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Care for the surgical patient

Many of the people in hospital are there for surgery. People need surgery for many reasons: to find the reason for a problem, to help reduce that problem, or to mend, replace or take out tissue or organs. Surgery may also be carried out as an emergency, to save the patient's life.



Preparing the patient for surgery

Before surgery, the doctor asks for tests and examinations of the patient. These give information on the problem requiring surgery. They also tell the doctor about the patient's health and the risks of surgery. The nurse plays a major role in getting the patient ready for the operation.

- The nurse checks the patient's health.
- The nurse makes sure that all investigations are carried out.
- The nurse explains to the patient what will happen before surgery and what he or she will feel after the surgery.
- The nurse physically prepares the patient for the operation.
- The nurse shows the patient what to do to help with recovery after surgery.

Surgery disrupts a patient's life. It brings anxiety and fear, pain and discomfort. By giving the patient information and reassurance, you can calm those fears and prepare his or her mind for the experience. A well prepared patient will find the experience of surgery much easier.

- If the patient goes into hospital before the operation, explain as soon as the patient arrives what tests will be done and why they must be done.
- The day before the surgery, explain to the patient how to prepare. For example, a patient may have an enema before bowel surgery.
- Explain that the patient must not eat or drink for 8-12 hours before the surgery. This is because under anaesthesia the patient might vomit and choke.
- Ask the patient to bathe in the morning, remove all jewellery, makeup, eyeglasses, dentures, etc., before going to the operating room.
- If the patient has family members there, tell them where they will be able to wait during the operation.
- Explain to the patient how the operating theatre and recovery room are set up. Tell him or her that staff members will be wearing surgical scrubs and masks. Tell the patient that after the surgery, he or she will go to the recovery room for close monitoring. The patient may have an oxygen mask, a blood pressure cuff on his or her arm and other monitoring equipment attached.
- Teach the patient to do coughing and deep breathing exercises. These will be needed after the surgery to speed up recovery and prevent complications.

- ◆ First, show the patient how to breath deeply. Inhale slowly through the nose while feeling the diaphragm move out and up. Hold your breath for a second or two, then exhale through the nose or through the mouth with a whooshing sound.
- ◆ Then ask the patient to sit up and show you how he or she can do the deep breathing. After this, ask the patient to breathe in deeply and then cough.
- ◆ Next show the patient how to support the stomach area by holding a pillow firmly against it while coughing. This will protect the surgical incision and reduce pain when coughing.
- ◆ Show the patient how to turn in bed, holding a small pillow against the incision to support it.



Supporting the stomach area with a pillow while coughing

Tell the patient to begin these coughing and deep breathing exercises as soon as possible after surgery. They should be done at least four times a day, taking five breaths and coughing twice each time.

- Show the patient these leg exercises to do after surgery.
 - ◆ Pull the knees up, then straighten the legs and press the back of the knees down.

- ◆ Pull one knee up at a time, then extend that leg outwards.
- ◆ Next hold the legs straight and move the feet in circles.
- ◆ Raise one leg while holding the other knee flexed.

Exercising legs and feet after surgery

Make sure that the patient understands that he or she will have pain relief after surgery. Tell the patient that it is safe to take narcotic pain medications after surgery. Explain that they will heal better if they are free from pain. Remind the patient to tell the hospital staff if he or she is in pain.

Tell the patient why it is important to walk as soon as possible after surgery.



Immediately before surgery

Patients should empty their bladder before surgery. They should take out false teeth, hairpins and clips, and take off glasses, rings, nail polish, lipstick, etc.

The patient may be given a narcotic before the surgery and atropine to dry the secretions of the mouth. Sometimes a tranquillizer is also given. Often, however, no medications are ordered until the patient is taken to the operating theatre.

Wash the skin around the site of the incision and clean it with an antimicrobial agent. The clean area must be larger than the incision so that if the cut needs to be made bigger, the skin is properly prepared. The area should not routinely be shaved because that can make the skin vulnerable to infection. If there is a lot of hair and it absolutely must be removed, it is better to clip the hair. Only shave if it is essential.

