Nervous – Assessment of Proprioception

SECTION: 7.01

Strength of Evidence Level: 1

PURPOSE:
To assess the patient’s ability to determine joint position.

CONSIDERATIONS:
1. Proprioception is a safety-related issue that includes balance and awareness of where the patient’s body is in space to avoid potential injury.
2. The test can be performed standing with feet together, sitting or supine.
3. It is best to perform the test with the eyes closed but it can be performed with the eyes open if safety is a concern with the eyes closed.

EQUIPMENT:
None

PROCEDURE:
Explain the tests to the patient.

Finger to nose test:
1. Ask patient to close their eyes.
2. Lightly touch one of the patient’s fingers.
3. Ask the patient to touch their nose with the same finger you touched.
4. Repeat test on opposite hand.

Space test:
1. Ask patient to close their eyes.
2. The clinician moves the patient’s arm or leg into a different position.
3. The patient is asked to copy the position with the opposite limb.

Movement test:
1. Ask patient to close their eyes.
2. The clinician grasps a finger or a toe by the sides of the appendage and gently moves it up or down.
3. The patient reports if the appendage was moved up or down.

Romberg test:
1. Ask the patient to stand with their feet together and their eyes open.
2. The clinician guards the patient.
3. The clinician observes for signs of loss of balance.
4. The test is repeated with the eyes closed.

AFTER CARE:
1. Return the patient to a safe position.
2. Record all findings in the patient’s chart.
3. Report adverse results to the physician.

REFERENCES:
PURPOSE:
To determine the status of the sensory nerves, extent of impairment and functional limitations, diagnose problems, document sensation recovery, establish the plan of care and provide instruction in safety training.

CONSIDERATIONS:
1. There are several aspects to the assessment of sensation:
   a. Kinesthesia/Proprioception
   b. Light touch
   c. Two Point Discrimination
   d. Pain
   e. Temperature
   f. Vibration
   g. Stereognosis

EQUIPMENT:
Cotton ball
Two point discrimination tool or bent paper clip
Safety pin
2 test tubes; one filled with cold water, one filled with warm water
Tuning fork
Several small objects such as a coin, pen or paper clip

PROCEDURE:
1. Explain the procedure to the patient.
2. Position the patient in a comfortable position.
3. Reduce the potential for distractions.
4. Request that the patient close his/her eyes during all tests.
5. Perform each test on an area with normal sensation first so the patient understands the procedure.
6. Start all testing on the affected area proximally and move distally.
7. Always test side to side, comparing one side with the other as you move down the body.
8. Move along dermatomes to assess nerve injury.

Kinesthesia:
1. Determines the patient’s ability to perceive joint movement.
2. The clinician moves the affected limb into a position.
3. The patient replicates that position with the unaffected limb.

Light Touch:
1. Determines the ability to sense light contact with the skin.
2. Gently brush a cotton ball on the testing area.
3. The clinician can alternate with firm touch using the finger tip.
4. Ask the patient if they feel the touch and if it is light or firm.
5. The patient should be able to discriminate between light touch and firm touch.

Two Point Discrimination:
1. Determines the patient’s ability to discriminate between the touch of one or two points.
2. Place the two point discrimination tool or two pins 10 mm apart.
3. Randomly alternate one point and two point placement on the affected area.
4. Allow 3 to 4 seconds between applications.
5. Ask the patient if they feel one or two pin points.
6. Repeat the test moving the points closer until the patient can no longer distinguish between one and two points up to a minimum of 2 mm apart.

Pain:
1. Determines the patient’s ability to sense pain.
2. Open the safety pin.
3. Randomly alternate touching the patient with the pointed tip and the rounded tip of the pin.
4. Take care not to penetrate the skin to avoid transition of blood from one area to another.
5. Ask the patient if they feel a sensation and whether it is sharp or dull.

Temperature:
1. Determines the patient’s ability to discriminate between hot and cold.
2. Randomly alternate touching the patient with the cold test tube and the warm test tube.
3. Ask the patient if they sense being touched and to state if the touch feels cold or warm.

