

〈ワークショップ「入浴の科学」〉

# 1 入 浴 の 医 学

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## Medical View on Bathing

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### Abstract

Three basic factors are considered on bathing such as thermal, mechanical and micro-circulative.

Thermal effect can well be compensated in human beings within the range of 32 – 43°C of environmental temperature though the normal physiological process is well maintained at 36 – 37°C of body temperature.

Mechanically, buoyancy effect is in favor of rehabilitation for the physically handicapped.

Bathing at 40°C is thought to be preferable from the view point of tissue partial pressures of O<sub>2</sub> and CO<sub>2</sub> measured experimentally by means of medical mass spectrometry. Local tissue perfusion was found increased with a bathing at 37 – 38°C by nearly 30%.

The effects of both bathing temperature at out of the range of compensation and hydrostatic pressure in a deep bath-tub are quite disadvantageous on the patients suffering from circulation insufficiency, hypertension, cardiac disorder and renal insufficiency.

Comfortable bathing in a shallow bath-tub at the water temperature below 40°C works preferably for vegetative labil and arteriosclerotic persons. The increase in tissue partial pressure of O<sub>2</sub> and the improvement of local tissue perfusion serve preferably to maintain good health by virtue of invigorating the tissue viability.