

Kaohsiung Veterans General Hospital Nursing Department

Nursing Instruction Leaflet

Department	Department of Orthopedics	No.: 7610011
Topic	Notes for patients with total knee replacement	Established on Nov. 22 nd , 2001
Produced by	91 Ward	3rd revision on Jul. 9th, 2018

1. What is the notice before surgery?

- 1) The surgeon will explain the purpose, method, process and risk of the surgery to you while the nurse will assist you in filling out consent forms for surgery, anesthesia, blood transfusion, and relevant self-funded items (such as nerve block pain reduction).
- 2) Examination before surgery, including blood test, X-ray, electrocardiography, and preanesthetic visit education as well as follow the medical order for relevant examinations.
- 3) In order to prevent the uncleanness on the area of surgery causing wound infection after surgery, please wash the area of surgery clean with soap before applying the 2% Easy Antiseptic Cleansing Solution given by the nurse on the whole body. It should start from the chin and go downwards; rub your body from the top to the bottom until bubbles are formed. Other than paying extra attention on body wrinkles, make sure the whole body is applied the 2% Easy Antiseptic Cleansing Solution. Leave it on the body for at least 30 seconds before rinsing it clean with clear water, wipe your body, and put on clean patient's gown. Note: If the markings for surgery areas become blurred and unable to identify after washing, please inform the nurse for the surgeon or the nurse practitioner to remark the surgery areas.
- 4) An enema will be carried out before the surgery based on the surgeon's instruction to clean out intestinal contents.
- 5) If you wear nail polish or manicure, please clear it with nail polish remover or remove the manicure before surgery so that your conditions can be observed during the surgery.
- 6) Patients who are operated on under general anesthesia must not eat or drink anything from the midnight before the surgery. Do not ingest anything through your mouth (including food, water, juice, buccal tablets of throat lozenge or ginseng slice, chewing gum, betel nut, and tobacco). (Image 1)



Source of information on Image 1: It is cited from <https://www.google.com.tw/search>

If you eat without permission, it might cause

- a. the delay of surgery due to the fasting time is less than 8 hours.
 - b. the vomiting under anesthesia might cause the risk of aspiration pneumonia.
- 7) Please inform your surgeon in advance if you are taking anticoagulants in order to confirm the time for suspension to avoid affecting the wound after surgery.

- 8) If general anesthesia is used for surgery, we will instruct you to practice deep breathing or coughing before surgery to help the recovery of lung functions after surgery.

Method: Please place your hands on the tummy and slowly breathe in through your nose until the tummy bulges outwards. After fully breathing in, hold it for 4 seconds before slowly breathing out from the mouth by pouting; breathe out and relax to return the tummy to normal (Image 2).

Note: Normal respiration is breathing slowly and relaxedly. After surgery, it is important to take deep breathing for at least more than 10 times every hour.

After every 3 times of deep breathing, carry out one effective cough. That is, hold the breath after breathing in fully and cough out the breath when abdominal muscles is holding the breath tightly. It is good to clear out the residue secretions in the lung.



Source of information on Image 2: <https://www.google.com.tw/search>

9) Before surgery, please practice the following muscle contraction exercises on the bed as well as rehabilitation exercises for toe joint, ankle joint, and knee joint in order to facilitate blood circulation on your lower limbs and increase the strength of muscle contraction on the leg during your bed rest after surgery.

a. Ankle pumping exercise (to enhance circulation on lower limbs and reduce edema) (Image 3)

Tilt your ankle and toes up forcefully at the same time and maintain it for 5 seconds before pressing them down forcefully for 5 seconds; repeat it for several times (Image 3)



Image 3 Ankle Pumping Exercise

(Image 3) Source of the image: from

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b. Lower limb gliding motility (maintaining the mobility of the joints in the lower limbs)(Image 4)

Lie on your back on the bed; repeat the actions of bending then straightening on the knee is one side (Image 4)



Image 4 Lower limb gliding motility

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c. Quadriceps exercise (to maintain or enhance thigh muscle strength) (Image 5)

Put your legs on the bed and place a towel under your knee; press down the knee forcefully for 5 seconds to feel the pumped upper thigh muscle (that is quadriceps femoris muscle) (Image 5).



Image 5 Quadriceps exercise

(Image 5) Source of the image: from

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- d. Calf straightening exercise (to maintain or enhance thigh muscle strength) (Image 6)
Place a pillow or towel under the knee, bend the knee for around 30 degrees, straighten the knee forcefully, and maintain it for 5 seconds (Image 6).



