

SURGICAL TREATMENT

THE OPERATION

1. Make sure you know the pronunciation of the following terms:

anesthesia [ˌænis'ti:ziə], anesthetist [ə'ni:sθətɪst], angioplasty ['ændʒi:'ə(u)plæstɪ], aseptic [eɪ'septɪk], calculi ['kælkjulaɪ], cauterize ['kɔ:t(ə)raɪz], endoscopy [ɛn'dɒskəpi], fistula ['fɪstjələ], hemorrhage ['hem(ə)rɪdʒ], hemoglobin [ˌhi:mə(u)'gləʊbɪn], invasive [ɪn'veɪsɪv], microorganism [ˌmaɪkrə(u)'ɔ:g(ə)nɪz(ə)m], partial ['pɑ:ʃ(ə)l], procedure [prə'si:dʒə], prolapse ['prələʊps], recipient [rɪ'sɪpiənt], rehabilitation [ˌri:həˌbɪlɪ'teɪʃ(ə)n], re sewn [rɪ'səʊn], sterile ['steraɪl].

2. Which of these words do you know? Check new words in a dictionary.

Write the translation of the words in the table.

arrest	[ə'rest]	
arthrodesis	[ɑ:'θrɒdɪsɪs]	
assess	[ə'ses]	
closure	['kləʊzə]	
debridement	[dɪ'bri:dm(ə)nt]	
drape	[dreɪp]	
dressing	['dresɪŋ]	
excision	[ɪk'sɪʒ(ə)n]	
fast	[fɑ:st]	
graft	['grɑ:ft]	
hernia	['hɜ:niə]	
impaired	[ɪm'peəd]	
impermeable	[ɪm'pɜ:mɪəbl]	
incision	[ɪn'sɪʒ(ə)n]	
inflict	[ɪn'flɪkt]	
interference	[ˌɪntə'fɪ(ə)rəns]	

intervention	[intə'venʃ(ə)n]	
ligation	[li:'geɪʃ(ə)n]	
operation site	[saɪt]	
reconnection	[ri:kə'nekʃ(ə)n]	
reduction	[rɪ'dʌkʃ(ə)n]	
resection	[ri:'sekʃ(ə)n]	
retractor	[rɪ'træktə]	
staple	['steɪp(ə)l]	
sustained	[sə'steɪn]	
suture	['s(j)u:tʃə]	
wound	[wu:nd]	

3. Read the text on the subject.

Surgery is a technology consisting of a physical intervention on tissues. As a general rule, a procedure is considered surgical when it involves cutting of a patient's tissues or closure of a previously sustained wound. Other procedures that do not necessarily fall under this rubric, such as angioplasty or endoscopy, may be considered surgery if they involve "common" surgical procedure or settings, such as use of a sterile environment, anesthesia, antiseptic conditions, typical surgical instruments, and suturing or stapling. All forms of surgery are considered invasive procedures; so-called "noninvasive surgery" usually refers to an excision that does not penetrate the structure being excised or to a radiosurgical procedure.

A surgical team is made up of surgeon, surgeon's assistant, anesthesia provider, circulating nurse and surgical technologist.

At a hospital, surgery is done in an operating theatre using surgical instruments, an operating table and other equipment. Surgical operations must satisfy three basic conditions: the wound must be inflicted without pain; haemorrhage must be arrested; and the wound must heal. The most important cause of impaired wound healing is infection. Microorganisms reach the tissues during an operation or during changes of dressings or any other minor interference with the surgical

wound. They are carried and transmitted by people, inanimate objects and the air around a wound. The aseptic treatment of a wound is an attempt to prevent contamination by bacteria from all these sources, during the operation and throughout the first week or so of healing.

Anyone entering the operating room, for whatever reason, should first put on clean clothes, an impermeable mask to cover the mouth and nose, a cap or hood to cover all the hair on the head and face, and a clean pair of shoes or clean shoe-covers.

Before each operation, all members of the surgical team should cleanse their hands and arms to the elbows, using soap, a brush (on the nails and finger tips), and running water. The team should scrub up for at least 5 min before the first procedure of the day, but between consecutive clean operations a minimum of at least 3 min is acceptable. After scrubbing their hands and drying them with sterile towels, the members of the surgical team should put on sterile gowns and sterile gloves. A glove punctured during the operation should be promptly changed.

