



جامعة بنها  
كلية الطب البشرى  
قسم العظام

## توصيف برنامج عام (2013-2014)

### PROGRAM SPECIFICATION

#### Basic information : \* معلومات أساسية \*

١ - اسم البرنامج : M.D. Orthopedics

٢ - طبيعة البرنامج : ( multiple )

٣ - الأقسام المسؤولة عن البرنامج:

• قسم العظام

• التشريح و الفسيولوجى و الباثولوجى

٤ - تاريخ إقرار البرنامج فى مجلس القسم : 2013 / 9 / ٥

٥ - تاريخ إقرار البرنامج فى مجلس الكلية ٣٥٦ : 2013 / 9 / 15

٦ - منسق البرنامج: Prof. Osama Hegazy

٨ - المراجع الخارجى: Prof. Adel Anwar

(prof. orthopedic surgery Minia faculty of medicine)

#### Professional information : \* معلومات متخصصة \*

#### ١ - الأهداف العامة للبرنامج :

#### 1- Overall Aims of the Program:

The overall goals of the program are to:

- 1-1 Provide the postgraduate with the advanced orthopedic knowledge essential for the mastery of practice of orthopedic surgery.
- 1-2 Gain skills necessary for proper management of patients including problem solving and operative skills.



- 1-3 Gain skills necessary for proper decision making and to display skills necessary for proper diagnosis of patients including diagnostic skills..
- 1-4 Provide the postgraduate with the advanced orthopedic knowledge and skills essential for the mastery of practice of Traumatology.
- 1-5 Fit the postgraduate with the advanced orthopedic knowledge necessary for further training and practice in the field of orthopedic and traumatology surgery.
- 1-6 Know recent scientific knowledge essential for the practice of orthopedic surgery.
- 1-7 Fit the provision of sound ethical principles related to orthopedic and traumatology surgery.
- 1-8 Know recent scientific knowledge essential for the practice of traumatology according to the international standards.
- 1-9 Apply statistically analysis techniques and use it in the field of orthopedic.



- 1-10 Communicate with junior staff to provide proper education and maintain the learning abilities necessary for continuous medical education..
- 1-11 Upgrade research interest and abilities.
- 1-12 Ability to use recent technology in orthopaedic surgery.

## ٢ - المخرجات التعليمية المستهدفة من البرنامج :

### 2-Intended Learning Outcomes (ILOS):

٢.أ - المعرفة والفهم :

#### 2. a. Knowledge and Understanding

*By the end of the program the candidate should be able to:*

- 2. a. 1 Mention the recent advances in the normal structure and function of the musculoskeletal system on the macro and micro levels.*
- 2. a. 2 Discuss recent advances in the normal growth and development of the musculoskeletal system.*
- 2.a.3 Know the recent advances in the abnormal structure, function, growth and development of musculoskeletal system.*
- 2.a.4 recognize recent advances in the natural history of orthopedic diseases.*
- 2. a.5 Discuss recent advances in the causation of orthopedic diseases and problems.*
- 2.a.6 point out recent advances in the techniques of different orthopedic operations and fixation of fractures.*
- 2.a.7 highlight the clinical picture and differential diagnosis of orthopedic diseases and deformities.*



*2. a.8 discuss recent advances in the common diagnostic radiological and laboratory techniques necessary to establish diagnosis of orthopedic and traumatology problems.*

*2.a.9 Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases & traumatology.*

*2. a.10 illustrate recent advances in the mechanism of action, advantages, disadvantages, side effects and complications of arthroscopic surgery.*

*2.a.11 explain the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology and research.*

*2.a.12 recognize the principles and fundamentals of quality assurance of professional practice in the field of orthopedic surgery & traumatology*

*2.a.13 know recent advances in biomechanics of orthopedic diseases and problems.*

**٢. ب - القدرات الذهنية :**

### **2.b. Intellectual Skills:-**

*By the end of the program the candidate should be able to:*

*2.b.1 Interpret data acquired through history taking to reach a provisional diagnosis for orthopedic surgical problems.*

*2.b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic surgical problems through helpful topics*

*2.b.3 Conduct research studies, that adds to knowledge.*



***2.b.4 Formulate scientific papers in the area of orthopedic surgery & traumatology.***

***2.b.5 Assess risk in professional practices in the field of orthopedic surgery & traumatology and ability to demonstrate human anatomy and assess helpful knowledge from programs topics.***

***2.b.6 Plan to improve performance in the field of orthopedic surgery.***

***2.b.7 innovate nontraditional solutions to for orthopedic surgical & traumatology problems.***

***2.b.8 Mange Scientific discussion based on scientific evidences and proofs.***

***2.b.9 Criticize researches related to for orthopedic surgery.***

**٢. ج . مهارات مهنية وعملية :**

**2.c. Practical & Clinical Skills:-**

***By the end of the program the student should be able to:***

***2.c.1 collects the basic and modern professional skills in the area of orthopedic surgery.***

***2.c.2 Write and evaluate medical reports.***

***2.c.3 Evaluate and develop methods and tools existing in the area of orthopedic surgery.***

***2.c.4 use technological methods to serve the professional practice.***

***2.c.5. Plan for the development of professional practice and development of the performance of others.***



**2.c.6. Train to develop new methods, tools and ways of professional practice in pathology , anatomy , orthopedics.**

**٢.د . مهارات عامة :**

**2.d. General and transferable skills:-**

***By the end of the program the student should be able to:***

***2.d.1 presents reports in seminars effectively.***

***2.d.2 Use the information technology to serve the development of professional practice***

***2.d.3 teach others and evaluating their performance.***

***2.d.4 assess himself and identify his personal learning needs.***

***2.d.5 use different sources for information and knowledge.***

***2.d.6 Work coherently and successfully as apart of a team and team's leadership.***

***2.d.7 manage scientific meetings administration according to the available time***

**٣ - المعايير الأكاديمية ::**

**a) Academic Standards of Doctorate Program of Orthopaedic surgery department , approved in department council no (261) date 5 / 9/ 2013, and in faculty council no. ( 354 ) date 16 / 6 / 2013.**

**(ملحق ا)**

**b.Reference standards (benchmarks)**

**العلامات المرجعية:**



المعايير القياسية لبرامج الدراسات العليا (درجة الدكتوراة) الصادرة عن الهيئة القومية لجودة التعليم والإعتماد (مارس ٢٠٠٩)

Academic reference standards (ARS), MD Program (March 2009), which were issued by the National Authority for Quality Assurance & Accreditation of Education NAQAAE (ملحق ٢)

#### (5): Program structure and contents

#### 5 - هيكل ومكونات البرنامج :

- a) **Program duration:** 5 semesters (2.5 years)
- **1<sup>st</sup> part:** - One Semester (6 months).
  - **2<sup>nd</sup> part:** - Three Semesters (1.5 years).
  - **Thesis:** - Two years from the beginning of the 2<sup>nd</sup> part.

#### b) Program structure:

- **Total hours of program** ٦٠ credit hours
- **Theoretical:** 20 credit hours
- **Practical:** 10 credit hours
- **Thesis:** 15 credit hours
- **Logbook:** 15 credit hours

الساعات المعتمدة	الكود	المقررات	البند
٦ ساعات		قسم العظام والتشريح و الفسولوجى و الباثولوجى.	القسم الأول فصل دراسي واحد في العلوم الطبية الأساسية يقوم بالتدريس مجموعة من الأساتذة.
٢ ساعة	ORTH 701	Applied Clinical Anatomy	تشريح إكلينيكي تطبيقي
١ ساعة	ORTH 702	Biomechanics	ميكانيكا حيوية



١ ساعة	ORTH 703	Clinical physiology	فسيولوجيا حيوية	القسم الثاني
٢ ساعة	ORTH 704	Sur. Pathology	باطولوجيا جراحية	
٢٤ ساعة			يشمل التدريب النظري والإكلينيكي والعملي في جزئي أمراض العظام والإصابات الآتي:	
٨ ساعة	ORTH 705	orthopedics	محاضرة أسبوعياً أمراض العظام والمفاصل.	
٨ ساعة	ORTH 706	traumatology	محاضرة أسبوعياً لإصابات العظام والمفاصل.	
٣ ساعة	ORTH 707	Clinical round attendance	حضور المرور العام بالقسم أسبوعياً.	
٣ ساعة	ORTH 708	Operative Theater attendance	حضور لستة عمليات أسبوعياً.	
٢ ساعة	ORTH 709	Emergency Room attendance	حضور قسم لطوارئ مرة أسبوعياً.	