Vibration:
1. Determines the patient’s ability to sense vibration.
2. This is the only test in which the clinician begins distally and moves proximally.
3. Strike the tuning fork and place the tip of the tuning fork to the most distal joint of the limb.
4. Ask the patient to describe what they feel.

Stereognosis:
1. The ability to identify an object placed in the patient’s hand.
2. Give the patient an object to hold in their hand.
3. Ask the patient to identify the object.
4. The patient should be able to identify the object or describe the size, shape and texture.

AFTER CARE:
1. Document in the patient’s chart the tolerance to the session and the response to the tests.
2. Return any moved equipment, such as bed rail or trapeze, to their original position.

REFERENCES:
Nervous – Brain Attack Risk Assessment  
SECTION: 7.03  
Strength of Evidence Level: 3

PURPOSE:
To instruct patient/caregiver in the prevention of stroke (brain attack), and in the identification of signs/symptoms of stroke (brain attack), and to take appropriate action in order to maintain life.

CONSIDERATIONS:
1. The three step process of stroke management includes:
   a. Risk factor recognition and modification.
   b. Sign and symptom recognition.
   c. Response to symptoms (emergency).
2. Risk factors can be either controllable or uncontrollable.
   a. Controllable risk factors include:
      (1) Hypertension.
      (2) Tobacco use.
      (3) Diabetes.
      (4) Carotid/other arterial disease.
      (5) Transient ischemic attacks.
      (6) Atrial fibrillation/other heart disease.
      (7) Certain blood disorders such as increased red blood cell count or sickle cell anemia.
      (8) Hypercholesterolemia.
      (9) Physical inactivity.
      (10) Obesity.
      (11) Excess alcohol intake.
      (12) Illegal drug use.
   b. Uncontrollable risk factors include:
      (1) Increasing age.
      (2) Gender (more males have strokes, but more females die from strokes).
      (3) Heredity.
      (4) Race.
      (5) Prior stroke.
3. Signs and symptoms of stroke can include any of the following, especially if sudden onset:
   a. Partial/total paralysis (unilateral or bilateral).
   b. Facial drooping.
   c. Confusion or altered mental status.
   d. Loss of consciousness.
   e. Aphasia (expressive or receptive).
   f. Dysarthria.
   g. Headache.
   h. Hyper or hypotonia.
   i. Sensory impairment (touch, visual).
   j. Seizure activity.
   k. Lack of coordination.
   l. Incontinence.
   m. Lethargy.
   n. Nausea and/or vomiting.
4. Appropriate emergency response greatly improves a stroke (brain attack) victim’s chances of survival and should be implemented whenever there is suspicion of a stroke (brain attack).

EQUIPMENT:
Manometer
Stethoscope
Otoscope (optional)

PROCEDURE:
1. Adhere to Standard Precautions.
2. Instruct patient/caregiver in risk factors, signs/symptoms and importance of emergency response.
3. If any signs/symptoms are present, check for patent airway -- initiate cardiopulmonary resuscitation, if indicated. (See Emergencies- Cardiopulmonary Resuscitation.) If there is fluid or vomit in victim’s mouth, position patient on his/her side to allow fluids to drain out. You may have to use “finger sweep” to clear material from mouth.
4. Keep patient in left lateral recumbent position, if there is difficulty maintaining an airway.
5. Determine level of consciousness.
6. Protect paralyzed extremities.
7. Measure and assess patient’s response to commands. Determine loss of impaired vision, speech and motor ability.
8. Obtain vital signs.
9. Call for immediate medical direction/emergency care, as indicated.
10. Reassure and calm the patient and family.

AFTER CARE:
1. Document in patient’s record:
   a. Incident, signs and symptoms of stroke and vital signs.
   b. Treatment provided.
   d. Identity and location of emergency facility, if indicated.
   e. Condition of patient at time of transportation, if indicated.

REFERENCES:
PURPOSE:
To assess the patient’s intellectual activity in five areas: orientation, attention, calculation, memory, language and motor skills. Cognitive screening is useful for fall risk assessment, dementia screening, documentation of the progression of dementia, assessment of the patient’s ability to comprehend teaching, and screening for adverse drug reactions and potential medical complications.

