

Laparoscopic Assisted Orchidopexy

R.K.Mishra



Introduction

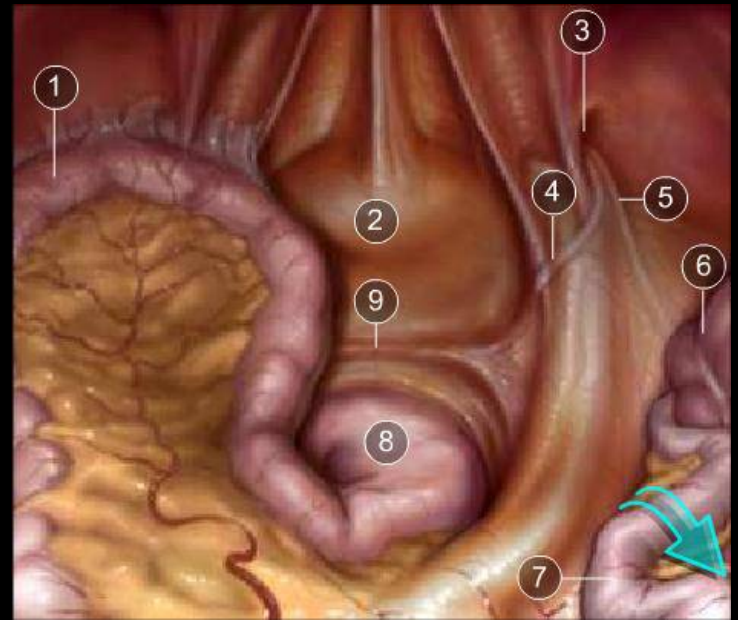
The incidence of cryptorchidism is about 1% to 3% in male infants. In 20% of cases, the testis is non-palpable (Vaysse, 1994; Esposito et al., 2000). Laparoscopic exploration must be performed only where a non-palpable testis is identified. If laparoscopic exploration shows an intra-abdominal testis (IAT), a laparoscopically assisted orchidopexy (LAO) is indicated.

The laparoscopic procedure was first described by Cortesi et al. in 1977. In 1989, both Elder and Bloom advocated the use of the Fowler-Stephens laparoscopic orchidopexy. Nassar (1995), Kirsch et al. (1998) and Esposito et al. (2000) proposed a laparoscopically assisted orchidopexy without the sectioning of testicular vessels for an IAT.

