A randomized, double-blind, placebo-controlled study of buprenorphine was carried out in 20 patients after cholecystectomy. The drug was given on "patient demand" either i.m. (0.15 mg) or sublingually (0.2 mg) with a minimum dose interval of 30 min. Over the 24-h study period the mean demand by the sublingual route was 0.8 mg (range 0.6-1.2 mg) and by the i.m. route 0.66 mg (range 0.45-0.9 mg). Pain relief, by visual analogue scales and grading, was similar. Plasma buprenorphine concentrations varied more after sublingual administration. Either route was effective for the treatment of pain when administered by "patient demand".