CONSIDERATIONS:
1. The “Mini-Mental State Examination” is the gold standard for cognitive screening.
2. The clinician can use the formal “Mini-Mental State Examination” to document baseline cognition and successive cognitive changes.
3. The clinician may use a few selected questions for a quick screen.
4. A screening is indicated whenever the clinician has concerns regarding the patient’s cognitive function or questions the patient’s safety/orientation.
5. “Mini-Mental State Examination” is contraindicated for those who are illiterate or who have not completed 9 years of formal education.
6. Selected questions for cognition may be used on all demographics.
7. The “Mini-Mental State Examination” is valid, sensitive and reliable for testing psychiatric, geriatric, neurologic and other medical demographics.
8. The clinician should be familiar with the tool prior to its use.

EQUIPMENT:
4 pieces of paper
Writing utensils

PROCEDURE:
1. Ensure the patient’s comfort.
2. Establish a rapport with the patient.
3. Explain that you need to assess the patient’s cognitive status and explain the process.
4. Use of positive reinforcement and praise will help to keep the patient relaxed.
5. In order to maintain a good report, do not persist on questions that the patient finds difficult or confusing.
6. The maximum score is 30.

Quick “Mini-Mental State Examination”
1. Ask the patient to identify the place at which they reside.
2. Ask the patient to identify the current date.
3. Ask the patient to identify the current president of the United States of America.
4. Point to a nearby object and ask the patient to name the object.
5. Failure to successfully compete this brief assessment may indicate the need for the complete “Mini-Mental State Examination.”

Complete “Mini-Mental State Examination”
1. Ask the following orientation-to-time questions:
   a. What is today’s date?
   b. What is the month?
   c. What is the year?
   d. What is the day of the week?
   e. What is the season?
   f. Score: one point for each correct answer.
2. Ask the following orientation-to-place questions:
   a. Whose home is this?
   b. What room is this?
   c. What city are you in?
   d. What county are you in?
   e. What state are you in?
   f. Score: one point for each correct answer.
3. Ask the following immediate recall question:
   a. Explain that you will list three objects
   b. Slowly and clearly verbalize the name of 3 objects.
   [Note: ball, flag, tree]
   c. Ask the patient to repeat the objects.
   d. Score: one point for each correct answer.
4. Ask the following attention questions.
   a. Ask the patient to count backwards by 7 beginning at 100.
   b. Stop after 5 subtractions.
   c. Score: one point for each correct answer.
   [Note: 93, 86, 79, 72, 65]
   d. Ask the patient to spell the word “World” backwards.
   e. Score: one point for each correct letter.
   [Note: dlrow]
5. Ask the following delayed verbal recall question:
   a. Repeat the 3 previously listed objects.
   b. Score: one point for each correct object.
6. Ask the following naming question:
   a. Point to your watch and ask the patient to name the object.
   b. Point to your writing utensil and ask the patient to name the object.
   c. Score: one point for each correctly identified object.
7. Ask the following repetition question:
   a. Ask the client to repeat “No if, ands, or buts”
   b. Score: one point for correctly repeating the statement.
8. Ask the patient to perform the following 3-stage command:
   a. Place a piece of paper in front of the patient.
   b. State the following 3 stage command “Take the paper in your hand, fold the paper in half and put it on the floor.”
   c. Score: one point for each correct task performed.
9. Ask the patient to perform the following reading test:
   a. Hold up a piece of paper with the words “close your eyes” clearly written on the paper.
   b. Ask the patient to read it and do what it says.
   c. Score: one point for correctly following the command.

10. Ask the patient to complete the following writing task:
    a. Give the patient a piece of paper and writing utensil.
    b. Ask the patient to write a sentence.
    c. Score: one point if the sentence contains a subject, verb and is sensible.

11. Ask the patient to perform the following copying task:
    a. Give the patient a piece of paper and writing utensil.
    b. Draw two intersecting pentagons.
    c. Ask the patient to copy the design.
    d. Score: one point for correctly having all angles on both figures and the figures overlap.

AFTER CARE:
1. Total the points awarded.
2. Score the number of points awarded over a total of 30.
3. A perfect score is 30/30.
4. Document the results in patient's record.
5. In the event of a declining score during a follow-up screening, chart results and report decline to case manager and physician.

