / Chief of Colorectal Surgery / Head of Medical Device Development Promotion Department)

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