



King Saud University
College of Medicine
Medical Education Department



MUSCULOSKELETAL
BLOCK
MUSCULOSKELI



MED

BLOCK BOOK AND STUDENT GUIDE OF
MUSCULOSKELETAL BLOCK

Academic Year 1430 - 1431



**King Saud University
College of Medicine
Department of Medical Education**

THE MUSCULOSKELETAL BLOCK

Year One

BLOCK BOOK AND STUDENT GUIDE

(22 November 2015 to 07 January 2016)

Group - Female

1436-1437

Copyright Statement

This material is protected by copyright laws. For any other purposes other than teaching and research in the King Saud University, no part may be reproduced or copied in any form or by any means without prior permission of the King Saud University.

© King Saud University, Saudi Arabia, 2014.

A Message from the Dean

We are pleased with your progress in the medical program and your achievements. Being a first year medical students is a great opportunity for you to consolidate what you have learnt in the preparatory year and prepares you for the clinical skills and competencies needed in the clinical years. The Department of Medical Education through its different units is working hard to create an integrated and innovative curriculum that builds on the changes introduced in the preclinical years and enforces best teaching/learning approaches in the design of the new medical curriculum. As you are aware, the College of Medicine at King Saud University is one of the best colleges not just in the Kingdom of Saudi Arabia but proved to be one of the best in the gulf region, and the Middle East. It also has its international influence among the best colleges of medicine worldwide. This makes us proud of our achievements and provides you with an insight about the quality of teaching and research that we have reached and our continuous work to maintain our standards.

Therefore, the medical curriculum aims at preparing you and equipping you with the best training and clinical skills to become a medical graduate that fulfils the highest international standards. Therefore, the focus of the curriculum is to enhance a number of skills such as case-based learning, critical thinking, self-directed learning, deep understanding of concepts, application of knowledge learnt, and how to make decisions on the basis of evidence. The curriculum also aims at enhancing your skills in areas such as professionalism, e-learning, task-based learning, and preparing you for life-long learning. The design of the curriculum encourages small group learning, use of cases for discussion, lectures, student-led seminars, bed-side teaching, task-based learning, use of multimedia and e-learning as modes for teaching and learning. The use of wide range of teaching and learning modes and small group discussion will help you to become active learners, and work with other students in your group as a team.

I wish you all the best during your academic year and would encourage all of you to get the best out of the teaching and learning opportunities provided to you during this year. Our teaching staff and clinicians would be very happy to help you on any issue that you need help with.

Dr. Fahad Abdullah AlZamil

Dean, College of Medicine and the Supervisor of University Hospitals

A Message from the Musculoskeletal Block Chair

I would like to welcome you, our future physicians, to the Musculoskeletal Block as part of your first year reformed curriculum. I'm looking forward to an exciting, rich and smooth six weeks.

The block was designed to introduce you to the musculoskeletal system in a weekly theme fashion, where all basic sciences and clinical aspects are arranged in a logical and systematic way in order to elicit your interest and enhance your understanding of how the body works and how it falls ill. Hence you will find the anatomy, physiology and biochemistry preceding the pathology and clinical medicine aspects of the part of the musculoskeletal system in each of the weekly themes.

Lectures, lab practicals, introduction to clinical medicine practicals and small group discussions will all be combined to enhance your learning experience in this block.

Also, I would like to extend my deepest gratitude and respect to our teachers for their enormous hard work and dedication, the Medical Education Department for their endless support and coordination. And finally to the college's administration led by the dean for their relentless efforts to continuously improve, modernize and refine the educational process.

I wish you all the best, and look forward to have you as students during the block, and as colleagues as you graduate in the near future.

Ahmad Bin Nasser MD , FRCSC
Chairman
Musculoskeletal Block

TABLE OF CONTENTS

General Information	6
Teaching staff	7
List Of Problem – based Learning Cases	9
Objectives of the Musculoskeletal Block	10-27
Academic Support Team	28
Schedule of the Block	29-34
Plagiarism	35
Assessment of Students in the Block	36-37
Learning Resources	38-42
Feedback to students on PBL Performance	43
Assessment of student’s Performance in PBL	44
Students’ evaluation of their PBL tutor	45
Student Rating of lecture	46

GENERAL INFORMATION

Block Title : Musculoskeletal block

Block Code & Number : Musculo115

Credit Hour : 6

Block Duration : 7 Weeks

Block Dates : 22 November 2015 to 07 January 2016

Block Chairman : Dr. Ahmad Bin Nasser

Co-Chair : Dr. Hisham Al Khalidi

**Tutors Information
Year 1 Female Group
Musculoskeletal Block**

Name	Department	E-mail
Dr. Jamilah El-Medany	Anatomy	galmadani@ksu.edu.sa
Dr. Sanaa Al-Shaarawi	Anatomy	salsharawi@ksu.edu.sa
Dr. Raeesa Abdultawab Mohammad	Anatomy	drraesama@gmail.com
Dr. Sumbul Fatma	Biochemistry	sumbulfatma@gmail.com
Dr. Reem Mohammad Salam	Biochemistry	rsallam_10@gmail.com / sallam@ksu.edu.sa
Dr. Maha Al Muhaizea	Microbiology	maha_mm990@hotmail.com
Prof. Hanan Habib	Microbiology	hahabib@ksu.com.sa
Dr. Fawzia Al-Otaibi	Microbiology	ofawzia04@ksu.edu.sa / ofawzia@ksu.edu.sa
Dr. Shaesta Zaidi	Pathology	snz24@yahoo.com snz24@hotmail.com
Dr. Hala Kfoury	Pathology	halakfoury@hotmail.com ;

		hkfoury@ksu.edu.sa
Dr. Amany Fathaddin	Pathology	Afathaddin83@gmail.com
Prof. Hanan Hagar	Pharmacology	hananhagar@yahoo.com
Prof. Yieldez Bassioni	Pharmacology	yieldez@yahoo.com
Prof. Faten Zakareia	Physiology	fatenz3699@hotmail.com faten@ksu.edu.sa
Dr. Manan Al-Hakbany	Physiology	mananhakbany@yahoo.com malhakbany@gmail.com
Dr. Fawzia Al Rouq	Physiology	falrouq@ksu.edu.sa
Prof. Samy Azer	Medical Education	sazer@ksu.edu.sa
Dr. Hend Al Otaibi	Immunology	Dr_halotaibi@yahoo.com

WELCOME

Dear Students,

**We are pleased to welcome you in the College of Medicine,
Musculoskeletal Block Attachment. We hope you will find this block
both useful and enjoyable.**

Dr. Mona Soliman

Chairman of

List of the Problem-Based Learning Cases

The table below summarizes the PBL cases to be discussed in the Musculoskeletal Block.

Week	Case No.	Case title
-------------	-----------------	-------------------

Week 1	No case	
Week 2 (Sunday & Wednesday)	Case 1	“...trouble with my back”
Week 3 (Sunday & Wednesday)	Case 2	“...I need to rest every few minutes”
Week 4	No case	
Week 5 (Sunday & Wednesday)	Case 3	“...I dream to join the national team”
Week 6	Consolidation	

Instructions:

The cases listed above will be discussed by students in their small groups. Each group is about 8 to 12 students. Each case will be discussed in two tutorials, on Sunday and Wednesday. Each tutorial is two hours long.

Attendance of Small Group Learning tutorials:

Students must attend all small group learning tutorials. If a student is not well, he/she needs to provide a medical certificate from their family doctor. If a student misses out to attend four tutorials, without acceptable reasons, he/she might not be allowed to attend the final examination.