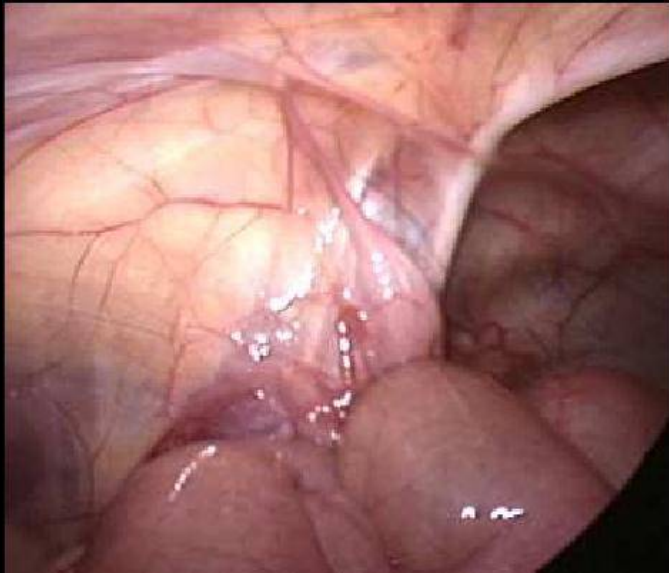
Anatomy

Laparoscopic view of the pelvis

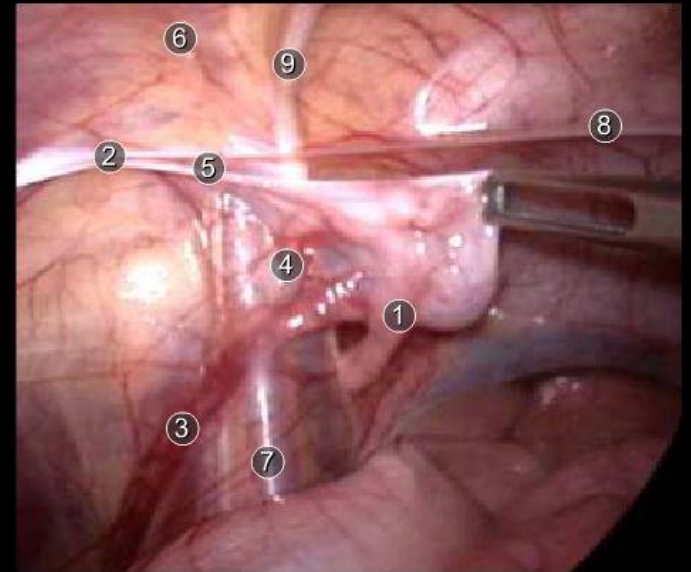
1. Sigmoid colon
2. Bladder
3. Right deep inguinal ring
4. Vas deferens
5. Spermatic vessels
6. Cecum
7. Ileum
8. Rectum
9. Peritoneal reflection



Anatomy

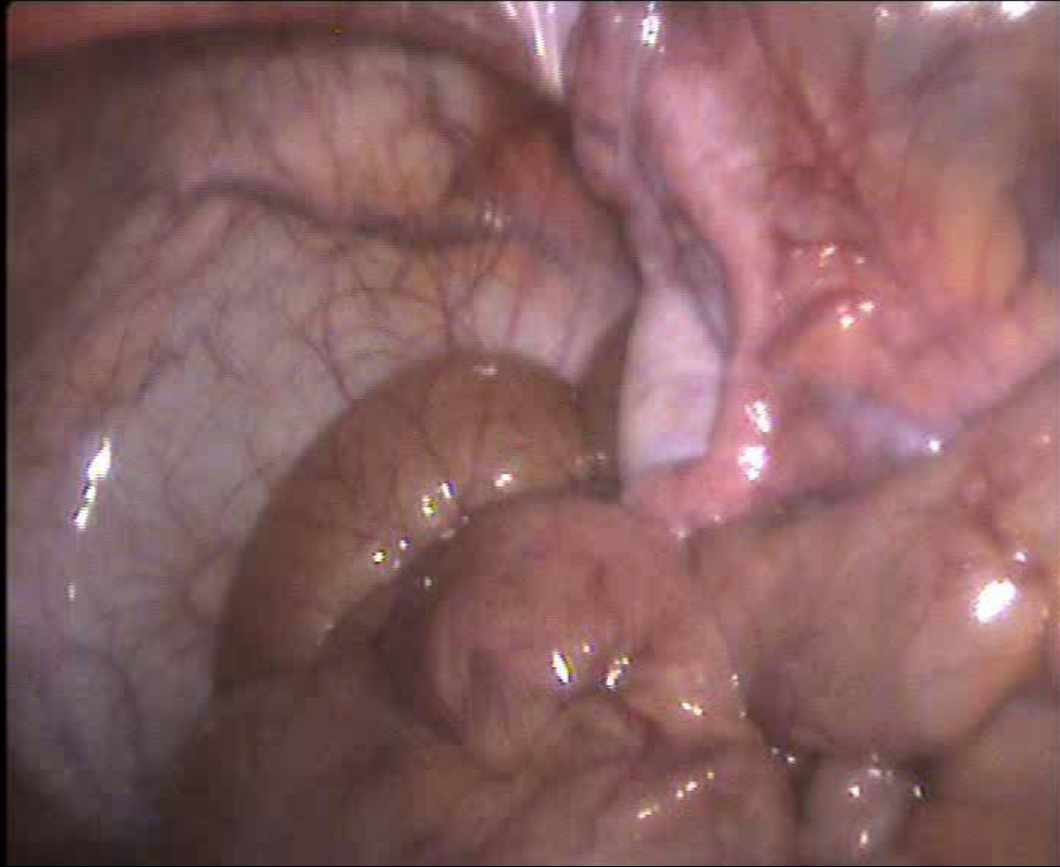


1. Testis
2. Internal inguinal ring
3. Testicular vessels
4. Vas deferens
5. Gubernaculum testis
6. Epigastric vessels
7. Iliac vessels
8. Bladder
9. Umbilical vessels





