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Care for the patient with limited mobility

Human beings need to be able to move. When people can stand up and move about, they are healthier. Their lungs expand more easily. They are better at digesting food completely. They have good bowel movements, their kidneys function better and their bones and muscles are healthier. When people are ill, they are often unable to move or can move only a little.

Sometimes bed rest or no movement at all is needed to treat a health problem. The rest promotes healing and reduces pain. Long-lasting bed rest or lack of movement can cause serious problems.

Problems caused by prolonged immobility

- Light-headedness
The blood tends to stay in the legs and feet (called orthostatic hypotension). When the person tries to sit up or stand up, he or she feels light-headed and may faint or fall.
- Infections
When a patient is lying down and not moving, breathing is more shallow. Pools of fluid can form in the lungs. These pools make it easier for bacteria to grow and can lead to severe infections.

- Weak muscles
- Loss of joint movement (contractures)
- Stiffness and pain in the joints
- Loss of calcium, which makes bones fracture easily
- Constipation (poor bowel movement)
- Poor blood circulation resulting in pressure sores, blood clots or inflammation of the leg veins

The role of the nurse

It is the responsibility of the nurse to:

- help the patient to move as much as possible
- prevent the problems which come from the patient not moving
- help the patient to avoid injury from falling
- help the patient to be able to move independently again, if possible.



Prevent problems caused by immobility

To prevent light-headedness when the patient stands:

- teach the patient to do leg exercises and other exercises while in bed
- get the patient out of bed as soon as possible
- ask the patient to hang his or her legs over the side of the bed before trying to stand up.

To prevent lung infections:

- teach the patient to do deep breathing and coughing exercises
- change the patient's position every two hours
- make sure that the patient drinks enough fluids.

To prevent loss of joint mobility (contractures) and loss of muscle tone and bone:

- show the patient or a family member how to do range of motion exercises (described below)
- tell the patient to try to increase physical activity gradually.

To prevent constipation:

- make sure the patient takes in enough liquids and other nutrients, especially fruits and vegetables
- help the patient either with a bedpan or, if necessary, a catheter, to get rid of fluid waste and prevent the bladder stretching
- if necessary give the patient a stool softener, or laxative. In extreme cases, give an enema.

To prevent pressure sores:

- change the patient's position every two hours
- keep the bed linen smooth
- keep the patient's skin clean and dry
- make sure that the patient never has one part of the body on top of another part
- if the patient is lying on one side, put a pillow between the legs and flex the upper leg

- use pillows, blankets and towel rolls to support pressure areas
- check good positioning and change of position, with increasing physical activity.

To prevent blood clots (thrombosis) or inflammation of the leg veins (thrombophlebitis):

- do range of motion exercises of the patient's feet and legs
- encourage the patient to get out of bed and walk as soon as possible. Assist the patient if necessary.



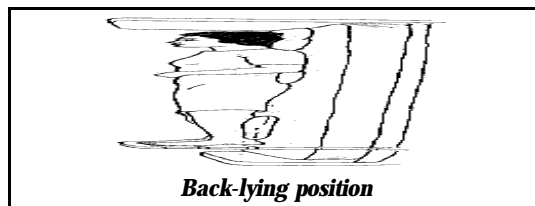
Correct positioning

Most people change their position constantly and move about even in bed. However, when patients are weak or in pain, or have a fracture, or are paralysed or unconscious, they cannot change position as people normally do. Therefore, they need to be moved or be helped to change position.

Back-lying position

The back-lying position is commonly used to help healing after certain operations.

- The back-lying position is flat on the back, often with a small pillow to support the head.



- The patient's head is in a straight line with his or her back, shoulders, hips and knees. The patient's body should not be twisted.
- The hips move as little as possible, and the patient's toes are pointing up.
- The patient's feet may need to be supported against a firm padded board or a firm pillow to prevent foot drop.
- Arms may be flexed and resting on the stomach, with a pillow under the upper arms.
- A towel roll may be used to separate the legs so that the skin does not rub.

Whatever position the patient is in, do not put one part of the body directly on top of another.

Prone position

The prone position is often used for unconscious patients since it helps with drainage. However, it should be used only for short times with other patients because it makes breathing difficult.

- The prone position is flat on the stomach, again usually with a small pillow under the head and a pillow under the pelvis.



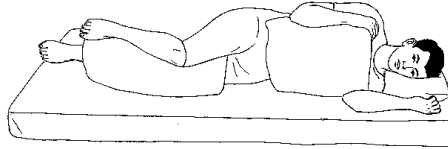
Prone position

- The patient's head is turned to the side.