REFERENCES:
PURPOSE:
Assess the patient’s ability to coordinate movement of their limbs.

CONSIDERATIONS:
1. Tests should be conducted in a safe environment where the patient will not feel at risk of injury.
2. Discontinue testing if the client experiences dizziness or nystagmus (rapid twitching of the eyes).
3. There are multiple tests for coordination. The following are a few of the available tests.

EQUIPMENT:
Gait belt

PROCEDURE:
1. Explain the procedure to the patient.
2. **Tremor** - Patient's arms are held outstretched and fingers extended. Watch for postural or essential tremor.
3. **Rebound** - Tap the patient's outstretched arms. Patient's arms should recoil to original position.
4. **Hand Rapid Alternating Movements** - The patient taps his/her fingers, rotates his/her wrist, and pats his/her hand front-to-back. Watch for the rapidity and rhythmical performance of the movements noting any right-left disparity.
5. **Finger-to-nose** - The patient moves his/her pointer finger from his/her nose to the examiner's finger as the examiner moves his/her finger to new positions and tests accuracy at the farthest outreach of the arm.
6. **Foot Rapid Alternating Movements** - Patient taps his/her foot on the examiner's hand or on the floor.
7. **Toe-to-finger** - The patient touches his/her toe to the examiner's finger repetitively as the examiner moves his/her finger to new positions.
8. **Heel-to-shin** - The patient places his/her heel on the opposite knee then runs the heel down the shin to the ankle and back to the knee in a smooth coordinated fashion.

AFTER CARE:
1. Record the test results.
2. Record and report any adverse responses to the test.

REFERENCES:
PURPOSE:
To provide education, management and support for patients with apraxia and other deficits after stroke; Apraxia may manifest as a motor or verbal deficit. Key post-stroke deficits include visual deficits such as field cuts (hemianopsia).

CONSIDERATIONS:
1. Patients with apraxia may present with verbal or motor impairments. A patient with apraxia has a cognitive disorder following stroke that includes not being able to perform previously learned activities. Examples of a motor apraxia include a patient who cannot choose the right object to write with or does not know what to do with a toothbrush. An example of verbal apraxia includes the patient who when asked to name a common object names it incorrectly or not at all.
2. Visual field deficits reflect the location of damage from visual cortex to optic chiasm. Visual field deficits may be on the same or opposite side of damage or may be bilateral.
3. Motor apraxia treatment strategies vary but no specific treatment approach has been found. Evidence shows that general rehabilitation care may offer benefits.
4. Components of apraxia impairment include being able to plan an activity and complete the activity but being unable to describe it verbally or in writing.
5. Careful assessment and home evaluation is needed to establish safety.

PROCEDURE:
1. Assess any patient with brain injury or stroke for possible visual deficits or apraxia, especially when patient post stroke has communication impairment such as aphasia.
2. Interventions and management for apraxia and/or visual deficits include safety considerations, training and patient/caregiver education.
3. Education: Be prepared to provide examples and explanations to ensure common understanding by any patient and caregiver.
4. Education: Use guidelines for lowest patient language level to ensure understanding.
5. Be prepared to educate in the patient’s primary language.
6. Provide adequate time for patient to consider information, ask questions and respond to educational strategies and key points. Allow teaching carry-over and reinforcement of key educational points as per patient’s learning style and pace.
7. Safety Management concerns include supervision and preventative interventions in any mobility especially transfers and ambulation, safety in bathroom and kitchen, avoiding injury due to visual deficits or limitation in recognizing issues in the environment.
8. Occupational or physical therapy interventions may include strategies such as perceptual training, visual and environmental scanning, repetition, and task strategies in daily activities.
9. The effects of visual deficits and/or apraxia can vary; interventions that address deficits and support remediation activities should be included into the homecare plan of care by all clinicians and paraprofessionals.

AFTER CARE:
1. Document in patient’s record:
   a. Assessment findings for visual and motor deficits post stroke.
   b. Management strategies implemented.
   c. Summary of education provided.
   d. Recommendations and referrals for interventions such as Speech, Occupational or Physical Therapy, caregiver training, written safety program, etc.

