

Neurological Physiotherapy

The primary goal of physical therapy for a patient with a neurological disease or disorder is to maximize his/her functional independence and safety and minimize secondary impairment. Potential impairments may include impaired mental status, cognition, sensation, motor function, tone, coordination, balance and gait as well as decreased strength and endurance.

TASK 1 Discuss with a partner

1. Do you find neurological physiotherapy an interesting branch of physiotherapy, if so, why?
2. Do you know any neurological diseases or disorders?
3. What do you know about the possible types of intervention for patients with neurological diseases (e.g. balance training, endurance training, training using equipment, family education...)? Which of them do you think are most effective?

TASK 2 Reading

Exercise 1: Find in the text the words which mean:

- serious (about a disease or illness)
- dangerous to a person's life
- take away, steal
- help, comfort
- a feeling that you are about to fall

Exercise 2: Put the letters in the words below in the right order to get the names of neurological diseases:

rheialzmes onsarpikns oul herigsg

The Types Of Neurological Conditions And Physiotherapy Used

Neurological conditions may be very severe. They can be life-threatening at times, and they can certainly change the quality of the patient's life. There are many neurological conditions and physiotherapy can help many of them.

Alzheimer's disease is a very serious problem for older people. It is surprising to note that it can occur in people 40 years old or younger. The disease is characterized by loss of neurons and synapses in the cerebral cortex and certain subcortical regions.

ALS or Lou Gehrig's disease is an illness that robs the brain and spinal cord of the ability to move. Both of these are neurological diseases that can be helped by physiotherapy.

Parkinson's disease is another of the neurological conditions of the brain. This one can cause shaking and loss of coordination, and problems moving and walking. Physiotherapy offers some relief to these patients.

Guillain Barre Syndrome is one of the types of neurological conditions that affect the brain and spinal cord too. It is a case of the person's own immune system attacking outside these areas. It can be severe enough to require emergency hospitalization. Physiotherapy offers help with regaining strength and adapting to life with the disease.

Many of these patients who have neurological conditions suffer from difficulty swallowing or breathing; dizziness, poor balance and falls. Physiotherapy can offer solutions that other branches of medicine cannot.

Exercises, as in most physiotherapy, include strengthening and stretching exercises. In whatever way is possible, patients with neurological conditions need to get aerobic exercise. Physiotherapists may be able to make a plan so that this is possible.

Part of this plan for patients with neurological conditions would include balance training and coordination training. With these two skills in place, the patient will have a better ability to do aerobic and other exercises. Aquatic exercise is also used.

<http://thephysiosite.com/the-types-of-neurological-conditions-and-physiotherapy-used.php>

Exercise 3:

1. Which neurological condition:
 - causes shaking and loss of coordination -
 - robs the brain and spinal chord of the ability to move-
 - can be so serious that emergency hospitalization is required –
 - causes the loss of neurons and synapses in the cerebral cortex –
2. What difficulties do such patients suffer from?
3. What kinds of physiotherapy are advised for people with neurological conditions?
4. What kind of exercise is necessary for them?
5. Which two skills should be trained in such patients?

TASK 3 Physiotherapy and Stroke

Read the information about physiotherapy treatment in case of stroke and comment on it.

What should a physiotherapist remember when treating people who had a stroke?

Physical problems associated with a stroke are:

- Paralysis
- Pain, e.g. in the shoulder
- Sensory loss
- Balance difficulties
- Functional loss
- Excessive muscle stiffness

Disability resulting from stroke is different in each individual. Research shows that following a stroke most individuals can get back the ability to walk. However many are slow and may never walk outside. This means a comprehensive assessment is essential for planning an effective rehabilitation program. This includes detailed examination of:

- Body movements
- Muscle Tone
- Sensation
- Balance
- Function
- Activities of daily living

From this a specific management program is devised which may include:

- An intensive "hands on" rehabilitation program
- Specific home exercises regime
- Education and support of the patient, family and carers
- Postural management and seating assessment
- Communication with other members of the hospital and community teams

TASK 4 Listening

Physical Therapy – New Treatments for Stroke

http://www.youtube.com/watch?v=AiyQz5_7MLw

Kathy Brady, PT, discusses new technologies to help stroke victims recover and regain their motion.

Listen and answer the questions:

1. What does a PT do when they first meet a patient?
2. What is the ultimate goal of therapy?
3. What are the two devices she mentions?
4. What is the main advantage of the OG device?

Listen again and fill in the blanks with words or phrases:

1. A stroke happens when a blood vessel is either _____ or burst and the _____ then is not getting oxygen to it.
2. When parts of the brain die that can result in _____ in different body parts.
3. We are the experts in _____ and motion and therefore we have a very big _____ on patients through their _____ process.
4. The OG is a _____ and over-ground walking system and it provides _____ support as the individual is walking in the system.
5. Those activities can be used for walking, for walking _____, getting up and down from the ground and also a person can even practise getting _____.
6. Research does show that the sooner you get someone up and walking, the _____ they recover.

Causes of Parkinson's

<http://www.videojug.com/interview/causes-of-parkinsons-2>

Listen and answer the questions:

1. What causes Parkinson's?
2. What happens to the substantia nigra in persons who have Parkinson's? (substantia nigra is a brain structure located in the midbrain that plays an important role in movement. *Substantia nigra* is Latin for "black substance").
3. What role do genetics play in acquiring Parkinson's?
4. What role do toxins or illicit drugs play in causing Parkinson's?
5. What diseases or physical conditions can cause Parkinson's?

Listen again. Are the following statements true or false?

1. Substantia nigra in a normal brain is dark.
2. Parkinson's runs in families.
3. Having the gene means the person will automatically develop Parkinson's.
4. There are things in the environment that can enter the brain and lead to Parkinson's.
5. There are other disorders that create identical changes in the brain as does Parkinson's disease.