Orcheodectomy in Adult

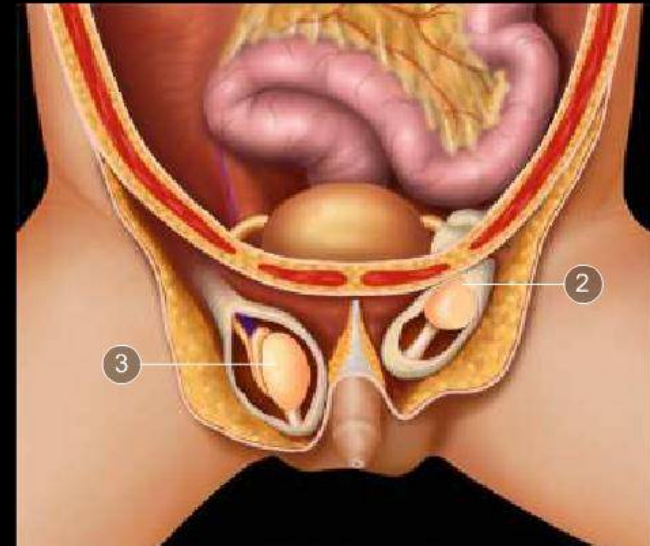
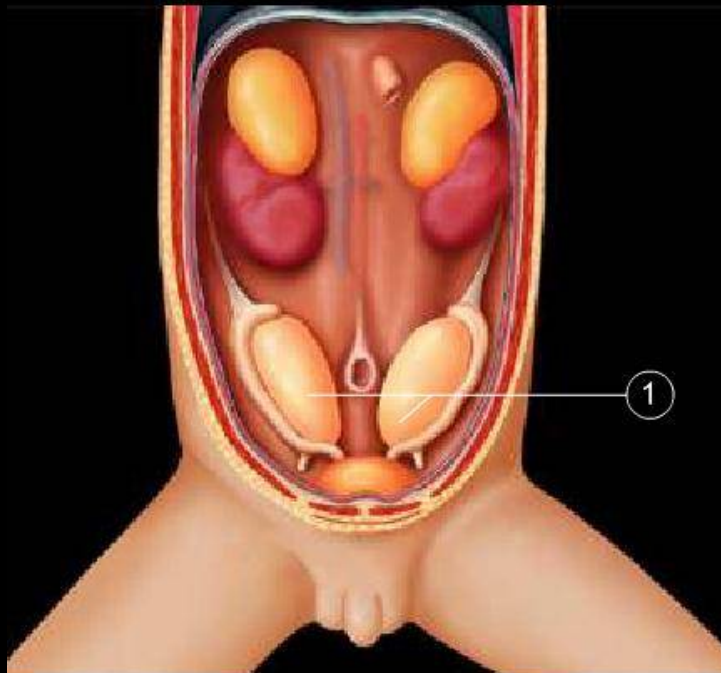