Students Roles in Small Group Learning Tutorials:

The design of the curriculum encourages small group discussion and student-centered learning. To achieve these goals there is a need for establishing good group dynamics, interpersonal skills, and effective communication. These elements will ensure that learning is an enjoyable process and rewarding to each member in the group. Therefore, students play a vital role in making a difference in their groups. To achieve these changes and improve your learning outcomes, We recommend that you use the paper by Professor Samy Azer, titled “Becoming a Student in a PBL Tutorial”, a copy is enclosed in the Appendix. Your continuous reflection on these tips and working on identifying your role in your group will help you in reaching these goals and building up your group.

Objectives of the Block

By the end of the course, the students should be able to:

- Understand the relationship between the anatomical structures of the different components of the human musculoskeletal system and their functions.
- Understand the pathology, microbiology, pathogenesis, and factors contributing to the development of common disorders affecting the musculoskeletal system.
- Use basic sciences to explain patient's symptoms, signs, as well as interpret investigation results, and provide justifications for their views.
- Develop communication skills and explore biopsychosocial and ethical issues in their assessment of the case.
- Use clinical cases to apply knowledge learnt, generate hypotheses, build an inquiry plan, and use evidence to refine their hypotheses, and justify different views.
- Design a brief management plan, and understand the pharmacological basis of drugs used in the management of common diseases affecting the musculoskeletal system.
- Develop skills in “introduction to clinical medicine” in relation to the musculoskeletal system.

Teaching and Learning Modes:

In an integrated curriculum like our curriculum, we use a wide range of teaching and learning strategies to ensure that learning meets the different needs of the students. These strategies include:

- Small group discussion
- Lectures
- Student-led seminars
- Practical classes.
- Clinical skills
- Independent learning
- Writing an essay or mini thesis

Objectives of Histology (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Histology

HISTOLOGY OF THE MUSCLES

Objectives:

Identify and describe the histological structure of the three types of muscle cells and list the differences between them.

HISTOLOGY OF CARTILAGE AND BONE

Objectives:

Describe the microscopic structure, distribution and growth of the different types of:

- Cartilage.
- Bone.

Objectives of Anatomy (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Anatomy

BONES OF THE UPPER LIMBS

Objectives:

- List the different bones of the UL.
- List the characteristic features of each bone.
- Differentiate between the bones of the right and left sides.
- List the articulations between the different bones
- Describe the sites of weakness and fractures of these bones.

BONES OF THE LOWER LIMBS

Objectives:

- Classify the bones of the three regions of the lower limb (thigh, leg and foot).
- Differentiate the bones of the lower limb from the bones of the upper limb.
- Memorize the main features of the
 - Bones of the thigh (femur & patella)
 - Bones of the leg (tibia & Fibula).
 - Bones of the foot (tarsals, metatarsals and phalanges)
 - Recognize the side of the bone.

CERVICAL SPINE

Objectives:

- Describe the 7 cervical vertebrae, (typical & atypical).
- Describe the joints between the cervical vertebrae.
- Describe the movements which occur in the region of the cervical vertebrae.
- List the structures which connect 2 adjacent vertebrae together.

THORACOLUMBAR SPINE

Objectives:

- Distinguish the thoracic and lumbar vertebrae from each other and from vertebrae of the cervical region
- Describe the characteristic features of a thoracic and a lumbar vertebra.
- Compare the movements occurring in thoracic and lumbar regions.
- Describe the joints between the vertebral bodies and the vertebral arches.
- List and identify the ligaments of the intervertebral joints.

MUSCLES OF THE BACK

Objectives:

- Distinguish between the different groups of back muscles.
- Compare between groups of back muscles as regard their nerve supply and action.
- List the back muscles of each group.
- Describe the attachments of each muscle of the superficial group, as well as, its nerve supply and action.
- Describe the triangles of back and their clinical significance.

SACRUM AND PELVIS

Objectives:

- Describe the bony structures of the pelvis.
- Describe in detail the hip bone, the sacrum, and the coccyx.
- Describe the boundaries of the pelvic inlet and outlet.
- Identify the structures forming the pelvic walls.
- Identify the articulations of the bony pelvis.
- List the major differences between the male and female pelvis.
- List the major differences of the female pelvis.

PECTORAL REGION AND AXILLA

Objectives:

- Identify and describe the muscles of the pectoral region.
- Pectoralis major.
- Pectoralis minor.
- Subclavius.
- Serratus anterior.
- Describe and demonstrate the boundaries and contents of the axilla.

PECTORAL REGION AND AXILLA

Objectives:

- Describe the origin, course, relations, branches and distribution of the axillary & median nerves
- Describe the common causes and effects of lesion to the axillary and median nerves.

ARM AND ELBOW

Objectives:

- Describe the attachments, actions and innervations of : Biceps brachii, coracobrachialis, brachialis, triceps brachii
- Explain the features of the elbow joint: Articulating bones, capsule, lateral and medial collateral ligaments, and synovial membrane
- Know the the movements flexion and extension of the elbow.
- List the main muscles producing the above movements
- Define the boundaries of the cubital fossa and enumerate its contents

ANATOMY OF THE FOREARM

Objectives:

- Enumerate the different muscles of the front (flexors) and back (extensors) of the forearm.
- Describe in brief the attachment of these group of muscles superficial and deep flexors; superficial and deep extensors.
- Describe the action and nerve supply of each of these muscle group.

HAND AND WRIST

Objectives:

- Describe the anatomy of the deep fascia of the wrist & hand (flexor & extensor retinaculae & palmar aponeurosis).
- List the structures passing superficial & deep to flexor retinaculum.
- Describe the anatomy of the insertion of long flexor & extensor tendons.
- Describe the anatomy of the small muscles of the hand (origin, insertion, action & nerve supply)

RADIAL AND ULNAR NERVES

Objectives:

- Describe the anatomy of the radial & ulnar nerves regarding: origin, course & distribution.
- List the branches of the nerves.
- Describe the causes and manifestations of nerve injury.

VASCULAR ANATOMY OF THE UPPER LIMBS

Objectives:

- Identify the origin of the vascular supply for the upper limb.
- Describe the main arteries and their branches of the arm, forearm & hand.
- Describe the vascular arches for the hand.
- Describe the superficial and deep veins of the upper limb

EMBRYOLOGY OF THE LIMBS

Objectives:

- List the different parts of mesoderm and the different divisions of somites.
- Differentiate bones according to their embryological origin and mode of ossification.
- Describe the ossification of long bones.
- Describe the main steps for development of limbs.
- Differentiate muscles according to their embryological origin

GLUTEAL REGION AND BACK OF THE THIGH

Objectives:

- List the groups of Glutei muscles and other small muscles (Lateral Rotators).
- Identify the origin, insertion, action, innervations & blood supply of the gluteal muscles.
- Identify the foramina and structures passing through them as :
 - Greater Sciatic Foramen.
 - Lesser Sciatic Foramen
- Describe the back of thigh regarding origin, insertion, action, innervation and blood supply of Hamstring muscles.

FRONTAL MEDIAL THIGH

Objectives:

- List the name of muscles of anterior compartment of thigh.
- Describe the anatomy of muscles of anterior compartment of thigh regarding: origin, insertion, nerve supply and actions.
- List the name of muscles of medial compartment of thigh.
- Describe the anatomy of muscles of medial compartment of thigh regarding: origin, insertion, nerve supply and actions.
- Describe the anatomy of femoral triangle & adductor canal regarding: site, boundaries and contents.

SCIATIC NERVE

Objectives:

- Describe the anatomy (origin, course & distribution) of the sciatic nerve.
- List the branches of the sciatic nerve.
- Describe briefly causes of sciatic nerve injuries.
- Describe briefly the main motor and sensory manifestations in case of injury of the sciatic nerve or its main branches.

VASCULAR ANATOMY OF THE LOWER LIMB

Objectives:

- List the main arteries of the lower limb.
- Describe their anatomy regarding: origin, course distribution & branches.
- List the main arterial anastomosis.
- List the sites to feel the peripheral arterial pulse.
- Describe the anatomy of the veins of the lower limb regarding: differentiation into superficial & deep, origin, course & termination

ANATOMY OF THE SHOULDER

Objectives:

- List the name of muscles of the shoulder region.
- Describe the anatomy of thoracolumbar spine
- List the muscles forming the rotator cuff and describe the relation of each of them to the shoulder joint.
- Describe the anatomy of shoulder joint regarding: type, articular surfaces, stability, relations & movements.

