Figure Legend

**Figure 1**

**Passive weight-bearing lower limb exercise equipment**

The equipment was designed so that the foot plates moved downward along with the inclining support rod. Therefore, the distance between the saddle and the foot plate could be kept constant and the subject could exercise without changing the knee joint angle. The subject had to try to balance the center-of-gravity shifts caused by the support rod that repetitively inclined alternatively on the left or right side, thus being more heavily loaded in the lower limb on the inclining side of the rod.

The exercise intensity could be changed by altering the inclining movement cycle.

**Figure 2**

**Exercise protocols**

Exercise was conducted for 3 minutes at each of the exercise intensities, followed by a 5-minute rest.

Blood pressure was monitored from 1 minute before the end of exercise. At the end of exercise, the arterial blood flow was occluded (by a pressure of 600 mmHg) for 1 minute at the proximal region of the left thigh.

The exercise intensities were set as follows.

A: passive weight-bearing lower limb exercise: 0.8 Hz, 1.2 Hz, and 1.6 Hz

B: horse-ride-simulated exercise: 0.8 Hz, 1.2 Hz, and 1.4 Hz

C: bicycle exercise: 20 watts, 40 watts, 60 watts, and 80 watts,
D: walking exercise: 2 km/hr, 3 km/hr, 4 km/hr, 5 km/hr, and 6 km/hr

Figure 3

Method of assessment of muscle oxygen consumption by near-infrared spectroscopy

Measured at the left rectus femoris and gastrocnemius muscles. At rest and immediately after the end of exercise at each intensity, the proximal part of the left femoral region was occluded at 600 mmHg for 1 minute, during which oxygenated hemoglobin levels were acquired. “A” denotes a slope of oxygenated hemoglobin levels acquired at exercise, while “B” denotes that at rest. A value of A/B represents a ratio of oxygen consumed during exercise to that consumed at rest.