Discussion of management of patient traction

ASSIGN BUSTER

1. List nursing interventions and preventative management related to skeletal traction.

a. The weights used by the patient should be known and recorded in the nursing documentation; the weights must not be removed from the skeletal traction unless a life-threatening situation happens for removal of these destroys their purpose.

b. The traction system must be thoroughly checked at least once every shift or every 6 to 8 hours and always after some interventions such as moving a patient, physiotherapy, and radiographic examination because the system may be inadvertently altered.

c. The nurse must guarantee that the cords are attached securely by standard knots that will not shift or come undone, the weights hang freely and should not rest on the floor nor catch or jam, the ropes are in the wheel grooves of the pulleys, and that the ropes are not frayed.

d. The ends of the cords must be short or approximately 5cm and bound back to themselves with the use on an adhesive tape which will prevent fraying of the cord end and possible slipping and accidental disruption of the traction. The knot itself should also be uncovered.

e. The pulleys must be free running and oiled to prevent squeaking and friction should be minimized, the efficiency is maintained and the patient should not be disturbed by noise.

f. Pointed ends of the pins or wires used should always be covered to prevent injury not only to the patient but also to the staff.

g. The nurse should also evaluate the patient’s position; the patient should be on a firm-based bed to give full support and comfort to allow efficient action of the traction system and prevent the patient from slipping down the bed.

h. the nurse should maintain alignment of the patient’s body in traction as ordered by the physician which will promote an effective line of pull.

i. The patient’s foot is positioned properly to prevent foot drop, inward rotation, and outward rotation otherwise the foot can be supported by orthopedic devices such as foot support to maintain a neutral position.

j. The elbows and knees should be protected with the use of a semi permeable film dressing or protective wool and inspected for pressure ulcers because these parts of the body are often used by patients in repositioning themselves. Also, to prevent these parts from being injured, an overhead trapeze can be helpful for the patient’s movement.

k. Back care should always be provided and bed should be kept dry and free from crumbles and wrinkles to prevent bed sores or pressure ulcers.

l. If available, a pressure relieving air-filled or high density foam mattress overlay can be used to reduce risk for pressure ulcers.

m. The bed linens should regularly be changed. The patient is instructed to raise his torso while the nurses on both sides of the bed will roll down and replace the upper mattress sheet and as the patient raises the buttocks off the mattress, the nurses will slide it under the buttocks. To finish the

changing, the nurses will replace the lower part of the bed linens while the patient rests on his back. The traction should not be disrupted.

n. The neurovascular status should be assessed initially every hour and then every 4 hours.

o. The nurse should instruct the patient to report instantly if any change in sensation or movement happens.

p. The patient should also be encouraged to do active flexion-extension ankle exercises and calf-pumping exercises ten times hourly to prevent venous stasis or DVT. Anti-embolism stocking and compression devices may be used for preventive measures.

q. The nurse should also inspect for looseness of pins or wires and signs of infection at the sites where the traction is inserted every 8 hours. Purulent discharge, redness or inflammation may indicate infection, though these signs subside normally after 72 hours.

r. Pins that are mechanically stable require weekly pin site care. The most recommended cleansing solution used is chlorhexidine solution. If early signs of infection are present, frequency of pin site care is increased.

s. The nurse ensures that the site is only covered by a sterile absorbent non-stick dressing and rolled gauze for the first 48 hours. After this, loose cover dressing or none is suggested. A bandage will only be used if the patient is exposed to airborne dust.

t. The nurse should instruct the patient to take showers within 5 to 10 days of pin insertion and encourage them to leave the pin exposed to water flow and dry them with a clean towel and left to open air. Dressing may be applied if ordered.

u. The patient is encouraged to perform active exercises to prevent loss of muscle mass and strength and prolonged rehabilitation. The patient can perform the following: pulling up on the trapeze, flexing and extending the feet, ROM and weight-resistance exercises for the non-involved joints.

v. Isometric exercises of the immobilized extremity such as gluteal-setting and quadriceps-setting exercises are important for maintaining strength in major ambulatory muscles.

2. Discuss a component of cast care for the pediatric client or adult client. Identify manifestations of compartment syndrome.