ANATOMY OF THE SHOULDER

Objectives:

- Describe the palpate and feel the bony prominences in the upper and the lower limbs
- Describe the palpate and feel the different muscles and muscular groups and tendons.
- Explain the perform some movements to see the action of individual muscle or muscular groups in the upper and lower limbs.
- Explain the pulsations of most of the arteries of the upper and lower limbs.
- Locate the site of most of the superficial veins in the upper and lower limbs

FRONTAL LATERAL COMPARTMENT OF THE LEG AND DORSUM FOOT

Objectives:

- Identify the deep fascia of leg
Identify the fascial compartments of the leg.
- Describe the anatomy of the anterior & lateral compartments.
- List the contents of each compartment (muscles, vessels & nerves).
- Describe the anatomy and contents of the dorsum of the foot

POPLITEAL FOSSA, BACK OF THE LEG AND SOLE OF THE FOOT

Objectives:

- Describe the location, boundaries & contents of the popliteal fossa.
- Describe the contents of posterior fascial compartment of Leg.
- List the structures held by flexor retinaculum at the ankle.
- Memorize the Layers forming in the sole of foot & bones that form the arches of the foot.

HIP, KNEE JOINT AND ANKLE JOINTS

Objectives:

- List the type and articular surfaces of each joint.
- Describe the capsule and ligaments of each joint.
- List important bursae (if any) in relation to each joint.
- List important relations of each joint.
- Describe movements of each joint.
- Apply Hilton's law about nerve supply of joints.

Objectives of Physiology (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Physiology

PHYSIOLOGY OF THE BONE

Objectives:

- Define bone & differentiate between types of bone (cortical & trabecular)
- State Ca^{++} concentration and its forms in the ECF ; its relation to PO_4
- Differentiate between the types of bone cells & appreciate their functions.
- Describe bone formation & remodeling
- Understand what is osteoporosis
- Appreciate the effects of different hormones on bone

PHYSIOLOGY OF THE MUSCLE CONTRACTION

Objectives:

- To give reasonable comprehension of the mechanism of excitation-concentration coupling with reference to neuro-transmitters, receptors Ca^{++} and esterase.
- To comprehend muscle contraction on the basis of molecular structures.
- To explain biophysics in terms of length-tension and force velocity-relationship.

PHYSIOLOGY OF THE MOTOR UNIT

Objectives:

- Know the organization of the Nervous System
- Differentiate the central nervous system (CNS) and peripheral nervous system (PNS)
- Identify the motor unit and its components
- Know the function and recruitment of motor unit
- Know the function and recruitment of motor unit

- Describe the effect of motor units number on action performance

RESTING MEMBRANE POTENTIAL

Objectives:

- Identify and describe different potentials & types of membrane ionic channels & equal or unequal distribution of ions across the membrane
- Identify cell membrane creating concentration and electrical gradients.
- Identify and describe diffusion and equilibrium potential
- Apply Nernst equation to calculate equilibrium potential.
- Identify resting membrane potential (RMP)
- describe genesis of resting membrane potential (RMP) and appreciate the effect of changes in ionic composition and/or permeability on genesis of RMP and the role of ions channels, and Na⁺ - K⁺ pump
- Identify voltmeter to measure very small membrane potential difference between inside & outside as resting membrane potential.

NERVE ACTION POTENTIAL AND PROPERTIES OF NERVE FIBERS

Objectives:

- Describe the voltage-gated sodium and potassium membrane channels and their states .
- Explain the resting membrane potential (RMP) , Threshold Potential, Reversal Potential , Local Response and Action Potential .
- Describe components of a neuron dendrites , soma , axon . axon hillock and their physiological significance
- Describe the electrical changes in membrane potential during the action potential , their chemical bases and excitability changes .
- Describe conduction along nerve fibers , role of myelination and how nerve fibers are classified .

NERVE CONDUCTION STUDIES AND EMG

Objectives:

- At the end of this lecture the student should be able to :
- Explain what nerve conduction and electromyography mean .
- As example of motor NCS : describe stimulation of the median nerve and recording the CMAP from abductor pollicis brevis (APB) muscle ; and how nerve conduction velocity is determined .
- Define motor unit potentials , fasciculation potentials , fibrillation potentials , myopathic potentials , positive sharp waves

- Mention the contra-indications for needle emg .

PHYSICAL AND PHYSIOLOGICAL FACTORS IN ATHLETIC PERFORMANCE

Objectives:

- Muscle metabolic systems in exercise
- Adenosine triphosphate
- Phosphocreatine-creatine system
- Glycogen-lactic acid & aerobic system
- Recovery of the muscle metabolic systems after exercise& Oxygen debt
- Recovery of muscle glycogen
- Nutrients used during muscle activity
- Effect of smoking on pulmonary ventilation in exercise
- Effect of heart disease and old age on athletic performance
- Body fluids and salt in exercise
- Drugs and athletes
- Body fitness prolongs life

MUSCLE ADAPTATION TO EXERCISE

Objectives:

- Strength, power, and endurance of muscles
- Effect of athletic training on muscles and muscle performance
- Muscle hypertrophy
- Fast-twitch and slow-twitch muscle fibers
- Respiration in exercise
- Oxygen consumption and pulmonary ventilation in exercise
- Effect of training on vo_2 max
- Cardiovascular system in exercise
- Work output, oxygen consumption, and cardiac output during exercise
- Effect of training on heart hypertrophy and on cardiac output
- Role of stroke volume and heart rate in increasing the cardiac output
- Body heat in exercise & heatstroke

MUSCLE ADAPTATION TO EXERCISE

Objectives:

- Define a motor unit
- Explain the role of AHC (anterior horn cell in control of movement) .

- Define the components of the neuromuscular junction (NMJ) : axon terminal , synaptic cleft , synaptic gutter , and what each contains .
- Describe role of Acetylcholine b(ACh) vesicles and receptors in neuromuscular transmission .
- Describe ACh synthesis and destruction .
- Define EPP and exocytosis .
- Explain Myasthenia Gravis .
- Describe important drugs acting on the neuromuscular junction (NMJ) .

Objectives of Biochemistry (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Biochemistry

GLYCOGEN METABOLISM IN MUSCLE

Objectives:

- Explain the storage of carbohydrates in muscle.
- Describe the glycogen synthesis (Glycogenesis)
- Describe the glycogen breakdown (Glycogenolysis)
- Describe the regulation of both Glycogenesis and Glycogenolysis

CREATINE METABOLISM

Objectives:

- Understand the functions and importance of creatine in skeletal muscle.
- Describe the overall creatine metabolism in muscle.
- Describe the types of creatine kinase (CK) enzymes and their clinical importance in disease.

- Know the importance of creatine in muscle as a storage form of energy
- Know the understand the biosynthesis of creatine
- Describe the process of creatine degradation and formation of creatinine as an end product
- Describe the process of creatine degradation and formation of creatinine as an end product
- Understand the clinical importance of creatinine as a sensitive indicator of kidney function

AEROBIC AND EAROBIC METABOLISM IN MUSCLE

Objectives:

- Recognize the importance of ATP as energy source in skeletal muscle.
- Understand how skeletal muscles derive ATP for energy from aerobic and anaerobic metabolism.
- Differentiate between energy metabolism in red and white muscle fibers.

PURINE DEGRADATION AND GOUR

Objectives:

Understand purine degradation, uric acid formation and its association with gout.
Recognize the importance of uric acid in the pathogenesis of gout.