REFERENCES:
Neurological – Management and Safety Measures for Patients with Dysphagia

SECTION: 7.07

Strength of Evidence Level: 1

PURPOSE:
To prevent complications related to swallowing disorders such as aspiration, choking, pocketing, dehydration and malnutrition. To promote safe feeding measures in patients with swallowing disorders. To promote optimum nourishment.

CONSIDERATIONS:
1. The major complication of a swallowing disorder is aspiration.
2. General aspiration precautions may be provided by the nurse or the speech language pathologist. Specific precautions/directions for feeding a patient with a swallowing disorder should be provided by the speech language pathologist.
3. Criteria for food selection to facilitate chewing and swallowing:
   a. Semi-solid foods, e.g., purees or foods with some shape are easiest to swallow. Form provides stimulation to initiate the swallow. Foods should be moist enough to prevent crumbling but dry enough to hold a bolus shape, e.g., casseroles, custards, scrambled eggs, applesauce. Generally, thin liquids such as water, are excluded from the diet.
   c. Sweet, sour and salty foods stimulate chewing which helps swallowing.
   d. Avoid tepid or room temperature foods. They are not stimulating enough.
   e. Avoid sticky foods, e.g., peanut butter, chocolate milk, ice cream or rice.
   f. Milk, ice cream and milkshakes form excessive mucus in the mouth and are difficult to swallow as they are thin and without texture. Ice cream, ice chips, and gelatin usually melt to a thin liquid by the time the person with a swallowing disorder is able to swallow.
   g. Dry foods can be moistened with butter/spread, gravy or broth.
   h. If liquids are a problem, juices can be thickened with sherbets, cornstarch or commercial food thickener.
   i. Meats are difficult to manage as they require a lot of chewing. Ground meats may crumble and be aspirated. Chicken may be easiest to chew and holds its form as a bolus.
4. The patient should be well rested prior to the meal. The environment should be pleasant, peaceful and free from distractions. The patient should be clean.
5. The patient should be alert and aware of the meal.
6. The patient should have control of mouth movements.
7. The patient should have the ability to protect the airway.
8. The patient must be able to hold and swallow saliva.
9. Staff and family members who feed the patient should know the Heimlich maneuver.
10. Make sure you are in the patient’s visual field.
11. Do not hurry the patient.
12. Do not encourage conversation during mealtime.

EQUIPMENT:
Feeding utensils including any special adaptive equipment prescribed
Napkin or towel
Food and liquids

PROCEDURE:
1. Adhere to Standard Precautions.
2. Wash patient's hands or assist him/her to do so.
3. Explain procedure to patient.
4. Place patient in an upright position in a chair or in bed in high-Fowler's position, supported with pillows, if necessary, and with head slightly flexed for approximately 15 to 20 minutes before and after the meal.
5. Provide mouth care before meals. If the patient's mouth is dry, provide a lemon wedge or a pickle to suck on. This encourages salivation.
6. Give 1/2 (one-half) to 1/3 (one-third) teaspoon at a time.
7. Place the food on the strong side or side without sensory or motor loss.
8. Put the spoon down between portions.
9. Check for emptying of the mouth before proceeding.
10. Instruct patient to repeat a dry swallow.
11. Instruct the patient to form a bolus by moving the tongue around inside the mouth.
12. If the patient cannot voluntarily chew, manipulate jaw in an upward and downward motion, which will stimulate the chewing response.
13. Have the patient chew and swallow slowly, concentrating only on the feeding process. Instruct in the voluntary swallow:
   a. Hold the food in your mouth.
   b. Hold your breath.
   c. Think about swallowing.
   d. Swallow.
14. If the patient does not swallow, press his/her chin downward toward the sternum. This elevates larynx and causes a swallow reflex.
15. Encourage the patient to close his/her lips once the food is in the mouth.
16. If the patient has an increase in saliva during the meal, instruct him/her to collect the saliva with the tongue and consciously swallow it between bites of meal.
17. If he/she complains of a dry mouth, instruct him/her to move the tongue in a circular fashion against the insides of the cheeks.
18. A straw for sipping liquids may be used only after evaluation and instruction by a speech language pathologist.
19. Stop feeding if:
   a. Patient states he/she is having difficulty.
   b. Patient is coughing or choking.
   c. Change in voice, i.e., gurgly, wet quality.
   d. Change in mental status.
20. Instruct patient to voluntarily clear throat.