After cast application, the nurse must teach the client to report the following:

a. When the toes or fingers become blue, swollen or difficult and painful to move

b. When the limbs become painful

c. When the client feel numbness

d. When the client have “ blister-like” or burning pain

e. Presence of discharges or wetness or unpleasant smell from the cast

f. If the client dropped anything from the cast

The nurse must also teach the client or the care taker the following proper care of the cast:

a. The cast should be kept dry. Allowing it to dry naturally is a must and it should be left uncovered.

b. External heat such as a hairdryer or by sitting in front of a fire should be prevented.

c. If an irritation occurs under the cast, anything under the cast should never be poked.

d. The skin around the cast should be washed daily and checked for redness or sores.

e. The limb must not be hanged down especially on the first few days.

f. Exercises for the fingers or toes and other joints of the body should be performed for 5 minutes every hour during the day.

There are certain nursing interventions and care after cast application. The following will be discussed below.

a. Self-care deficit

The goal of care is for the client to maintain everyday activities to a level acceptable for him. The client may need help to achieve this level. The nurse must assess the client's capabilities which will depend to a number of factors such as the site of the cast, the previous level of independence, the support

available from family or friends, and some may require referral to a social worker.

b. Peripheral neurovascular impairment

The goal of care is to reduce the risk of neurovascular impairment and identify any early complications. The nurse must do neurovascular observations and if neurovascular impairment such as compartment syndrome is suspected, the following interventions should be done:

Inform the physician immediately

Cease elevation of the limb because elevation can increase compartment pressure

The cast should be split down to the skin. Threads of padding should not be left uncut for it can impair the circulation

If local pressure on the nerve is present, a window is needed to be cut or the cast is bivalve

Compartment syndrome requires immediate surgery. (I will duscuss it after these nursing diagnosis and care)

c. Impaired skin integrity

The goal of care is to indentify signs of localized pressure because cast may cause pressure or localized sores. These are the following signs that should be observed by the nurse:

Itching beneath the plaster

Burning pain; which should not be ignore because the tissues quickly becomes ischemic which leads to numbness and absence of pain

Disturbed sleep, restlessness and fretfulness in children

Swelling of the fingers or toes after the immediate swelling has subsided

A characteristic offensive smell due to tissue necrosis

Presence of discharge

The nurse must know that extra padding to a cast can increase the pressure and the padding can fall further down the cast. Cotton wool should not be used for padding because it tends to be compressed into hard small pellets that can cause further problems when it falls into the cast and become lodged. A window should be cut carefully and removed as a whole piece for inspection of potential sore sites but the window should be replaced to prevent local edema.

d. Risk for disuse syndrome (stiffness of the joint)

The goal of care is to ensure that the adjacent joints retain their normal range of motion because stiffness will occur in joints held in a cast. Such exercises that was discussed before is vital in relation to the importance of using adjacent joints.

e. Potential allergic reaction

The goal of care is to prevent reactions in client known to have had a reaction in the past and for early detection of any reaction occurring in other

clients. The nurse should check if the patient has known allergies. Signs or reaction should be observed such as itching, non-localized burning pain, rashes and blistering of the skin. If these occur, the physician is informed. The cast is removed, the skin is cleaned and a new cast is applied using a different material.

Compartment Syndrome

If the patient complaints that the cast is too tight, nerve compression and vascular insufficiency can occur due to unrelieved swelling. This can result to compartment syndrome. The cast may be bivalved to relive the pressure while maintaining alignment with the extremity elevated no higher than the level of heart to ensure arterial perfusion. If it is not relieved, fasciotomy is required to relieve pressure built up in the muscle compartment before irreversible damage occurs to the ischemic muscle.

3. Compare the nursing needs of a total hip replacement patient with a total knee replacement patient.

Nursing Needs of a Total Hip Replacement Patient

A patient with a total hip replacement requires monitoring for specific potential complications especially the dislocation of hip prosthesis. Nursing needs are more focused on the dislocation of the hip prosthesis. If the patient is undergoing a posterior or posterior-lateral approach for total hip arthroplasty, maintenance of the femoral head component in the acetabular cup is important. The leg should be positioned in abduction to prevent dislocation of the prosthesis. An abduction splint can be used to keep the hip in abduction. Hip should never be flexed more than 90 degrees. Limited

flexion is maintained during transfers and when sitting. There are methods to avoid displacement of the hip such as keeping the knees apart at all times, putting a pillow between the legs when sleeping, never crossing the legs when seated, avoding positions such as bending forward when seated in a chair and when picking up an object on the floor. A higg seated chair should be used and a raised toilet seat. The hip should also not be flexed to put on clothing such as pants, stocking, socks, shoes, etc.

