AIM of this study was to investigate, how often TNM staging is changed in patients with malignant pleural mesothelioma (MPM) by the application of integrated PET-CT compared to computed tomography alone and how often these changes are clinically relevant. PATIENTS, METHODS: We studied 17 patients (68 +/- 6 years, 8 women) with MPM. Integrated PET-CT scan and histological confirmation were performed in all patients. RESULTS: Final histological diagnosis confirmed 9 epithelial type, 2 sarcomatoid type and 6 biphasic type MPM. Mean standardized uptake value (SUV) was 5.9 +/- 1.9 in epithelial MPM and 15.1 +/- 10.2 in sarcomatoid MPM. CT and PET-CT revealed discordances in 8/17 (47%) patients in TNM classification with 4/8 (50%) being clinically relevant. PET-CT led to downstaging in 5 (29%) and upstaging in 3 (18%) patients. Mean survival time tended to be higher in the subgroup of patients with lower mean SUV. CONCLUSIONS: PET-CT seems to be a valuable tool in staging of MPM and leads to discordant findings in almost every second patient compared to CT alone. In many cases these differences are clinically relevant and have therapeutic consequences.