

健康長寿実現に向けた新規運動指標エクササイズゲージの構築

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目的：

運動による全身のエネルギー代謝および健康寿命促進メカニズムの本質に迫り、世界に類を見ない新規運動指標『エクササイズゲージ』を構築し、運動によって疾病を未病の段階で防ぐ究極の健康長寿社会の実現を目指す。

研究概要：

以下の3つを計画の柱として研究を推進する。

- (1) ロコモカインを同定し、運動による健康長寿作用メカニズムを解明する。
- (2) 新規テキスタイル型ウェアラブルデバイスを開発し、日常のあらゆる活動を記録するライフログGINGシステムを構築する。
- (3) 日常行動のセルフマネジメントに向けた新規運動指標『エクササイズゲージ』を確立する。

健康長寿実現に向けた新規運動指標エクササイズゲージの構築

研究開発課題の全体構想

ロコモカイン・健康長寿機構解明

- ・ロコモカイン(筋肉・骨などの運動器から分泌される)の同定・測定系の確立



ライフログGINGシステム

- ・ライフログ(生活・活動を記録する)



エクササイズゲージ

- ・分かりやすい運動指標の確立



将来展望・波及効果



「エクササイズゲージ」は健康維持のためのセルフマネジメントを可能とし、運動によって疾病を未病の段階で防ぐ究極の健康長寿社会を実現する。

Self-management of health based on the action mechanism of daily behaviors such as food, exercise and sleep

Building Exercise Gauge as a Novel Measure of Exercise toward Realization of Healthy Longevity

Project Leader : Masato Iwabu, M.D., Ph.D.
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Summary :

The objectives of the proposed research project are to gain in-depth insight into the nature and mechanisms of exercise-mediated systemic energy metabolism and healthy longevity; to develop “Exercise Gauge”, the world’s unprecedented, novel measure of exercise; and to foster a society of ultimate healthy longevity in which exercise is being used as a primary measure to “nip disease in the bud”.

The proposed research project is planned to promote research with a focus on the following three pillars:

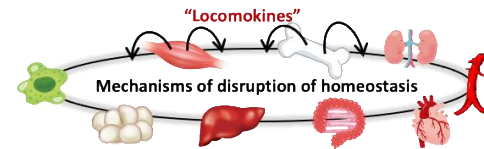
- (1) To identify exercise locomokines and elucidate the mechanisms through which exercise promotes healthy longevity;
- (2) To develop a novel, textile-type, wearable device to monitor all manner of daily activities in humans and launch a life-logging system;
- (3) To establish “Exercise Gauge” as a novel measure of exercise contributing to the optimal self-management of daily activities.

Building “Exercise Gauge” as a Novel Measure of Exercise toward Realization of Healthy Longevity

Overall vision of the proposed R/D project

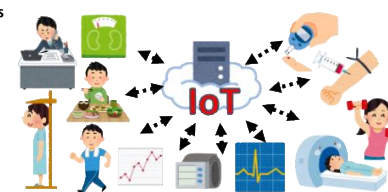
Elucidation of the mechanisms of healthy longevity

- To identify, and establish a measuring system for, “locomokines” (i.e., locomokines secreted from the locomotor organs, such as muscle and bones)



Creation of a life-logging system

- To create life logs (record daily life activities)



Development of “Exercise Gauge”

- To establish an accessible measure of exercise



Future prospects/spin-off effects



Making “Exercise Gauge” available for use at relevant nearby facilities



Making exercise visible



Providing gamification nudges



Motivating people to exercise



Making exercise therapy a success



Reducing medical costs



Fostering a society of healthy longevity

“Exercise Gauge” is intended to help self-manage daily activities and maintain health thus contributing to fostering a society of ultimate healthy longevity in which exercise is being used as a primary measure to “nip disease in the bud”.