Aim: Physical exercise is important for limiting fat mass and preventing obesity. During the low temperature phase of the menstrual cycle, in women, aerobic exercise before lunch is effective in helping maintain lipid consumption. This study aimed to clarify the conditions under which body fat is easily consumed during aerobic exercise, which can be easily performed. We also aimed to clarify the effect of supported pants on consumption of body fat.

Methods: The subjects were eight young Japanese females aged 20s who were slightly a slender to obese one (BMI: 18.7-24.5). They woke at 06:00 after 7 hours of sleep and took the prescribed diet until 07:30. They then entered a climate-controlled room (24.5°C, 50.0%). Subjects were seated for one hour while wearing a short-sleeved 100% cotton t-shirt and one of the following: 100% polyester running pants...
(A), basic pants with 80D yarn (B), 80D yarn pants with a partial modification of pressure with supporting material (C), or 110D yarn pants with the same design as C (D) made from the preliminary experiment. They then engaged in aerobic exercise with loads from 40% to 65% of the maximum heart rate and a total of 30 minutes exercise. Respiratory metabolism and heart rate were measured with a bicycle ergometer. The amount of energy/adipose/carbohydrate was calculated from RQs and oxygen intake.

Results/Findings/Conclusion: Total lipid consumption of aerobic exercise was reduced 12.2–16.1 times larger than control at rest. Body fat was reduced significantly larger (1.3 times) with C compared with A as control. C and D pants, which are partial compression garments, helped to reduce body fat more efficiently than A (non-compression garment) or B (constant compression garment). And if the same exercise intensity, the heart rate was controlled, but oxygen intake increased, it then was though adipose consumption increased. Our findings show partial compression garments may be most effective in reducing body fat.