Usually an intravenous line with saline solution is started before surgery. This may be done in the patient's room, or in the operating theatre. If there is a high risk of infection, usually antibiotics are given intravenously.

Prepare the family for the surgery. After the patient is taken to the operating theatre, tell the family how long the surgery is likely to take. Show them where they can wait comfortably. Promise to give them information as soon as you can. It is very helpful for a nurse to come out of the operating theatre from time to time to tell the family that the surgery is progressing well. If there are serious problems, however, it is not useful to inform the family until you have a clear idea of what is going to happen. As soon as the surgery is finished and the patient has been moved to the recovery room or to a hospital room, tell the family. Tell them when they will be able to see the patient. Let them visit as soon as the patient is in a stable condition.



The nurse's role during and immediately after surgery

- Before the surgery begins, operating theatre nurses check how the patient is (vital signs, etc.), get the patient ready for the surgery, and help to prepare the sterile field for the surgery.

- During the operation, nurses open supplies and pass them out, manage any tubes or drains, and look after intravenous medications and solutions. The nurses make sure that the patient is safe during surgery, that there is surgical asepsis and a sterile field, and that the surgical positioning does not hurt the patient. The nurse counts needles and gauze swabs used during the operation to make sure that nothing is left inside the patient after surgery.
- In many countries, nurses have been taught to give the anaesthesia. In other countries, this is the role of the doctor.
- After the surgery, the patient usually goes to a recovery room or intensive care unit where nurses check how the patient is and take care of him or her. In the recovery room, the patient is usually put onto his or her side, with no head pillow. This position keeps the airway open and allows drainage of any mucus or vomit. Patients who have had a spinal anaesthetic must lie flat. The patient's upper arm has a pillow under it, so that it does not stop the chest moving out to breathe. The patient is kept warm with blankets. All monitoring equipment, IVs, drains, and catheters are secured.
- Nurses keep a careful watch on the patient's airway, breathing rate and depth, and the colour of the mucous membranes and nail beds. The patient's level of alertness, pulse, blood pressure and temperature are carefully monitored and recorded. Usually the patient is still using the artificial airway. The nurse needs to suction the pharynx until the coughing reflex returns.

- Patients wake up from the anaesthesia and get back their reflexes at different speeds. To help them wake up, the nurse can call their name and repeatedly tell them that the surgery is finished. A parent should be at the bedside to comfort a child when he or she wakes up. As the vital signs stabilize and they begin to awaken, the nurse asks patients to take several deep breaths every five to ten minutes. Patients' position is changed every 10 to 15 minutes.



Care for the patient after surgery

Patients are usually taken to a regular ward or unit, once they are awake, with their reflexes working, and their breathing, pulse, blood pressure and temperature stable. In cases of high risk or very complicated surgery, patients may remain in an intensive care unit to have special nursing care.

Once back from surgery, the nurse looks at the doctor's orders and checks how the patient is.

- **First look at the patient's airway and breathing. Check the colour of the lips and nail beds.** Check the skin colour and temperature. The skin, including mucous membranes, lips and nail beds, should be pink. If it is bluish or the skin is cool and moist, the patient may be having problems with breathing, blood pressure or circulation.
- **Check the patient's level of consciousness.** The patient should be fully awake though he or she will probably feel sleepy.

