

## IMAGES IN CLINICAL MEDICINE

## Electrocardiographic Changes in Extreme Hypothermia



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**A** 39-YEAR-OLD MAN WAS BROUGHT TO THE EMERGENCY DEPARTMENT with altered mental status and a core temperature of 27.6°C. The patient appeared to have had exposure to cold temperatures. He was known to have human immunodeficiency virus infection and had been taking trimethoprim–sulfamethoxazole and risperidone. His pulse was 40 beats per minute, his respiratory rate was 10 breaths per minute, and his blood pressure was 90/50 mm Hg. A computed tomographic scan of the patient's head was normal, as were findings on lumbar puncture and electrolyte measurements. A chest radiograph showed aspiration pneumonia. Electrocardiography revealed classic signs of hypothermia, including an Osborn wave (a distinct bulging of the J point, at the beginning of the ST segment) in lead II (arrow), sinus bradycardia, a prolonged PR interval, and a prolonged QT interval corrected for heart rate. After the patient was warmed, his electrocardiogram showed a return to sinus rhythm and disappearance of the Osborn wave. There was no evidence of myocardial ischemia on enzyme testing. After a long hospitalization, the patient was moved to a long-term care facility, where, after two months, he remained intubated.

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