

## KAATSU Leads to Secretion of Vascular Endothelial Cell Growth Factor (VEGF)

Vascular endothelial growth factor (VEGF) is known to enhance blood vessel neogenesis.

Various resistance exercises have been reported to promote VEGF secretion

**KAATSU was confirmed to promote VEGF activation**

Data from research at the University of Tokyo Medical School Hospital's 22nd Century Medical Center  
(Ischemic Circulation Physiology Course)

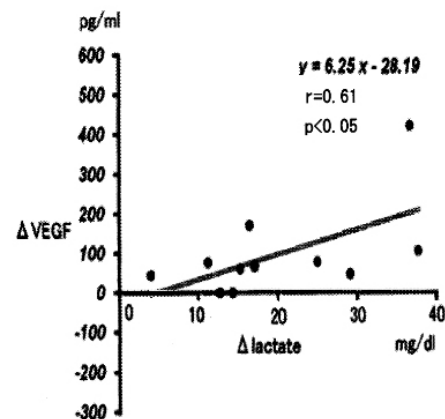
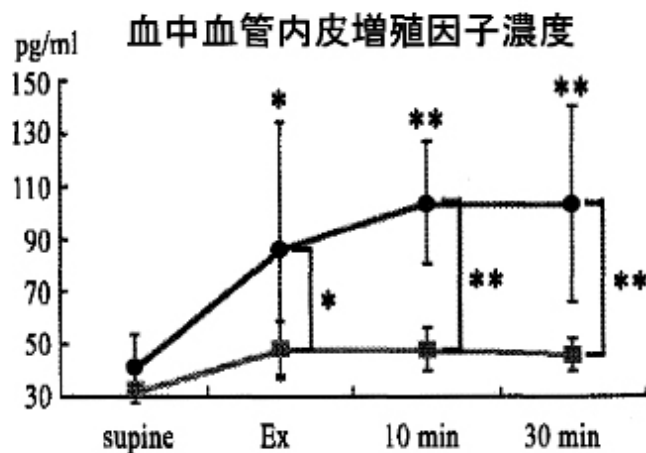


図6 血管内皮増殖因子 (VEGF) と乳酸 (lactate) の変動における相関関係

# KAATSU increases vascular endothelial progenitor cells (EPC) was confirmed

A strain gauge plethysmograph (EC 6 manufactured by Hokanson) was used to measure vascular endothelium



Non-invasive evaluation of the elasticity of blood vessels and endothelial function

Early detection of lifestyle-related diseases (e.g., arteriosclerosis)

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Treatment evaluation of vascular endothelial function

Measurement parameters include arterial influx (inflow), venous volume (VC), and venous outflow (outflow)

# Recent Research Reports at the University of Tokyo Hospital

## **Reactive hyperemia Measurement technique:**

1. Venous hemostasis method: by cuff inflator

Moderation of venous return by applying pressure of 50 mmHg

## **2. Reactive Hyperemia**

200 mm Hg x 5 minutes (sBP + 30 mm Hg)

After opening, pressure was applied immediately at 50 mmHg to block venous return and promote arterial inflow.

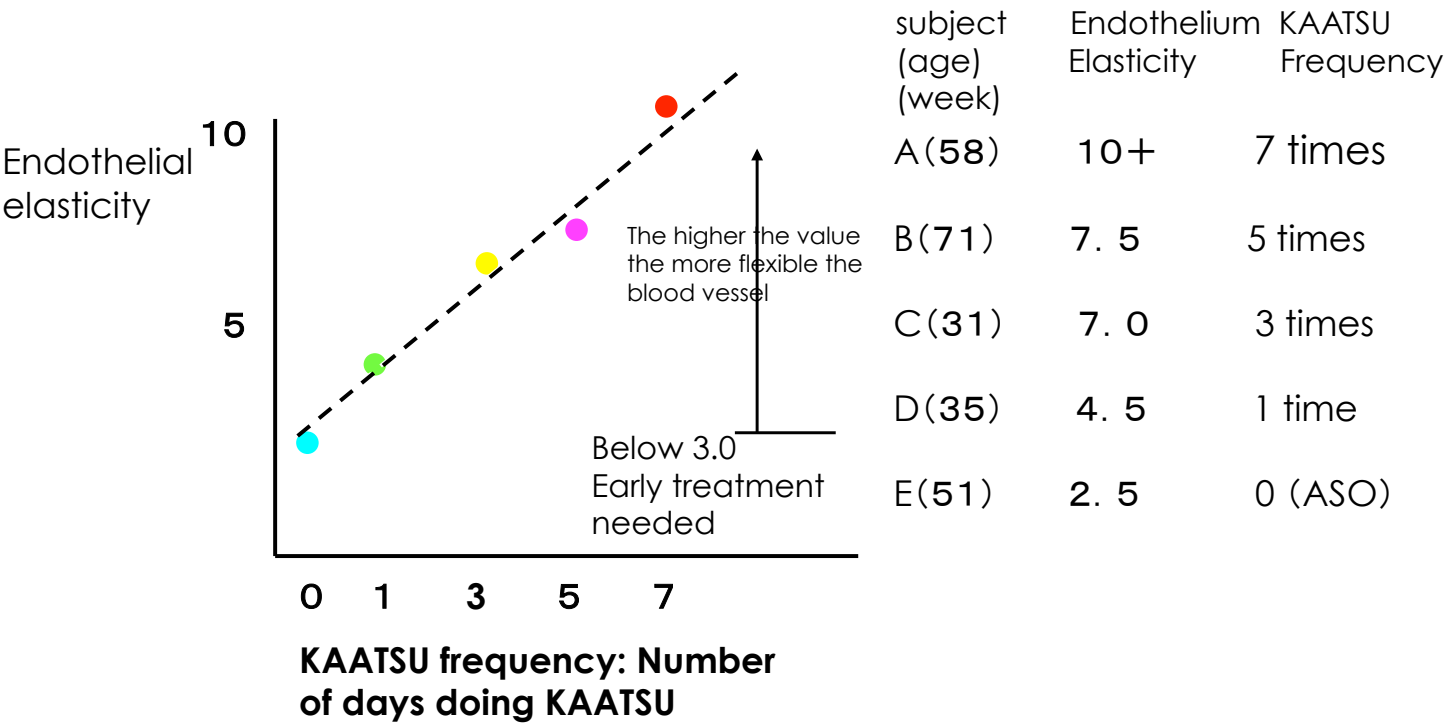
Compared after after reactive hyperemia with that of at rest.