Monitoring the wound drainage, preventing deep vein thrombosis and infection, are also important for the patient.

Nursing Needs of a Total Knee Replacement Patient

In other hand, a patient with total knee replacement focuses on the importance in encouraging active flexion of the foot every hour postoperatively, when awake. Also, drainage should range from 200 to 400mlduring the first 24 hours after the surgery and reduces to less than 25ml by 48 hours at which time drainage is removed by the surgeon.

A continuous passive range of motion or CPM device combined with physical therapy will help improve the patient’s postoperative knee mobility and decrease use of analgesics. Usually, 10 degrees of extension and 15 degrees of flexion are prescribed initially, then increasing to 90 degrees of flexion with 0 or full extension by discharge. The knee is usually protected with a knee immobilizer and is elevated when the patient sits in a chair. Ambulation, use of assistive devices and within the prescribed weight bearing limits is encouraged on the day after surgery.

4. Discuss methods to avoid dislocation after hip replacement after surgery.

There are several methods to avoid dislocation of the hip prosthesis. These are the following:

a. The knees should be kept apart at all times.

b. A pillow should be placed between the legs when sleeping.

c. Legs should not be crossed when seated.

d. Bending forward when sitting in a chair should be avoided.

e. Bending forward to pick up an object on the floor should also be avoided.

f. A high seated chair and a raised toilet seat should be used because the knees should be lower than the level of the hips when seated.

g. The hips should not be flexed to put on clothing such as pants, stockings, socks, or shoes.

5. You are caring for a patient who has had skeletal traction placed to treat a fractured femur. Discuss nursing interventions and assessment techniques related to this type of treatment.

When caring for a patient with a skeletal traction on a fractured femur, these arethe nursing interventions and assessment techniques the nurse must do:

a. The nurse must check the traction system daily, at least every 6 to 8 hours and always after moving the patient.

b. The nurse must also inspect for looseness of pins or wires and signs of infection such as discharge, redness and inflammation at the sites of insertion of the traction.

c. Pin sites should be cleaned twice or once daily; chlorhexidine solution is the most recommended solution to use for cleaning.

d. Skin breakdown should be prevented by covering the bony prominences used by the patient when moving such as the elbows and heel.

e. An overhead trapeze is given to the patient for easy movement.

f. The neurovascular status of the fractured femur should be assessed every 4 hours.

g. The patient should be encouraged to do calf-pumping exercises for at least 10 times per hour to decrease the risk for deep vein thrombosis of the affected part.

h. The use of anti-embolism stockings can also help prevent venous stasis.

g. Active exercise such as pulling up on the trapeze, flexing and extending the feet and isometric exercises will maintain strength in major ambulatory muscles.

i. Assisting the patient will self-care such as bathing, dressing and toileting is also one of the nurse’s responsibilities.

j. The nurse must also monitor the patient for any potential complications such as DVT, constipation, etc.

6. A patient is being discharged with an external fixator for a fractured humerus. Discuss home care instructions for this patient.

Home care instructions for a patient with an external fixator include the following:

a. The nurse must demonstrate proper pin site care. The solution that must be used is chlorhexidine solution, and cleaning is once or twice a day.

b. The nurse should inform the patient to notify the physician if signs of infection such as redness, tenderness, increased or purulent pin drainage occur.

c. The nurse should also describe measures to control swelling and pain such as elevating the extremity to the heart level and taking prescribed analgesics.

d. The nurse informs the patient to report uncontrolled pain upon elevation and use of analgesics for it could be an indicator of impaired tissue perfusion, compartment syndrome, or pin traction infection.

e. The nurse should also let the patient demonstrate the ability to transfer and use mobility aids safely.