Extraction

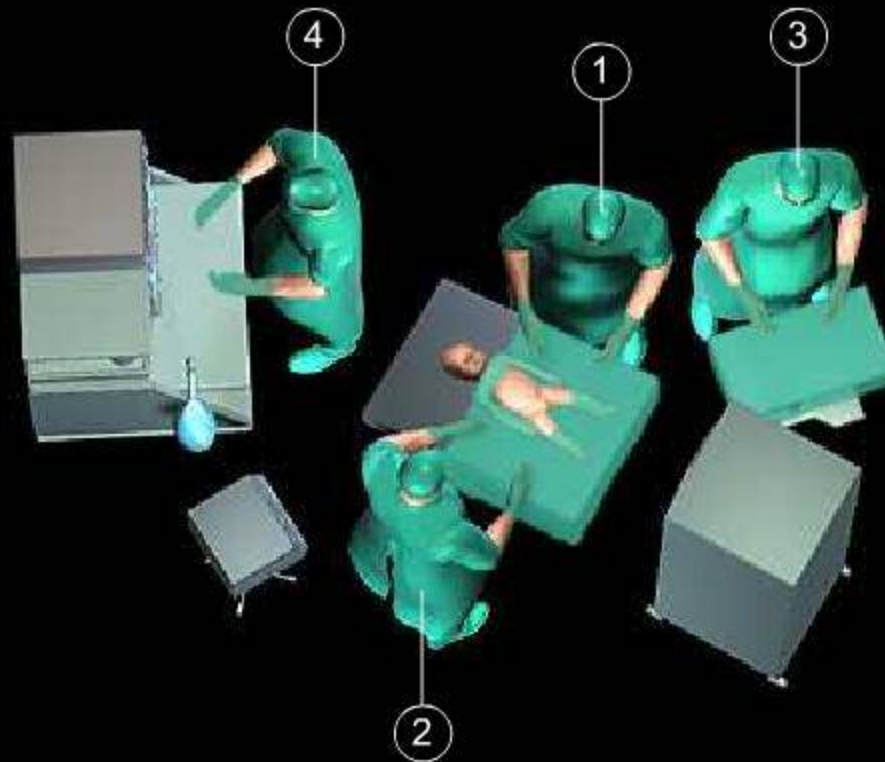


Pathophysiology



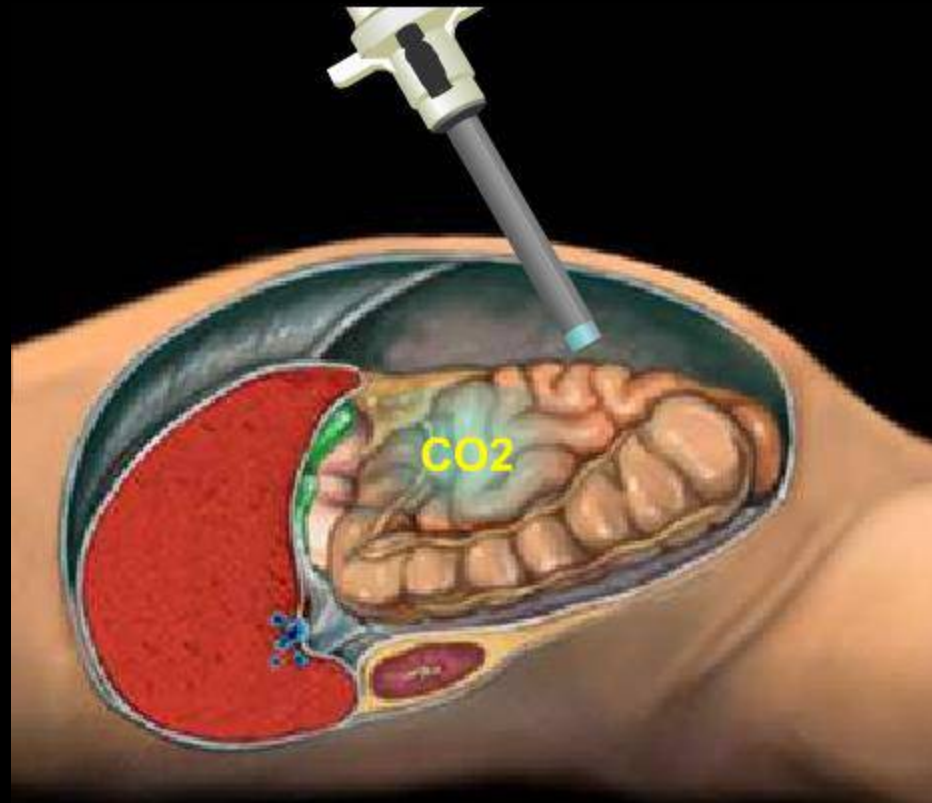
1. Intra-abdominal phase
2. Canalicular phase
3. Scrotal phase

