

Unit 7 Geriatric and Paediatric Physiotherapy

Homework tasks:

1. Word formation

1. The orthopaedic specialist wrote him a for a course of antibiotics. (PRESCRIBE)
2. He has made a full (RECOVER)
3. The lab is doing an of the blood sample. (ANALYZE)
4. The patient was given a hip (REPLACE)
5. The patient was given a to a specialist. (REFER)
6. His arm was after the stroke. (PARALYSIS)
7. The blood clot formed an in the artery. (OBSTRUCT)
8. The surgeons operated to repair the patient's heart valve. (DEFECT)
9. His diet is calcium-..... (DEFICIENCY)
10. The doctor noted an amount of bile in the patient's blood. (EXCESS)
11. She complained of generalisedof her joints. (STIFFNESS)
12. He was diagnosed with cancer but thankfully his tumour is (OPERATE)
13. Fruit juices can be to your teeth. (HARM)

2. Idioms

** Write down the meaning of the idioms below:*

To go under the knife:

To be under the weather:

To be a picture of health:

To get a taste of your own medicine:

To twist a knife in the wound:

Revision from seminar 6

** Choose the correct answer in Italics to complete the sentence:*

- a) Orthopaedic physiotherapists play a *particular / particularly* important role in mobilizing patients following total joint replacement operations.
- b) Many patients need a *thoroughly / thorough* stretching program to regain normal range of motion after shoulder sub-acromial decompression surgery.
- c) Immobility for long periods of time can have a *severe / severely* affect on muscle atrophy of the lower limbs, the upper limbs and the trunk muscles.
- d) The surgeon said that he performed the procedure *good / well* so you should have a good result once you have done all of your rehabilitation.
- e) If there is a *completely / complete* rupture of the Achilles tendon, significant strength of plantar-flexion and normal function of the ankle will be lost.
- f) A dislocated patella is an *extremely / extreme* painful injury which occurs when there is a lateral displacement of the kneecap out of its normal groove at the front of the knee.
- g) In Carpal Tunnel Syndrome, sometimes the hand will not function *normally / normal* as the nerve compression may affect both sensation and muscle strength in the hand.
- h) In Osteoporosis the bones may fracture more *easy / easily* as the bones become thinner and more brittle, and more prone to breaking.
- i) After a knee joint arthroscopy, a patient may find be able to walk more *effectively / effective* using elbow crutches on day 1 post-operatively.
- j) If there is not *complete / completely* removal of a plaster cast following a fracture, further loss of normal joint range of motion may occur.
- k) An MRI scan visualizes the bones, joints and soft tissues in an extremely *efficient / efficiently* manner.

Unit 7 Geriatric and Paediatric Physiotherapy

Famous quotes about aging:

Quote 1: The key to successful aging is to pay as little attention to it as possible. (Judith Regan)

Quote 2: The great secret that all old people share is that you really haven't changed in seventy or eighty years. Your body changes, but you don't change at all. And that, of course, causes great confusion. (Doris Lessing)

Quote 3: To be seventy years young is sometimes far more cheerful and hopeful than to be forty years old. (Oliver Wendell Holmes)

1. Physiotherapy in the Geriatric Population

Physiotherapy is extremely important for elderly patients. Geriatric rehabilitation or geriatric physical therapy is the branch of medicine that deals with rehabilitation and physical therapy issues in the elderly. It became a formally recognized specialty within physiotherapy in 1989. Geriatric physiotherapy deals with numerous different types of problem in the older population.

Speaking: * *What problems with their general health do geriatric patients suffer from?*

** Name some typical geriatric conditions physiotherapists address on a daily basis?*

** What types of treatments do physios use with their geriatric patients?*

2. Health Conditions of Old Age

As the human body ages, it is susceptible to various changes. Can you classify the changes into the categories / systems below?

a. Cardiovascular system

b. Skeletal system

c. Muscular System

d. Nervous system and cognition

- Reduction in blood flow due to atherosclerosis of the arteries
- Lower levels of chemical neurotransmitters
- Reduced levels of bone minerals creating fragile, brittle bones
- Natural loss of muscle strength and generalised muscle atrophy.
- Increased stress on the heart to maintain oxygen levels in the body
- Reduction in production and secretion of growth hormone
- Spinal and peripheral joints stiffen and lose natural mobility
- Blood vessels and arteries lose natural flexibility
- Poorer balance, coordination and reaction time
- Reduced attention and memory
- Susceptible to osteoporosis and fractures
- More likely to suffer a heart attack or stroke.
- 10% loss of brain volume after aged 80
- Sarcopenia – loss of skeletal muscle mass and volume.
- Osteoarthritis, particularly in the large weight bearing joints, spine and fingers.

