

## REVIEW ARTICLE

# Single-Port Laparoscopic Placement of Peritoneal Dialysis Catheter

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## ABSTRACT

Recent advances in laparoscopic surgery have led to development of various laparoscopic techniques, both for treatment of malfunctioning catheter and insertion of a dialysis catheter. Most of the techniques use two to four ports. Each port entry can cause weakness of the abdominal wall, and hence possibility of leak or hernia. The technique of single port has been introduced for the management of obstructed catheter and insertion of another catheter. In this article, we report and evaluate the results of single port technique in the placement of tenckhoff catheter in chronic renal failure patients (in both adult patients and children).

*Aim:* To know the efficacy and safety of laparoscopic single port insertion of peritoneal dialysis catheter (tenckhoff) and its value in catheter efficiency time, postoperative complications, hospital stay, operation time.

*Materials and methods:* A review of literature by searching in Google, Springer library facility available at the world laparoscopy hospital.

*Characteristics of variables:* Male : Female ratio, mean age, catheter survival rate, hospitalization period, early and late postoperative complications, rate of hernia and leak, catheter migration, exit site infection.

**Keywords:** Laparoscopy, Tenckhoff, PD catheter.

## DETAILS OF THE PROCEDURE

The procedure is done under general anesthesia; patient was positioned in supine and 5 mm port was inserted for telescope at the left lateral margin of the rectus muscle in the upper quadrant at the midclavicular line. Pneumoperitoneum was created through same port. An intra-abdominal pressure was kept below 12 mm Hg during the procedure.

Diagnostic laparoscopy was done; a 5 mm incision was made just to the left of the umbilicus by 2 cm, and a coiled catheter was inserted towards the pelvis in a 45° angle to the abdominal wall.

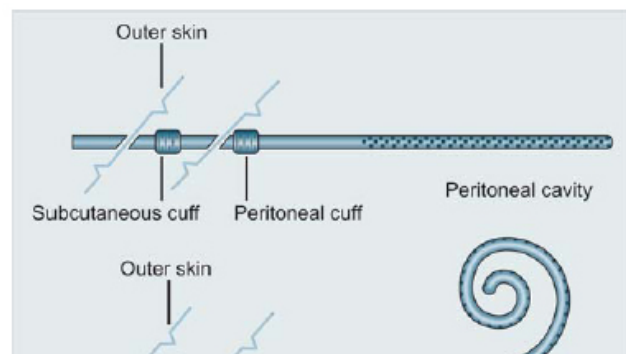
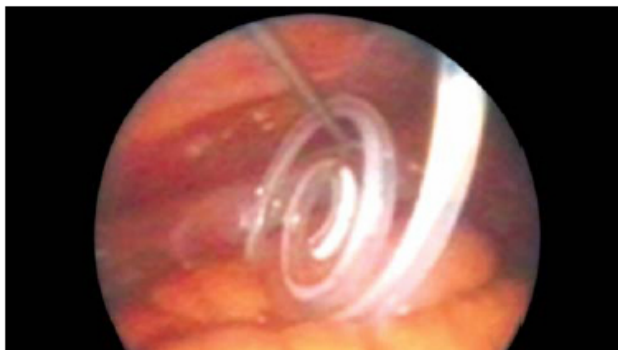
The catheter position was checked, and patency insured by flushing, and good inflow and outflow obtained.

The catheter was then heparinized and used for dialysis after 2 weeks (Figs 1 and 2).

Mean operation time was 25 minutes.

## DISCUSSION AND RESULTS

Laparoscopic Tenckhoff catheter insertion was introduced in 1980. It has advantage over the open and percutaneous methods. It has lower incidence of flow obstruction, less chance of visceral injury and better patient compliance. The single-port method was developed for the management of malfunctioning catheters and insertion of the catheter in a complicated abdominal cavity.





**Fig. 1:** Coiled catheter used in laparoscopic method



**Fig. 2:** Two types of PD catheters: Straight and Coiled

### CONCLUSION

Compared to open and multiple-port techniques, single-port laparoscopic tenckhoff catheter insertion is safe, with very high catheter survival rate, good patient compliance, less early and late postoperative complications, less chances of leak and hernia, less hospitalization time and less exit site infection rate.

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