TUBAL LIGATION

*Diagnosis:* Female

**Related Diagnoses:**
- Menstrual cycle disorders
- Fallopian tube blockage
- Ovarian cancer

**About Tubal ligation**

Tubal ligation is a surgical procedure for sterilization in which a woman's fallopian tubes are clamped and blocked, or severed and sealed, either method of which prevents eggs from reaching the uterus for implantation. However, fertilization can still occur in the fallopian tubes. While its benefits, such as effectiveness in protecting against pregnancies, minimal need for long-term follow-up and low side-effects profile are well documented, it has many reported complications. *Hormone production, libido, and the menstrual cycle can be affected by a tubal ligation.*

In women, a tubal ligation can be done in many forms; through a vaginal approach, through laparoscopy, a minilaparotomy ("minilap"), or through regular laparotomy. With traditional tubal ligation, the surgeon severs the tubes, and then ties (ligates) them off thereby preventing the travel of eggs to the uterus. Also, a distinction is made between postpartum tubal ligation and interval tubal ligation, the latter not being done after a recent delivery. There are a variety of tubal ligation techniques; the most noteworthy are the Pomeroy type that was described by Ralph Pomeroy in 1930, the Falope ring that can easily be applied via laparoscopy, and tubal cauterization done usually via laparoscopy. In addition, a bilateral salpingectomy is effective as a
A tubal ligation can be performed as a secondary procedure when a laparotomy is done; i.e. a cesarean section. Any of these procedures may be referred to as having one’s "tubes tied."

Tubal ligation can be performed under either general anesthesia or local anesthesia (spinal or epidural, often supplemented with a tranquilizer to calm the patient during the procedure). The default in tubal ligations following on from cesarean birth is usually spinal/epidural, while the default in non-childbirth related situations may be general anesthesia as a matter of doctor preference. However, tubal ligations under local anesthesia, either inpatient or outpatient, may be performed under patient request.

It is advised that women should not undergo this surgery if they currently have or had a history of bladder cancer because risks associated with tubal ligation include bladder injury or bladder infections after surgery.

**Associated diseases**

- ovarian cancer
- post tubal ligation syndrome
- dysmenorrhea

**Complications**

- ectopic pregnancy
- sexually transmitted infections
- increased premenstrual distress
- heavier and more prolonged menstrual bleeding
- permanent infertility
- damage to the bowel or other pelvic organs

**Risk factors**

Risk of complications was increased in women who had operation after vaginal therapy, in luteal phase, after cesarean section and in follicular phase, respectively. Modified pomery, and parkland methods of operation were ascendingly related to increased risk of complications. Age, history of pelvic pain, method of anesthesia, incision size and time of operation were not significantly correlated with complications. Frequency of complications is higher in women that had other procedures during surgery.

**Impact on fertility**

Tubal sterilization is an increasingly common method of contraception. Available evidence suggests that sterilization fails in 0.13-1.3% of sterilization
procedures and of these, 15-33% will be ectopic pregnancies. The risk of ectopic pregnancy is 12.5% for women who have had tubal ligation, which is a greater risk than for those who have not had the surgery. An ectopic or extra uterine pregnancy is one in which the blastocyst implants anywhere other than the endometrial lining of the uterine cavity. Recanalization or formation of tuboperitoneal fistulas occur, the openings of which are large enough for passage of sperm but too small to allow an ovum to push through, resulting in fertilization/implantation in the distal tubal segment. The history of tubal sterilization does not rule out the possibility of ectopic pregnancy even many years after the procedure and prophylactic bilateral salpingectomy may be considered in such cases that there is no obvious tubal lesion.

Prevention

Before doing a tubal ligation, woman should discuss side effects and risks with her doctor so the woman would understand and would be able to adjust side effect, such as Post tubal ligation syndrome (abnormal bleeding and/or pain, changes in sexual behavior and emotional health, increased premenstrual distress).

Symptoms

- infertility

Therapies

Self therapy

Does not exist.

Conventional medicine

Pharmacotherapy

There is no effective treatment.

Surgical therapy
Tubal reversal surgeries require the techniques of microsurgery to open and reconnect the fallopian tube segments that remain after a tubal sterilization, reimplant remaining segments, or create new fimbria.

**Assisted reproduction**

In vitro fertilization may overcome fertility problems in patients not suited to a tubal reversal (microsurgery to repair the fallopian tube after a tubal ligation procedure). Females who want to have a baby after tubal ligation and undergo in vitro fertilization (IVF-ICSI) are likely to be as successful as their subfertile peers who have IVF.

