Nerve injury associated with gyneocological surgury

Dr. Leila Ghorbani
Fellowship of Pelvic Floor Reconstructive Surgery

most common causes

- Transection from incision, trocar insertion, or thermal injury from electrosurgical devices
- Transvere incision
- Longitudinal incision

- Entrapment from ligation for control of bleeding, tissue reapproximation (eg, closure of retroperitoneum), or reconstructive pelvic surgery (eg, vaginal or bladder suspension procedures)

- Compression or stretching of the nerve from patient positioning, retractors, clamps, or hematoma

Neuroma

- neuroma can form at the transected or traumatized edge of a nerve or at the site of nerve entrapment (eg, as a result of scar tissue).

- clinical diagnosis can be made in a patient with pain and burning at the incision site, sensory impairment in the area of nerve distribution, referred pain to the groin

PREVENTION OF NERVE INJURY

Avoid patient malposition

- ●There should be minimal abduction and external hip rotation.
- ●The hips, lateral fibulas, posterior thighs, and heels should be padde

- The hips and knees should be moderately flexed and securely supported.

- ●The weight of the lower extremities should be directed toward the soles of the feet.

- ●Knee stirrups should be adjusted so that tissue is not folded over metal and the stirrup edges do not cut into the calf (eg, peroneal nerve), posterior thigh, or low on the Achilles tendon.

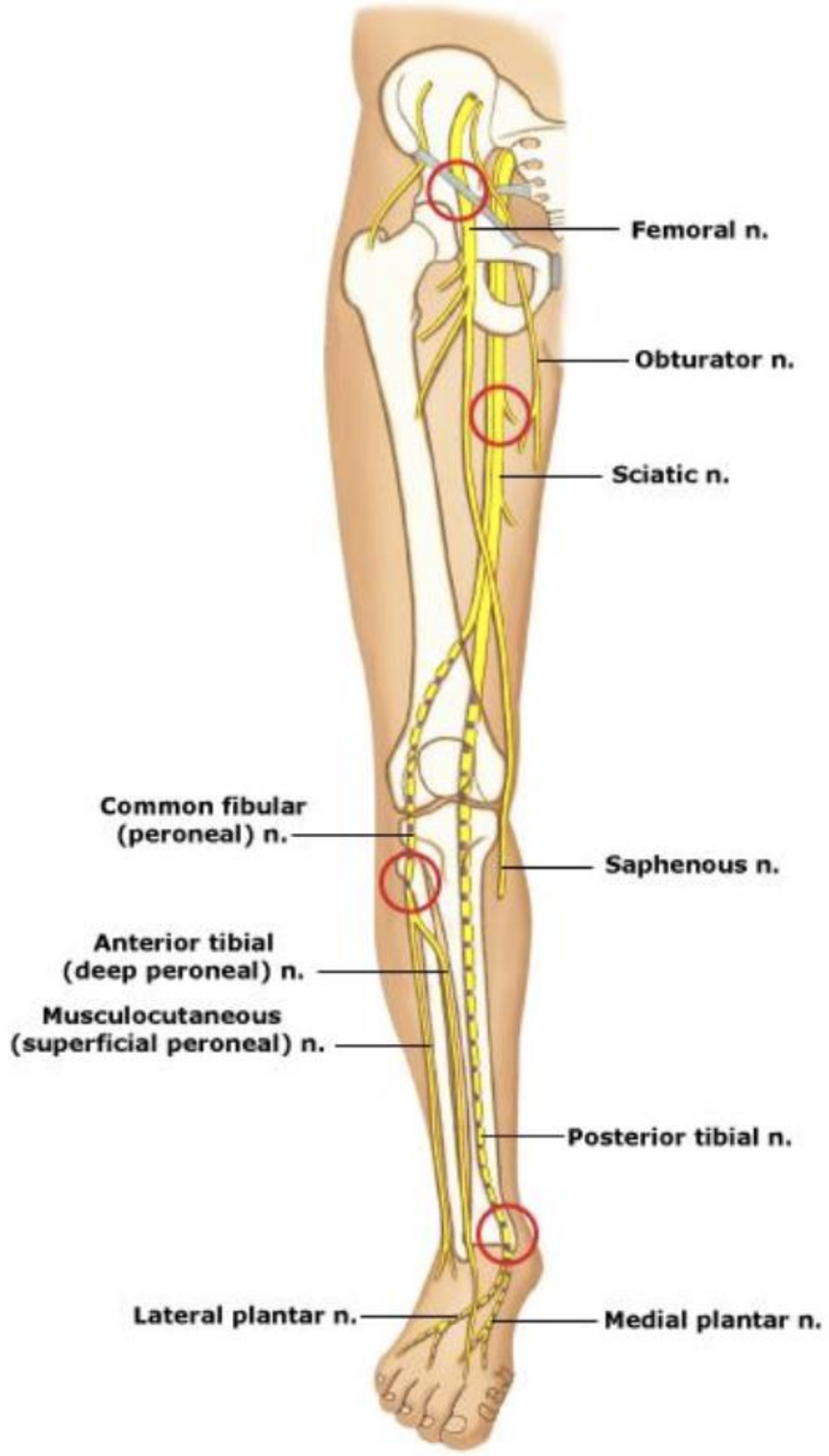
- Once the patient has been draped, further movement or positioning of the limbs should be avoided..

- Supine patients should be positioned to prevent their heels and arms from contacting hard surfaces.
- If the arms are placed at an angle to the body, the upper extremities should not extend more than 90° from the woman's side.

Avoid prolonged lithotomy position

- For procedures extending beyond four hours, the surgical team should consider repositioning the patient into a supine position for 20 to 30 minutes to try to avoid these complications

Nerves prone to stretch or compression in lithotomy



- Peroneal nerve injury is characterized by foot drop, instability in dorsiflexion and inversion of the foot, and numbness of the lateral leg and dorsum of the foot
- Signs of tibial nerve injury consist of difficulty with plantar flexion and toe extension, and sensory loss at the back of the leg and sole of the foot.

Avoid extreme Trendelenburg position

- Brachial plexus injury
- Steep Trendelenburg (30° to 45°) is most often needed during robotic-assisted laparoscopic pelvic surgery (eg, prostatectomy, hysterectomy).

Attention to the surgical incision

- ●Use of a midline longitudinal incision is less likely to disturb abdominal nerves than a transvers

- ●A short transverse incision placed within the borders of the rectus muscles and 3 cm above the symphysis pubis results in minimal loss of neural function. If it is necessary to extend the incision, curving it cephalad, rather than continuing in a straight line

- ●Avoiding use of cautery on the perforating branches of epigatric vessels.
- suturing only the external oblique aponeurosis to prevent nerve injury

Attention to retractors

- Lateral retractor blades should not compress the psoas muscle. Use of the shortest blade that effectively retracts the abdominal wall minimizes the risk of this complication. In thin patients, rolled laparotomy packs placed between the retractor and the anterior abdominal wall can be helpful. If possible, avoiding an extended transverse incision is also useful, because it precludes positioning the retractor very far laterally. Blade position should be inspected upon placement and reinspected periodically during long cases, with relief of pressure, especially if a self-retaining retractor is being used.