We treated 58 patients with osteoid osteoma by CT-guided radiofrequency ablation (RF). In 16 it followed one or two unsuccessful open procedures. It was performed under general anaesthesia in 48, and spinal anaesthesia in ten. The nidus was first located by thin-cut CT (2 to 3 mm) sections. In hard bony areas a 2 mm coaxial drill system was applied. In softer areas an 11-gauge Jamshidi needle was inserted to allow the passage of a 1 mm RF probe into the centre of the nidus. RF ablation was administered at 90 degrees C for a period of four to five minutes. Three patients had recurrence of pain three, five and seven months after treatment, respectively, and a second percutaneous procedure was successful. Thus, the primary rate of success for all patients was 95% and the secondary rate was 100%. One minor complication was encountered. CT-guided RF ablation is a safe, simple and effective method of treatment for osteoid osteoma.