The Physiologic Cost of Sexual Activity

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PHYSICAL COMPONENT OF SEXUAL ACTIVITY

Sexual activity is often equated with physical activity, such as walking, running, and lifting and carrying objects (1). However, sexual activity can also be equated with states of arousal such as anger or fear (2). In fact, the model of sex as a state of arousal is in many ways more clinically useful than the model of sex as a form of physical exertion, especially in patients with ischemic heart disease. In most cases

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the cardiovascular response to sex is more closely related to sexual arousal than to physical exertion. The distinction between sexual exertion and sexual arousal has important implications when evaluating the cardiovascular tolerance for sexual activity.

Bohlen et al. (3) performed an important investigation of hemodynamic and metabolic responses to sexual activity involving 10 healthy, young, married men ages 25–43 yr (mean age: 33 yr) and their wives. Four types of sexual activity, each carried to orgasm, were evaluated in these men: self-stimulation, partner stimulation, coitus with the woman on top, and coitus with the man on top. Oxygen consumption, heart rate, and blood pressure were measured in the men before, during, and after sexual activity. These sexual activities were followed by a symptom-limited treadmill exercise test designed to evaluate peak exercise capacity.

The heart rate response to the four types of sexual activity is shown in Figure 1. The heart rate during sexual activity, expressed as a percentage of the peak treadmill heart rate, varied from 42–53% during the stimulation phase and from 54–67% during the orgasm phase, with little difference between the four types of sexual activity. The peak heart rate during the stimulation/orgasm phase was greater during coitus with the man on top than with the woman on top (heart rate 127 ± 23 beats/min vs 110 ± 24 bpm, p < 0.02) compared with a peak heart rate of 102 ± 14 beats/min for the two noncoital sexual activities (4).

As shown in Fig. 2, a similar response to sexual activity was found for oxygen consumption ($VO_2$) measured as the metabolic equivalent of