The patient is prepared too. The patient's stay in hospital before an operation should be as short as possible. He is given medical examination and some pre-operative tests (hemoglobin level and urine test for sugar and protein). Before the operation the patient should fast overnight and he is given preoperative medications. The operation site is shaved and washed with antiseptic. Sterile drapes are used to cover the entire patient's body except for the operation site and patient's head.

Local or general anesthesia is administered to prevent pain from incision, tissue manipulation and suturing. It is the anesthetist's responsibility to provide safe and effective anesthesia for the patient. The anesthetic of choice for any given procedure will depend on the anesthetist's training and experience, the range of equipment and drugs available, and the clinical situation. The anesthetist controls the patient's condition during the operation.

A surgeon makes an incision to access the surgical site. Blood vessels are clamped or cauterized to prevent bleeding, and retractors are used to expose the

site or keep the incision open. Then the surgeon begins to correct the problem in a body. This work may involve: excision – cutting out an organ, tumor, or other tissue; resection – partial removal of an organ or other bodily structure; reconnection of organs, tissues, particularly if severed; reduction – the movement or realignment of a body part to its normal position; ligation – tying off blood vessels, ducts; grafts – may be severed pieces of tissue cut from the same (or different) body or flaps of tissue still partly connected to the body but resewn for rearranging or restructuring of the area of the body in question; insertion of prosthetic parts when needed; creation of a stoma, a permanent or semi-permanent opening in the body; in transplant surgery, the donor organ is inserted into the recipient's body and reconnected to the recipient in all necessary ways; arthrodesis – surgical connection of adjacent bones so the bones can grow together into one; repair of a fistula, hernia, or prolapse; other procedures, including: clearing clogged ducts, blood or other vessels, removal of calculi, draining of accumulated fluids, debridement- removal of dead, damaged, or diseased tissue.

Blood may be administered to compensate the blood loss during the operation. Once the procedure is complete, sutures or staples are used to close the incision. Once the incision is closed, the anesthetic agents are stopped or reversed.

After completion of surgery, the patient is transferred to the post anesthesia care unit and closely monitored. When the patient is judged to have recovered from the anesthesia, he/she is either transferred to a surgical ward elsewhere in the hospital or discharged home. During the post-operative period, the patient's general function is assessed, the outcome of the procedure is assessed, and the surgical site is checked for signs of infection.

Post-operative wound pain is usually present for the first few days after operation. It may be controlled by some medications. But if wound pain persists there may be pathological process such as wound infection. When the wound heals the surgeon removes sutures. Rehabilitation may be prescribed during and after the recovery period.

4. Ask your partners:

- 1) what surgery involves;
- 2) where operations are performed;
- 3) what the operation room staff must do before an operation;
- 4) how a patient is prepared for an operation;
- 5) what narcosis prevents from;
- 6) how an operation site is prepared;
- 7) what a surgeon does during an operation;
- 8) what should be done during a post-operative period;
- 9) how wound pain is relieved;
- 10) three basic conditions surgical operations must satisfy;
- 11) what the anesthetic of choice for any procedure depends on;
- 12) what the aseptic treatment of a wound involves.

5. Match terms with their definitions.

1. anesthesia	a) an abnormal or surgically made passage between a hollow or tubular organ and the body surface, or between two hollow or tubular organs.
2. calculus	b) a condition in which part of an organ is displaced and protrudes through the wall of the cavity containing it (often involving the intestine at a weak point in the abdominal wall).
3. clamp	c) a stitch made to join together the open parts of a wound, especially one made after a patient has been operated on.
4. dressing	d) a hard mass formed by minerals within the body, especially in the kidney or gall bladder.
5. fistula	e) a way of doing something, especially the usual or correct way.
6. graft	f) insensitivity to pain, especially as artificially induced by the administration of gases or the injection of drugs before surgical operations.
7. hernia	g) a covering that is put on a wound to protect it while it heals.
8. procedure	h) an injury to living tissue caused by a cut, blow, or other impact, typically one in which the skin is cut or broken.
9. suture	i) a device that holds two things firmly together.
10. wound	j) a piece of healthy skin or bone, or a healthy organ, which is attached to a damaged part of your body by a medical operation in order to replace it.