Pathophysiology

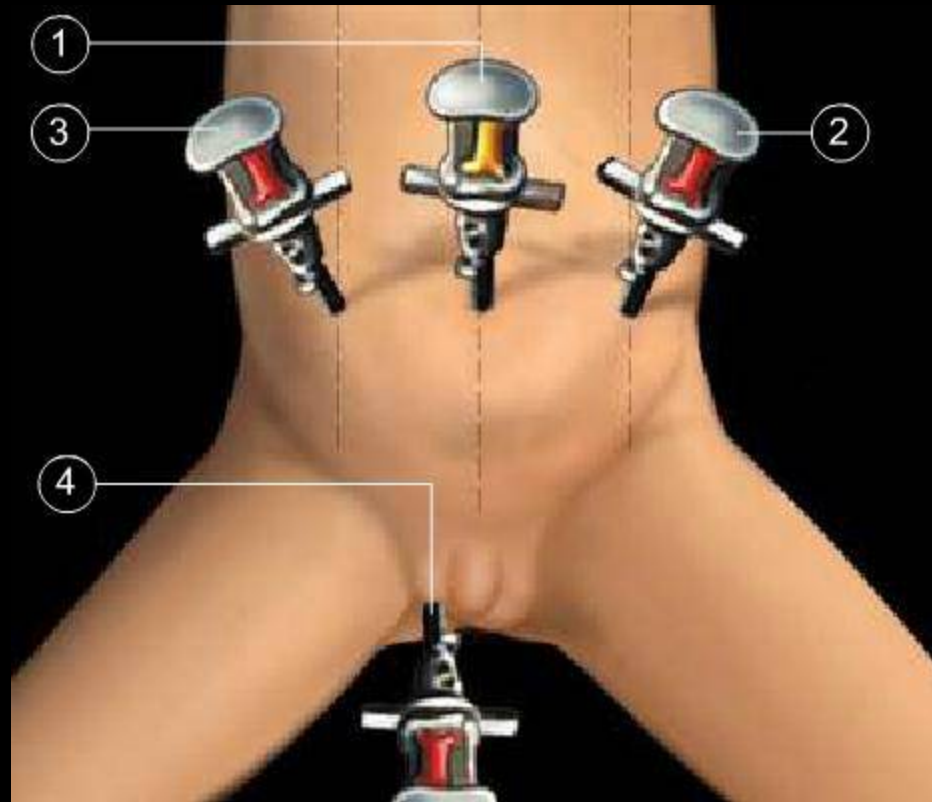




Pneumoperitoneum



Port position

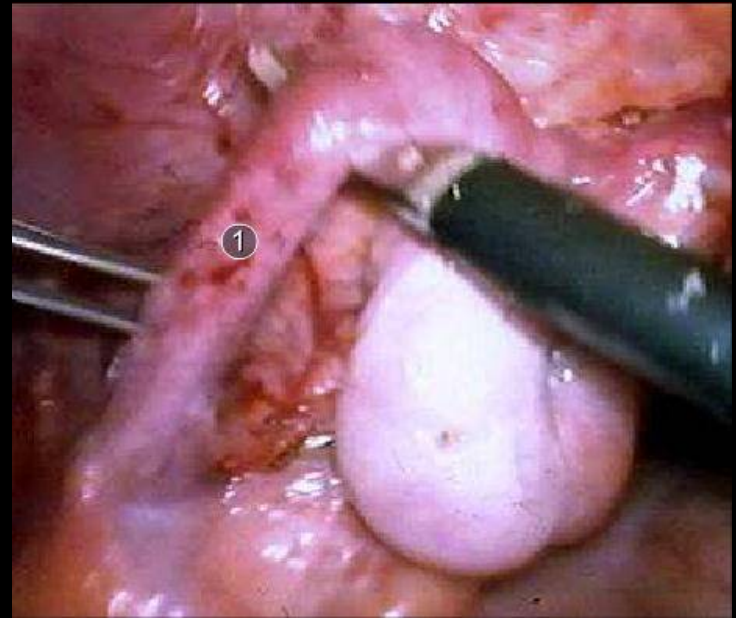


Mobilization of Testicular Vessels

1. Testicular vessels

The posterior peritoneum is opened close and laterally to the testis. A window is created behind the testicular vessels. The testicular vessels are mobilized from the posterior peritoneum for about 8 cm to 10 cm using blunt dissection. Finally, the vas deferens is mobilized from the posterior peritoneum.

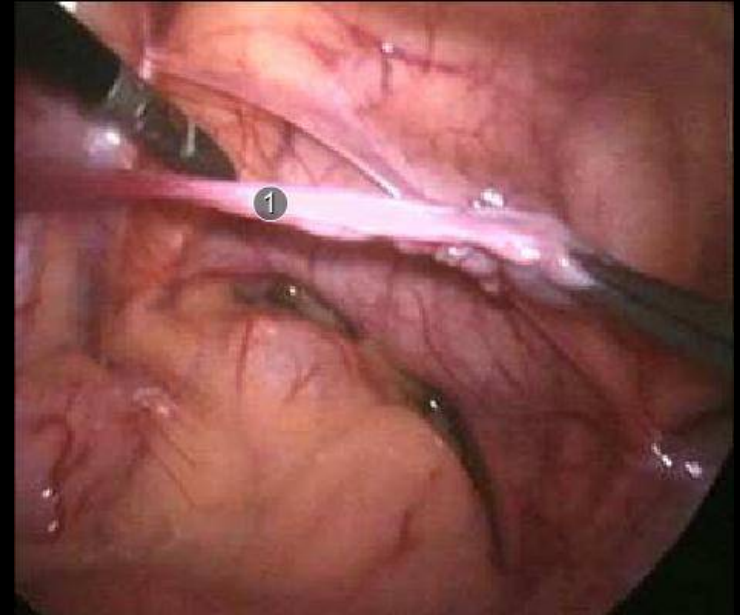
Dissection should be careful in order to avoid lesions of the ureter or iliac vessels.