- The elbows are flexed.
- The toes are off the edge of the mattress, or a roll is placed under the ankles.

Lateral position

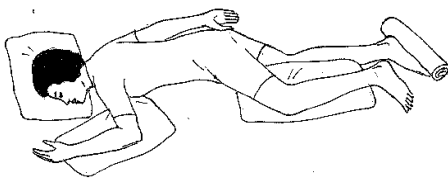
The lateral position helps to relieve pressure on the back and the heels for people who are confined to bed or who sit for most of the day. This position is good for resting or sleeping.



Lateral position

- The patient lies on one side, usually with the top hip and knee bent and supported with a pillow.
- The upper arm is bent, with a pillow under it.
- The patient's feet are supported with a firm pillow, if needed, to prevent foot drop.

Semi-prone position



Semi-prone position

The semi-prone position (or Sims' position) is often used for paralysed patients because it reduces pressure on the buttocks and hips. Many people find this position comfortable for sleeping.

- The patient is between a lateral and prone position with one arm behind and one in front. Both legs are flexed.

If a patient cannot change position at all, the nurse should help him or her to change about every two hours.



Moving the patient or changing position

Before trying to move a patient, the nurse should think about the following:

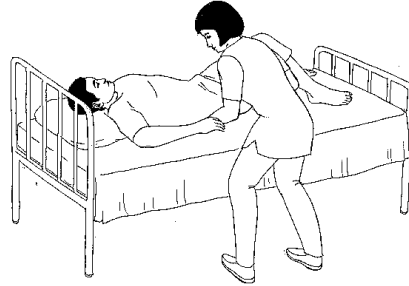
- the patient's own ability to move or help move
- the patient's ability to understand when you explain how to help
- the patient's pain or discomfort in moving.

Sometimes, when a patient is in severe pain, it is helpful to give pain relief 30 minutes before the move.

It is important to think about your own strength and ability to move the patient. In some cases it may take two nurses to move the patient, or even three. If the patient is helpless, always have a second nurse help. Before beginning a move, try to make sure that the sheets are smooth.

Ways to make moving the patient easier

- Stand as close to the bed as possible.
- Lean forward and bend your hips and knees to increase your balance and stability.
- Face the direction you will be moving the patient in.
- Tighten your buttocks muscles and your stomach muscles to give your body strength to pull or push the patient.
- Stand with your feet apart to get a wide centre of gravity for your own body.
- Rock from your front leg to your back leg to pull, or from your back to your front to push.
- Slide, roll, push or pull the patient instead of lifting, whenever possible.
- Use the long muscles in your arms and legs, not your back muscles, and use your body's weight to help pull or push.



Moving a patient to a wheelchair

Always lock the brakes on both wheels before you move the patient into a wheelchair. Raise the footplates out of the way so that the patient can get into the chair. Put them back once the patient is in the chair.



Exercise the patient

Exercise is essential to keep up muscle strength and joint movement.

People automatically exercise their joints and muscles in normal daily life, when they bathe, comb their hair, dress, eat, write, reach for things, walk, etc. When people are ill and in the hospital, they are not able to exercise as normal. They may need to do range of motion exercises to get them back to their normal level of physical activity.

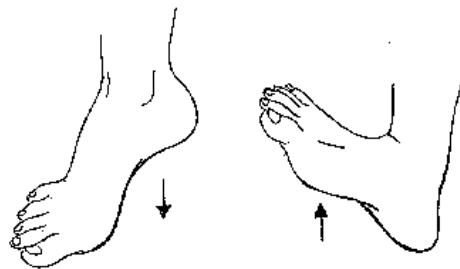
Range of motion is the term used to describe the complete range of movement of a joint.

Even when patients are able to get up to walk a short distance or sit in a chair, they may need to exercise some joints more.

Range of motion exercises stretch all the muscle groups over each joint.

Active range of motion exercises

The exercises are called active range of motion exercises if patients do the exercise themselves with instruction and possibly some help from the nurse and a family member. The nurse shows patients how to do the exercise to the point of slight resistance. The exercise should not cause pain.



Patient exercising the foot

How to teach the patient and family member to do active range of motion exercises

- Explain what the patient should do.
- Demonstrate the exercise on each joint the patient needs to move.
- Ask the patient to show you in return how he or she will do the exercise. Ask for a return demonstration.

Clinical alert: Range of motion exercises of the feet and legs are particularly important after surgery, to prevent blood clots from forming in the legs.