Objectives of Pathology (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Pathology

AN INTRODUCTION TO MYOPATHIES AND MUSCULAR DYSTROPHY

Objectives:

- Understand the structure of the various types of muscle fibers.
- Acquire a basic knowledge of the classification of myopathies and give examples of these disorders.

- Understand the meaning of the term muscular dystrophy and have a basic knowledge of the incidence and clinicopathological manifestations of Duchenne's and Becker's muscular dystrophies.
- Know the pattern of inheritance of myotonic dystrophy and its clinicopathological presentations.

CONGENITAL AND DEVELOPMENT BONE DISEASES

Objectives:

- Be aware of some important congenital and developmental bone diseases and their principal pathological features.
- Understand the aetiology, pathogenesis and major clinical features of osteoporosis.
- Be familiar with the terminology used in some important developmental and congenital disorders.

FRACTURE AND BONE HEALING

Objectives:

- Appreciate the importance of road traffic accidents with resultant trauma as a major cause of death and disability in the Kingdom.
- Be aware of the mechanisms and stages of fracture healing and understands the difference between trauma induced and pathological fractures.
- Know the factors contributing to delayed fracture healing.

NON INFECTIOUS ARTHRITIS

Objectives:

- Know the pathogenesis and clinicopathological features of osteoarthritis (degenerative joint disease), rheumatoid arthritis, gout and calcium pyrophosphate arthropathy [pseudogout].

OSTEOMYELITIS AND SEPTIC ARTHRITIS

Objectives:

- Understand the aetiology, pathogenesis and clinical features of osteomyelitis.
- Be familiar with some of the terminology used in bone infections like: sequestrum, involucrum, Brodie abscess and Pott's disease.

- Understand the clinicopathological features of tuberculous osteomyelitis and infective arthritis.

Year 1, Musculoskeletal Block [Lecture]

Title: Immunology

MECHANISM OF AUTO-IMMUNITY

Objectives:

- Describe the autoimmunity results from activation of immune response against self antigens.
- Explain the immunological tolerance (central and peripheral) induced against self antigens for maintaining normal health.
- Understanding of various factors contributing to the breakdown of immunological tolerance and development of autoimmunity.
- Describe the gender predilection in autoimmunity.

AUTOIMMUNE DISEASES

Objectives:

- Know that the inflammatory processes in auto immune diseases are mediated by hypersensitivity reactions (type II, III and IV)
- Know that autoimmune diseases can be either organ specific or may be generalized involving many organs or tissues
- Understand that the manifestations of autoimmune diseases depend upon the organ and the degree of damage inflicted on the target tissues

Objectives of Immunology(Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Immunology

MUSCLE RELAXANTS

Objectives:

- Classify the skeletal muscle relaxants according to the target of action.
- Describe mechanism of action, kinetics, dynamics and uses of different types of skeletal muscles relaxants.
- Know the major adverse effects & contraindications of skeletal muscle relaxants.

NSAIDs

Objectives:

- Define NSAIDs
- Describe the classification of this group of drugs
- Describe the general mechanism of actions
- Define the following terms :
- Analgesic
- Antipyretics
- Anti-inflammatory
- Anti-platelet
- Describe the general pharmacological actions
- Describe the general therapeutic uses
- Describe the general adverse effects
- Describe the general contraindications
- Know some examples of each group of NSAIDs
- Know the difference between the selective & non-selective NSAIDs

INDIRECT ACTING CHOLINERGIC DRUGS

Objectives:

- Classify indirect acting cholinomimetics.

- Describe mechanism of action, kinetics, dynamics and uses of anticholinesterases.
- Know the major adverse effects & contraindications of anticholinesterases.
- Describe the major symptoms and treatment of organophosphates toxicity.

DISEASES MODIFYING ANTI-RHEUMATIC DRUGS

Objectives:

- Define DMARDs
- Describe the classification of this group of drugs
- Describe the general advantages & criteria of this group of drugs
- Describe the general clinical uses
- List some examples of drugs related to DMARDs.
- Describe the mechanism of action, specific clinical uses, adverse effects & contraindications of individual drugs.

DRUGS IN GOUT

Objectives:

- Define gout
- Describe outlines of treatment
- Describe treatment of acute gouty arthritis
- Describe the mechanism of action, clinical uses & side effects of drugs used in acute attacks
- Classify drugs used in chronic treatment
- Define each group of drugs
- Describe the mechanism of action, clinical uses & side effects & drug interactions for drugs used in chronic treatment

DIRECT ACTING CHOLINERGIC DRUGS

Objectives:

- Describe the various steps in cholinergic transmission.
- Mention the different types, locations and actions of cholinergic receptors.
- Describe the effects of acetylcholine on major organs

- Classify cholinomimetic drugs.
- Describe the kinetics, actions and uses of direct cholinomimetic drugs.
- Know the major side effects for the different classes of direct cholinomimetics

Objectives of Microbiology (Lectures)

Year 1, Musculoskeletal Block [Lecture]

Title: Microbiology

MYOCYTOMA

Objectives:

- Know the main fungi that affects the subcutaneous tissue, muscles and bones and the clinical settings of such infections
- Acquire the basic knowledge about the clinical features, diagnosis, and treatment of these infections.

MICROBIOLOGY OF JOINTS AND BONE INFECTION

Objectives:

- Define osteomyelitis and arthritis
- Know that these two conditions can happen together or separately.
- Differentiate between acute and chronic osteomyelitis and arthritis
- Know the pathogenesis of both osteomyelitis and arthritis
- Realize that infection to the bones and joints can be acquired through blood or directly from adjacent affected organs and tissues.
- Know commonest causative agents of arthritis and osteomyelitis

LABORATORY AND CLINICAL ASPECTS OF CELLULITIS AND NECROTIZING FASCIITIS

Objectives:

- Describe the anatomical structure of skin and soft tissues.
- Differentiate the various types of skin and soft tissue infections and there clinical presentation.

- Name bacteria commonly involved in skin and soft tissue infections
- Describe the pathogenesis of various types of skin and soft tissue infections
- Recognize specimens that are acceptable and unacceptable for different types of skin and soft tissue infections
- Describe the microscopic and colony morphology and the results of differentiating bacteria isolates in addition to other non-microbiological investigation
- Discuss antimicrobial susceptibility testing of anaerobes including methods and antimicrobial agents to be tested.
- Describe the major approaches to treat of skin and soft tissue infections either medical or surgical.

ACADEMIC SUPPORT TEAM:

The College of Medicine and the Department of Medical Education are working on ensuring that our students receive optimal support to their learning. The list of academics shown below represent the departments involved in the teaching and learning of this block. If a student needs help in their teaching and learning they might consult one academic from the list. He/she might email them and arrange a time to see them if needed, otherwise email might be of help.

CHAIRPERSON: Dr. Ahmad Bin Nasser Department of Orthopedics Mobile : 0505466700 Extension: 90768 Email : ahmadbn@mac.com ; ahmadbn@me.com		CO-CHAIR: Dr. Hisham Al Khalidi Department of Pathology Mobile : 0533408611 Extension: 71890 Email: drhishamnaseej@hotmail.com
MEMBERS	DEPARTMENT	E-MAIL ADDRESS
Professor Samy Azer	Medical Education Dept.	sazer@ksu.edu.sa azer2000@optusnet.com.au
Prof. Saeed Abuel Makarem	Anatomy Department	saeedmakarem@hotmail.com
Dr. Manan AlHakbany	Physiology Department	Malhakbany@gmail.com
Dr. Usman Ghani	Biochemistry Department	ugresearch@hotmail.com
Dr. Ali Somily	Microbiology Department	ali.somily@gmail.com
Dr. Osama Yousef Mohammad	Pharmacology Department	oymjahrasoul@hotmail.com
Prof. Zahid Shakoor	Immunology Department	shakoor_zahid@yahoo.com