١٥ ساعة		Log book	تشمل حضور:	كراسة الأنشطة
---------	--	----------	------------	---------------





٨/١		Clinical conference	ندوة إكلينيكية أسبوعية بالقسم	
1/4		Clinical symposium	ندوة شهرية بالقسم	
1/4			مناقشة ٢ رسالة ماجستير في كل فصل دراسي	
٨/١			مناقشة ١ رسالة دكتوراه كل فصل دراسي	
1/2			دورة تدريبية مناظير المفاصل التشخيصية والعلاجية	
1/2			دورة تدريبية للمفاصل الصناعية	
1/4			مؤتمر جراحة العظام السنوي	
١٥ ساعة				الرسالة
٦٠ ساعة				الإجمالي

ج: خطة التدريس: Teaching plan



## First part (one semester/6months)

a- Compulsory courses:

Course Code	Course Title	NO. of hours per week			Total teaching hours/ 15 wks
		Theoretical	practical	Total/W	
OPTH 701	Clinical Applied Anatomy	1	3	4	60 hours
ORTH 702	Biomechanics	1		1	15 hours
ORTH 703	Clinical physiology	1		1	15 hours
ORTH 704	Sur. Pathology	1	3	4	60 hours
<b>Total.</b>					<b>150 hours</b>

b- Elective courses: none

## Second part ( 3 semesters/18 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours/ 45 weeks
		Lectures	practical	Clinical	
Orthopedic	ORTH 705	8			360 ساعة



Traumatology	ORTH 706	8	360 ساعة
Clinical round	ORTH 707	9	405 ساعة
Operative theater	ORTH 708	9	405 ساعة
Emergency room	ORTH 709	6	270 ساعة
total			1800
Thesis			

b- Elective courses: none

## 5 - متطلبات الإلتحاق بالبرنامج :

### (6): Program admission requirements:

درجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية :-

مادة ( ٢٣ ) : يشترط لقيده الطالب لدرجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية أن يكون حاصلًا على درجة الماجستير فى مادة التخصص بتقدير جيد على الأقل من إحدى جامعات ج . م . ع أو على درجة معادلة لها من معهد علمي آخر معترف به من الجامعة .

### ☒ مدة الدراسة لنيل الدكتوراه سنتان ونصف موزعة كما لآتى :

- جزء أول : علوم أساسية • فصل دراسي لمدة ستة شهور ( ٦ ساعات معتمدة ) ومن يرسب يعيد مادة الرسوب فقط .
- الجزء الثاني : ثلاث فصول دراسية لمدة سنة ونصف ( ٣٩ ) ساعة معتمدة يستوفى خلالها الطالب الساعات المعتمدة ثم يسمح له بالتقدم لامتحان التحريرى



وإذا اجتاز الامتحان التحريري بنجاح يحق له التقدم الى الامتحان الشفهي والعملى والإكلينيكي خلال شهر من تاريخ الامتحان التحريري •

• رسالة ( ١٥ ساعة معتمدة )

تبدأ الدراسة عند بداية التسجيل تنتهى بامتحان شامل فى نهاية كل أربع فصول دراسية بعد اجتياز الطالب امتحانات الجزء الأول بنجاح يسمح له بتسجيل رسالة لمدة أربعة فصول دراسية تبدأ عند بداية الفصل الدراسى الثانى وتناقش بعد مرور عامين على الأقل من تاريخ تسجيل الرسالة على أن تكون المناقشة بعد ستة اشهر على الأقل مع اجتياز الامتحان التحريري والإكلينيكية والشفهي ( الامتحان الشامل ) •

• يمنح الطالب الدرجة بعد مناقشة الرسالة واجتياز الامتحان الشامل

• يكون التقدم للقيـد لدرجة الدكتوراه مرتين فى السنة خلال شهرى مارس وأكتوبر من كل عام •

## 6 - القواعد المنظمة لإستكمال البرنامج :

مادة ( ٢٤ ) : يشترط فى الطالب لنيل درجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية ما يلى :

- حضور المقررات الدراسية بصفة مرضية طبقا للساعات المعتمدة •
- أن يقوم ببحث فى موضوع تقره الجامعة بعد موافقة مجلس الكلية والقسم لمدة سنتان على الأقل •
- أن يتقدم بنتائج البحث فى رسالة تقبلها لجنة الحكم بعد مناقشة علنية للرسالة •
- اجتياز الطالب ثلاث دورات فى الحاسب الآلى ( دورة فى مقدمة الحاسب الآلى – دورة تدريبية " متوسطة " – دورة فى تطبيقات الحاسب الآلى ) • وذلك قبل مناقشة الرسالة •
- اجتياز الطالب اختبار التوفيل بمستوى لا يقل عن ٥٠٠ وحدة وذلك قبل مناقشة الرسالة •



- أن يجتاز بنجاح الاختبارات التحريرية والإكلينيكية والشفهية المقررة وفقا لما هو مبين باللائحة .

مادة ( ٢٥ ) : على الطالب أن يقيد اسمه للامتحان قبل موعده بشهر على الأقل .

مادة ( ٢٦ ) : يشترط لنجاح الطالب في امتحان الدكتوراه الحصول على الحد الأدنى للنجاح في جميع الاختبارات المقررة وفي كل جزء من أجزاءها على حدة ذلك بأخذ المتوسط لتقديرات أعضاء اللجنة اذا رسب الطالب في أى مقرر من المقررات بعد الامتحان في جميع المقررات .

مادة ( ٢٧ ) : يعقد الامتحان التحريري لدرجة الدكتوراه في شهرى نوفمبر ومايو من كل عام - لمن

يجتاز الامتحان التحريري في نفس الدور يتقدم الامتحان الشفهي والاكلينيكى والعملى

مادة ( ٢٨ ) : لا يجوز للطالب أن يبقى مقيدا لدرجة الدكتوراه لأكثر من أربع سنوات دون أن يتقدم

لمناقشة الرسالة ويجوز لمجلس الكلية أن يعطى الطالب مهلة لمدة سنتين في حالة قبول العذر .

مادة ( ٢٩ ) : تضاف درجات التحريرى ووصف الحالة لبعضها ويعتبر النجاح والرسوب فى المجموع

الكلى للتحريرى ( ٦٠% على الاقل من الدرجة النهائية للتحريرى ) ومن ينجح فى الامتحان

التحريرى يصرح له بدخول باقى الامتحانات الإكلينيكية والشفوية والعملية وعدد الرسوب يعيد

الطالب الامتحان الشفوى والاكلينيكى .

لا يحق للطالب التقدم للامتحان التحريري أكثر من أربع مرات .

مادة ( ٣٠ ) : تبين فى شهادة الدكتوراة موضوع الرسالة والمادة أو المواد الاختيارية .

مادة ( ٣١ ) : تبين الجداول فى الباب الخامس المقررات الدراسية التى تدرس لنيل درجة الدكتوراه

طبقا للساعات المعتمدة الاختبارات التحريرية والإكلينيكية والشفوية

## 7- طرق وقواعد تقييم الملتحقين بالبرنامج :



## 7- Students Assessment Methods:

م	الوسيلة	مخرجات التعلم المستهدفة
1	Written examination	To assess knowledge & intellectual skills. 2.a.1.....2.a.13., 2.b.1.....2.b.9.
2	Oral examination	To assess knowledge, intellectual skills & General & transferable skills 2.a.1.....2.a.13., 2.b.1.....2.b.9. 2.d.1.....2d7
3	Practical examination	To assess practical & clinical skills 2.c.1.....2.c.6
٤	Thesis Discussion	To assess: Knowledge & understanding: 2.a.1, 2.a.2, 2.a.5 Intellectual skills: 2.b.1, 2.b.3, 2.b.4, 2.b.9, 2.b.10 Practical & clinical skills: 2.c.3, 2.c.4, 2.c.7 General & transferable skills: 2.d.1, 2.d.2, 2.d.5, 2.d.6, 2.d.7