- **Take the patient's vital signs.** If they are not fully stable, take them every 15 minutes until they are stable. If the patient has a weak, rapid pulse, low blood pressure, pale, clammy skin and rapid breathing, there may be internal bleeding. If you suspect that there is too much bleeding or internal bleeding, make sure that the patient has an intravenous drip and oxygen. Immediately notify the nurse in charge or the doctor. Once the vital signs are stable, take them every hour for the first day after the operation.
- **Check the patient's bandages and the sheets under the patient.** If there is a lot of blood on the bandages or bedclothes under the patient, he or she may be haemorrhaging. You should call the nurse in charge immediately. If for any reason you feel that the patient is not completely stable or you are concerned about the breathing, vital signs or possible blood loss, make sure that the patient is monitored continuously. Do not hesitate to ask the nurse in charge or the doctor to check the patient.
- **Carefully watch the amount of fluid the patient takes in and the fluid output.** Most patients will continue to be given fluids intravenously for a period after surgery. This makes sure that the fluids lost during surgery are replaced. At the same time, however, take care that the patient does not take in more fluid than the body can handle. Look again at the doctor's order for the amount of fluid for the patient. Check the IV flow rate to make sure that the patient is getting the right amount of fluid.

Many patients are thirsty when they wake up from anaesthesia. Give them a wet cloth to wet their mouth until they are allowed to have water by mouth. Then when the patients are allowed to drink, give them small amounts of water until you are sure that they will not vomit.

- **Recheck the flow rate and operation of the IV line every hour.** Also check the level of IV fluid in the bag or bottle, to make sure that the patient has had the right amount of fluid each hour. Check any drainage tubes to be sure they are working properly.
- **Write all your initial and ongoing assessments on the patient's chart,** including the patient's vital signs, consciousness, skin colour, bloody drainage, and fluid intake.



How to help the surgical patient to recover

Control post-operative pain

Check the patient's pain level and location. Give the patient the pain relief ordered by the doctor, regularly and on schedule.

Pain is extremely uncomfortable for the patient. It also slows recovery and can lead to complications. There is usually most pain for the first few days after surgery. After that it begins to subside slowly. On the first day after surgery, pain medicine is usually given every three to four hours. The medication is often given intravenously. By the second or third day the patient may be able to take pain medication by mouth.

If the patient refuses the medicine because there is no pain, tell him or her that pain control works best if the medication is given before the pain becomes intense.

The instruction PRN allows the nurse to judge when to give medicine. Patients sometimes do not get all the medicine for pain they need. Make sure the patient gets enough pain medication.

Always give pain medication before getting the patient up to walk and before bedtime.

Make sure that the patient is warm and comfortable. Pain increases with tension. Help the patient to relax with back rubs and other comfort measures.

Make sure fluid intake is adequate

It is important that patients have enough fluids. Check patients for signs of dehydration or fluid overload. These signs are: dry mucous membranes, poor skin elasticity (turgor), thirst and small amounts of concentrated urine. Signs of fluid overload are: difficulty in breathing, distended neck veins, sounds or crackles in the lungs and swelling (oedema).

The patient may be on intravenous fluids for a couple of days after surgery. This depends on how serious the surgery was. Before moving the patient on to taking liquids by mouth, check the bowel sounds by listening through a stethoscope on the patient's abdomen. Gurgling sounds in the intestines are a sign of peristalsis. Listen once or twice daily until you hear bowel sounds. After the intravenous fluids stop, give small sips of water to start with. Then move on to other fluids. Make sure the patient gets enough fluids. This prevents dehydration, keeps mucus from becoming thick and helps to prevent constipation.

Check urinary output

It is essential that the patient urinates. The patient may still have a urinary catheter for a time after surgery. If not, you must help the patient to urinate. Low intake of fluids and continued catheterization can lead to urinary infections. Retention of urine can lead to kidney problems.

If the patient does not urinate within eight hours of surgery, inform the doctor.

Carefully record the amount of fluid taken in and the amount urinated. If the patient is getting enough fluid by mouth or intravenously, the urine should be clear.

Turn and exercise the patient

Patients need to be turned from side to side every two hours. They should get up to walk as soon as possible after the surgery. Usually patients begin walking on the evening of the first day of surgery. Make sure patients are comfortable and their pain is controlled. Ask them to sit on the side of the bed for a while, with the feet hanging down. Then help them to walk. If a patient appears pale or has clammy skin and dizziness when he or she stands up or walks, check the blood pressure and pulse to make sure they are normal.