Image 6 Calf straightening exercise

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- e. Hip lifting exercise (to train the hip and lumbar muscle strength) (Image 7)
Lie on your back on the bed, bend the knee joints and hip joints on the two sides for around 45 degrees, lift the butt away from the bed forcefully, and maintain it for around 5 seconds (Image 7).

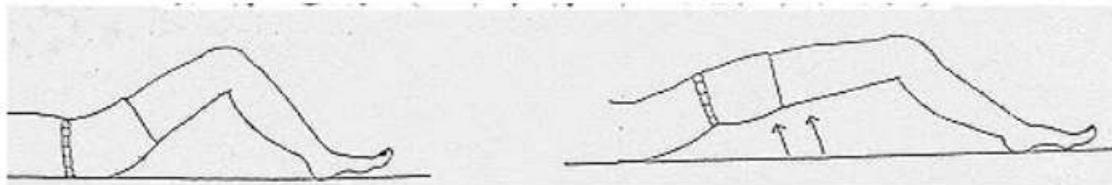


Image 7 Hip lifting exercise

(Image 7) Source of the image: from

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- f. Straight leg lifting exercise (to train the thigh muscle strength) (Image 8)
Lie on your back on the bed, bend the knee on one leg and straighten the knee on the other leg, lift it to around 30 degrees with upturned toes, and maintain it for 5 seconds (Image 8).



Image 8 Straight leg lifting exercise

(Image 8) Source of the image: from

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- g. Abduction and adduction exercise (to train the inner and outer thigh muscle strength) (Image 9).

Lie on your back on the bed, open both legs (abduction), and close your legs (adduction); you can also practice it with one leg (Image 9).

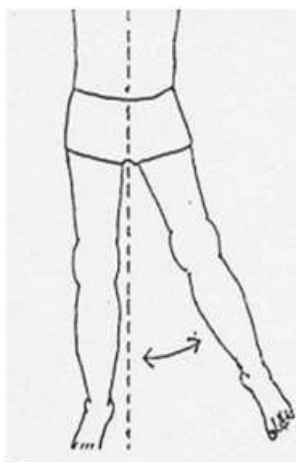


Image 9 Abduction and adduction exercise

(Image 9) Source of the image: from

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h. Knee flexion and stretching exercise (maintain the bending angle of knee) (Image 10-12)

Sit by the edge of the bed with both legs hanging naturally, put the healthy limb under the affected limb, and gradually lift the limb up. Make sure you sit straight without leaning backwards, maintain it for 5 seconds when lifting to the highest point, and then putting it down slowly. Then, put the healthy limb on the affected limb, press it downwards slightly hard, and bend the knee (Image 10-12). Carry out the exercise three times a day and 10 cycles each time or 5-10 minutes each time.



Sit by the edge of the bed
Image 10



Lift up and maintain for 5-10 seconds
Image 11



Press down slightly hard for 5-10 seconds
Image 12

2. What are the notes after surgery?

- 1) For patients who are under general anesthesia or spinal anesthesia, you will have to stay in the recovery room after surgery for around 2 hours due to the anesthesia. After you are wide awake and stable, you will be sent back to the ward. If you use spinal anesthesia and appear to have the symptoms of dizzy, headache, blurred vision, stiff neck, and backache, please lie flat to rest. The nurse will observe your situation and report to the surgeon.
- 2) Diet and contraindication: If you are fully conscious without sickness and vomiting, you can drink some water and observe the situation for 30 minutes. Only when you have no discomfort after that, you can eat. Please avoid

irritating and gas-generating food, like beans and milk. Make sure you sit up when eating to prevent being choked.

- 3) After you are fully conscious, you can sit up. Please carry out deep breathing and coughing regularly to help the recovery of your lung function. When necessary, you will be given steam inhalation according to the medical order as well as have someone to assist percussion in order to cough out sputum.