## Final exa

### First part

إجمالي	الدرجة				الاختبار	المقرر
	إجمالي	عملي	نقسي	تحريري		
100			30	70	اختبار تحريري مدته ثلاث ساعات + اختبار نقسي	الشرح
50			20	30	اختبار تحريري مدته ثلاث ساعات + اختبار نقسي	الفسيولوجي
50			20	30	اختبار تحريري مدته ثلاث ساعات + اختبار نقسي	الباثولوجي الجراحي
100			30	70	اختبار تحريري مدته ثلاث ساعات + اختبار نقسي	الميكانيكا الحيوية
300	إجمالي الدرجة					



## Second part

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	نظري	تحريري		
٦٠٠		١٥٠	١٥٠	١٥٠	اختبار تحريري مدته ثلاث ساعات + نظري و اكلينيكي	امراض العظام
				١٥٠	اختبار تحريري مدته ثلاث ساعات + نظري و اكلينيكي	الاصابة
١٠٠				١٠٠	اختباران تحريري مدته ساعة و نصف	وصف حالة
٧٠٠	إجمالي الدرجة					

## 8- طرق تقويم البرنامج :

### 8- Evaluation of program :

Evaluator	Tools	sample
Internal evaluator (s) مقيّم داخلي	Focus group discussion Meetings	<u>report</u>
External Evaluator (s) مقيّم خارجي	Reviewing according to external evaluator checklist report.	<u>report</u>
Senior student (s) طلاب السنة النهائية	<u>questionnaires</u>	<u>50%</u>
Alumni الخريجون	<u>questionnaires</u>	<u>50%</u>
Stakeholder (s) أصحاب العمل	<u>questionnaires</u>	<u>All sectors</u>
Others طرق أخرى	none	



**: استراتيجيات التعليم و التعلم علي مستوي البرنامج:**

1. استراتيجية التعلم النشط. **Active learning**
2. استراتيجية التعليم المبني على المخرجات. **Outcome-based learning**
3. استراتيجية التعليم المبني على حل المشكلات. **Problem-based learning**

### **الملحقات :**

- ملحق ١: **Academic standard of the program**
- ملحق ٢: المعايير القياسية العامة لبرامج قطاع الدراسات العليا الصادرة من الهيئة.
- ملحق ٣: **Benchmarks** (المعايير المرجعية الخارجية)
- ملحق ٤: مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير العامة، والمعايير المرجعية الخارجية
- ملحق ٥: توصيف المقررات التابعة للبرنامج.
- ملحق ٦: **Program–Courses ILOs Matrix**

We certify that all information required to deliver this program is contained in the above specification and will be implemented. All course specification for this program are in place.

**Program coordinator:**

Name: Prof. Osama Hegazy

Signature & date:

**Head of department:**

Name:

Signature & date:



## ملحق 1 :المعايير الأكاديمية لقسم جراحة العظام/كلية طب بنها

### برامج الدكتوراة

#### ١- مواصفات الخريج :

- خريج برنامج الدكتوراة فى اى تخصص يجب ان يكون قادرا على
- ١-١ اتقان اساسيات ومنهجيات البحث العلمى فى مجال جراحة العظام و مواكبة التطور السريع فى هذا المجال.
  - ٢-١ العمل المستمر على التطوير الذاتى و تحديث للمعارف فى مجال جراحة العظام.
  - ٣-١ القدرة على تشخيص جميع انواع امراض العظام و التحليل لدقيق لمعرفة تشخيص المرض.
  - ٤-١ الربط بين مواد التشريح و الباثولوجى و الفسيولوجى مع جراحة العظام .
  - ٥-١ متابعة و معرفة الأبحاث العلمية الحديثة و المشاكل المواجهة لجراحة العظام.
  - ٦-١ القدرة على مواجهة المشاكل الجراحية و سرعة اتخاذ القرار المناسب لحلها.
  - ٧-١ اتقان نطاقا واسعا من المهارات الجراحية و العمليات المتنوعة فى مجال جراحة العظام.
  - ٨-١ مواكبة التطور فى جراحة العظام و القدرة على ابتكار اساليب جراحية حديثة.
  - ٩-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم جراحات العظام.
  - ١٠-١ التواصل بفاعلية وقيادة فريق عمل فى قسم الطوارئ ، غرفة العمليات.
  - ١١-١ اتخاذ القرار فى ضل المعلومات المتاحة عن الحالة المرضية.
  - ١٢-١ توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على ايجاد موارد جديدة
  - ١٣-١ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة و معرفة مشاكل المجتمع المحيط و العمل على ايجاد حلول لها.
  - ١٤-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة
  - ١٥-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للآخرين

#### ٢- المعايير القياسية

##### ١-٢ المعرفة والفهم

- بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراسة بكل من
- ١-١-٢ النظريات والاساسيات والحديث من المعارف فى جراحة العظام والمجالات ذات العلاقة ( كالتشريح ، الباثولوجى )
  - ٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى وادواته المختلفة
  - ٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية فى جراحة العظام .

- ٤-١-٢ مبادئ واساسيات العمليات الجراحية فى مجال جراحة العظام  
٥-١-٢ معرفة اضرار العمليات الجراحية الخاطئة على المرضى و مدى تأثيرها على حياتهم .  
٦-١-٢ اساسيات علم التشريح و الباثولوجى و الفسيولوجى المتعلقة بجراحة العظام.  
٧-١-٢ علم الميكانيكا الحيوية بجسم الانسان و مدى تأثيرها على اتخاذ القرارات العلاجية  
٨-١-٢ الوسائل العلاجية المتاحة لأمراض العظام.

### ٢-٢ المهارات الذهنية

- بانتهاج دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على  
١-٢-٢ تقييم المعلومات المتاحة عن المريض و استنباط العلاج المناسب للحالة المرضية  
٢-٢-٢ مواجهة أى مشاكل طارئة تحدث اثناء علاج المرضى بالطوارئ و العمليات.  
٣-٢-٢ اجراء ابحاث علمية تفيد المجتمع و تستطيع حل مشاكله بصورة غير مكلفة  
٤-٢-٢ كتابة رسائل علمية و ابحاث علمية.  
٥-٢-٢ تقييم مخاطر العمليات الجراحية الغير مناسبة للحالة المرضية  
٦-٢-٢ التخطيط لتطوير ادائه فالعمليات الجراحية.  
٧-٢-٢ اتخاذ القرارات فالعمليات الجراحية الطارئة بصورة تساعد على نجاح العملية.  
٨-٢-٢ ابتكار اساليب حديثة و متنوعة فالعمليات الجراحية.  
٩-٢-٢ الحوار و النقاش بشكل مهذب و بصورة علمية ترجح وجهة نظره العلمية.

### ٣-٢ المهارات المهنية

- بانتهاج دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على  
١-٣-٢ اتقان جميع انواع رد الكسور و التعامل مع حالات الطوارئ  
٢-٣-٢ كتابة و تقييم الروشتات العلاجية و معرفة المفيد و الضار منها للمريض  
٣-٣-٢ اجراء العمليات الجراحية بمهارة و استخدام الأجهزة الحديثة و تطوير اساليب حديثة لعمليات تفيد المرضى.  
٤-٣-٢ استخدام اجهزة المنظار الجراحى و احدث اجهزة متاحة لتغيير المفاصل.  
٥-٣-٢ التخطيط لتطوير منهج جراحة العظام و مساعدة صغار الأطباء على الفهم و توعيتهم.

### ٤-٢ المهارات العامة والمنتقلة

- بانتهاج دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على  
١-٤-٢ التواصل مع اعضاء الفريق الطبى بصورة تخدم المريض و تحسن من الأداء العلاجى.  
٢-٤-٢ استخدام اجهزة الكمبيوتر بالعمليات الجراحية.

- ٣-٤-٢ تعليم صغار الأطباء و تقييم مدى تطورهم العلمى و مدى استيعابهم.
- ٤-٤-٢ التقييم الذاتى والتعليم المستمر و تطوير الأداء العلمى للجراحات.
- ٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف من ابحاث و رسائل علمية و الانترنت.
- ٦-٤-٢ العمل مع فريق طبي متكامل و القدرة على قيادة فريق طبي اثناء الطوارئ و العمليات الجراحية بكفاءة.
- ٧-٤-٢ القاء محاضرات و ندوات علمية باقتدار و عرض ابحاث علمية بصورة مشوقة.