- The patient should do each exercise three times and do the complete set of exercises at least twice a day. If the patient has a weak leg or arm, the other, stronger leg or arm should support the weak one, moving it as far as possible. The nurse or family member can then help the patient to move the limb to the point of resistance.

Passive range of motion exercises

Sometimes a patient is too ill to perform range of motion exercises. In that case the nurse exercises the joints for him or her. These are called passive range of motion exercises.

Some patients begin with passive range of motion exercises and move on to active exercises. Passive range of motion exercises, just like

Clinical alert: Passive range of motion exercises should not be done on joints that are inflamed.

active ones, should be done to the point of resistance but not to a point where they cause pain. Each exercise is done by the nurse with the patient three times. The full set of exercises is done at least twice a day.

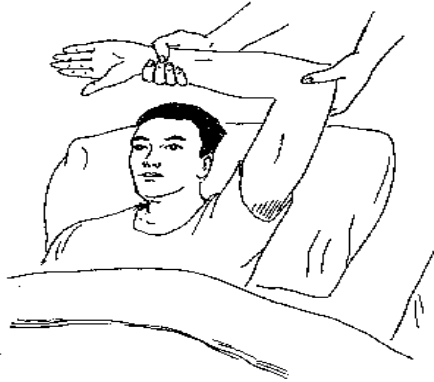
How to perform passive range of motion exercises

- Explain to the patient what you are going to do and why.
- The patient's feet should be bare, but the body should be covered for privacy.
- Before you begin, tell the patient to say as soon as a movement causes pain, so that you can stop.
- Work on one side of the body first.
- Then move to the other side of the body.
- For each joint that you move, support the patient's limb above and below the joint to avoid muscle strain.
- Move the limb or other body part smoothly and slowly.
- If muscle spasm occurs, stop the movement and press lightly on the muscle until it relaxes.

Exercising the joints

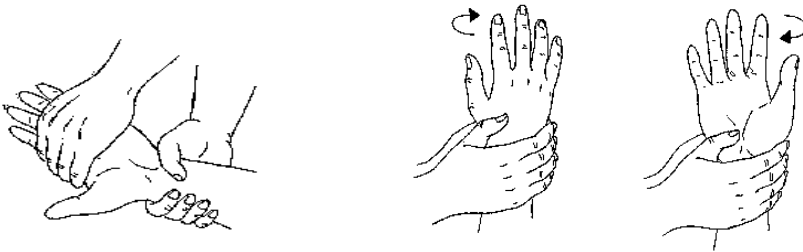
- First exercise the patient's neck joint, while supporting the head and neck.
- Next support the elbow and wrist and move the shoulder through its range of motion.

**Exercise the joints
of patients who
cannot
move by themselves.**



Exercising the shoulder

- Then flex the elbow, the wrist, the fingers and thumb.



Exercising the wrist

- Supporting the knee and ankle, flex and extend the hip and the knee.



- Move to the ankle and flex it through its full range of motion.
- Next flex the foot and toes.
- When you have finished, exercise the joints on the patient's other side.



Exercising the foot

Teach family members to help the patient do range of motion exercises.



Help the patient to walk

Most people take walking for granted when they are well. After they have been kept in bed, they have difficulty beginning to walk again. Bed rest makes people feel shaky and unsure of their balance. The longer the bed rest, the weaker people feel. Also, those who have had surgery may feel pain when they try to get up and walk.

It is essential to get patients out of bed and walking as soon as possible. The longer people are on bed rest, the more likely they are to suffer complications from lack of movement.

Clinical alert: Help patients to get up. Help them to walk as soon as possible after surgery or during illness. This speeds up recovery and prevents pneumonia, blood clots and muscle wasting.

The doctor usually gives an order for getting the patient up. The timing for this depends on the patient's degree of injury or illness. Even people who have had major surgery are often walking within a few hours after surgery.

How to prepare a person for walking

- Check the patient's pulse, respiration and blood pressure, especially if this is the first time up.
- Check the range of motion of the joints the patient will need to use in walking and the muscle strength in his or her legs.
- If the patient is experiencing pain, give pain relief medication 30 minutes before walking, since using the muscles for walking will increase pain.
- Ask the patient to sit up on the side of the bed, and give help if necessary.

The patient should hang his or her legs over the side of the bed for a few minutes and take some deep breaths before standing. Make sure the patient feels no dizziness or light-headedness when standing. Make the patient stand by the side of the bed for a few minutes until he or she feels stable.

Clinical alert: Check the patient's blood pressure and pulse sitting or standing if there is any dizziness, nausea, or weakness, or if the patient appears pale and sweaty.