AFTER CARE:
1. Document in patient's record:
   a. Patient's response to procedure.
   b. Effectiveness of procedure.
   c. Instructions given to patient/caregiver.
   d. Report any changes in patient's condition to supervisor.

REFERENCES:
Nervous – Management of Unilateral Neglect

SECTION: 7.08

Strength of Evidence Level: 1

PURPOSE:
To provide education, management and support for patients with unilateral neglect (also called hemineglect) following neurological brain injury or incident causing damage to one hemisphere of the brain resulting in decreased awareness and interaction with one side in space.

CONSIDERATIONS:
1. Patients with unilateral neglect typically present with damage to right brain from injury or stroke. The right brain is usually involved with damage to temporal and/or parietal lobe. The neglect occurs on the left side.
2. Unilateral neglect most frequently presents with a visual field deficit. A patient with right parietal stroke and unilateral neglect would neglect the left side. Neglect could involve visual, tactile or other senses such as smell and sound. The neglect may involve the patient’s body only or include the space near and far.
3. Unilateral neglect may be manifested by lack of recognition of neglected side of body, not seeing items on neglected side such as food on a plate, bumping into objects on that side while moving, or lack of attention to stimuli from neglected side.
4. The presence of unilateral neglect is associated with significantly lower self-care and functional ability as well as increased incidence of falls.
5. Unilateral neglect can be assessed using standardized assessments such as clock draw or Barthel index or through observation during key tasks such as dressing, feeding and transfers.
6. Occupational or physical therapy interventions may include strategies such as perceptual interventions, visual and environmental scanning, cognitive training, strategies using mirrors, vision, prism and eye patches, and more.
7. The amount of inattention or neglect can vary with setting, stimuli and other factors. Interventions that increase attention to neglected side should be included into the homecare plan of care by all clinicians and paraprofessionals.

AFTER CARE:
1. Document in patient’s record:
   a. Assessment findings for unilateral neglect.
   b. Management strategies implemented.
   c. Summary of education provided.
   d. Recommendations and referrals for interventions for unilateral neglect such as occupational therapy, caregiver training, written safety program, etc.

REFERENCES:
Nervous – Neurological Check

SECTION: 7.09

Strength of Evidence Level: 1

PURPOSE:
To determine if the brain is functioning properly and to check to see if neurological signs are improving.

CONSIDERATIONS:
1. Neurological assessment:
   a. Level of consciousness.
   b. Signs of motor dysfunction.
   c. Sensation.
   d. Reflexes.
   e. Vital signs.
2. Checks should be performed upon admission and with each visit.
3. The extensiveness of the neurological assessment is determined by the extent of the patient's condition.
4. Checks should be problem-based.

EQUIPMENT:
None

PROCEDURE:
1. Explain the procedure to the patient and caregiver. If the patient is unresponsive, he/she should still be addressed as though they comprehend the information.
2. Determine the patient's level of consciousness:
   a. Full consciousness.
   b. Lethargy: Drowsy but can be awakened.
   c. Obtundation: Difficult to arouse, needs constant stimuli to maintain state of alertness.
   d. Stupor: Requires vigorous stimulation to arouse.
   e. Coma: Unable to arouse.
3. Assess motor function:
   a. 5: Full range of motion against maximum resistance.
   b. 4: Full range of motion with some resistance tolerated.
   c. 3: Can lift limb through full range of motion against gravity.
   d. 2: Cannot complete full range of motion against gravity.
   e. 1: Muscle contraction can be viewed or palpated but no motion is noted.
   f. 0: No muscle activity noted.
4. Evaluate sensation
   [Note: See assessment of sensation procedure]
5. Assess reflexes:
   a. Deep tendon reflexes are assessed at the following tendons:
      (1) Triceps.
      (2) Biceps.
      (3) Brachioradialis.
      (4) Patellar.
      (5) Achilles.
   b. Superficial reflex is known as the Babinski sign. Using the handle of a reflex hammer, place the tip of the handle at the heel of the feet and move the handle upward towards toes ending at the base of the toes. The toes normally turn downward. An upward flare of the toes is an abnormal response.
   c. Brain stem reflexes are only performed on patients who are in stupor or coma to check the activity of the brain stem. Checks performed are:
      (1) Gag.
      (2) Cough.
      (3) Corneal.
6. Vital signs: Change in vital signs can be an indicator of change in neurological status.