## ملحق ٢: المعايير القياسية العامة

### برامج الدكتوراة

#### ٣- مواصفات الخريج :

- خريج برنامج الدكتوراة في اي تخصص يجب ان يكون قادرا على
- ١٦-١ اتقان اساسيات ومنهجيات البحث العلمي
  - ١٧-١ العمل المستمر على الاضافة للمعارف في مجال التخصص
  - ١٨-١ تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة
  - ١٩-١ دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها
  - ٢٠-١ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة في مجال التخصص
  - ٢١-١ تحديد المشكلات المهنية وايجاد حلولاً مبتكرة لحلها
  - ٢٢-١ اتقان نطاقا واسعا من المهارات المهنية في مجال التخصص
  - ٢٣-١ التوجه نحو تطوير طرق وادوات واساليب جديدة للمزاولة المهنية
  - ٢٤-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسة المهنة
  - ٢٥-١ التواصل بفاعلية وقيادة فريق عمل في سياقات مهنية مختلفة
  - ٢٦-١ اتخاذ القرار في ضل المعلومات المتاحة
  - ٢٧-١ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة
  - ٢٨-١ الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
  - ٢٩-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة
  - ٣٠-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للآخرين

#### ٤- المعايير القياسية

##### ١-٢ المعرفة والفهم

- بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراسة بكل من
- ١-١-٢ النظريات والاساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
  - ٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمي وادواته المختلفة
  - ٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص

٢-١-٤ مبادئ واساسيات الجودة فى الممارسة فى مجال التخصص  
٢-١-٥ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها

#### ٢-٢ المهارات الذهنية

بانتهاى دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على  
٢-٢-١ تحليل وتقييم المعلومات فى مجال التخصص والقياس عليها والاستنباط منها  
٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة  
٢-٢-٣ اجراء دراسات بحثية تضيف الى المعارف  
٢-٢-٤ صياغة أوراق علمية  
٢-٢-٥ تقييم المخاطر فى الممارسات المهنية  
٢-٢-٦ التخطيط لتطوير الاداء فى مجال التخصص  
٢-٢-٧ اتخاذ القرارات المهنية فى سياقات مهنية مختلفة  
٢-٢-٨ الابتكار/الابداع  
٢-٢-٩ الحوار والنقاش المبني على البراهين والادلة

#### ٣-٢ المهارات المهنية

بانتهاى دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على  
٣-٢-١ اتقان المهارات المهنية الاساسية والحديثة فى مجال التخصص  
٣-٢-٢ كتابة وتقييم التقارير المهنية  
٣-٢-٣ تقييم وتطوير الطرق والادوات القائمة فى مجال التخصص  
٣-٢-٤ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية  
٣-٢-٥ التخطيط لتطوير الممارسة المهنية وتنمية اداء الاخرين

#### ٤-٢ المهارات العامة والمنتقلة

بانتهاى دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على  
٤-٢-١ التواصل الفعال بأنواعه المختلفة  
٤-٢-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية  
٤-٢-٣ تعليم الاخرين وتقييم ادائهم  
٤-٢-٤ التقييم الذاتى والتعليم المستمر  
٤-٢-٥ استخدام المصادر المختلفة للحصول على المعلومات والمعارف

٢-٤-٦ العمل فى فريق وقيادة فرق العمل  
٢-٤-٧ ادارة اللقاءات العلمية والقدرة على ادارة الوقت



## Objectives of Training in the specialty of Orthopedic Surgery

**2008**

**VERSION 1.1**

*This document applies to those who begin training on or after July 1<sup>st</sup>, 2008.  
(Please see also the "Policies and Procedures.")*

**DEFINITION**

In translation from its Greek root the term orthopedic means "straight child." The responsibility of the Orthopedic Surgeon is to maintain and restore proper function of the musculoskeletal system, not only in children but also in patients of all ages.

**GOALS**

Upon completion of training, a resident is expected to be a competent specialist in Orthopedic Surgery capable of assuming a consultant's role in the specialty. The resident must acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research. The resident must also demonstrate a satisfactory knowledge of the principles common to all surgical practice. Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, age, culture, ethnicity and ethics in a professional manner.

**ORTHOPEDIC SURGERY COMPETENCIES**

At the completion of training, the resident will have acquired the following competencies and will function effectively as a:

**Medical Expert**

**Definition:**

*As Medical Experts, Orthopedic Surgeons integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patientcentered care. Medical Expert is the central physician Role in the CanMEDS framework.*

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 2 of 23

**Key and Enabling Competencies: Orthopedic Surgeons are able to...**

**1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical and surgical care**

- 1.1. Perform consultation effectively, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
- 1.2. Demonstrate effective use of all CanMEDS competencies relevant to Orthopedic Surgery
- 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care
- 1.4. Demonstrate ability to effectively and appropriately prioritize professional duties when faced with multiple patients and problems
- 1.5. Demonstrate compassionate and patient-centered care
- 1.6. Recognize and respond to the ethical dimensions in medical decision-making
- 1.7. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

**2. Establish and maintain clinical knowledge, skills and attitudes appropriate to Orthopedic Surgery**

- 2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Orthopedic Surgery
  - 2.1.1. Musculoskeletal Oncology  
The resident will be able to describe:
    - 2.1.1.1. Tumour classes and their behaviour:
      - 2.1.1.1.1. Primary lesions
        - 2.1.1.1.1.1. Benign
          - 2.1.1.1.1.1.1. Latent
          - 2.1.1.1.1.1.2. Active
          - 2.1.1.1.1.1.3. Aggressive
        - 2.1.1.1.1.2. Malignant
          - 2.1.1.1.1.2. Metastatic lesions
      - 2.1.1.1.2. Presentation, medical imaging characteristics and natural history of the most common primary bone tumour types:
        - 2.1.1.2.1. Chondroid lesions
        - 2.1.1.2.2. Osteoid lesions

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 3 of 23



2.1.1.2.3. Fibrous lesions

2.1.1.2.4. Others, including but not limited to, unicameral bone cyst, hemangioma, histiocytosis, lipoma, eosinophilic granuloma, giant cell tumour, aneurysmal bone cyst, ewings sarcoma, adamantinoma, chordoma, hemangiopericytoma, osteoid osteoma, osteoblastoma

2.1.1.3. Presentation, radiologic medical imaging characteristics and natural history of different primary soft tissue tumour types:

2.1.1.3.1. Fibrous lesions

2.1.1.3.2. Lipoid lesions

2.1.1.3.3. Muscle lesions

2.1.1.3.4. Vascular lesions

2.1.1.3.5. Nerve lesions

2.1.1.3.6. Others, including but not restricted to, myxoma, fibrosarcoma, malignant fibrous histiocytoma, pigmented villonodular synovitis, giant cell tumour of tendon sheath, myositis ossificans, tumoral calcinosis

2.1.2. Sports Medicine

The resident will be able to:

2.1.2.1. Explain the anatomy and pathophysiology of acute and chronic Soft Tissue Injury:

2.1.2.1.1. Rotator cuff and elbow tendinopathy

2.1.2.1.2. Low back pain

2.1.2.1.3. Groin injury (tendinopathy)

2.1.2.1.4. Joint instability

2.1.2.1.5. Meniscal injuries of the knee

2.1.2.1.6. Patellofemoral disorders

2.1.2.1.7. Ankle sprain

2.1.2.1.8. Achilles tendon

2.1.3. Community Orthopedics

The resident will be able to:

2.1.3.1. Discuss the spectrum and limitations of practice in a community setting based on resources and geography

2.1.3.2. Explain the structure of health care in a community setting including access to tertiary care, stabilization and investigation of patients for transfer

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

#### 2.1.4. Hip and Knee

The resident will be able to:

- 2.1.4.1. Advise patients regarding the non-operative management of hip and knee arthritis; including indications, complications and effectiveness of such treatment
- 2.1.4.2. Summarize the indications, results and complications of surgery for hip and knee arthritis with respect to age, gender and activity level
- 2.1.4.3. Describe the principles of hip and knee reconstructive surgery for arthritis including osteotomy, arthrodesis and joint replacement
- 2.1.4.4. Explain the recovery and rehabilitation following hip and knee replacement
- 2.1.4.5. Discuss the unique medical problems of the geriatric population
- 2.1.4.6. Demonstrate detailed knowledge of the following areas:
  - 2.1.4.6.1. Complicated primary joint arthroplasty (e.g. dysplastic hip, valgus knee)
  - 2.1.4.6.2. Revision hip and knee replacement surgery
  - 2.1.4.6.3. Selection of appropriate implants
  - 2.1.4.6.4. The factors affecting implant survival and function, including design, biomaterials, fixation and wear properties
- 2.1.4.7. Describe the details of hip and knee reconstructive surgery for arthritis including osteotomy, arthrodesis and joint replacement