- 4) Urinary catheter care: During the surgery, the surgeon will place the urinary catheter for you depending on the length of the surgery. Nursing personnel will teach you and your family members that the catheter must not be bent or twisted, the urinary bag shall be poured out through bed pan when it reaches 2/3 bag (800cc), and the drainage outlet of the catheter shall be avoid contacting the floor to prevent causing urinary tract infection.
- 5) Method of defecation: Using bed pan or diaper to defecate on the bed.
- 6) Wound care:
 - a. With drainage tube: Go along with the direction of the drainage tube and place the drainage bag on the bed flat without any force. Do not twist it, hang it on the bedside rail, or hang the wound drainage bag downwards. When rolling over, pay attention and do not pull or press it. If you want to get out of bed, you can clip the drainage tube on the clothes. The nurse will observe and record daily drainage volume, color, and characteristics.
 - b. Without drainage tube: The nurse will observe your wound and maintain the wound dry.
 - c. Dressing changing: After the surgeon examines the wound, the dressing shall be changed according to medical order. If the wound is wet, the nurse will report to the surgeon for further treatment.
 - d. Stitch removal: The surgeon will make an appointment with you for the date to remove stitches based on the conditions of your wound. Generally, it will be around 10-14 days after surgery.
- 7) Pain care:
 - a. The nurse will check with you for the strength of your pain. It will be presented from 0 to 10 points with 0 point for no pain and 10 points for extremely painful. Normally, the rating for bearable strength is 3 points and unbearable strength is 7-10 points while the strength rating for medium pain is 5-6 points. If you are currently under the unbearable pain strength, please inform the nurse to evaluate your needs. You might be given pain relief injection or oral painkiller based on the medical order to relieve your pain.
 - b. Using ice patch externally on the wound according to the medical order to relieve the pain shall be suspended after 30 minutes, have an interval of 30 minutes to rest, and then continue. Ice patch shall be temporarily stop during the night when you sleep.
- 8) Physical activities:
 - a. The 1st and 2nd days after surgery:
 - (i) Please follow number 9) specified in the notice before surgery to carry out muscle contraction exercise as well as rehabilitation exercises for toe joint, ankle joint, and knee joint. It is suggested to implement each action three times a day and 10 cycles or 5-10 minutes each time.
 - (ii) The nurse will assist you to sit by the edge of the bed and hang your legs down naturally (Image 13) (If necessary, use a small stool.) The nurse will also teach you to implement rehabilitation exercise with continuous passive motion (CPM) (Image 14). Generally, the degrees of knee bending shall start from 30-60 degrees. It can be increased for 5-10 degrees every day with maximum degrees of 110. Please implement it 2-4 times a day and 30 minutes each time.



Image 13 Sit by the edge of the bed



Image 14 CPM rehabilitation exercise

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b. The 2nd or 3rd day after surgery: When you are allowed to get out of bed by the surgeon,

(i) the nurse will assist you getting out of bed when you do it for the first time, and the affected limb can stand on the floor.

(ii) you shall adopt progressive getting out of the bed. Before getting out of the bed, sit by the edge of the bed for around 5 minutes. If you do not feel dizzy or unwell, use the walker assisting you standing by the side of the bed for 5 minutes, and walk around inside the ward if you do not feel unwell. The length of time related to the use of the walker or the crutch shall follow the instruction from medical order.

(iii) you can walk around the ward corridor. Keep it under 20 minutes for each activity, go back to bed rest, and lift the affected limb to reduce swelling.

(iv) patients with medical record of stroke or insufficient muscle strength on the healthy limb can get out of bed by using wheel chair.

3. Notes after being discharged from the hospital

1) You can be discharged from the hospital in around 4-7 days after surgery.

2) Continue carrying out muscle contraction exercise as well as rehabilitation exercises for toe joint, ankle joint, and knee joint three times every day.

3) The length of using the walker shall follow the medical order and avoid falling.

4) You shall avoid the following activities, including kneeling position, carrying heavy items, jumping, climbing high hill, climbing mountains, strenuous exercise, Tai Chi, Wai Tan Kung, squat, and going up and down stairs, to avoid causing the damage or the loose of the artificial knee joint. The volume of activity shall be increased gradually every day and make sure you have enough rest.

5) The nurse will follow the medical order to teach you how to change the dressing, the frequency, and things to notice.

6) You can have a shower in 2-3 days after removing the stitches on the wound.

7) Please consult with your doctor for when you can go back to work. After going back to work, it is suggested to start from the easy and short work.

8) You can carry out the exercises, such as swimming, riding stationary bike, or jogging, six months after surgery to return to normal life.

9) If you involve with the following situations, please return to hospital for medical assistance immediately.

a. Have a fever (body temperature $> 38^{\circ}\text{C}$) or your wound has abnormal redness, swelling, sense of warmth, pain, and discharge (pus).

b. Have a difficulty in walking due to the fall or contusion on knee joint.

c. Have a swelling calf or ankle or tenderness on the calf or ankle.

10) When you have to remove the tooth, have a cold, or seek medical assistance due to other diseases, please inform the doctor that you have replaced your knee with an artificial one so that the doctor can prescribe antibiotics to prevent infection.

Reference:

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Note: It shall be review once every year.

The information and content of all the health education are only for reference. No medical behavior will be offer nor using it to replace the face-to-face diagnosis from the doctor. If you have any question, please consult it with the outpatient doctor or the original hospitalized ward!