Schedule of the block

WEEK 1 – MUSCULOSKELETAL BLOCK (Female)				
Week (1) Starting: 22/11/2015 to 26/12/2015 (10/02/1437 to 14/02/1437)				
INTRODUCTION & THE SKELETON				
CHAIR PERSON: Dr. Ahmad Bin Nasser				
CO-CHAIR: Dr. Hisham Al Khalidi				
Sunday 22 November 2015	Monday 23 November 2015	Tuesday 24 November 2015	Wednesday 25 November 2015	Thursday 26 November 2015
8:00 - 9:00am Self-directed Learning	8:00 - 9:00am Histology of cartilage and bone (Histology) Dr. Raeesa Mohammad	SPE CIA L	SP ECI AL	8:00 - 9:00am Introduction to myopathies and Muscular dystrophy (Pathology) Dr. Hala Kfoury

9:00 - 10:00am Overview of the Musculoskeletal block	9:00 - 10:00am Physiology of the motor unit (Physiology) Prof. Faten Zakareia	HO LID AY (Heavy Rainy Day)	9:00 - 10:00am Bones of the lower limbs (Anatomy) Dr. Sanaa Alshaarawi
10:00 - 11:00am Bones of the upper limbs (Anatomy) Dr. Jamilah El-Medany	10:00 - 11:00am Tips on answering examination questions Prof. Samy Azer		10:00 - 11:00am Cervical spine (Anatomy) Dr. Sanaa Alshaarawi
11:00- 12:00nn Joints (Anatomy) Dr. Sanaa Alshaarawi	11:00- 12:00nn Histology of the muscles (Anatomy) Dr. Raeesa Mohammad		11:00- 12:00nn Glycogen metabolism in muscle (Biochemistry) Dr. Reem Sallam
Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm		Lunch 12:00 - 1:00pm
1:00 - 2:00pm Self-directed Learning	1:00 -2:00pm Self-directed Learning		1:00 - 3:00pm <u>Practical</u> Appendicular Skeleton (Anatomy and Histology)
2:00-3:00pm Self-directed Learning	2:00-3:00pm Self-directed Learning		All staff

Hall No.(1)
Building #9, Ground Floor

WEEK 2 – MUSCULOSKELETAL BLOCK (Female)				
Week (2) Starting: 29/11/2015 to 03/12/2015 (17/02/1437 to 21/02/1437)				
BACK				
CHAIR PERSON: Dr. Ahmad Bin Nasser				
CO-CHAIR: Dr. Hisham Al Khalidi				
Sunday 29 November 2015	Monday 30 November 2015	Tuesday 01 December 2015	Wednesday 02 December 2015	Thursday 03 December 2015

8:00 - 10:00am Problem-based Learning Case 1 Tutorial 1	8:00-9:00am Nerve conduction studies and EMG (Physiology) Dr. Fawzia Al Rouq	8:00-9:00am Physiology of the bone (Physiology) Prof. Faten Zakareia	8:00 - 10:00am Problem-based Learning Case 1 Tutorial 2	8:00-9:00am Practical Vertebrae (Anatomy & Radiology) All staff
	9:00 - 10:00am Thoracolumbar Spine (Anatomy) Dr. Sanaa Alshaarawi	9:00 - 10:00am Muscle relaxants (Pharmacology) Prof. Hanan Hagar		
10:00 - 11:00am Neuromuscular transmission (Physiology) Dr. Manan Alhakbany	10:00 -11:00am Muscles of the back (Anatomy) Dr. Sanaa Alshaarawi	10:00 - 11:00am NSAIDs (Pharmacology) Prof. Yieldez Bassioni	10:00 - 11:00nn Congenital and developmental bone diseases (Pathology) Dr. Amany Fathaddin	10:00 - 11:00am Physical and physiological factors in athletic performance (Physiology) Prof. Faten Zakareia
11:00 - 12:00nn Physiology of muscle contraction (Physiology) Dr. Manan Alhakbany	11:00 - 12:00nn Fracture and bone healing (Pathology) Dr. Amany Fathaddin	11:00 - 12:00nn Sacrum and pelvis (Anatomy) Dr. Jamilah El-Medany	11:00 - 12:00nn Self-directed Learning	11:00 - 12:00nn Muscle adaptation to exercise (Physiology) Prof. Faten Zakareia
Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm
1:00 -2:00pm Resting membrane potential (Physiology) Dr. Manan Alhakbany	1:00 -2:00pm Nerve action potential & Properties of nerve fibers (Physiology) Dr. Manan Al-Hakbany	1:00 - 3:00pm Practical Muscles of the back (Anatomy) All staff	1:00 - 3:00pm Salam	1:00 -2:00pm Self-directed Learning
2:00-3:00pm Self-directed Learning	2:00-3:00pm Self-directed Learning			2:00-3:00pm Self-directed Learning

Hall No.(1)
Building #9, Ground Floor

WEEK 3 – MUSCULOSKELETAL BLOCK (Female)

Week (3) Starting: 06/12/2015 to 10/12/2015 (24/02/1437 to 28/02/1437)

UPPER LIMBS

CHAIR PERSON: Dr. Ahmad Bin Nasser

CO-CHAIR: Dr. Hisham Al Khalidi

Sunday 06 December 2015	Monday 07 December 2015	Tuesday 08 December 2015	Wednesday 09 December 2015	Thursday 10 December 2015
8:00 - 10:00am Problem-based Learning Case 2 Tutorial 1	8:00-9:00am Embryology of the limbs (Anatomy) Dr. Jamilah El-Medany	8:00 - 9:00am Radial and ulnar nerves (Anatomy) Dr. Jamilah El-Medany	8:00 - 10:00am Problem-based Learning Case 2 Tutorial 2	8:00 - 9:00am Self-directed Learning
	9:00 - 10:00am Creatine Metabolism (Biochemistry) Dr. Sumbul Fatma	9:00 - 10:00am Anatomy of the forearm (Anatomy) Dr. Sanaa Alshaarawi		9:00 - 10:00am Vascular anatomy of the upper limb (Anatomy) Dr. Jamilah El-Medany
10:00 - 11:00am Pectoral region and axilla (Anatomy) Dr. Sanaa Alshaarawi	10:00 - 11:00am Arm and elbow (Anatomy) Dr. Sanaa Alshaarawi	10:00 - 12:00nn <u>Practical</u> Muscles and bones of the upper limb (Anatomy & Radiology) All staff	10:00 - 11:00am Hand and wrist (Anatomy) Dr. Jamilah El-Medany	10:00 - 12:00nn History taking And IM Injection (Introduction of the clinical medicine) "F1"
11:00- 12:00nn Axillary and median nerve (Anatomy) Dr. Jamilah El-Medany	11:00- 12:00nn Aerobic and anaerobic metabolism in muscles (Biochemistry) Dr. Reem Sallam		11:00- 12:00nn Self-directed Learning	
Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm
1:00 -2:00pm Anatomy of the shoulder (Anatomy) Dr. Jamilah El-Medany	1:00 -2:00pm Self-directed Learning	1:00 -3:00pm History taking and IM Injection (Introduction of the clinical medicine) "F2"	1:00 -3:00pm Salam	1:00 - 3:00pm <u>Practical</u> Vessels & Nerves of the upper limb (Anatomy)

2:00- 3:00pm	2:00- 3:00pm			All staff
Self-directed Learning	Self-directed Learning			

