We performed vasectomy operations on 12 spotted deer in our zoo under anaesthetic combination. We used Acepromazine (0.4 mg/Kg body weight) and Ketamine (10mg/Kg body weight) in six spotted deer and Xylazine (0.5mg/Kg body weight) and Ketamine (2.5mg/Kg body weight) in an additional six spotted deer. The above anaesthetic combinations were darted to the stags by using 5 ml and 10ml capacity syringes. For Ketamine-Acepromazine anaesthetic combination 10 ml syringes were used and for Ketamine-Xylazine anaesthetic combinations 5ml syringes were used. The above anaesthetic filled syringes were darted by using long range dart gun. After anaesthetic induction posterior side of the scrotum was surgically prepared. The incision was taken on posterior side of neck of scrotum. The vas deferens was located and separated from spermatic cord and it was ligated at two sides. The portion between the two ligations was cut. The subcutaneous tissue was sutured using medium chromic catgut suture (size 0) and skin by polyglactin 910 (Vicryl). We took anaesthetic parameters and also collected blood for haematological and serum biochemistry parameters. We observed all deer postoperatively for normal feeding, behaviour and postoperative struggling trauma. No mortality was found during the induction of anaesthesia. All the deer which had been operated were normal except two deer. In these two deer limping was found one day after operation but it was disappeared after 2 to 3 days postoperatively.