CARING FOR THE CLIENT ON COMPLETE BEDREST

INTRODUCTION

The human body is designed to move. And just as the human body thrives on movement, it suffers when for one reason or another there is enforced immobility. Bedrest – beyond what is considered normal – might seem to be beneficial, but it is actually very harmful. As a Certified Nursing Assistant (CNA), you will certainly at some points in your career care for clients who are immobile and on bedrest. As a health care professional, you will need to understand the harmful effects of bedrest, how to prevent them, and how to treat them.

OBJECTIVES

When the student has finished this module, she/he will be able to:

1. Identify the correct definition of complete bedrest.
2. Identify four complications of bedrest.
3. Identify the three causes of pressure sores.
4. Identify three actions that can help prevent pressure sores.
5. Identify the maximum amount of time a client should remain in one position.
6. Identify the possible signs of a thrombus.
7. Identify a therapeutic action that can help prevent contractures.
8. Identify therapeutic actions that can help prevent lung infections.
9. Identify a risk associated with the bone loss caused by bedrest.
10. Identify a therapeutic action that can help prevent both thrombus and urinary tract infection.

COMPLETE BEDREST/PROLONGED IMMOBILITY

There is no universally accepted definition of complete bedrest. For the purpose of this module, complete bedrest will be defined as:

Complete bedrest is defined as “enforced and prolonged immobility” caused by the inability of a client to ambulate, even with assistance.

There are many reasons why someone may not be able to ambulate and is on complete bedrest. The client may have had a stroke and has suffered paralysis. The client may have suffered a traumatic accident. The client might have an overwhelming illness such as HIV/AIDS or pneumonia that has completely drained him/her of energy and very weak. The client may have had surgery and the surgeon has determined that it is not safe for that person to be out of bed.
But regardless of the reason why someone is on bedrest, the risks to that person’s health are the same. **Bedrest – enforced and prolonged immobility – can cause serious health problems.**

Remember, the human body was designed to be active. And even those of us who do not regularly exercise are constantly moving in subtle and not so subtle ways. Someone may have a job that requires him/her to sit a desk all day. To a casual observer, it may seem that that person is inactive. But look closer and you will see that even a “desk jockey” is constantly moving: he/she is shifting positions, stretching, or getting up for a drink or to use the bathroom. Even the most sedentary person is, in small ways, constantly moving. And even when we sleep, we are moving all night long.

However, **all** of that movement is lost when someone – a stroke victim, for example – is on bedrest. That individual does not move at all – can’t move at all. When that happens, many health problems begin to develop, and that process does not take long. Serious complications of bedrest include:

- **Pressure sores:** A **pressure sore** (also called a **pressure ulcer, skin ulcer or decubitus ulcer**) is an open wound in the skin that is caused by prolonged immobility. Pressure sores can take several forms and can develop (although the development can be interrupted) through various stages. Stage I a pressure sore in which the skin is red, warm and sore; Stage IV is a pressure sore in which the skin has broken down completely and there is an ulcer that extends down to the bone and is infected. Pressure sores develop during bedrest because of, a) **constant pressure** from body weight on one area, pressure that shuts off blood supply, b) **friction** that wears away the skin, and c) the **shear effect.** Press the palms of you hands together, apply a moderate amount of pressure, the try and slide one hand down. Doing this creates heat and friction, and damages the skin, and that is the shear effect. Pressure sores can happen on any area of the body that is subjected to pressure, friction, and the shear effect, but the elbows, base of the spine, heels, and hips. These areas are, when someone is immobile, subject to constant body weight which causes pressure, friction, and the shear effect. The blood supply to the area is interrupted by pressure and the friction and the shear force damage the skin.

- **Thrombus:** A thrombus is the medical term for a blood clot in a blood vessel. Blood clots are a very serious complication of bedrest. They happen most often in the lower legs, but they can occur almost anywhere there is blood flow. Blood clots in the veins or (and some times in the arteries) can break off and move through the circulation to the heart, the brain, the lungs, or one of the extremities. When this happen the clot keeps moving until it lodges in a blood vessel in one of those areas and completely shuts off the blood supply. When that happens, that part of the body can die; this is what happens when someone has a stroke. Blood clots happen for several reasons when someone is on bedrest. Unless blood is being circulated, if it is not moving and it has a natural tendency to clot. In addition, when someone is immobile, blood will pool in areas of the body that
aren’t being moved, and when the blood is not moving clots will form. Also, when we actively move our muscles, the muscles squeeze down on the blood vessels (imagine squeezing a tube of toothpaste) which helps keep blood moving and circulating. This obviously does not happen when someone is immobile and can’t move. People who are immobile are also at risk for being dehydrated. When someone becomes dehydrated, the blood thickens and this increases the risk that a blood clot will form.

- **Muscle wasting:** When someone is completely immobile, his/her muscles are not being used, and muscles must be subjected to resistance to stay strong. There is a phrase often heard when referring to exercise: *use it or lose it.* This simply means that a muscle will slowly but surely lose strength unless it is exercised and stressed, and obviously someone on bedrest cannot exercise. Even a short period of time of complete immobility can cause serious loss of muscle tissue and muscular strength. It has been estimated that someone on complete bedrest can lose up to 5% of his/her muscle strength a day.

- **Lung infections:** When someone is immobile, even for short periods of time, secretions can pool in the lungs. When that happens, bacteria and other microorganism which are normally found in the lungs can begin to multiply and a respiratory infection can result. If someone is elderly or has smoked cigarettes, the risk is even higher.

- **Contractures:** Our bones are connected to each other by thick bands of fiber-like tissue called ligaments, and muscles are attached to the bones by other thick bands of fiber-like tissues called tendons. If the ligaments and tendons are not stretched and exercised, they begin to become stiff and inflexible and they shrink. The muscles will also shorten and become stiff and immobile if they are not used. Eventually, the muscles, ligaments, and tendons become so shortened and inflexible that a contracture develops. The joint is permanently deformed and the person cannot effectively move the limb. For example, someone with a contracture of the arm will have his/her arm permanently flexed and will not be able to straighten the limb.

- **Bone loss:** Bones must be stressed in order to stay healthy. If our bones are not stressed — for example by walking and weightbearing — they lose minerals and become weak and brittle. *If an elderly person (their bones are often more brittle due to calcium loss) is on complete bedrest, his/her bones can become very fragile and even a minor amount of stress could cause a fracture.*

- **Urinary tract infections:** Being immobile for long periods of time increases the risk of developing a urinary tract infection. The bladder loses muscle tone and the client is unable to completely empty the bladder when he/she urinates. This allows the bacteria and other microorganisms that are normally found in urine to multiply, and a urinary tract infection can occur.
CARING FOR THE CLIENT WHO IS ON COMPLETE BEDREST

All of these complications of prolonged bedrest/immobility are almost certain to happen if the individual cannot move. But these complications can be often prevented. Doing so involves constant attention, conscientious care, and specialists (e.g., an ostomy nurse, physical therapists) may need to become involved. Specific care to prevent these complications would include the following.

- Pressure sores: When you are working as a CNA, preventing pressure sores involves a) keeping the client’s skin clean and dry, b) changing the client’s position frequently; the maximum amount of time an immobile client should remain in one position is two hours, c) proper positioning; try and avoid putting the client in positions that increase pressure on vulnerable areas such as the heels, hips, etc., and d) use of padding when and where it is appropriate. The padding can take many forms.

Learning Break: The first step to preventing pressure sores is to recognize the clients who are likely to develop them. Obviously, the client who is immobile is at a high risk. But you must also remember that people who are thin are at a higher risk, people with decreased pain sensitivity (people with diabetes or people who have had a stroke) are at a higher risk, and people who are incontinent of urine and/or feces are at a higher risk (these secretions increase skin breakdown).

- Thrombus: In order to prevent thrombus, encourage the client to drink (of course, this must be done following the fluid restrictions that have been ordered by the client’s physician). Make sure you do not position the client in a way that will compromise circulation. Some times the client’s physician will order compression stockings. These are like long stockings that are made of a strong elastic material that squeeze the legs and help move blood through the veins; they usually extend to the knee but some times to the thigh. If the client has been ordered to wear compression stockings, follow the orders regarding how long and how often to use them for. Help the client perform active or passive exercises as prescribed by the physician.

Learning Break: You can – and should – evaluate the client who is at risk for developing a thrombus. If the patient’s leg or foot is red, swollen, hot, or painful, these may be signs that a blood clot is present. However, these signs are not always present when someone has a thrombus. The safest course is simply to assume that someone on complete bedrest is at risk for developing a thrombus.

Learning Break: It is very unlikely that massaging a client’s legs or putting a moisturizing lotion on, etc., would dislodge a blood clot. However, it is sensible and prudent to check with your supervisor before doing so.
• Contractures: *Preventing contractures is much more effective than treating them.* Once a serious contracture has developed, the client may be left with a permanent deformity. **In order to prevent contractures, the client’s arms, legs, hands, wrists, etc., must be stretched and moved.** The exact way this is done, how often, and by who will be determined by the client’s physician. However, it would not be unusual for a CNA to be involved in this activity. You may be asked to apply a splint that holds the client’s limb in position that keeps it stretched, to you may be required to perform **passive range of motion (ROM) exercises.** These are exercises in which the *caregiver* moves the client’s limb (the movement is *passive* as far as the client is concerned) through a specific range of motion. If you are caring for a client who is on complete bedrest/is immobile, you may be asked to participate in activities designed to prevent contractures; make sure that you only perform activities that have been ordered by the physician or approved by your supervisor.

**Learning Break:** Performing passive range of motion exercises is simple. For example, to exercise a client’s knees, simply place one hand under the client’s heel and place the other hand underneath his/her leg just above the knee. With the hand that is holding the heel, bend the client’s leg so that it flexes and then extends, using the hand that is underneath the leg near the knee for support.

• Lung infections: Lung infections can be difficult to prevent. As a CNA you can help by making sure the client is well hydrated. *(Always make sure to check the client’s chart before you offer any fluids to make sure the client is allowed to drink and if so, how much).* You may also be asked to assist the client perform (if the patient is can do so) **coughing and deep breathing exercises.** These are designed to increase the flow of oxygen into the lungs and to help clear secretions. For example, every two hours, the client might be instructed to take a certain number of very deep breaths and to produce a certain number of forceful coughs. Helping the client with deep breathing and coughing exercises is a very effective way to prevent lung infections.

The other complications of bedrest – muscle weakness, bone loss, urinary tract infections – can be difficult to avoid, and there is limited assistance that can be offered to prevent them. As far as preventing urinary tract infections, you can make sure the client is hydrated, and you can also assess the color and appearance of the client’s urine. If the urine is dark, cloudy, filled with sediment, or has a foul odor, these can be indications of a urinary tract infection and the physician should be notified. Muscle weakness and bone loss can really only be prevented by weightbearing exercises or resistance exercises, and these are obviously not possible if the client is totally immobile. However, you should be aware of these complications and take them into consideration when assessing and caring for the patient who is on complete bedrest. There may come a time when the client who is immobile can ambulate again, and this client will be susceptible to falls and fractures.
CARING FOR THE CLIENT ON BEDREST: SUMMARY

- Bedrest is defined as enforced and prolonged immobility.
- Bedrest can actually be very harmful to a client’s health.
- Complications of bedrest include: pressure sores, thrombus, contractures, muscle weakness, bone loss, lung infections, and urinary tract infections.
- Pressure sores happen because of friction, shear force, and pressure.
- A thrombus happens because of blood pooling, dehydration and lack of muscle contraction on the blood vessels.
- Contractures happen because the muscles, ligaments, and tendons are not stretched or exercised.
- Bone loss caused by bedrest puts the client at a significant risk for fractures.
- Preventing pressure sores involves keeping the skin clean and dry, frequent position changes, the use of padding, and proper positioning.
- The maximum amount of time a client should remain in one position is two hours.
- Preventing contractures involves range of motion exercises.
- Preventing lung infections involves good hydration and coughing and deep breathing.
- Preventing thrombus formation involves good hydration, exercise, and the use of compression stockings.