Hall No.(1)
Building #9, Ground Floor

WEEK 4 – MUSCULOSKELETAL BLOCK (Female)				
Week (4) Starting: 13/12/2015 to 17/12/2014 (02/03/1437 to 06/03/1437)				
LOWER LIMBS				
CHAIR PERSON: Dr. Ahmad Bin Nasser				
CO-CHAIR: Dr. Hisham Al Khalidi				
Sunday 13 December 2015	Monday 14 December 2015	Tuesday 15 December 2015	Wednesday 16 December 2015	Thursday 17 December 2015
8:00 - 9:00am Frontal medial thigh (Anatomy) Dr. Sanaa Alshaarawi	8:00 - 9:00am Self-directed Learning	8:00 - 9:00am Self-directed Learning	8:00 - 9:00am Sciatic nerve (Anatomy) Dr. Jamilah El-Medany	8:00 - 9:00am clinical and Laboratory aspects of cellulitis and necrotizing fasciitis (Microbiology) Dr. Fawzia Alotaibi
9:00 - 10:00am Gluteal region and back of the thigh (Anatomy) Dr. Sanaa Alshaarawi	9:00 - 10:00am Frontal lateral compartment of the leg and dorsum foot (Anatomy) Dr. Jamilah El-Medany	9:00 - 10:00am Vascular anatomy of the lower limb (Anatomy) Dr. Jamilah El-Medany	9:00 - 10:00am Purine degradation and gout (Biochemistry) Dr. Sumbul Fatma	9:00 - 10:00am Drugs in gout (Pharmacology) Prof. Yeldez Bassioni
10:00 - 11:00am Mechanisms of auto-immunity (Immunology) Dr. Hend Al Otaibi	10:00 - 11:00am Popliteal fossa, back of the leg and sole of the foot (Anatomy) Dr. Sanaa Alshaarawi	10:00 - 11:00am Direct acting cholinergic drugs (Pharmacology) Prof. Hanan Hagar	10:00 - 12:00nn <u>Practical</u> Muscles and bones of the lower limbs (Anatomy & Radiology) All staff	10:00 - 11:00am Myocytoma (Microbiology) Dr. Maha Al Muhaizea
11:00- 12:00nn Self-directed Learning	11:00- 12:00nn Non - infectious Arthritis (Pathology) Dr. Amany Fathaddin	11:00- 12:00nn Indirect acting cholinergic drugs (Pharmacology) Prof. Hanan Hagar		11:00- 12:00nn Introduction to Surface anatomy of the upper & lower limbs (Anatomy) Dr. Jamilah El-Medany
Lunch	Lunch	Lunch	Lunch	Lunch

12:00 – 1:00pm	12:00 – 1:00pm	12:00 – 1:00pm	12:00 – 1:00pm	12:00 – 1:00pm
1:00 – 2:00pm	1:00 -2:00pm	1:00 – 3:00pm	1:00 -3:00pm	1:00 -2:00pm
Self-directed Learning	Osteomyelitis and septic arthritis (Pathology) Dr. Amany Fathaddin	<u>Practical</u> Pathology Dr. Shaesta Zaidi/ Dr. Amany Fathaddin	Salam	Surface anatomy of upper & lower limbs “F1” (Anatomy & Clinical skills)
2:00 - 3:00 pm	2:00 - 3:00 pm			2:00 - 3:00 pm
Self-directed Learning	Self-directed Learning			Surface anatomy of upper & lower limbs “F2” (Anatomy & Clinical skills)

Hall No.(1)
Building #9, Ground Floor

WEEK 5 – MUSCULOSKELETAL BLOCK (Female)				
Week (5) Starting: 20 /12 /2015 to 24/12/2015 (09 /03/1437 to 13/03/1437)				
JOINTS				
CHAIR PERSON: Dr. Ahmad Bin Nasser				
CO-CHAIR: Dr. Hisham Al Khalidi				
Sunday 20 December 2015	Monday 21 December 2015	Tuesday 22 December 2015	Wednesday 23 December 2015	Thursday 24 December 2015
8:00 - 10:00am	8:00 - 9:00am	8:00 - 9:00am	8:00 - 10:00am	SALAM EXAMI NATIO N
Problem-based Learning Case 3 Tutorial 1	Self-directed Learning	Microbiology of joints and bone infection (Microbiology) Prof. Hanan Habib	Problem-based Learning	
	9:00 - 10:00am	9:00 - 10:00am	Case 3 Tutorial 1	
	Self-directed Learning	Hip, knee joints and ankle joints (Anatomy) Dr. Sanaa Alshaarawi		
10:00 - 11:00am	10:00 - 11:00am	10:00 - 11:00am	10:00 - 11:00am	
Self-directed Learning	Self-directed Learning	Self-directed Learning	Self-directed Learning	

11:00- 12:00nn Self-directed Learning	11:00- 12:00nn Self-directed Learning	11:00 - 12:00nn Autoimmune diseases (Immunology) Dr. Hend Al Otaibi	11:00- 12:00nn Disease modifying anti-rheumatic drugs (Pharmacology) Prof. Yieldez Bassioni	
Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm	Lunch 12:00 - 1:00pm
1:00 - 2:00pm Self-directed Learning	1:00 - 2:00pm Self-directed Learning	1:00 - 2:00pm Self-directed Learning	1:00 - 3:00pm <u>Practical</u>	1:00 - 2:00pm Self-directed Learning
2:00 - 3:00 pm Self-directed Learning	2:00 - 3:00 pm Self-directed Learning	2:00 - 3:00 pm Self-directed Learning	Vessels & Nerves of the lower limb (Anatomy) All staff	2:00 - 3:00 pm Self-directed Learning

Hall No.(1)
Building #9, Ground Floor

Plagiarism

Plagiarism is a voluntary act to copy sentences and give a misleading impression that the text is created by the person whose name appears on the work. For example an assignment submitted as part of the requirements of assessment of a subject.

Plagiarism may include plagiarism of ideas and or plagiarism of text (sentences or paragraphs). It also may include the use of diagrams, tables, images, cartoons etc without acknowledging the original creator of the work.

The act of copy-and-paste writings even if the aim is to produce a good assignment with well-structured English statements is unethical and when discovered could cause serious consequences including disciplinary action. Students need to construct statements in their own words and refer to the correct references related to what they have written and included in their assignment/work. Giving credit and acknowledgement to the original authors/creators are valued by the academic community as it reflects an ethical and professional attitude.

Why is plagiarism wrong?

Universities, higher education institutes and scientific communities consider plagiarism as a major problem for a number of reasons:

- It is an act of stealing ideas and the work of original authors/creators.
- It does not represent acceptable professional, ethical or scientific behavior.
- It raises doubts about the credibility of the person/group of people who committed such act.

How can teachers/college discover an act of plagiarism?

There are a number of software programs such as authenticate and many others available to detect the act of plagiarism. Some of these programs are available free online.

These tools can locate the places and sentences where students have copied and the original resource (articles, manuscripts, papers, books, websites) for such statements/paragraphs or images.

What are the consequences of plagiarism?

Students who commit plagiarism will be exposed to disciplinary action including the failure of the subject concerned provided that such act has been confirmed with evidence.

Assessment of Students in the Block

In order to pass the block, you must obtain a minimum final block grade of D (the grading guide attached as appendix¹), this grade is a composition from several block requirements, which can be subdivided as:

- 1- Attendance
- 2- Tutor assessment
- 3- Written Exams

4- OSPE (Objective Structured Practical Examination)

The final grade is a composition of the grades obtained for the specified block requirements, calculated as follows:

● Continuous Assessment (Tutor Assessment and Attendance)		: 15%
● Written Examinations (MCQ)		: 55%
● Mid-Block Exam	25%	
● Final Block Exam	30%	
● OSPE		: 30 %
TOTAL		: 100 %

1. Attendance :

Students are required to attend not less than 75% of all educational activities during the block. These include small group teaching, lectures, practical sessions, skills training sessions and integrated clinical sessions.

Your attendance will be recorded during all sessions. Failure to meet this requirement without a valid explanation will result in exclusion from the final examination. On the other hand, your presence will be rewarded by assigned marks.

