33 ferrets (Mustela putorius furo, 11 females, 22 males, ASA I-II) were neutered in a combination anaesthesia with medetomidine, midazolam and ketamine. The animals were randomized into 3 groups. All animals received 20 microg/kg BW medetomidine and 0.5 mg/kg BW midazolam. The three groups differed regarding dosis and way of application of ketamine (IM10 = 10 mg/kg BW intramuscularly; IM07 = 7 mg/kg BW intramuscularly; SC10 = 10 mg/kg BW subcutaneously). After 30 minutes anaesthesia was partially antagonised with 100 microg/kg BW atipamezole i.m.. Sedation, muscle relaxation, analgesia, and overall anaesthetic impression were compared by a scoring protocol. Reactions to painful stimuli of clamping the spermatic cord or the ovarian ligament including the A. ovarica were judged, too. All animals lost their righting reflex and could be placed in dorsal recumbency. Induction and recovery time were significantly the shortest in study group IM10 with 1.73 +/- 0.3 and 9.73 +/- 4.6 min respectively. Recovery was significantly prolonged in group SC10 with 30.27 +/- 15.6 min. The MMK-anaesthesia with 10 mg/kg ketamine i.m. is very useful for neutering ferrets. Respiratory depression and bradycardia typically for medetomidine were seen in all three combinations, but quickly reversed after partial antagonisation. Induction and intubation, followed by inhalation anaesthesia, were possible
with all three regimes.