**Assignment for Viva (Spring 2020) (DPT 6th Semester)**

**Course Title: Pathology and Microbiology-ll Instructor: Dr. Maria Feroze**

**Note:**

* **Upload your assignment on SIC till 10th July 11:59 p.m.**
* **Copying the content from net or book is not allowed.**
* **Write the assignment in MS word/pdf.**

**Q1. What physical therapy treatment should be given to a woman who has osteoporosis?**

**Osteoporosis**

Osteoporosis, which literally means porous bone, is a disease in which the density and quality of bone are reduced. As bones become more porous and fragile, the risk of fracture is greatly increased. The loss of bone occurs silently and progressively. Often there are no symptoms until the first fracture occurs.

Diseases or conditions caused: Bone fracture

**Physical therapy treatment**

Physical therapists trained to treat osteoporosis personalize your treatment plan. Our goal is to help patient to manage his osteoporosis on their own and minimize the woman risk of complications.

Treatments include:

* Developing a comprehensive exercise program that strengthens your bones and muscles to lessen your risk of injury and help you stay independent
* Teaching proper body movement for your daily activities, including bending and lifting.This lessens your risk of compression fractures in your spine that lead to a stooped posture
* Assessing your balance and developing a program to help you reduce your [risk of falls](http://aamgphysicaltherapy.com/fall-prevention/) and of breaking a bone
* Improving your posture and preventing development or worsening of a forward-stooped posture
* Recommending how you can continue your exercise program at home so you can manage your osteoporosis on your own

**Weight-bearing exercises**

* Dancing
* Jogging (if your bone density is higher than -3.0)
* Racquet sports
* Heel drops
* Stomping

**Resistance exercises**

* Weight lifting in proper spine and lower-extremity alignment
* Use of exercise bands
* Gravity resistance (eg, push-ups, prone trunk extension with cushion to protect lowest ribs, single-leg heel raises, squats, lunges, sustained standing yoga poses in neutral spine position)
* Exercises that reduce or stabilize kyphosis (hunchback)
* Balance exercises

Q2. What is the difference between osteoporosis, osteomalacia and osteomyelitis?

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| **Osteoporosis** | **Osteomalacia** | **Osteomyelitis** |
| Osteoporosis, which literally means porous bone, is a disease in which the density and quality of bone are reduced. As bones become more porous and fragile, the risk of fracture is greatly increased. The loss of bone occurs silently and progressively. Often there are no symptoms until the first fracture occurs. | Osteomalacia is a disease characterized by the softening of the bones caused by impaired bone metabolism primarily due to inadequate levels of available phosphate, calcium, and vitamin D, or because of resorption of calcium. The impairment of bone metabolism causes inadequate bone mineralization. | Osteomyelitis is an infection in a bone. Infections can reach a bone by traveling through the bloodstream or spreading from nearby tissue. Infections can also begin in the bone itself if an injury exposes the bone to germs. |
| Causes include A lifelong lack of calcium plays a role in the development of osteoporosis. Low calcium intake contributes to diminished bone density, early bone loss and an increased risk of fractures. Eating disorders. Severely restricting food intake and being underweight weakens bone in both men and women | Causes include You might develop osteomalacia if you don't get enough of these minerals in your diet or if your body doesn't absorb them properly. These problems can be caused by: Vitamin D deficiency. Vitamin D deficiency is the most common cause of osteomalacia worldwide. | Causes of osteomyelitis include bacteria in the bloodstream from infectious diseases that spread to the bone, an open wound from a trauma over a bone, and recent surgery or injection in or around a bone. The most common types of bacteria that cause osteomyelitis are Staphylococcus, Pseudomonas, and Enterobacteriaceae. |
| Treatment There's no cure for osteoporosis, but proper treatment can help protect and strengthen your bones. These treatments can help slow the breakdown of bone in your body. | TreatmentTreatment will cure osteomalacia in most cases, but easing bone pain and muscle weakness may take several months. If the disease is caused by a lack of w | TreatmentMost cases of osteomyelitis are treatable. Chronic infections of the bone, however, may take longer to treat and heal, especially if they require surgery.  |