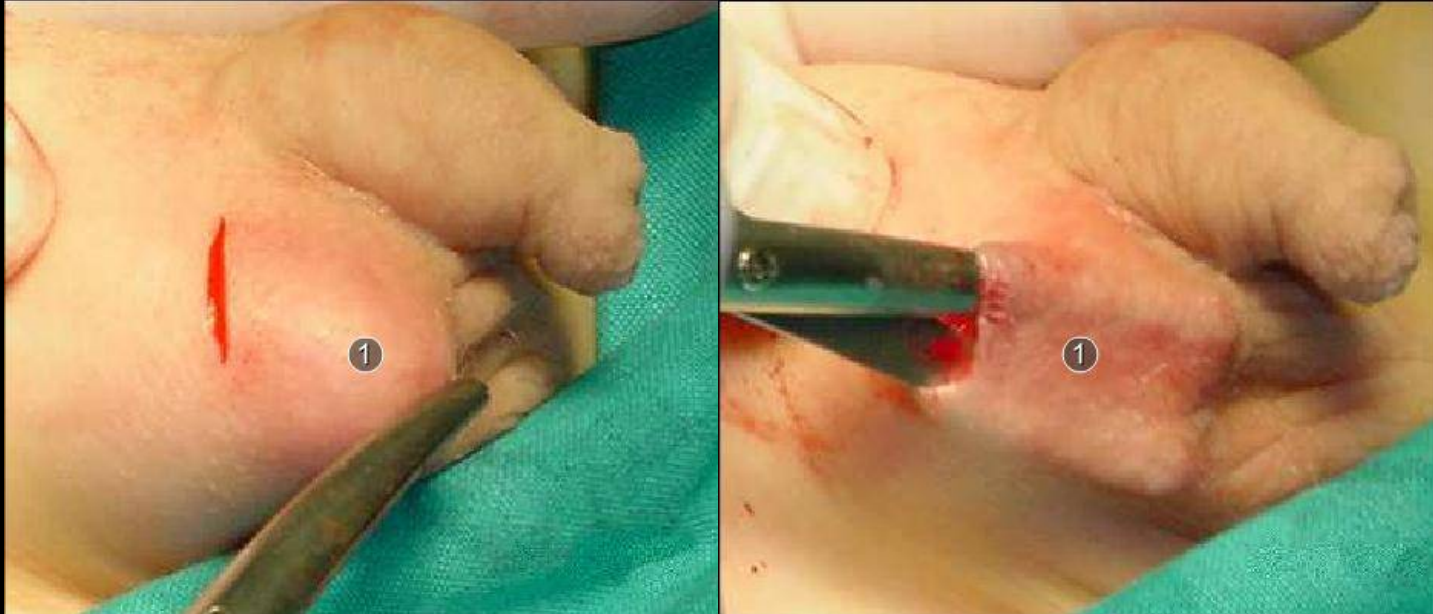
Vessel length

1. Vessel length

Before proceeding further, it is important to control the length of the testicular vessels to ensure a tension-free orchidopexy. This can be achieved by grasping the testis with a forceps and moving it to the level of the contralateral internal inguinal ring. If this maneuver is possible, a tension-free orchidopexy is feasible. If this is not possible, the testicular vessels must be dissected higher up.