**Find more about related issues**

**Diagnoses**

- **Menstrual cycle disorders**
  An abnormal condition in a woman’s menstrual cycle.
  Learn more at: [www.fertilitypedia.org/therapy/diag/menstrual-cycle-disorders](http://www.fertilitypedia.org/therapy/diag/menstrual-cycle-disorders)

- **Fallopian tube blockage**
  An obstruction prevents the egg or sperm from traveling down the tube, thus making fertilization impossible.
  Learn more at: [www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage](http://www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage)

- **Ovarian cancer**
  A type of cancer in which abnormal cells begin to grow in one or both of a woman’s ovaries.
  Learn more at: [www.fertilitypedia.org/therapy/diag/ovarian-cancer](http://www.fertilitypedia.org/therapy/diag/ovarian-cancer)

**Organs**

- **Fallopian tubes**
  Two very fine tubes that transport sperm toward the egg, and allow passage of the fertilized egg back to the uterus for implantation.
  Learn more at: [www.fertilitypedia.org/edu/organs/fallopian-tubes](http://www.fertilitypedia.org/edu/organs/fallopian-tubes)
Uterus
The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive
Learn more at: www.fertilitypedia.org/edu/organs/uterus

Reproductive cells

Oocyte
A female germ cell involved in reproduction.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/oocyte

Reproductive functions

Fertilization
The fusion of an ovum with a sperm to initiate the development of a new individual organism.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/fertilization

Risk factors

Cesarean section
A surgical procedure in which one or more incisions are made through a mother’s abdomen and uterus to deliver one or more babies.
Learn more at: www.fertilitypedia.org/therapy/rg/cesarean-section

Ectopic pregnancy
A complication of pregnancy in which the embryo attaches outside the uterus.
Learn more at: www.fertilitypedia.org/therapy/rg/ectopic-pregnancy

Sexually transmitted diseases
Illnesses that have a significant probability of transmission between humans by means of human sexual behavior and that may impact fertility.
Learn more at: www.fertilitypedia.org/therapy/rg/sexually-transmitted-diseases

Symptoms
Depression
The emotional state characterized by persistent feel of low self-esteem, loss of interest, sadness and negative attitude.
Learn more at: www.fertilitypedia.org/edu/symptoms/depression

Fatigue
A subjective feeling of tiredness which is distinct from weakness, which has a gradual onset.
Learn more at: www.fertilitypedia.org/edu/symptoms/fatigue

Heavy or prolonged bleeding in menstrual period
Abnormally heavy or prolonged bleeding in menstrual periods.
Learn more at: www.fertilitypedia.org/edu/symptoms/heavy-or-prolonged-bleeding-in-menstrual-period-1

Infertility
The failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.
Learn more at: www.fertilitypedia.org/edu/symptoms/infertility

Lowered libido
The absence of sexual appetite.
Learn more at: www.fertilitypedia.org/edu/symptoms/lowered-libido

Painful menstruation
Dysmenorrhea is a pain during menstruation. It is the most common menstrual disorder.
Learn more at: www.fertilitypedia.org/edu/symptoms/painful-menstruation

Therapies

Egg donation
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.
Learn more at: www.fertilitypedia.org/edu/therapies/egg-donation

ICSI
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.
Learn more at: www.fertilitypedia.org/edu/therapies/icsi
**Sperm donation**
The procedure in which a man (sperm donor) provides his sperm for fertility treatment. Learn more at: [www.fertilitypedia.org/edu/therapies/sperm-donation](http://www.fertilitypedia.org/edu/therapies/sperm-donation)

**Standard IVF**
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used. Learn more at: [www.fertilitypedia.org/edu/therapies/standard-ivf](http://www.fertilitypedia.org/edu/therapies/standard-ivf)

**Tubal reversal surgery**
A surgical procedure that can restore fertility to women after a tubal ligation. Learn more at: [www.fertilitypedia.org/edu/therapies/tubal-reversal-surgery](http://www.fertilitypedia.org/edu/therapies/tubal-reversal-surgery)

### Gallery

#### Type of tubal ligation reversal and success rate

<table>
<thead>
<tr>
<th>Type of tubal Anastomosis</th>
<th>Total</th>
<th>Term pregnancy</th>
<th>Abortion</th>
<th>Lost to follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right isthmic</td>
<td>20</td>
<td>2 (25)</td>
<td>2 (25)</td>
<td>4 (50)</td>
</tr>
<tr>
<td>Right isthmic ampullary</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>7 (70)</td>
</tr>
<tr>
<td>Right isthmic ampullary</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>3 (20)</td>
</tr>
<tr>
<td>Right ampullary isthmic</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>3 (20)</td>
</tr>
<tr>
<td>Right ampullary infundibular</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>3 (20)</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>11 (28)</td>
<td>11 (28)</td>
<td>11 (28)</td>
</tr>
</tbody>
</table>

Data are presented as n (%).

#### Left tubal ligation

*An elective tubal ligation performed as a secondary procedure following a cesarean section.*

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