3. Common Conditions seen by Physiotherapists

** Complete the paragraphs below using the appropriate article: a, an, the or zero article:*

a) *Orthopaedic operations:* Elderly patients develop osteoarthritis in _____ large weight bearing joints, particularly _____ hips and _____ knees. These conditions often steadily worsen and become more painful over time causing _____ increasing loss of mobility and function in _____ geriatric patients. Many require _____ total hip or total knee replacement in order to improve their ability to walk and look after themselves independently. Physiotherapists teach these patients how to use _____ walking aids such as _____ walking frame or elbow crutches post operatively, help them get out of _____ bed and walk, and give them _____ home exercise program including range of motion and strengthening exercises to help their limb recover properly.

b) *Osteoporosis and fractures:* _____ aging process results in a natural loss of _____ bone density and subsequently an increasing risk for fractures in _____ elderly population. This is compounded by declines in normal strength, balance and reaction times. Unfortunately many geriatric patients fall and suffer _____ fractures. Common areas of _____ body fractured including _____ neck of femur, _____ neck of humerus and _____ spinal vertebrae. After _____ fracture has been repaired or managed, physiotherapists help these patients to mobilise again using _____ walking aid and teach _____ patient to exercise their injured limb to regain normal range of motion and strength.

c) *Alzheimer's disease and senile dementia:* These conditions are seen more frequently in _____ elderly population and result in _____ decline in normal cognitive function, memory and _____ ability for people to care for themselves adequately. This may often include _____ loss of normal mobility and ability to achieve basic physical tasks and _____ activities of daily living. _____ physiotherapist role is to encourage these patients to stay active, to walk and exercise as much as possible, and to improve their muscle strength and _____ balance. They may also need to be prescribed with _____ walking aid to assist their mobility, eg _____ walking stick.

4. Types of Treatment / Exercise for Geriatric Patients

Speaking: Name and describe the pictures below. How do these types of treatment help?



c)



d)



e)



f)



g)



h)



5. Paediatric Physiotherapy

Speaking: Discuss the questions below with the group:

** What is a paediatric physiotherapist?*

** How is treating children different to treating adults?*

** What knowledge and skills do paediatrics physios need to possess?*

*** Complete the gaps below:**

Paediatric physiotherapists help children to achieve their optimal physical condition and d_____. They have specialist knowledge of the normal m_____, development and conditions that are likely to affect the baby and growing child. The treat a variety of ages from 1-day-old babies to a_____. Treatment may involve soft tissue massage, mobilisation, stretching, specific t_____ exercises and posture e_____. Because Children are not small adults these therapists encourage children to move to the best of their abilities through p_____ and age appropriate fun and instruction. Paediatric physiotherapists must be creative, patient and understanding while striving to a_____ the appropriate goals that they have set for their young p_____.

(Adapted from: <https://www.physio-pedia.com/Category:Paediatrics>)

6. Common Paediatric Conditions

Reading: Read the following texts, then answer the questions below:

Cerebral palsy (CP) is a group of disorders that affect a person's ability to move and maintain balance and posture. CP is the most common motor disability in childhood. It is caused by abnormal brain development or damage to the developing brain that affects a person's ability to control his or her muscles.

The symptoms of CP may be variable. A person with severe CP might need to use special equipment to be able to walk, or may even be unable to walk. A person with mild CP, might just walk a little awkwardly, but may not need any special help. All people with CP have problems with movement and posture. Many also have related conditions such as intellectual disability; seizures; problems with vision, hearing, or speech; changes in the spine (such as scoliosis); or joint problems (such as contractures).

