

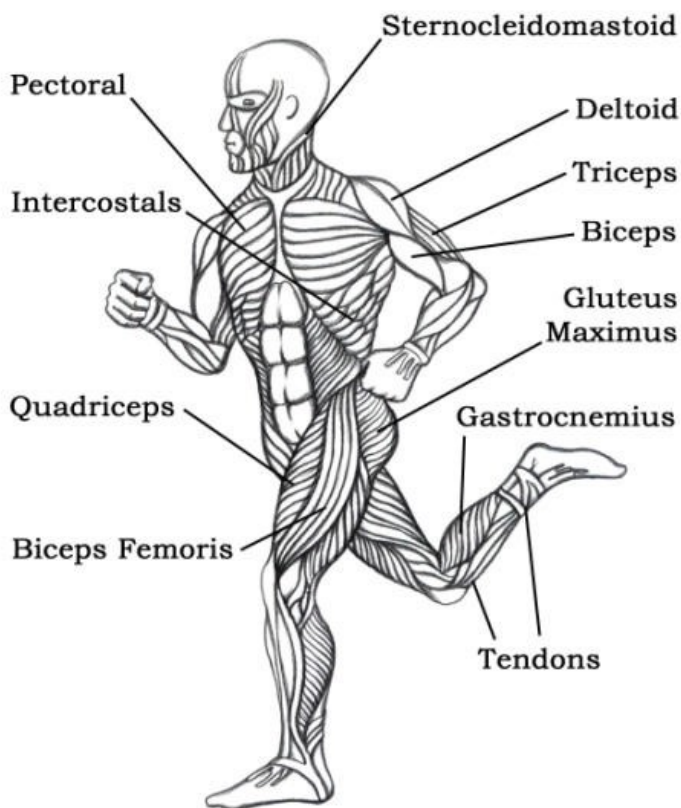
# Orthopedic Physiotherapy

## Task 1 Human Body

Look at the diagram and study the main muscles of the body.  
Define which muscles have the following functions:

- lowers the arm.
- turn the upper half of the body and are between the ribs.
- straighten the knees.
- extend the thigh or bend the knee.
- rotates the head.
- raises the upper arm.
- raise and lower arms.
- straightens the hip joint and holds the body upright.
- helps to stand on toes.

### Some Important Skeletal Muscles



## Task 2 Reading - Orthopedic physical therapy

Fill in the missing letters and you will get the techniques used in orthopedic physical therapy:

el...ct...ic st...m...lat...on

...ltr...so...n...

s...r...tc...in...

...tr...ng...he...ing

i...e t...er...p...

Find the words which mean the following in the text:

- tissue connecting a muscle to a bone
- inflammation of a joint (symptoms – pain, swelling, stiffness)
- the process of lengthening or widening
- movement of blood (2)

Orthopedic physical therapy focuses on the problems of the muscular skeletal system (muscles, bones, ligaments or tendons). It deals with diagnosing, managing and treating injuries and problems and rehabilitating right after orthopedic operations, as well. Orthopedic therapy workers function particularly in treating post-operative joints, injuries due to sporting activities, arthritis and amputations.

Orthopedic physical therapy is very important for restoring the patients' activity, strength and motion right after injuries or surgery. You can find a number of things therapists can do in orthopedic physical therapy and there are lots of rehabilitation tools that they have on hand. Among these we should mention: stretching, strengthening, ice and heat therapy (hot and cold packs), electrical stimulation, ultrasound, etc.

Stretching is necessary if a patient has a stiff joint which can affect normal activities severely. Proper stretching exercise can assist to preserve such functions. To help a patient in improving the function of his/her muscles, increasing endurance and maintaining or improving the range of motions strengthening workouts are used.

The ice and heat therapy warm up and cool off muscles and contribute to the stimulation of blood circulation and assist to decrease swellings, as well. By using an ultrasound probe, deep tissues are stimulated and warmed while the blood flow will improve.

### Answer the questions:

Which problems does orthopedic physiotherapy focus on?

Which conditions is it required for?

When are stretching exercises necessary?

How is ice and heat therapy used?