If the patient can walk alone, encourage this but walk close alongside so that you can help if the patient slips or feels faint. You can lock your forearm with the patient's arm and walk together. If the patient seems very unsteady, put one arm around the patient's waist for support and hold onto the arm nearest you, supporting the patient at the elbow. If the patient grows faint and begins to fall, help him or her into the nearest chair. Put the patient's head between his or her knees. When the patient is better, help him or her back to bed. If there is no chair available, help the patient to slide gently

down to the floor. Take care that the patient's head does not hit the floor.

Sometimes a patient is very weak and two nurses or a nurse and a family member are needed for support. Each helper should grasp the back of the patient's upper arm with one hand and hold the forearm with the other. If the patient grows faint and starts to fall, grasp the underarms and help him or her to slide to the floor or into a nearby chair.

Use devices to help the patient walk

Many patients must learn to walk with a cane or crutches. Before the patient leaves the hospital, help the patient to decide what he or she will need, help get the equipment and teach the patient how to use it.

Cane

A cane is especially helpful if the patient has one weak leg.

- When the patient is ready to take a step, explain how to move the cane out in front, a little beyond the step, and put it firmly on the floor.
- Next, move the weak leg forward with the patient's weight on the strong leg and the cane.
- Once the weak leg is on the floor, move the strong leg forward. The patient's weight is supported by the cane and the weak leg.
- Repeat the process.

Teach the patient to hold the cane on the strong side of his or her body.

Crutches

Crutches may be temporary or, for some people permanent. The most common type of crutch fits under the arm and has a bar for the hand.

The crutches must be the right height for the patient and the arm bar must be right.

When walking with crutches, the patient's weight needs to be supported by the shoulders and arms, not the underarms. The elbows should be bent.



Care for the person in a cast

Patients with broken bones, severe sprains, or dislocated joints are often put in a cast. This stops the bone and tissue moving until they heal. If the cast is on the foot or leg, the toes are usually left open. If it is on the hand or arm, the fingers are left open. To prevent swelling (oedema), the person in a cast should keep the casted area raised above the level of the heart, as much as possible.

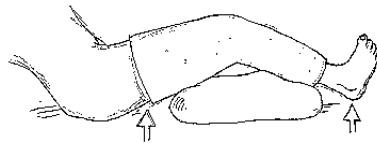
The nurse needs to watch the patient carefully for signs of problems.

- If the cast is on the foot or leg, check the colour, temperature, size, movement and feeling of the toes. Compare these results with the other foot.
- If the cast is on the hand or arm, check the fingers and compare them with the other hand.
- Check capillary refill. A pink colour should return quickly to a nail bed when you press on it.

- Look at the skin around the edges of the cast for signs of irritation. If the cast has a rough, irritating edge, cover it with adhesive tape, and tell the doctor. Do not cut the cast.

Clinical alert: If the skin is pale, bluish, or cold, there is a problem with circulation. Tell the doctor immediately.

- Look at the skin colour of the fingers or toes, or other area affected by the cast.
- If the fingers or toes or other area affected by the cast are swollen, that also indicates a problem with circulation. Raise the casted area higher and tell the doctor.
- Check the temperature of the area around the cast. If the area is warmer than the surrounding skin, that is a sign of infection. If the area is colder than the surrounding skin, that is a sign of a problem with circulation. The nurse should call the doctor if the area around the cast is warmer or colder than the normal.
- Smell the cast. A bad smell coming from the cast indicates infection.
- Ask the patient about pain. If there is increased pain or burning under the cast, that may also be a sign of infection, or it may be a sign that the cast is too tight.



Areas where pressure sores can develop in a long leg cast

***Clinical alert:* If a patient complains of increasing pain or severe pain in a casted arm or leg, tell the doctor immediately. Swelling under the cast could be interfering with blood flow and nerve function in the limb.**

- Check the colour, temperature, size and sensation of the area affected by the cast hourly for the first 8-12 hours after surgery or after cast application; then check at least once every day.

Advising the patient and family about care of the cast

Show the patient and family members how to prevent problems and watch for signs of complications. Give these instructions:

- Keep the casted area raised.
- Do not put anything down the cast to scratch an itching area.
- Do not get the cast wet.
- Check the colour, temperature, size and feeling of the casted area.
- Tell the nurse if the patient feels any numbness or tingling of the casted area, if the patient feels increased pain, or if the patient has any chest pain or shortness of breath.

Tell the patient and family members to exercise the patient's other joints while in bed. If the cast is on the foot or leg, the nurse or family members will need to help the patient walk on crutches. The patient should eat a balanced diet and drink extra water to prevent constipation because of the reduced movement.