#### 2.1.5. Trauma

The resident will be able to:

- 2.1.5.1. Prioritize injuries in patients with poly trauma
- 2.1.5.2. Discuss the significance of pelvic fractures
- 2.1.5.3. Explain the concepts of "damage control orthopedics" vs. "early total care"
- 2.1.5.4. Recognize and describe the principles of the management of:
  - 2.1.5.4.1. Isolated limb trauma
  - 2.1.5.4.2. Fractures, dislocations and fracture dislocation with appropriate splinting
  - 2.1.5.4.3. Open fractures
  - 2.1.5.4.4. Intraarticular fracture management
  - 2.1.5.4.5. Associated soft tissue injury
  - 2.1.5.4.6. Compartment syndrome
  - 2.1.5.4.7. Dysvascular limb

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 5 of 23

2.1.5.4.8. Acute infection

2.1.5.4.9. Malunion, nonunion, late infection

2.1.5.4.10. Segmental bone loss

2.1.5.4.11. Geriatric fractures

2.1.5.5. Describe the following associated conditions:

2.1.5.5.1. Adult respiratory distress syndrome

2.1.5.5.2. DVT

2.1.5.5.3. Fat and pulmonary embolism

2.1.5.5.4. Multiple organ system failure

2.1.5.5.5. Chronic regional pain syndrome

2.1.5.5.6. Non-accidental trauma

2.1.5.5.7. Pathologic fractures

2.1.5.6. Integrate detailed information as demonstrated by an ability to formulate a comprehensive treatment plan for the trauma patient

2.1.6. Pediatric Orthopedics

The resident will be able to:

2.1.6.1. Describe normal musculoskeletal anatomy, growth, and development in the child including common angular and torsional variants

2.1.6.2. Describe the anatomy and pathologic basis of the disorders leading to a limp in a child

2.1.6.3. Explain the mechanisms, patterns, assessment, management, and potential complications related to simple and complex pediatric fractures and dislocations

2.1.6.4. Explain the mechanisms, patterns, assessment, management, and potential complications related to osteomyelitis and septic arthritis

2.1.6.5. Discuss the anatomy, pathology, assessment, and management of complex hip disorders

2.1.6.6. Assess and manage simple fractures, including appropriate analgesia/anesthesia techniques

2.1.6.7. Assess and manage complex pediatric fractures including:

2.1.6.7.1. Physeal injuries

2.1.6.7.2. Compound fractures

2.1.6.7.3. Multiple fractures in trauma

2.1.6.7.4. Compartment syndrome, and neurovascular compromise

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

### 2.1.7. Adult Spine

The resident will be able to:

- 2.1.7.1. Recognize the significance of injury in high-risk spinal conditions such as osteoporosis, inflammatory arthritis, DISH and ankylosing spondylitis
- 2.1.7.2. Develop an effective differential diagnosis based on information gathered on history and physical examination
- 2.1.7.3. Discuss the indications for spine surgery relative to the affecting pathophysiology
- 2.1.7.4. Explain the risks, complications and expected outcomes of common spine procedures
- 2.1.7.5. Summarize the contemporary spine literature
- 2.1.7.6. Describe anterior and posterior surgical approaches to the cervical, thoracic and lumbar spine
- 2.1.7.7. Discuss the basic principles of spine arthrodesis including an understanding of the role of spinal instrumentation and stabilization
- 2.1.7.8. Recognize emergency conditions (specifically acute cauda equina syndrome, acute neurological deterioration, acute traumatic spinal cord injury) with accurate prioritization
- 2.1.7.9. Formulate an appropriate pre-operative plan for patients scheduled for surgery

### 2.1.8. Upper Limb

The resident will be able to recognize and describe:

- 2.1.8.1. Upper limb fractures and dislocations
- 2.1.8.2. Degenerative, overuse and traumatic tendon injuries
- 2.1.8.3. Principles and indications for joint reconstruction of the upper limb
- 2.1.8.4. Peripheral nerve injuries, entrapments, and chronic regional pain syndromes
- 2.1.8.5. Infections including those specific to the hand
- 2.1.8.6. Compartment syndromes
- 2.1.8.7. Common vascular, inflammatory and congenital conditions
- 2.1.8.8. Benign neoplasms, including ganglions, and malignant neoplasms
- 2.1.8.9. Principles and indications for arthroscopy in the shoulder, elbow and wrist
- 2.1.8.10. Complex periarticular fractures and fracture-dislocations
- 2.1.8.11. DRUJ and carpal instabilities

- 2.1.8.12. Brachial plexus and tendon transfers
  - 2.1.8.13. Joint contractures including Dupuytren's
- OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 7 of 23

The resident will be able to discuss:

- 2.1.8.14. Indications for arthroscopy in the shoulder, elbow and wrist
- 2.1.8.15. Principles of amputations and arthrodesis
- 2.1.8.16. Unique principles of treatment of skeletal metastases

#### 2.1.9. Foot and Ankle

The resident will be able to:

- 2.1.9.1. Explain normal and abnormal gait
  - 2.1.9.2. Identify the presence of ulcers, and feet at high risk for ulceration
  - 2.1.9.3. Describe the non-operative management of common foot and ankle pathology
  - 2.1.9.4. Assess and provide a differential diagnosis for, and management plan for common foot and ankle pathologies
- 2.2. Describe the CanMEDS framework of competencies relevant to Orthopedic Surgery
  - 2.3. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
  - 2.4. Contribute to the enhancement of quality care and patient safety in Orthopedic Surgery, integrating the available best evidence and best practices

### **3. Perform a complete and appropriate assessment of a patient**

- 3.1. Identify and explore issues to be addressed in a patient encounter effectively, including the patient's context and preferences
- 3.2. Elicit a history that is relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and or management
- 3.3. Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis and/or management
  - 3.3.1. Musculoskeletal Oncology
    - 3.3.1.1. The resident will demonstrate the ability to perform a physical examination to assess the following:
      - 3.3.1.2. Size of the tumour and its relationship to fascia
      - 3.3.1.3. Neurovascular and articular involvement
      - 3.3.1.4. Lymphatic involvement
      - 3.3.1.5. Sites of metastatic potential for primary musculoskeletal (MSK) tumours
      - 3.3.1.6. Organs systems likely to metastasize to the MSK system

3.3.1.7. Tumour characteristics including issues specific to age and gender

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 8 of 23

3.3.2. Sports Medicine

3.3.2.1. The resident will demonstrate the ability to assess:

3.3.2.2. Articular cartilage injury

3.3.2.3. Complex/revision knee ligaments

3.3.2.4. Lower extremity malalignment

3.3.2.5. Multidirectional shoulder instability

3.3.2.6. Failed shoulder reconstruction

3.3.2.7. Chronic instability of the elbow

3.3.2.8. Chronic ankle instability

3.3.3. Hip and Knee Reconstruction

3.3.3.1. The resident will demonstrate the ability to assess:

3.3.3.2. Painful or failed hip and knee replacements, particularly with respect to infection

3.3.3.3. Complications associated with hip and knee reconstructive surgery

3.3.4. Trauma

The resident will demonstrate the ability to assess:

3.3.4.1. Isolated limb trauma

3.3.4.2. The multiply injured patient (including ATLS)

3.3.4.3. Fractures, dislocations and fracture dislocations

3.3.4.4. Intraarticular fractures

3.3.4.5. Pathological fractures

3.3.4.6. Soft tissue injury

3.3.4.7. Compartment syndrome

3.3.4.8. Dysvascular limb

3.3.4.9. Acute and late bone and soft tissue infection

3.3.4.10. Malunion, nonunion

3.3.4.11. Segmental bone loss

3.3.4.12. Adult respiratory distress syndrome

3.3.4.13. Deep Venous Thrombosis

3.3.4.14. Fat and pulmonary embolism

3.3.4.15. Multiple organ system failure

3.3.4.16. Chronic regional pain syndrome

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 9 of 23

### 3.3.5. Pediatric Orthopedics

The resident will demonstrate the ability to assess:

- 3.3.5.1. Common overuse syndromes
- 3.3.5.2. Non-accidental trauma
- 3.3.5.3. Pathologic fractures
- 3.3.5.4. Pediatric neoplasia
- 3.3.5.5. Medical imaging and other diagnostic tools specific to the pediatric population
- 3.3.5.6. Complex pediatric fractures and dislocations
- 3.3.5.7. Complex hip disorders
- 3.3.5.8. The limping child
- 3.3.5.9. Hips of infants and children including Barlow and Ortolani maneuvers
- 3.3.5.10. Limb length inequalities
- 3.3.5.11. Scoliosis

### 3.3.6. Adult Spine

The resident will demonstrate the ability to perform a specific and complete physical exam for the entire spinal column and associated neurological structures, with an emphasis on the assessment of deformity and dysfunction for the individual patient

- 3.3.6.1. Demonstrate the ability to interpret contemporary spinal imaging

### 3.3.7. Upper Limb

The resident will demonstrate the ability to assess:

- 3.3.7.1. Upper limb fractures and dislocations
- 3.3.7.2. Complex periarticular fractures and fracture-dislocations
- 3.3.7.3. Degenerative, overuse and traumatic tendon injuries
- 3.3.7.4. Peripheral nerve injuries, and entrapments
- 3.3.7.5. Complex regional pain syndromes
- 3.3.7.6. Bone and soft tissue infections including those specific to the hand
- 3.3.7.7. Compartment syndromes
- 3.3.7.8. Common vascular, inflammatory and congenital conditions
- 3.3.7.9. Ganglions and neoplasms
- 3.3.7.10. DRUJ and carpal instabilities
- 3.3.7.11. Brachial plexus injuries and tendon transfers
- 3.3.7.12. Joint contractures including Dupuytren's

### *OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 10 of 23

### 3.3.8. Foot and Ankle

The resident will demonstrate the ability to assess:

3.3.8.1. Deformities of forefoot, midfoot, hindfoot and ankle

3.3.8.2. Normal and abnormal gait

3.3.8.3. Feet at high risk for ulceration, and the presence of ulcers

3.3.8.4. Foot and ankle fractures and dislocations

3.4. Select medically appropriate investigative methods in a resource-effective and ethical manner

3.5. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

**4. Use preventive and therapeutic interventions effectively**

4.1. Implement an effective management plan in collaboration with a patient and their family

4.2. Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to Orthopedic Surgery

4.3. Ensure appropriate informed consent is obtained for therapies

4.4. Ensure patients receive appropriate end-of-life care

**5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**

5.1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Orthopedic Surgery

5.2. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to Orthopedic Surgery

5.2.1. Musculoskeletal Oncology

The resident will be able to perform:

5.2.1.1. Open biopsy of bone and/or soft-tissue lesion

5.2.1.2. Stabilization of metastatic disease

5.2.1.3. Treatment of common benign tumours

5.2.2. Sports Medicine

The resident will be able to perform:

5.2.2.1. Diagnostic and therapeutic joint injections

5.2.2.2. Diagnostic arthroscopy of the knee and shoulder

5.2.2.3. Repair of simple and complex tendon ruptures

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 11 of 23

5.2.2.4. Diagnostic and operative shoulder, knee and ankle arthroscopy

5.2.2.5. Anterior cruciate ligament reconstruction



- 5.2.2.6. Ankle ligament reconstruction
- 5.2.2.7. Patella realignment
- 5.2.2.8. Lower extremity realignment
- 5.2.2.9. Shoulder reconstruction for instability
- 5.2.2.10. Surgical management of rotator cuff pathology
- 5.2.3. Hip and Knee Reconstruction

The resident will be able to:

- 5.2.3.1. Perform arthrotomies and aspirations of the hip and knee
- 5.2.3.2. Manage common post-operative complications in hip and knee reconstruction surgery
- 5.2.3.3. Pre-operatively plan and perform primary and simple revision hip and knee replacements
- 5.2.3.4. Perform osteotomies around the hip and knee

#### 5.2.4. Trauma

The resident will be able to:

- 5.2.4.1. Initially manage fractures and dislocations with appropriate reduction and splinting
- 5.2.4.2. Perform technical skills involved in ATLS protocol as outlined in the most current ATLS manual
- 5.2.4.3. Manage compartment syndrome
- 5.2.4.4. Manage acute infection
- 5.2.4.5. Perform techniques of fracture fixation and soft tissue management including open fractures
- 5.2.4.6. Perform intramedullary nailing of long bone fractures
- 5.2.4.7. Perform open reduction and internal fixation of diaphyseal, metaphyseal and articular fractures and dislocations
- 5.2.4.8. Perform techniques of external fixation for certain injuries, including intra-articular fractures with poor or compromised soft-tissues (knee and ankle joints), pelvic fractures, distal radius fractures, knee dislocations
- 5.2.4.9. Plan and surgically manage malunion, nonunion and chronic infection of bones

#### *OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 12 of 23

#### 5.2.5. Pediatric Orthopedics

The resident will be able to:

- 5.2.5.1. Perform percutaneous pinning of fractures

- 5.2.5.2. Apply skin and skeletal traction
- 5.2.5.3. Apply a Pavlik harness
- 5.2.5.4. Biopsy for suspected pediatric neoplasia
- 5.2.5.5. Apply pediatric casts, including a hip spica cast
- 5.2.5.6. Develop a non operative treatment of children's clubfoot
- 5.2.5.7. Operatively manage:
  - 5.2.5.7.1. Septic arthritis including arthrogram and arthrotomy
  - 5.2.5.7.2. Osteomyelitis
  - 5.2.5.7.3. Slipped capital femoral epiphysis
- 5.2.5.8. Manage simple and complex pediatric fractures including:
  - 5.2.5.8.1. Physeal injuries
  - 5.2.5.8.2. Compound fractures
  - 5.2.5.8.3. Multiple trauma
  - 5.2.5.8.4. Compartment syndrome, and neurovascular compromise

#### 5.2.6. Adult Spine

The resident will be able to demonstrate proficiency in:

- 5.2.6.1. Patient positioning, prepping, and draping for anterior and posterior spine surgery
- 5.2.6.2. Application of external fixation devices (tongs, halos)
- 5.2.6.3. Bone graft harvesting techniques
- 5.2.6.4. Posterior spinal approaches
- 5.2.6.5. Management of common post-operative complications
- 5.2.6.6. Performing a primary lumbar discectomy for relief of radicular symptoms/signs
- 5.2.6.7. Performing a primary cervical, thoracic, lumbar laminectomy either for urgent or elective decompression of central or peripheral neurologic structures
- 5.2.6.8. Performing a primary posterior instrumented lumbar fusion
- 5.2.6.9. Closed reduction techniques

#### *OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 13 of 23

#### 5.2.7. Upper Limb

The resident will be able to demonstrate proficiency in:

- 5.2.7.1. Splinting
- 5.2.7.2. Diagnostic and therapeutic injections of the upper limb
- 5.2.7.3. Closed and open reduction techniques for common upper limb fractures and dislocations

5.2.7.4. Management of intra-articular and periprosthetic fractures of the upper limb

5.2.7.5. Management of scaphoid non-union

5.2.7.6. Corrective osteotomy of the distal radius

5.2.7.7. Arthroplasty

5.2.7.7.1. Primary shoulder hemiarthroplasty

5.2.7.7.2. Radial head

5.2.7.7.3. Interpositional arthroplasty – CMC, distal radioulnar joint

5.2.7.8. Removal of an infected prosthesis

5.2.7.9. Arthroscopy of the upper limb

5.2.7.10. Loose body removal

5.2.7.11. Amputations – traumatic and elective

5.2.7.12. Treatment of joint contractures

5.2.7.12.1. Adhesive capsulitis

5.2.7.12.2. Elbow

5.2.7.12.3. Dupuytren's disease

5.2.7.13. Arthrodeses

5.2.7.13.1. Wrist

5.2.7.13.2. Digits

5.2.7.14. Joint stabilization

5.2.7.14.1. Open/Arthroscopic Shoulder Stabilization

5.2.7.14.2. Acromioclavicular Instability – acute and chronic

5.2.7.14.3. Elbow or carpal dissociations

5.2.7.15. Tendon rupture repair and reconstruction

5.2.7.15.1. Rotator cuff

5.2.7.15.2. Distal biceps

5.2.7.15.3. Extensor Pollicis Longus

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 14 of 23

5.2.7.16. Common surgical exposures to the upper limb

5.2.7.17. Surgical management of:

5.2.7.17.1. Compartment syndromes

5.2.7.17.2. Nerve entrapment syndromes

5.2.7.17.3. Ganglions

5.2.7.17.4. Infections

5.2.8. Foot and Ankle

The resident will be able to demonstrate proficiency in:

- 5.2.8.1. Local anesthetic blocks
- 5.2.8.2. Surgical approaches for hindfoot, midfoot, forefoot and ankle
- 5.2.8.3. Diagnostic and therapeutic injections of foot and ankle joints
- 5.2.8.4. Management of diabetic/Charcot foot
- 5.2.8.5. Management of ischemic/gangrenous foot
- 5.2.8.6. Forefoot reconstruction
- 5.2.8.7. Management of foot and ankle fractures
- 5.2.8.8. Treatment of arthritis involving ankle, subtalar, midfoot and forefoot joints
- 5.2.8.9. Treatment and management of foot and ankle tendinopathies
- 5.2.8.10. Management of complications of foot and ankle surgery
- 5.3. Ensure informed consent is obtained for procedures
- 5.4. Document and disseminate information related to procedures performed and their outcomes
- 5.5. Ensure adequate follow-up is arranged for procedures performed

**6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**

- 6.1. Demonstrate insight into their own limitations of expertise
- 6.2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
- 6.3. Arrange appropriate follow-up care services for a patient and their family
  - 6.3.1. Describe the limitations of practice in a community setting based on resources and geography
  - 6.3.2. Demonstrate appropriate transfer of care of a patient from community to tertiary care

**OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)**

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 15 of 23

**Communicator**

**Definition:**

As *Communicators*, Orthopedic Surgeons effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

**Key and Enabling Competencies: Orthopedic Surgeons are able to...**

**1. Develop rapport, trust, and ethical therapeutic relationships with patients and families**

- 1.1. Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes

- 1.2. Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
- 1.3. Respect patient confidentiality, privacy and autonomy
- 1.4. Listen effectively
- 1.5. Be aware and responsive to nonverbal cues
- 1.6. Facilitate a structured clinical encounter effectively

**2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals**

- 2.1. Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
- 2.2. Recognize the emotional stress for patients and families faced with orthopedic conditions and their associated surgical management, particularly in the treatment of children
- 2.3. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

**3. Convey relevant information and explanations accurately to patients and families, colleagues and other professionals**

- 3.1. Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making
- 3.2. Demonstrate effective, age-appropriate communication of treatment plans to pediatric patients
- 3.3. Demonstrate cooperation and communication between health professionals involved in the care of individual patients such that consistent messages are delivered to patients and their families

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.  
Page 16 of 23

**4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care**

- 4.1. Identify and explore problems to be addressed from a patient encounter effectively, including the patient's context, responses, concerns, and preferences
- 4.2. Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
- 4.3. Encourage discussion, questions, and interaction in the encounter
- 4.4. Engage patients, families, and relevant health professionals in shared decisionmaking to develop a plan of care
- 4.5. Address challenging communication issues effectively, such as obtaining informed

consent, delivering bad news, and addressing anger, confusion and misunderstanding

4.5.1. Obtain informed consent for surgical procedures, appreciating alternative means of achieving consent if the patient is unable to provide consent, on the grounds of age, mental status or other disqualifiers

4.6. Discuss advanced directives and end-of-life issues with patients and families

**5. Convey effective oral and written information about a medical encounter**

5.1. Maintain clear, concise, accurate and appropriate records (e.g., written or electronic) of clinical encounters and plans

5.1.1. Write well-organized and legible orders and progress notes

5.1.2. Complete concise hospital discharge summaries promptly

5.1.3. Write well-organized letters, providing clear direction to the referring physician, other health professionals, and third party agents (e.g. insurance boards) where indicated

5.2. Present verbal reports of clinical encounters and plans effectively

5.3. Present medical information effectively to the public or media about a medical issue

**Collaborator**

**Definition:**

As *Collaborators*, Orthopedic Surgeons effectively work within a healthcare team to achieve optimal patient care.

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 17 of 23

**Key and Enabling Competencies: Orthopedic Surgeons are able to...**

**1. Participate effectively and appropriately in an interprofessional healthcare team**

1.1. Describe the specialist's roles and responsibilities to other professionals

1.2. Describe the roles and responsibilities of other professionals within the health care team

1.2.1. Describe community support groups which can assist the orthopedic patient and their families (e.g. orthopedic tumours)

1.3. Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own

1.3.1. Recognize the limitations of their professional competence

1.4. Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)

1.4.1. Work effectively as a team member when not in a team leadership role

1.5. Work with others to assess, plan, provide and review other tasks, such as research

problems, educational work, program review or administrative responsibilities

1.5.1. Participate in morbidity and mortality reviews

1.6. Participate effectively in interprofessional team meetings

1.7. Enter into interdependent relationships with other professions for the provision of quality care

1.8. Describe the principles of team dynamics

1.9. Respect team ethics, including confidentiality, resource allocation and professionalism

1.10. Demonstrate leadership in a healthcare team

**2. Work effectively with other health professionals to prevent, negotiate, and resolve interprofessional conflict**

2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team

2.2. Work with other professionals to prevent conflicts

2.3. Employ collaborative negotiation to resolve conflicts

2.4. Respect differences and address misunderstandings and limitations in other professionals

2.5. Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension

2.6. Reflect on interprofessional team function

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 18 of 23

**Manager**

**Definition:**

As *Managers*, Orthopedic Surgeons are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the healthcare system.

**Key and Enabling Competencies: Orthopedic Surgeons are able to...**

**1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems**

1.1. Work collaboratively with others in their organizations

1.2. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives

1.3. Describe the structure and function of the healthcare system as it relates to Orthopedic Surgery, including the roles of physicians

1.3.1. Explain population-based approaches to health care services and their implication for medical practice

- 1.3.2. Describe provincial trauma care
- 1.4. Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding

## **2. Manage their practice and career effectively**

- 2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
  - 2.1.1. Manage patients' length of stay efficiently
  - 2.1.2. Manage surgical waiting lists efficiently
- 2.2. Manage a practice including finances and human resources
  - 2.2.1. Explain the principles of practice management including group practice versus solo practice
  - 2.2.2. Describe basic negotiation skills
  - 2.2.3. Describe basic principles of providing / receiving references
- 2.3. Implement processes to ensure personal practice improvement
  - 2.3.1. Demonstrate an ability to access and apply a broad base of information to the care of patients in ambulatory care, hospitals and other health care settings

### *OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 19 of 23

- 2.4. Employ information technology appropriately for patient care

## **3. Allocate finite healthcare resources appropriately**

- 3.1. Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
- 3.2. Apply evidence and management processes for cost-appropriate care

## **4. Serve in administration and leadership roles**

- 4.1. Chair or participate effectively in committees and meetings
- 4.2. Lead or implement change in health care
- 4.3. Plan relevant elements of health care delivery (e.g., work schedules)

### **Health Advocate**

#### **Definition:**

As *Health Advocates*, Orthopedic Surgeons responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

#### **Key and Enabling Competencies: Orthopedic Surgeons are able to...**

### **1. Respond to individual patient health needs and issues as part of patient care**

- 1.1. Identify the health needs of an individual patient
  - 1.1.1. Identify determinants of health particular to an individual patient
  - 1.1.2. Adapt patient assessment and management according to particular



determinants of health

1.1.3. Determine a patient's ability to access various services in the health and social systems

1.2. Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care

1.2.1. Promote injury prevention with respect to recreational activities

1.2.2. Identify risk factors that can lead to nonunion, ulceration, amputation, Charcot joints, and malignancy, and advise patients on lifestyle modifications to improve outcomes

1.2.3. Advise athletes on the risks and side effects of performance enhancing drugs and substance abuse

### *OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 20 of 23

## **2. Respond to the health needs of the communities that they serve**

2.1. Describe the practice communities that they serve

2.2. Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately

2.2.1. Identify workplace and farming factors that lead to an increased risk of trauma

2.2.2. Identify sport/recreational factors that lead to an increased risk of trauma

2.3. Appreciate the possibility of competing interests between the communities served and other populations

## **3. Identify the determinants of health for the populations that they serve**

3.1. Identify the psychological, social and physical determinants of health of the populations that they serve, including barriers to access to care and resources