2. Tutor Assessment in Large and Small groups (Continuous Assessment):

During each session, your individual efforts will be evaluated by your tutor. The tutors are instructed to evaluate two aspects:

- a. The extent to which you demonstrate that you study and prepare yourself thoroughly between the two sessions (i.e., preparation).
- b. The extent to which you actively contribute during group discussion (i.e., participation). Your grade for each session depends upon both your preparation and your participation. The grade will be on the scale from “5”, “4”, “3”, “2”, or “1”. Which have the following general descriptors:

- 5 = Outstanding (Excellent)
- 4 = Very good
- 3 = Good
- 2 = Average
- 1 = Poor

The block contains two sessions each week, so the maximum amount of ‘participation points’ you are able to obtain will be from two sessions multiplied by the number of weeks.

The total participation points will be recalculated according to the weight for each participation in the total assessment.

Your tutor can give you more information about the evaluation of your participation. The details of these evaluation also given in “Tutor Assessment of Student” form.

3. Written Examination:

- a. Mid block exam 25% : In the form of MCQs, these are prepared mainly from sessions presented to the students in large group. This exam will consist of 50 MCQs that will assess factual knowledge.
- b. Final written exam 30%: at the end of the block in form of MCQs, that are prepared mainly from sessions and presented to the students. This exam will consist of 80 MCQs that will assess factual knowledge too.

4. Objective Structured Practical Examination (OSPE):

This contains 30% of the marks. It is a practical examination at the end of the block. The OSPE examination will consist of 15-20 OSPE stations. Each station will take about 5 minutes, which contains a mix of slide show and some practical sessions. The purpose of the OSPE stations is to test your deeper understanding of the basic sciences. The OSPE will take place at the end of each block.

Block Evaluation

The block evaluation uses the following three data sources:

1. Student Feedback
2. Tutor Feedback
3. Student Results

Methods of student’s formative assessment:

- Self evaluation
- Peer evaluation
- Tutor evaluation (both summative & formative)
- Assignments

LEARNING RESOURCES

The list below comprises the key textbooks and learning resources which have been prescribed and recommended for use in the undergraduate medical course at King Saud University. It is expected that you have your own copy of prescribed textbooks and use them as one of your main resources in learning. Before making any purchases, you might carefully examine all other recommended textbooks in an area and chose the text that matches with your needs and your learning style. Although all these texts are available in the Medical Library, you might need to purchase texts that you use frequently in these years as the demand upon library texts is usually high.

Medical Dictionary

Prescribed:

Martin EA (2010). Oxford Concise Medical Dictionary. Oxford: Oxford University Press.

Recommended textbooks:

Dorland (2010). Dorland's Pocket Medical Dictionary with CD-ROM, Twenty-eighth Edition, Elsevier, UK.

Dorland (2007). Dorland's Illustrated Medical Dictionary with CD-ROM, Thirty-first Edition, Elsevier, UK.

Anatomy & Embryology

Prescribed textbook:

Drake RL, Vogl W and Mitchell AWM (2005). Gray's Anatomy for Students. Philadelphia: Elsevier Churchill Livingstone.

Snell RS (2005). Clinical Anatomy for Medical Students. 7th ed. Philadelphia: Lippincott Williams & Wilkins.

Larson WJ (2001). Human Embryology. New York: Churchill Livingstone.

Recommended textbooks:

McMinn RH (2004). McMinn's Color Atlas of Human Anatomy. Fifth Edition. Mosby Publisher, UK.

Moore KL and Dalley AF (2005). Clinically Oriented Anatomy. Philadelphia: Lippincott Williams & Wilkins.

Netter FH (2006). Atlas of Human Anatomy. 4th ed. Philadelphia: Saunders WB.

Agur AMR and Dalley AF (2005). Grant's Atlas of Anatomy. 11th ed. Philadelphia: Lippincott Williams & Wilkins.

More KL (2002). The Developing Human. Philadelphia: Saunders WB.

Sadler TW. (2005) Langman's Essential Medical Embryology. Philadelphia: Lippincott Williams & Wilkins.

Sadler TW. (2006) Langman's Medical Embryology. 10th ed. Philadelphia: Lippincott Williams & Wilkins.

Histology

Prescribed textbook:

Gartner LP and Hiatt JL (2002). Color Textbook of Histology. 2nd ed. Philadelphia: Saunders WB.

Recommended textbooks:

Young B, Lowe JS, Stevens A and Heath JW (2006). Wheater's Functional Histology. 5th ed. London: Churchill Livingstone.

Physiology

Prescribed textbook:

Rhoades R and Pflanzer R (2003). Human Physiology, 4th ed. London: Brooks/Cole.

Hall JE. Guyton and Hall Textbook of Medical Physiology (2010). Twelfth Edition. Churchill Livingstone, UK.

Recommended textbooks:

Berne RM, Levy MN, Koeppen BM and Stanton BA. (2005) Physiology. 5th ed. London: Mosby

Sherwood L. (2006). Human Physiology: From Cells to Systems. 4th ed. Brooks/Cole Pub.Co: Sydney.

Fox SI. (2008). Fundamentals of Human Physiology. 9th ed. McGraw-Hill: Boston.

Saladin KS (2009). Anatomy and Physiology. McGraw Hill Lange, USA

Barrett KE, Barman SM, Boitano S, Brooks HL (2009). Ganong's Review of Medical Physiology. Twenty Third Edition. McGraw-Hill Publisher, UK.

Pharmacology

Prescribed textbook:

Rang HP, Dale MM, Ritter JM, Moore PK (2007). Pharmacology. Six Edition. Churchill Livingstone, Elsevier, UK.

Recommended textbooks:

Katzing BG (2008). Basic and Clinical Pharmacology. New York: McGraw Hill/Appleton & Lange.

Medical Biochemistry

Prescribed textbook:

Lieberman M, Marks AD (2008). Mark's Basic Medical Biochemistry: A Clinical Approach. Lippincott Williams & Wilkins, New York.

Champe PC, Harvey RA, Ferrier DR (2005). Lippincott's Illustrated Reviews Biochemistry. 3rd ed. Philadelphia: Lippincott Williams & Wilkins.

Recommended textbooks:

Murray RK, Roolwell VW, Bender D, Botham KM, Weill A, Kennelly PJ (2009). Harper's Illustrated Biochemistry. Twenty -eighth Editions. McGraw Hill, Lange, New York.

Baynes J and Dominiczak M (2005). Medical Biochemistry. 2nd ed. London: Mosby.

Bhagavan NV (2002). Medical Biochemistry. Fourth-Edition, Elsevier, UK.

Microbiology & Parasitology

Prescribed textbook:

Goering R, DoCkrell H, Zuckerman M, Wakelin D, Riott I, Mims C (2008). Mims' Medical Microbiology. Fourth Edition. Mosby, UK.

John DT, Petri Jr (2006). Markell and Voge's Medical Parasitology. Ninth Edition. Elsevier, UK.

Recommended textbooks:

Greenwood D, Slack RC, Peutherer JF, Barer MR (2007). Medical Microbiology. Seventh Edition. Churchill Livingstone, UK.

Strohol WA. Lippincotts Illustrated Review Microbiology (2006). Second Edition. Lippincott Williams & Wilkins, New York.

Brooks GF, Butel JS, and Morse SA. (2004). Jawetz, Melnick, and Adelberg's Medical Microbiology. 23rd ed. New York: McGraw-Hill Co and Lange Appleton.

Engleberg NC, DiRita V, and Dermody TS. (2007). Schaechter's Mechanisms of Microbial Disease. 4th ed. Philadelphia: Lippincott Williams & Wilkins.

Neva FA, Brown HW. (1994). Basic Clinical Parasitology. 6th ed. Connecticut: Prentice-Hall International Inc.

Chamberlain NR (2008). Medical microbiology & immunology. McGraw Hill Lange Publisher, UK.

Levinson WE (2010). Review of Medical Microbiology and Immunology. Eleventh-Edition, McGraw-Hill Publisher, UK

Pathology

Prescribed textbook:

Kumar V and Cotran RS (2007). Robbins Basic Pathology. 8th ed. Philadelphia: Saunders WB.