<http://physical-therapy-treatment.com/orthopedic-physical-therapy.html>

### Task 3 Reading and speaking - Musculoskeletal Conditions

<http://www.beyondbasicsphysicaltherapy.com/sports.shtml>

Musculoskeletal/sports-related injuries include: bones, muscles with their related tendons, joint structures such as ligaments and menisci. Injuries may cause impairments such as pain, inflammation, restricted movement, joint instability, or muscle weakness.

Physical Therapy Treatment Includes:

- Manual therapy
  - Mobilization
  - Myofascial release
  - Soft tissue mobilization
- Strengthening
  - Therapeutic exercises
  - Stabilization exercises
- Range of motion
  - Stretching
- Modalities
  - E-stimulation
  - Ultrasound
  - Heat/ice
- Patient education
- Home exercise program (HEP)

Match groups of conditions with their headings below:

**General Conditions**

**Shoulder Injuries**

**Elbow Injuries**

**Wrist Injuries**

**Neck and Low Back Injuries**

**Knee Injuries**

**Ankle Injuries**

**Foot/Toe Injuries**

Group 1

- Golfer's elbow (medial epicondylitis)
- Tennis elbow (lateral epicondylitis)
- Sprain/strain (conservative or post-operative)
- Fractures

Group 2

- Plantar fasciitis (heel pain)
- Tarsal tunnel syndrome
- Sprain/strain (conservative or post-operative)
- Fractures/stress fractures

Group 3

- Osteoarthritis: Degenerative joint disease (DJD); progressive destruction of articular cartilage and the formation of bone at the margin of the joint.
- Osteoporosis: A group of disorders, which have as their common denominator, a reduction of bone mass per unit of bone volume.

- *Fibromyalgia*: Chronic muscle pain syndrome with no known cause or cure, considered "inflammation of the soft tissue"; body and muscle aches often accompanied by overwhelming fatigue and pelvic pain; symptoms may wax and wane with no discernible cause
- *TMJ Dysfunction*: Inflammation in this joint may lead to difficulty opening the mouth fully, pain in the joint, and/or in the neck and head region; other symptoms include headaches, dizziness, tinnitus, and nausea

#### Group 4

- Rotator cuff tear (operative or non-operative)
- Dislocation
- Frozen shoulder
- Tendinitis
- Fracture

#### Group 5

- Sprain/strain
- Disc herniation
- Muscle spasm
- Posture
- Coccygodynia: Refers to pain in and around the region of the coccyx or tailbone. It may involve the pelvic floor muscles and/or the gluteus maximus muscle. This condition is more common in women than men.
  - Etiology:
    - Falls resulting in direct injury of the coccyx (horseback riding, skiing)
    - Childbirth
    - Direct pressure on the coccyx (e.g. sitting)
    - Strain (cycling, rowing)

#### Group 6

- Achilles' tendonitis (Achilles' heel)
- Peroneal tendonitis
- Sprain/strain (conservative or post-operative)
- Fractures

#### Group 7

- Patellofemoral syndrome
- ACL tear (operative or non-operative)
- Meniscus tear (operative or non-operative)
- Tendinitis
- Total knee replacement

#### Group 8

- Carpal tunnel syndrome
- Sprain/strain (conservative or post-operative)
- Fractures

**Choose one of the conditions and suggest suitable treatment. Discuss in pairs.**

## **Listening**

### **Watch the video and fill in the blanks:**

The knee is comprised of the top bone which is the \_\_\_\_\_ which makes a \_\_\_\_\_ with the bottom bone which is the \_\_\_\_\_.

In between these two bones is the cartilage or the \_\_\_\_\_ of the knee.

Enveloped in the tendon is the \_\_\_\_\_.

The patella has to move up and down the groove as we \_\_\_\_\_ and \_\_\_\_\_ the knee.

It's important for the muscles around the knee like the \_\_\_\_\_ and the \_\_\_\_\_ muscle to have a balance between their strength and flexibility.

### **After you watch:**

What can you say about the structure of the knee?

What is important for the health of the knee?

Do you know any exercises for the knees?

<http://www.youtube.com/watch?v=t7rsPgxaoDY>