AFTER CARE:
1. Inform the physician/healthcare provider of any significant findings.
2. Document in the patient's chart the tolerance to the session.
3. Return any moved equipment, such as bed rail and trapeze, to their original position.

REFERENCES:
Nervous – Neurological History Questions

Strength of Evidence Level: 1

PURPOSE:
To gain an understanding of the patient's current issues, concerns and neurological symptoms.

CONSIDERATIONS:
1. Taking a history is the first step in determining what problems the patient is experiencing.
2. Speak slowly and distinctly.
3. Reassure the patient that the questions are for screening purposes only and are not individually indicative of a problem.
4. Phrase your question(s) in a manner that is calming and reassuring.
5. If the patient is unable to answer or understand a question, skip the question or return to it later in a rephrased manner.

EQUIPMENT:
None

PROCEDURE:
1. Ensure the patient is comfortable and establish a rapport to gain trust and put the patient at ease.
2. Explain that you are going to ask a series of questions to assess their current situation.
3. Ask the following symptom related questions:
   a. What is your current complaint?
   b. What part of the body is affected?
   c. When was the onset of the problem?
   d. Did the problem occur suddenly or gradually?
   e. Is there anything that makes the symptom(s) better or worse?
   f. Are the symptoms constant or intermittent?
   g. Have you had any recent problems with bowel or bladder incontinence?
4. Ask the following questions regarding related problems:
   a. Have you experienced weakness?
   b. Have you experienced difficulty with coordination or feeling clumsy?
   c. Have you had any visual changes?
   d. Have you lost consciousness?
   e. Have you had any nausea or vomiting?
   f. Have you had any recent headaches?
   g. Have you experienced any numbness, burning or pins-and-needles sensations?
   h. Have you experienced any change in mood, such as depression, tearfulness, anxiety, agitation, sleep problems or mania?
   i. Review recent medical history:
      a. Have you had any recent infections?
      b. Have you had any recent injuries?
      c. Do you have a history of Diabetes or heart problems?
      d. For women, are you currently pregnant or have you had a recent miscarriage?
      e. Do you have any sexually transmitted diseases?
6. Social Questions:
   a. Do you have a history of smoking?
   b. Do you have a history of abuse of prescribed, over-the-counter or illicit drugs?

AFTER CARE:
1. Inform the physician/healthcare provider of any adverse findings.
2. Document in the patient’s chart the findings from the history questions.

REFERENCES:
PURPOSE:
To objectively assess and document changes in muscle tone.

CONSIDERATIONS:
1. Tone is the normal state of tension in a muscle.
2. There are three stages of muscle tone:
   a. Normal muscle tone: The state of balanced tension in the body tissues.
   b. Flaccid tone: Lack of tone, lack of tension within the body tissues.
   c. Spastic tone: Hyper tone, state of partial muscle contraction when the muscle is at rest.
3. Subjective terms such as mild, moderate and severe are NOT effective in showing slight changes in tone.
4. Gross terms such as flaccid and spastic DO NOT show slow changes in tone.
5. An assessment scale is required to objectively document changes in tone.
6. The most reliable assessment tool is the Modified Ashworth Scale.

EQUIPMENT:
Copy of the Modified Ashworth Scale

PROCEDURE:
1. Position the patient in a comfortable position.
2. Explain the assessment procedure to the patient.
3. Move any objects that may be in the way of passive motion, such as bed rails, catheter or linens.
4. The limb is supported with one hand while the opposite hand slowly and steadily moves the muscle to be tested through passive range of motion (PROM).
5. Rate the muscle response according to the following scale:
   a. No increase in muscle tone.
   b. Slight increase in muscle tone, manifested by a catch and release or by minimal resistance at the end of the PROM when the affected part(s) is moved in flexion or extension.
   c. Slight increase in muscle tone, manifested by a catch, followed by minimal resistance throughout the PROM.
   d. More marked increase in muscle tone through most of the PROM, but affected part(s) easily moved.
   e. Considerable increase in muscle tone, passive movement difficult.
   f. Affected part(s) rigid in flexion or extension.