CP does not get worse over time, though the exact symptoms can change over a person's lifetime.

(<https://www.cdc.gov/ncbddd/cp/facts.html>)

Spina bifida is a birth defect in which there is incomplete closing of the spine and the membranes around the spinal cord during early development in pregnancy. There are three main types: **spina bifida occulta**, **meningocele** and **myelomeningocele**. The most common location is the lower back, but in rare cases it may be in the middle back or neck.

Occulta has no or only mild signs, which may include a hairy patch, dimple, dark spot or swelling on the back at the site of the gap in the spine. Meningocele typically causes mild problems, with a sac of fluid present at the gap in the spine. Myelomeningocele, also known as open spina bifida, is the most severe form. Problems associated with this form include poor ability to walk, impaired bladder or bowel control, accumulation of fluid in the brain (hydrocephalus) and occasionally learning problems.

(https://en.wikipedia.org/wiki/Spina_bifida)

A **developmental delay** refers to a child who has not gained the developmental skills expected of him or her, compared to others of the same age. Delays may occur in the areas of motor

function, speech and language, cognitive, play, and social skills. Global developmental delay means a young child has significant delays in two or more of these areas of development.

There are many different signs and symptoms of delay that can exist in children and often vary depending upon specific characteristics. Sometimes you may see signs in infancy, but in other cases they may not be noticeable until the child reaches school age. Some of the most common symptoms can include learning and developing more slowly than other children of the same age, problems with physical tasks such as rolling over, sitting up, crawling or walking, difficulties communicating or socialising and inability to achieve everyday tasks such as getting dressed.

(<https://www.ssmhealth.com/cardinal-glennon/developmental-pediatrics/developmental-delay>)

*** Now answer the following questions true or false. Correct any false statements.**

- a) Cerebral Palsy is a progressive problem in virtually all cases. T / F
- b) Spina Bifida may occasionally occur in the thoracic region. T / F
- c) Global developmental delay occurs when there are delays in more than 1 area of a child's development. T / F
- d) Spina Bifida Occulta manifests more serious signs including gait abnormalities. T / F
- e) Muscle contractures may cause a loss of joint ROM in Cerebral Palsy sufferers. T / F
- f) Despite having delays with some physical tasks, activities of daily living are usually unaffected in children with developmental delay. T / F

7. More Paediatric Conditions

*** Name the conditions defined below:**

<i>Idiopathic scoliosis</i>	<i>toe walking</i>	<i>talipes equinovarus (clubfoot)</i>
<i>Torticollis</i>	<i>hypermobility syndrome</i>	<i>muscular dystrophy</i>
<i>Developmental coordination disorder</i>	<i>acquired brain injury</i>	

- an asymmetrical head / neck position, usually extreme rotation in the infant, different causes.
- congenital deformity of the foot, foot is held inward/downward position
- a progressive muscular condition resulting in muscular weakness / dysfunction.
- traumatic or non-traumatic injury to the brain which occurs after birth.
- a sideways spinal curvature which develops for no known cause during childhood.
- condition where the joints move beyond their normal limits due to flexible ligaments and soft tissues.
- disorder of motor development and coordination, may include clumsiness, tripping and poor balance.
- condition where young kids walk on the toes and have trouble developing a normal walking pattern.

Homework Tasks (complete 1 or both of these tasks, depending on your time and interest)

a) Tips to Prevent Falls

(<http://www.youtube.com/watch?v=0pCVacKQBsl>)

Watch the video and answer the questions:

1. What injuries has Libby had?
2. Which walking aid does she use to be more confident?
3. What are the main reasons for falls in older people?
4. What are the 5 steps people should implement to prevent falls?

b) Tai Chi - Video

(<https://www.youtube.com/watch?v=D-GFreeZTow>)

What are the main benefits of Tai Chi for older adults?

Watch again and complete the gaps with one word:

A person will come into a Tai Chi class because they have at least once and they are about where that fall will lead. The purpose of Tai Chi is to strength and to prevent falls. Participants will learn how to prevent falls from They will strengthen their muscles, they will the fear of falling because that is often also a factor in provoking falls. So people come out of these experiences stronger, better informed and less