# Efficiency of heating during radiofrequency catheter ablation of accessory atrioventricular pathways

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## 摘要

## Abstract

Adequate heating with myocardial thermal injury is necessary for successful ablation. This study was designed to examine the relationship between power, temperature, and efficiency of heating during radiofrequency catheter ablation of accessory pathways in 76 patients. During each application of radiofrequency energy, temperature was continually monitored by use of an ablation catheter with a thermistor embedded in the tip of the distal electrode. The efficiency of heating varied by location, with the greatest efficiency of heating for posteroseptal energy applications (2.7 ± 2.3°C/W), which were significantly greater than for left-sided (2.1 ± 1.9°C/W, $P < 0.01$) or right-sided (1.0 ± 1.1°C/W, $P < 0.01$) applications. For patients with left free wall and posteroseptal pathways, the temperature, radiofrequency power, time to peak temperature and efficiency of heating were similar between the successful and unsuccessful pulses. However, the mean temperature (53.5 ± 4.5 vs. 45.1 ± 5.1°C, $P < 0.01$) and radiofrequency power (49.6 ± 5.2 vs. 40.3 ± 10.2 watt, $P < 0.05$) differed significantly between the successful and unsuccessful ablation pulses in patients with right free wall pathways. To achieve greater efficiency of heating and higher temperature, it is reasonable to use higher power outputs (40-50 W) in radiofrequency ablation of right free wall pathways, whereas less power outputs (30-40 W) are likely to produce adequate heating of posteroseptal and left free wall pathways, and minimize the risk of impedance rise and coagulum formation.