6. Use the words from ex. 5 in the following sentences:

1. A minor surgical _____ typically includes any procedure that can be safely performed in an outpatient setting, without the use of general _____ or the need for respiratory assistance.
2. Shock wave lithotripsy is the cornerstone of the modern management of urinary _____ and is the preferred treatment for most small renal stones.
3. A full-thickness _____ involves removing all of the epidermis and dermis from the donor site. These are usually taken from the abdomen, groin, forearm, or area above the clavicle.
4. _____ surgery can help to relieve pain and return the abdominal organs to their correct place.
5. The most common method of closing wounds is by _____. There are two basic types of _____ materials; absorbable ones such as catgut or synthetic substitutes; and nonabsorbable materials, such as nylon, steel staples, or adhesive tissue tape.
6. _____ infection requires surgical debridement and appropriate systemic antibiotic therapy. Topical antiseptics are usually avoided because they interfere with _____ healing because of cytotoxicity to healing cells.
7. After surgery, you will need to take care of the incision as it heals. And you will need to keep the area clean, change the _____ according to your doctor's instructions, and watch for signs of infection.
8. A gastrointestinal _____ is an abnormal opening in your digestive tract that causes gastric fluids to seep through the lining of your stomach or intestines.

7. Complete the table with verbs and nouns.

verb	noun
assess	
close	

connect	
	debridement
	excision
impair	
	incision
	ligation
reduce	
resect	

8. Use the word given in capitals at the end of some of the lines to form a word that fits in the gap in the same line.

Various wound 1 _____ techniques are available to the reconstructive surgeon. 2 _____ contaminated wounds should be debrided and irrigated, their foreign bodies removed, and hemostasis obtained in 3 _____ for surgery. Other wounds, such as iatrogenic, which may result after cancer 4 _____, are presumed clean.

To reduce the rate of 5 _____, scaring, skin necrosis, and infection, 6 _____ should be avoided at all costs when closing a wound.

Diabetes control, normal nutrition status, 7 _____ control, mechanical stress 8 _____, and nursing care are all important elements in achieving healing of acute and chronic wounds.

CLOSE
TRAUMA
PREPARE
RESECT
DEHISCE
TENSE
INFECT
AVOID

9. Match the prefixes with their meaning.

- | | |
|-----------|---------------|
| 1 laparo- | a nose |
| 2 nephro- | b breast |
| 3 pyelo- | c large bowel |
| 4 cysto- | d chest |
| 5 chole- | e uterus |

6 col(on)-	f bile / the biliary system
7 hystero-	g kidney
8 thoraco-	h abdomen
9 rhino-	i renal pelvis
10 masto- / mammo-	j bladder

10. Complete the sentences by combining one of the prefixes from ex. 9 with one of the suffixes below. You may use some of the suffixes more than once.

-ectomy, -lithotomy, -pexy, -plasty
 -r(h)aphy, -ostomy, -otomy,

1. We're going to do something called a _____ to have a look inside your tummy.
2. I'm afraid we're going to have to do an operation called a _____ to remove your right kidney.
3. The only option left to us is a _____, where we remove part of your large bowel and then make an opening in your tummy wall.
4. So how do you feel about having your womb removed by laparoscopic _____?
5. We're going to do a procedure which will involve a _____, where we remove several ribs
6. We can do bilateral _____ where we lift both breasts.
7. We can do a _____ where we stitch the bladder.
8. We're going to have to remove the gall bladder. The technical name for this operation is _____.
9. What we're going to do is destroy some stones in the kidney in a procedure called _____.
- 10 We're going to do a procedure called a _____ to fix the large part of your gut.

11. Read about relative pronouns in explanations.

We often use relative pronouns to connect a series of sentences describing an activity or situation. These pronouns are *who*, *which*, *where*, and *when*. The pronouns *who* and *which* can be replaced by *that*.

Who is used for people, and can be combined with a preposition.

The patient, to who(m) the consent form will be given, must be sufficiently alert to sign it.

Which refers to things, procedures or situations. *Which* can also be combined with a preposition.

The tube is then connected, which enables the patient to breathe normally.

The patient is connected to a monitoring device, to which other tubes are attached.

This is a procedure in which we remove part of the bowel.

Where is the same as 'in which'. We use *where* to talk about what is involved in a procedure or situation.

This is an operation where we remove part of the bowel.

When means 'after which time' or 'at which point'. *When* describes a point in a sequence of events at which something is expected to occur.

The anaesthetic is reduced and the patient taken to the recovery room, when he or she will start to come round.

Sometimes, we can omit the relative pronoun and have a participle as a connector. This is common when we are connecting more than two clauses to avoid having a sentence that is too long and clumsy.

This is a complex procedure. It is performed under general anaesthetic.

This is a complex procedure, performed under general anaesthetic.

We're going to do a procedure which will involve major surgery.

We're going to do a procedure involving major surgery.

12. Work in pairs. Connect the sentences using one or more of the words in brackets and / or 'zero relative'. You will need to add and remove some words.

EXAMPLE.

Herniorrhaphy is an operation. It's done under local or general anaesthetic. The muscle in the tummy wall is strengthened using a special mesh. (where / when)

Herniorrhaphy is an operation, done under local or general anaesthetic, where muscle in the tummy wall is strengthened using a special mesh.

1. We're going to do something. It is called a mastectomy. A breast is removed. (when / where)

2. It's a type of stitch. It is done under the skin so that there is only a faint scar left at the end. The wound heals. (which / when)

3. A colostomy is a procedure. The back passage is closed and the end of the gut is attached to an opening in the wall of the tummy. A bag is attached to the opening. (to which / where)

4. It's a type of shock. It happens when the volume of blood in the body decreases. (which / who)

5. Oliguria is a condition. An abnormally small amount of urine is produced. (where / that)

6. It's an operation. The appendix is removed. There is colicky pain in the centre of the tummy followed by vomiting and then a shift of the pain to the right iliac fossa. (where / when)

13. Work in pairs. Study the case and role-play it.

A 35-year-old father presents with a seven-year-old child, Arthur, who has perforated appendix. Explain to the father that the child has to have an emergency operation. Explain what happens during the operation and that operation is necessary.

USEFUL EXPRESSIONS.

Arthur's got what is ...

We can do an operation called a ..., where we ...

What we do is ...

How do you feel about Arthur having the operation?

We'll need you to sign a consent form if you agree with everything.

Is there anything you'd like to ask me?

14. Work in pairs. Study the case and role-play it.

Mr. Davis, 30-year-old man, has a ten-year-old son who has been involved in a car accident. The child's spleen has been damaged and his femur has been fractured. His spleen is so badly damaged that it needs to be removed. You have to tell the patient's father and explain the procedure to him.

USEFUL EXPRESSIONS.

emergency operation

no choice

It is possible to live without the spleen.

ANSWER KEY

4. 1. What does surgery involve? 2. Where are operations performed? 3. What must the operation room staff do before an operation? 4. How is a patient prepared for an operation? 5. What does narcosis prevent from? 6. How is an operation site prepared? 7. What does a surgeon do during an operation? 8. What should be done during a post-operative period? 9. How is wound pain relieved? 10. What are three basic conditions surgical operations must satisfy? 11. What does the anesthetic of choice for any procedure depend on? 12. What does the aseptic treatment of a wound involve.

5. 1f, 2d, 3i, 4g, 5a, 6j, 7b, 8e, 9c, 10h.

6. 1 procedure, anesthesia; 2 calculi, 3 graft, 4 hernia, 5 sutures, suture; 6 wound, wound; 7 dressing, 8 fistula.

7.

verb	noun
assess	assessment
close	closure
connect	connection
debride	debridement
excise	excision
impair	impairment
incise	incision
ligate	ligation
reduce	reduction
resect	resection

8. 1 closure, 2 Traumatic, 3 preparation, 4 resection, 5 dehiscence, 6 tension, 7 infection, 8 avoidance.

9. 1h, 2g, 3i, 4j, 5f, 6c, 7e, 8d, 9a, 10b.

10. 1 laparotomy, 2 nephrectomy, 3 colostomy, 4 hysterectomy, 5 thoracotomy, 6 mammoplasty, 7 cystorrhaphy, 8 cholecystectomy, 9 nephrolithotomy, 10 colopexy.