Furthermore, measured and plotted the arterial inflow rate every several seconds after reactive hyperemia.

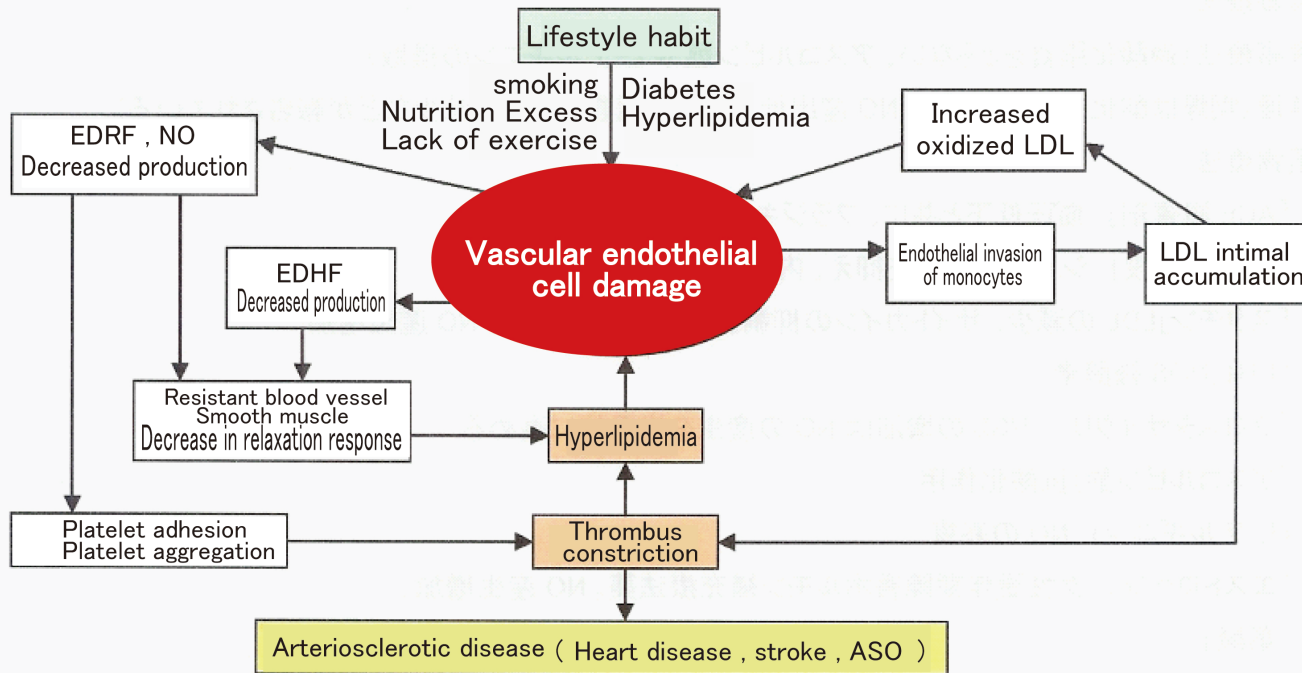
Evaluated the return time from the expanded state of the artery to that of its resting state.

# Recent research reports

Vascular endothelium test measuring instrument: Strain gauge plethysmograph (EC 6 manufactured by Hokanson)



## Vascular endothelial cell damage and its effect



EDRF (Endothelium-derived vasodilator) : NO, PGI2  
EDHF (Endothelium-derived hyperpolarizing facto)