Recommended textbooks:

Kumar V, Abbas AK, and Fausto N (2004). Robbins and Cotran Pathologic Basis of Disease. 7th ed. Philadelphia: Saunders WB.

Stevens A, Lowe JS, Young B (2008). Wheaters Basic Histopathology. A Colour Atlas and Text. Churchill Livingstone, Elsevier, UK.

Immunology

Prescribed textbook:

Delves PJ, Martin SJ, Burton DR, Riott IM (2006). Riott's Essential Immunology. Eleventh Edition. Blackwell Publishing, UK.

Recommended textbooks:

Male D, Brostoff J, Roth DB, and Roitt I. (2006). Immunology. 7th ed. Edinburgh: Mosby.

PBL and Learning Skills

Prescribed textbook:

Azer SA (2006). Core Clinical Cases in Basic Biomedical Sciences. Hodder-Arnold, UK.

Azer SA (2008). Navigating Problem-Based Learning. Elsevier Australia, Australia.

Recommended textbook:

Kushner TK and Thomasma DC (2001). Dilemmas for Medical Students and Doctors in Training. Cambridge: University Press.

Communication Skills & Introduction to Clinical Medicine

Prescribed textbook:

Lloyd M, Bor R (2006). Communication Skills for Medicine. Churchill Livingstone. UK.

Munro JF, Campbell IW (2006). Macleod's Clinical Examination. Tenth Edition. Churchill Livingstone, UK.

Talley NJ and O'Connor S. (2006). Pocket Clinical Examination. Melbourne: Blackwell Science.

Medicine

Kumar P and Clark M (2010). Clinical Medicine. 7th ed. Edinburgh: Elsevier Saunders.

Edwards C and Bouchier IA. (2003). Davidson's Principles and Practice of Medicine. 14th ed. Edinburgh: Churchill Livingstone.

(In the preclinical years these two textbooks may help you in the preparation of your learning issues, you will also need them in the clinical years).

Professionalism

Prescribed textbook:

Feldman MD, Christensen JF (2007). Behavioural Medicine. A Guide for Clinical Practice. McGraw-Hill Lange, UK.

Stern DT (2005). Measuring Medical Professionalism. Oxford University Press, UK.

Spandorfer J, Pohl CA, Rattner SL, Nasca TJ (2010). Professionalism in Medicine. A case-based Guide for Medical Students. Cambridge University Press, UK.



KING SAUD UNIVERSITY
 College of Medicine
 Department of Medical Education
Feedback to Students on PBL Performance
Musculoskeletal Block
Year 1 (Academic Year 2015-2016)

Student's ID no :**Group number:**.....
Student's name:.....
Tutor's name.....

You will receive feedback on your performance in PBL tutorials from your tutor. After completing the 2nd PBL case, your tutor will meet with each student in your group on individual basis. He or she will use the following criteria for providing feedback on your performance. Feedback items are grouped under two main headings. 1= Deficient/lacking/or poor; 2= Working on it; 3= showing some improvement; 4 = developed; 5=well developed (marks are allocated as follows: 1 for rank 1, 2 mark for rank 2, 3 marks for rank 3, and 4 marks for rank 4, and 5 marks for rank 5, maximum mark is 5 for each group)

1. Learning and cognitive skills:

Ability to:	1	2	3	4	5
<ul style="list-style-type: none"> ● Identify problems in the case ● Generate hypotheses ● Build mechanisms ● Collect new information ● Interpret findings ● Identify learning issues ● Apply knowledge learnt 					

Mark= /5

2. Interaction and participate to the group function:

Ability to:	1	2	3	4	5
<ul style="list-style-type: none"> ● Work collaboratively with other members ● Take active roles such as scribing ● Communicate effectively ● Arrive to tutorials on time ● Demonstrate good manners ● Keep the group focused ● Share resources with others 					

Mark = /5

Tutor's Name:

Signature:

Total Mark= /10

Comments

.....
.....



KING SAUD UNIVERSITY

College of Medicine

Department of Medical Education

**Assessment of student's Performance in PBL
Musculoskeletal Block
Year 1 (Academic Year 2014-2015)**

Student's ID no.:Group
number:.....

Student's
name:.....

Tutor's
name:.....

1=Unsatisfactory ; 2=Poor; 3=Good, 4=Very good; 5=Excellent

1. Preparation and participation:

Ability to:

• Contribute actively to discussion	1	2	3	4	5
• Use evidence when debate an issue	1	2	3	4	5
• Demonstrate critical analysis skills	1	2	3	4	5
• Integrate knowledge	1	2	3	4	5
• Demonstrate deep understanding	1	2	3	4	5

Total Marks = 25

2. Professional behaviour:

Ability to:

• Come to tutorials on time	1	2	3	4	5
• Communicate effectively	1	2	3	4	5

- Demonstrate good manners 1 2 3 4 5
- Keep the group focused 1 2 3 4 5
- Give and receive feedback 1 2 3 4 5

Total marks = 25

Tutor's Name: **Signature:** **Total maximum Marks for the case = 50 /10 = 5 marks**

Comments.....



**KING SAUD UNIVERSITY
 COLLEGE OF MEDICINE
 MEDICAL EDUCATION DEPARTMENT**

STUDENT'S EVALUATION OF THEIR PBL TUTOR

Date: _____
Tutor's Name: _____ **Group No.:** _____
Student: Peer: Other: **Name (Optional):** _____

How well did the tutor facilitate group process in the following regards? Please put a check (✓) in the box.

- | | | | | | | | | | | |
|--|---|--------------------------|---|--------------------------|---|--------------------------|---|--------------------------|---|--------------------------|
| 1. Appropriately facilitated the brainstorming sessions. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 2. Appropriately facilitated the hypothesis reorganization sessions. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 3. Appropriately facilitated the reporting sessions. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 4. Appropriately manage the time flow. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 5. Help to keep the group focused on its task | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 6. Provided a well balanced intervention within the group process, but avoided dominating. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |
| 7. Intervened when chairman or reporter needed. | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> |

8. Provided constructive positive and constructive feedback to the group as needed. 1 [2 [3 □ 4 [5 [
9. Encouraged positive and constructive feedback within the group about its performance 1 [2 [3 □ 4 [5 [
10. Showed enthusiasm. 1 [2 [3 □ 4 [5 [
11. Helped to create a supportive group climate. 1 [2 [3 □ 4 [5 [
12. Encouraged logical and critical thinking. 1 [2 [3 □ 4 [5 [
13. Overall rating of the tutor. 1 [2 [3 □ 4 [5 [

Number Code Values:				
5- EXCELLENT	4- VERY GOOD	3-GOOD	2- FAIR	1- POOR

KING SAUD UNIVERSITY
COLLEGE OF MEDICINE
MEDICAL EDUCATION DEPARTMENT

STUDENT RATING OF LECTURES

Date: _____ Subject: _____ Instructor: _____

Purpose:

This form is designed as an observation tool to rate the performance of each instructor in the different sessions. It is intended to provide a tool for lecturer improvement.

Directions:

Using the anchors below, check (✓) your rating for each item below. Check (✓) N/A for items that do not apply.

No	Standard Procedure	5	4	3	2	1	N/A
1	Started and ended class on time.						

2	Presented overview of content and objectives.						
3	Presented information according to objectives.						
4	Used relevant examples and illustrations (graphs, etc.) to explain major ideas						
5	Used alternative explanations when necessary.						
6	Made efficient use of questions with students.						
7	Covered all contents/objectives.						
8	Exhibited enthusiasm.						
9	Encouraged students to express themselves.						
10	Asked questions prior to closure						
11	Summarized major points/related contents to objectives.						
12	Amount you learned in the class was:						

Mention 3 strong points in this lecture:

1. _____
2. _____
3. _____

Mention 3 points for Improvement:

1. _____
2. _____
3. _____

Your name: (optional) _____