7. Identify various types of traction and the principles of effective traction.

a. Skin Traction

It is used to control muscle spasms and to immobilize an area before surgery. No more than 2 to 3. 5kg of traction can be used on an extremity.

b. Skeletal Traction

It is applied directly to the bone and is used occasionally to treat fractures of the femur, tibia, and the cervical spine. Two types of pins are commonly used; the Steinmann pin, and the threaded pins such as Denham pin.

There are also common types of traction used. These are the following:

c. Straight-Leg Traction

It is also known as Pugh's traction which allows the traction cord to be fixed by trying it to for example, the end of the thomas splint or used as sliding traction using a pulley and weights. It is used as a temporary measure for fractured neck of femur injuries, to rest the hip or relieve pain or muscle spasm.

d. Hamilton-Russell Traction

It is traditionally been used for fractures of the neck and the shaft of the femur. The arrangement of the foot pulleys multiplies the traction force by 100%.

To ensure Effective traction, avoidance of wrinkling and slipping of the traction bandage is important. Also, it is a must to maintain countertraction. Proper positioning is maintained to keep the leg in neutral position. Advice the patient not to turn from side to side. This will prevent bony fragments from moving against one another.

8. Discuss the use of Buck’s traction, its uses and the involved nursing considerations.

Buck’s Extension traction is used to the lower leg. It is a type of skin traction that is used to immobilize fractures of the proximal femur before surgical fixation.

During application of the Buck’s Extension traction, excessive pressure is avoided over the malleolus and proximal fibula to prevent pressure ulcers and nerve damage. The prescribed weight is usually 5 to 8 pounds.

9. Discuss the nursing care for a patient undergoing orthopaedic surgery.

a. Relieving pain is the first goal for the patient. Decreasing the discomfort by moving the affected bone or the injured joint can help.

b. Elevation of the edematous extremity will promote venous return and reduce the discomfort.

c. Giving alangesics as ordered,

d. Monitoring and maintaining the neurovascular status of the patient.

e. Assisting the patient in performing activities.

f. Assessing the nutritional status and hydration by monitoring fluid intake, urinary output and urinalysis findings.

g. Encouraging mobility immediately after surgery to promoted independence in ambulation.

h. Assisting the patient in accepting body changes, diminished self-esteem and roles and responsibilities.

SOURCES:

Brunner and Suddarth's textbook of Medical-Surgical Nursing 12th Edition

Julia Kneale et. al. (2005) Orthopaedic and Trauma Nursing 2nd Edition

Web Assignment

1. Find a research article addressing health teaching needs for the patient with a cast. Explain your findings in a one-page paper.

http://www. uptodate. com/contents/patient-information-cast-and-splint-care

According to the article, a cast is used to protect your bone and reduce pain as it heals. Minimizing the risk for potential complications is important. It was enumerated in the article some cast care instructions and they are as follows; the cast should be kept above the level of the heart within 24 to 48 hours which can be accomplished by resting it on pillows. Also, fingers and toes where the cast is located should be moved gently. The ice keeps the swelling down. Applying a bag of ice of a bag of frozen vegetables covered with a thin towel to the cast for 20 minutes while awake reduces swelling. The patient should be reminded that ice is not applied directly into the skin. Pain medications should be taken as ordered such as ibuprofen and acetaminophen.

The cast should not get wet. To bathe with a cast, cover the cast with a plastic bag and tape the opening shut. Then, the cast is hung outside the

tub. Even if the cast is covered with a plastic, it should not be placed with water or allow the water to run over the area. There are waterproof cast available at medical supply stores but are not completely waterproof. A hair dryer on a cool setting can be used to dry the cat in case it got wet, it can also soothe itchiness. Warm or hot setting can burn the skin that is wise it is not advised to be used. A vacuum cleaner can also be used with a hose attachment to pull air through the cast and speed drying.

The patient should always remember that the cast should be kept clean. Powder or lotion should not be applied near the cast and the cast should be covered when eating. The padding out from inside the cast must not be pulled.

There are also instructions said when to seek care. These are as follows; if there are sore areas or a foul odor from the cast, cracks or breaks in the cast, or the cast feels too tight, if swelling is developed that causes pain and immobility of the fingers or toes, if tingling or numbness is felt on the affected part, if the fingers or toes are blue or cold, if there is severe pain in or near the affected part, and if it becomes soaking wet and does not dry with a hair dryer or vacuum.