AFTER CARE:
1. Document in the patient’s chart the tolerance to the session.
2. Return any moved equipment, such as bed rail catheter and bed linens, to their original position.

REFERENCES:

Nervous – Tone Management

Strength of Evidence Level: 1

PURPOSE:
To normalize tone, maintain soft tissue length, re-educate movement of muscles and increase patient safety.

CONSIDERATIONS:
1. Patients may experience a change in muscle tone following neurological infarct. Correct management of abnormal tone is imperative for recovery of normal movement.
2. Lack of tone management leads to contracture, poor body alignment, abnormal motor movements and pain.
3. There are many techniques used by therapists to manage tone. This procedure is focused on the measures that can be utilized by the nurse or aide.
4. Problems with tone can occur at any time, interfering with safety during activities, such as transfers, monitoring vital signs or turning a patient. Knowing how to manage tone during such situations will increase safety and patient confidence.
5. Any intervention to address tone should be performed in a slow, steady manner to prevent further excitation of tone.
6. Clonus is a spasmodic muscle contraction/relaxation that causes an extremity to rapidly shake.

EQUIPMENT:
Hot pack/cold pack
Splint

PROCEDURE:
1. In the event of flaccidity, the clinician should ensure safety of the effected limb when moving or positioning the patient.
2. In the event of spasm or clonus, reassure the patient that change in tone is often seen in those who have had a neurological infarct.
3. Encourage relaxation to help decrease any increase in tone.

Weight-Bearing:
1. Weight-bearing on a limb with increased tone is an excellent way to help extend the muscle tissue and decrease tone.
2. This can be performed on the upper extremity as well as the lower extremity.
3. Slowly straighten the affected muscle to obtain full extension of the joint.
4. Place the foot or hand, palm down, on a flat surface.
5. Slowly shift the patient’s weight to the effected area.
6. Hold this position until reduction of tone is noted.
7. Be sure to maintain the patient’s body alignment while they are weight-bearing on the limb.
8. Daily weight-bearing can manage and reduce tone.

Splinting:
1. Splinting is effective for both decreased tone and increased tone.
2. Splints lengthen muscle tissues and prevent contractures in the event of increased tone.
3. Splints position and guard limbs in the event of decreased tone.
4. Follow the instructions set up by the physician or therapist for the wearing schedule.
5. Observe the patient’s skin for signs of skin breakdown.

Positioning:
1. Positioning is imperative for both flaccid and spastic changes in tone.
2. See Positioning for Prevention of Contractures, for the complete procedure.

Cold Packs:
1. Cold packs can be beneficial in reducing tone and the pain associated with increased tone.
2. Towel-wrapped cold packs should be applied for 5 to 10 minutes to the painful area.
3. Check the skin after 2 to 3 minutes to ensure good tolerance to the treatment.
4. In the event of poor tolerance, the cold pack should be withdrawn.

Hot Packs:
1. Hot packs can help relax the muscle fibers prior to other interventions.
2. Heat should be applied for no longer than 20 minutes.
3. Check the skin after 2 to 3 minutes to ensure good tolerance to the treatment.
4. In the event of poor tolerance, the hot pack should be withdrawn.

Passive Range of Motion:
1. Passive range of motion lengthens muscle tissue and is essential in preventing contractures for both flaccid and spastic changes in tone.
2. See Passive Range of Motion, for the complete procedure.

Patient/Caregiver Education:
1. Due to the chronic nature of abnormal tone, patient and caregiver education is imperative in order to continuously manage tone when clinicians are not present.
2. Instruct patients to be aware of what stimulates and relieves spasms.
3. Teach relaxation techniques to relieve spasms.
4. To maintain muscle length, teach gentle passive range of motion.

AFTER CARE:
1. Inform the nurse or therapist of any adverse reactions, changes in tone or unusual pain.
2. Monitor the vital signs and report any adverse findings.
3. Document in the patient’s chart the tolerance to the session.

REFERENCES: