



Rehabilitation of the Orthopedic Patient

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Definition of Rehabilitation

"Rehabilitation means the restoration of the handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable." Rehabilitation requires motivation.

The development of interest. The development of interest is very important. The term, interest, is usually used by psychologists to mean a pleasure feeling which aids progress in some activity. Every person has an interest in something if he likes to do it, and if he feels a measure of success or achievement in it. The fulfilment of human goals depends upon interest.

Effort is necessary. Rehabilitation can only take place if the patient wishes it and is willing to put forth the necessary effort. Rehabilitation cannot be supplied by medicine or through any therapy by others. The important thing about rehabilitation is that the patient must be encouraged to *do something for himself*. For this he needs encouragement and guidance. To bring about motivation in rehabilitation is not easy. So we must try to help the patient develop motivation. We can increase motivation by gathering these handicapped patients in a group and talking together about rehabilitation. We can have special clinics on rehabilitation. Also, we can talk with the individual patient about his own rehabilitation, his needs, and about solving his problems. Motivation can be

stimulated by the patient's family, friends and also by nurses. But it has to come from within the patient himself. Only then will he put forth the necessary effort for his rehabilitation.

Reaction to disability. In order to help the patient all members of the rehabilitation team must understand what the disability means to the individual patient. He may react in two ways :

1. He may refuse to accept the disability and try to live as if he has no disability.
2. He may use disability as a defense mechanism.

He may hide behind the disability and become more and more dependent upon his family or the rehabilitation team. Successful rehabilitation depends upon the patient's acceptance of reality. Nurses can help the patient accept his limitations if they themselves accept the handicapped patient as an individual with worth.

Rehabilitation of the patient with fracture of the lower Limb.

Body Alignment. The correct body alignment is important for the patient with fracture to prevent : (1) Joint contractures and loss of the joint function and (2) Poor posture and foot-drop. When skin traction is applied to the leg, sandbags may be used to keep the leg from inward or outward rotation. A footboard helps to prevent foot-drop. If the patient lies on his back, pillows may be placed for comfort and for correct body alignment—a small pillow under the small of the back, pillows under the legs, and one or two pillows under the head (don't give too many pillows under the head because this will bring the chin forward).

Exercises while in bed

1. **Range of motion exercises**—all good joints of body.

2. **Thigh muscle exercises**

(a) **Setting or splint exercises** (the muscle is contracted without moving the joint) are especially important to prepare the leg for walking. Tell the patient to stiffen his leg muscle and pull the kneecap toward the chest (this exercises the quadriceps femoris muscle).

(b) Lift up the leg enclosed in a cast without support. When able to do this, the patient is ready to walk.

3. **Exercises to prepare the upper limb for the work of crutch-walking :**

(a) **Hand and finger exercises :** squeezing a rubber ball, touching finger and thumb at each fingertip, and wrist flexion-extension exercises.

(b) **Triceps muscle :**

—pronation and supination of the hand.

—pushing up buttocks with the hands.

It is better not to give a trapeze to the patient who will be walking with crutches, because when he moves himself with the help of a trapeze, he exercises his biceps, and not his triceps. He needs strong triceps for crutchwalking.

—when lying on his back, lifting weights on palms, and straightening elbows.

3. **How to prepare crutches**

1. **Length ;** When the patient is lying in bed, measure from the anterior fold of

the axilla to a point 6 inches out from side of heel. If crutches are too short, the patient bends forward, and if they are too long, they will cause pressure in the axilla.

2. **Position of hand-bar :** Should allow the patient to almost completely extend his arms when he places his weight on his palms. While resting the elbow should be bent slightly and the wrist slightly hyperextended.
3. **Axilla bar :** There is no need to pad the axilla bar, because, if the crutches are of the correct height and are used properly, there will be no pressure under the arm.
4. **Rubber tip.** Rubber tip on crutches prevents slipping.

Instruction on crutch walking

1. **Explain and demonstrate crutch position, good posture, and how to rest weight on palms.**

When the patient stands, the position of his feet and crutches should be as follows :

Holding both crutches in front of his body, he should lean forward slightly from his ankles (to maintain good body alignment). While standing and resting, the elbow should be bent slightly and the wrist slightly extended. Stand with head up, chest forward, and resting weight on palms of hands. Teach the patient the danger of pressure under the arm (the radial nerve is so superficial in the axilla that a person who leans on crutches may develop crutch paralysis with weakness or paralysis of the muscles of the elbow, wrist and hand).

After demonstration, the patient is helped to stand by the side of the bed, supporting himself with the crutches. When bearing weight, the arms are almost completely

extended, and the wrist hyperextended.

NOTE : *The patient should tolerate sitting on the side of the bed or on a chair before standing is attempted.*

2. **For patients who are allowed some weight-bearing on the injured leg,** the next step is to learn how to shift weight. Flex the knee and hip and lift one foot while supporting body with other foot and crutches. *If the doctor orders no weight-bearing, even slight pressure on the injured limb may cause damage.*

3. **Teach the patient how to walk.**

(a) The *swing through gait* is the first to be used by a new fracture patient. Advance the injured leg and the crutches to a point even with or beyond the normal leg, and follow with the normal leg. *No weight bearing is done on the injured leg.*

(b) For patients who have both legs fractured and are allowed supported weight-bearing—the *four point gait* is taught : left crutch, right foot right crutch, left foot. The patient has three points of contact with the ground at one time.

(c) From the four-point gait the patient can progress to the *two-point gait*. For this gait support the weight with one leg and the opposite crutch, and then the other leg and its opposite crutch.

N.B. : Always walk behind the patient when he is learning to walk with crutches. If extra support is needed, the nurse should hold from the back a loosely worn belt around the patient's waist.

How to sit down and rise from a chair

1. The patient may sit down and rise *holding both crutches directly in front of him.*
2. Another method is to *hold one crutch and the back or arm of the chair.*

Exercises for the knee joint after removing plaster

1. Sitting on the edge of the bed, bend the knee as much as possible.
2. Standing, support the leg above the knee with both hands, and bend the knee.
3. Sitting at leg length from the wall, press the feet against the wall.
4. "Cycling exercise" : Go through the motions of cycling. During these knee exercises the patient will feel some support if he wears an elastic bandage over the knee.

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personnel inside the Hospital premises.

11. House keeping developments or improvements in any individual hospital should be given wide publicity throughout the country.

12. Information regarding

House Keeping equipments available in India with cost should be circulated to all Hospitals.

In concluding this report, I take the opportunity of thanking the WHO and the Course Director Mr. Bubb for arranging the course for Nursing personnel; the Medical

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