Good circulation to the feet and legs is important after surgery. A thrombus or clot in a leg vein can come loose and become an embolus that moves to the lungs or heart and obstructs an artery. Leg clots are extremely dangerous. Leg exercises, early walking, plenty of fluids and elastic stockings, if available, are the best way to prevent clots in the veins.

Watch the patient's skin for signs of inflammation, which are usually associated with a clot. Look for a swollen, red area that is warm to the touch and painful, a vein that feels hard, and aching or cramping. There may be a clot if the patient feels discomfort when the foot is flexed.

To prevent clots, encourage the patient to do leg and foot exercises every hour or every two hours whenever he or she is awake.

Encourage coughing and deep breathing

The patient should do coughing and deep breathing exercises every two hours for the first day or so after surgery. The exercises are continued until the patient is up and walking regularly. If the patient learns these exercises before surgery, they will seem easier. Help the patient to support the incision if he or she is in pain. If the patient cannot cough up anything, he or she may need suctioning.

Provide an adequate diet

The patient will move from fluids to a soft diet and then a regular diet. Good fluid intake and early walking help to prevent urinary tract infections, constipation or abdominal distension, and gas left in the intestines. The patient must eat enough healthy food to get the proteins, calories and vitamins to heal the surgical wound and his body.

Check bowel function

Check that the patient is able to get rid of bowel wastes and that the stools are soft. The signs of constipation are: abdominal swelling, pain and no stool or hard stools.



Watching the patient for complications

Watch carefully for the signs of complications after surgery.

- **Pneumonia and collapse of the small air sacs (alveoli) in the lung (called atelectasis).** The signs of pneumonia or atelectasis include: fever, shortness of breath or fast breathing, chest pain, cough, bloody or infected sputum, and decreased breath sounds or crackling sounds (crepitations) heard in the lung with a

stethoscope. Sometimes patients also have bluish coloured mucous membranes and nail beds.

Sudden chest pain and shortness of breath, blue colour, apprehension and the signs of shock (low blood pressure and a very rapid pulse) indicate a blood clot or air embolus in one of the blood vessels in the lung (pulmonary embolism).

- **Haemorrhage**

The signs of haemorrhage may include bloody bandages and bedclothes. If the patient is bleeding internally, you may not see those signs. One of the first signs of blood loss is increased breathing. Later signs include a rapid weak pulse, low blood pressure, cold, clammy, pale skin, and reduced amount of urine.

- **Urinary problems**

The signs of urinary retention are: the inability to urinate or urinating in small amounts, a stretched bladder, and discomfort in the bladder region. Signs of a urinary tract infection include burning when urinating, a sense of urgency, pain in the lower abdomen, cloudy urine and sometimes a fever.

- **Wound infections**

Caring for the patient's wound and helping it heal are major responsibilities of the nurse. If healing is delayed, the wound is more likely to become infected.

Signs of infection include redness, tenderness, infected discharge, a bad smell in the wound, and fever. The patient may also have a faster pulse rate and faster breathing.

To prevent infection, always wash your hands before caring for the patient's wound. Use sterile technique and sterile dressings if possible.

Do your best to keep the wound area as clean as possible. Change the dressings over wounds when the dressings become wet.

When you change the dressing, clean the wound with sterile saline solution.

Use sterile technique and sterile instruments to remove sutures. Look carefully at the sutures you have removed to make sure all suture material has come out. Suture material left in the wound can cause an infection.

You can use bandages to support or immobilize a wound, secure a dressing or put pressure on an area of the body. When possible, bandage the body part in its normal position. Leave the end of the body part (for example, a toe) exposed so that you can check blood circulation.



Discharging the patient

The health team aims to make the hospital stay as short as possible, and the return home as easy as possible. Before discharge, give the patient and family information about activities and exercise, hygiene, wound care, any medications and follow-up appointments. Encourage the patient to ask questions.

This is discussed further in the chapter on preparing the patient for discharge.