Dartos pouch

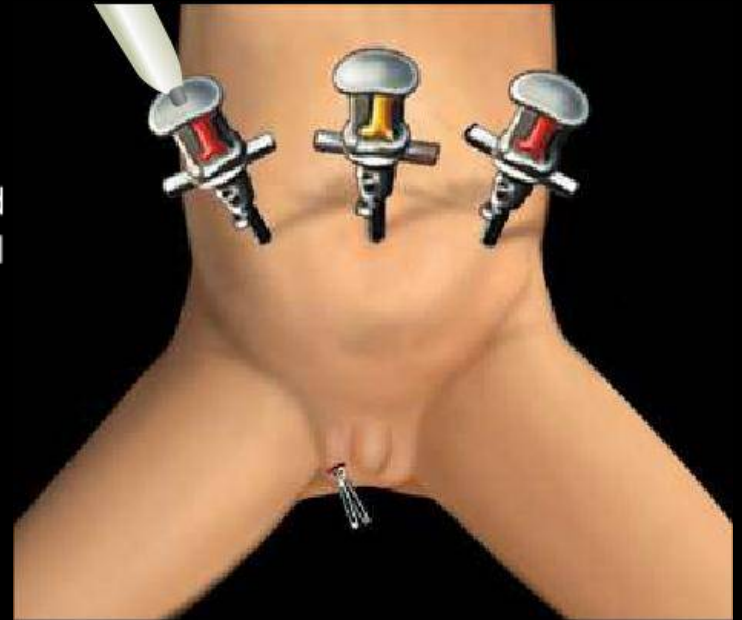


1. Dartos pouch

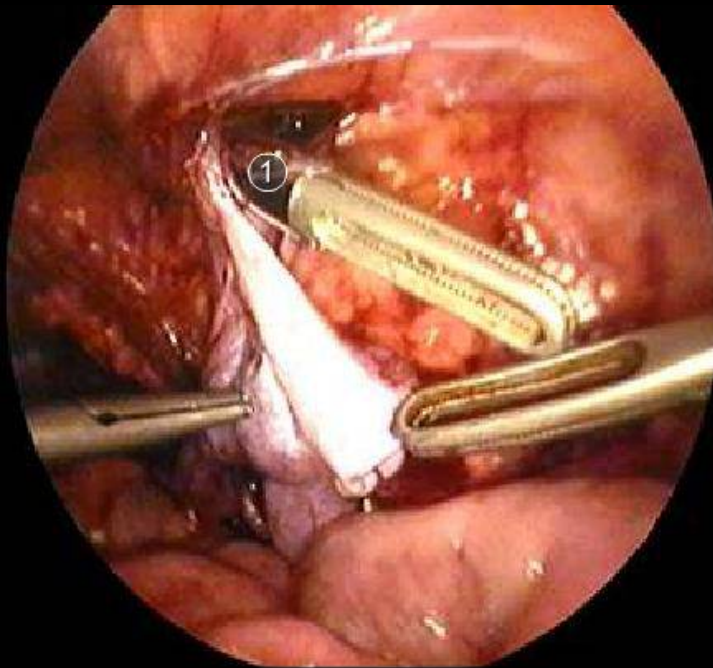
The scrotum is incised homolaterally and a dartos pouch is created as in an open orchidopexy. Both laparoscopic and open surgical procedures are used to accomplish the orchidopexy. Excessive traction on the testicular vessels should be avoided, as this can provoke their rupture.

Orchidopexy

A forceps is introduced through trocar C. This is passed from the abdomen through the internal inguinal ring and into the scrotum. The tip of the forceps exits at the level of the scrotal incision created in the preceding step.



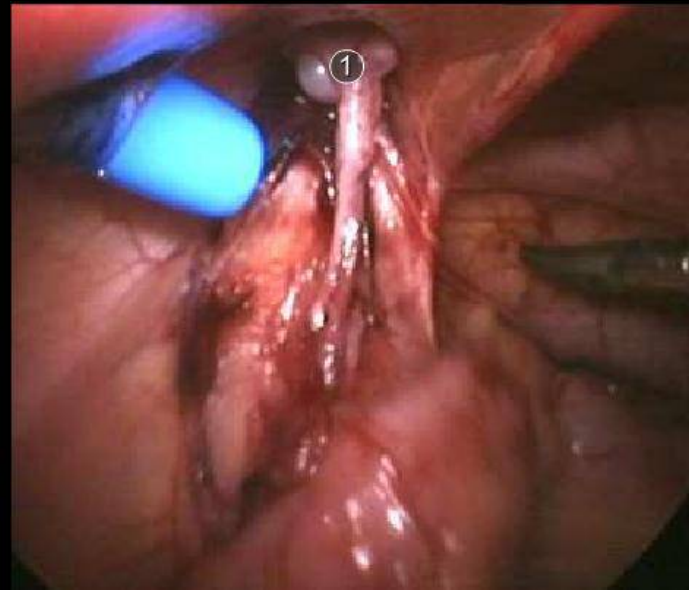
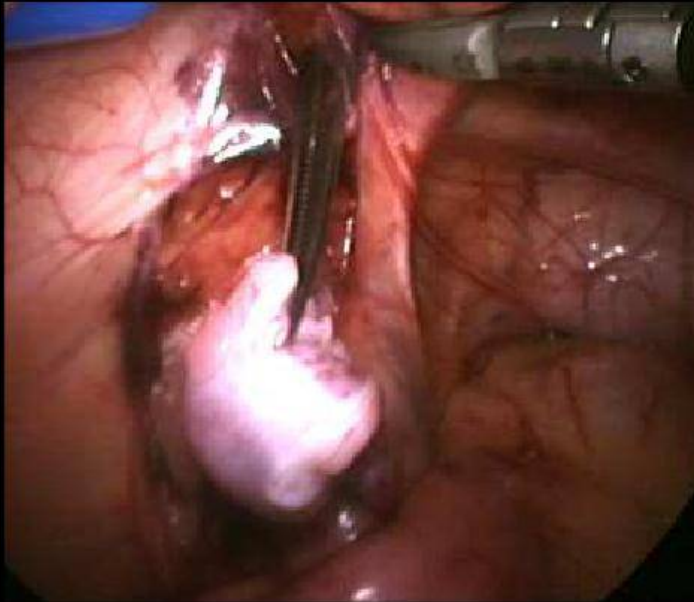
Orchidopexy



1. Scrotal trocar D

From the outside, a trocar sheath is placed onto the forceps that now exits through the scrotal incision, and pushed into the abdominal cavity along the path followed by the forceps. It may be necessary to dilate the pathway. Once this is done, the first forceps is removed and a grasping forceps is introduced through the scrotal trocar.

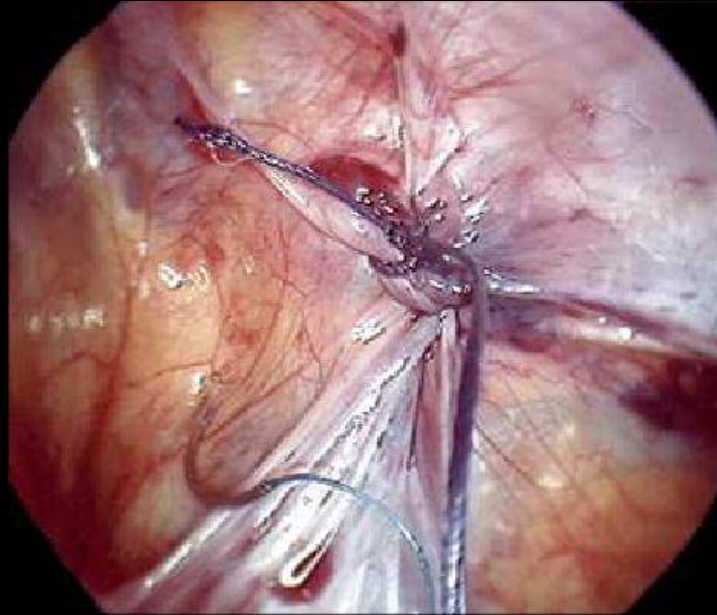
Pull through of Testes



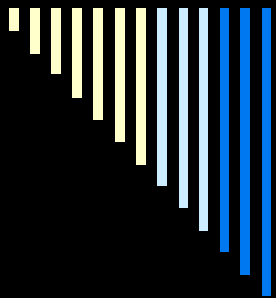
1. Pull-through of testis

With the grasping forceps, the testis is now pulled down into the scrotum through the internal inguinal ring or through a medial neo-inguinal ring made by the surgeon. The testis is fixed in the scrotum with 2 separated stitches as in an open orchidopexy. The scrotal incision is closed.

Peritoneal closure



One or more separated stitches are needed between the 2 muscular sides of the internal inguinal ring for closure. For this, 2.0 non-absorbable sutures are used. The pneumoperitoneum is desufflated, and the trocar incisions are closed with intradermic absorbable sutures.



Laparoscopic Orcheopexy



Farewell of Batch February 2009