3.1.1. Identify "at risk" populations within a given orthopedic practice in conjunction with Orthopedic Surgery specialty societies and other associations

3.2. Identify vulnerable or marginalized groups within the population served and respond appropriately

3.2.1. Apply available knowledge regarding prevention to "at risk" groups

3.2.2. Contribute to the generation of population-based data for improved understanding of orthopedic problems within "at risk" populations

## **4. Promote the health of individual patients, communities, and populations**

4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve

4.1.1. Explain the need to advocate to decrease the burden of illness (at a

community or societal level) of a condition or problem relevant to orthopedics through a relevant orthopedic society, community-based advocacy group, other public education bodies, or private organizations

4.2. Describe how public policy impacts on the health of the populations served

4.3. Identify points of influence in the healthcare system and its structure

4.3.1. Discuss key issues regarding the Canadian health care system, indicating how these changes might affect societal health outcomes

4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism

4.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper

*OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)*

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 21 of 23

4.6. Describe the role of the medical profession in advocating collectively for health and patient safety

### **Scholar**

#### **Definition:**

As *Scholars*, Orthopedic Surgeons demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

#### **Key and Enabling Competencies: Orthopedic Surgeons are able to...**

##### **1. Maintain and enhance professional activities through ongoing learning**

1.1. Describe the principles of maintenance of competence

1.1.1. Explain the Maintenance of Competence requirements of the Royal College of Physicians and Surgeons

1.1.2. Explain the principles of Continuing Professional Development

1.1.3. Formulate relevant personal learning projects

1.2. Describe the principles and strategies for implementing a personal knowledge management system

1.3. Recognize and reflect learning issues in practice

1.4. Conduct a personal practice audit

1.5. Pose an appropriate learning question

1.6. Access and interpret the relevant evidence

1.7. Integrate new learning into practice

1.7.1. Recognize and correct deficits in knowledge and technical skills through targeted learning

1.8. Evaluate the impact of any change in practice

1.9. Document the learning process

## **2. Evaluate medical information and its sources critically, and apply this appropriately to practice decisions**

- 2.1. Describe the principles of critical appraisal
- 2.2. Critically appraise retrieved evidence in order to address a clinical question
- 2.3. Integrate critical appraisal conclusions into clinical care

### **OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)**

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 22 of 23

## **3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others**

- 3.1. Describe principles of learning relevant to medical education
  - 3.1.1. Describe the principles of adult learning
  - 3.1.2. Discuss teaching models for patient and colleague education
- 3.2. Identify collaboratively the learning needs and desired learning outcomes of others
- 3.3. Select effective teaching strategies and content to facilitate others' learning
- 3.4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices
- 3.5. Demonstrate an effective lecture or presentation
- 3.6. Assess and reflect on a teaching encounter
- 3.7. Provide effective feedback
  - 3.7.1. Assess the competence of junior learners working on the orthopedic team
- 3.8. Describe the principles of ethics with respect to teaching

## **4. Contribute to the development, dissemination, and translation of new knowledge and practices**

- 4.1. Describe the principles of research and scholarly inquiry
- 4.2. Describe the principles of research ethics
- 4.3. Pose a scholarly question
- 4.4. Conduct a systematic search for evidence
- 4.5. Select and apply appropriate methods to address the question
- 4.6. Disseminate the findings of a study

### **Professional**

#### **Definition:**

As *Professionals*, Orthopedic Surgeons are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

### **OBJECTIVES OF TRAINING IN ORTHOPEDIC SURGERY (2008)**

© 2010 The Royal College of Physicians and Surgeons of Canada. All rights reserved.

Page 23 of 23

**Key and Enabling Competencies: Orthopedic Surgeons are able to...**

**1. Demonstrate a commitment to their patients, profession, and society through ethical practice**

- 1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism
- 1.2. Demonstrate a commitment to delivering the highest quality care and maintenance of competence
- 1.3. Recognize and appropriately respond to ethical issues encountered in practice
  - 1.3.1. Pose an ethical question related to research and discuss the resolution of that question
  - 1.3.2. Describe the principles of ethics in sports, including substance abuse and performance enhancing drugs
  - 1.3.3. Explain the legal, ethical and professional codes governing a physician's relationship with industry
- 1.4. Manage conflicts of interest appropriately
- 1.5. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
- 1.6. Maintain appropriate relations with patients

**2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**

- 2.1. Appreciate the professional, legal and ethical codes of practice
- 2.2. Fulfill the regulatory and legal obligations required of current practice
  - 2.2.1. Describe the medicolegal obligations associated with non-accidental trauma in children
- 2.3. Demonstrate accountability to professional regulatory bodies
- 2.4. Recognize and respond to others' unprofessional behaviours in practice
- 2.5. Participate in peer review

**3. Demonstrate a commitment to physician health and sustainable practice**

- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice
- 3.2. Strive to heighten personal and professional awareness and insight
- 3.3. Recognize other professionals in need and respond appropriately

ملحق ٤

مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير القياسية العامة، والمعايير المرجعية الخارجية

أ - المعرفة والفهم:

المعايير الأكاديمية للبرنامج	External References Standards (Benchmark) for the royal college of physician and surgeon of Canada	المعايير القياسية العامة لبرامج الدراسات (Generic) العليا (درجة الدكتوراة)
1-1-النظريات والاساسيات والحديث من المعارف في جراحة العظام والمجالات ذات العلاقة ( كالتشريح ، الباثولوجى )	By the end of the program the graduate should be able to: 1. acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research. The resident must also demonstrate a satisfactory knowledge of the principles common to all surgical practice.	٢-١-٢ النظريات والاساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2-1-2اساسيات ومنهجيات واخلاقيات البحث العلمى وادواته المختلفة	2. Contribute to the development, dissemination, and translation of new knowledge and practices	٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى وادواته المختلفة

<p>2-1-3 المبادئ الاخلاقية والقانونية للممارسة المهنية في جراحة العظام .</p>	<p>3. Explain the legal, ethical and professional codes governing a physician's relationship with industry</p>	<p>٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص</p>
<p>2-1-4 مبادئ واساسيات العمليات الجراحية في مجال جراحة العظام</p>		<p>٤-١-٢ مبادئ واساسيات الجودة في الممارسة في مجال التخصص</p>
<p>2-1-5 معرفة اضرار العمليات الجراحية الخاطئة على المرضى و مدى تأثيرها على حياتهم.</p>		<p>٥-١-٢ المعارف المتعلقة باثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها</p>
<p>2-1-6 اساسيات علم التشريح و الباثولوجي و الفسيولوجي المتعلقة بجراحة العظام.</p>		
<p>2-1-7 علم الميكانيكا الحيوية بجسم الانسان و مدى تأثيرها على اتخاذ القرارات العلاجية</p>		
<p>٨-١-٢ الوسائل العلاجية المتاحة لأمراض العظام.</p>		

ب - القدرات الذهنية :

المعايير الأكاديمية للبرنامج	<b>External References Standards (Benchmark) for the royal college of physician and surgeon of Canada</b>	المعايير القياسية العامة لبرامج الدراسات العليا (درجة الدكتوراة) Generic
2-2-1-تقييم المعلومات المتاحة عن المريض و استنباط العلاج المناسب للحالة المرضية	By the end of the program the graduate should be able to:  1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Orthopedic Surgery	٢-٢-١ تحليل وتقييم المعلومات فى مجال التخصص والقياس عليها والاستنباط منها
2-2-2-مواجهة أى مشاكل طارئة تحدث اثناء علاج المرضى بالطوارئ و العمليات.	2.Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to Orthopedic Surgery	٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة
2-2-3-اجراء ابحاث علمية تفيد المجتمع و	3. Maintain and	٢-٢-٣ اجراء دراسات بحثية تضيف الى المعارف

تستطيع حل مشاكله بصورة غير مكلفة	enhance professional activities through ongoing learning	
2-2-4-كتابة رسائل علمية و ابحاث علمية.	4. Evaluate medical information and its sources critically, and apply this appropriately to practice decisions	٤-٢-٢ صياغة أوراق علمية
2-2-5-تقييم مخاطر العمليات الجراحية الغير مناسبة للحالة المرضية	5. Describe the principles and strategies for implementing a personal knowledge management system	٥-٢-٢ تقييم المخاطر في الممارسات المهنية
2-2-6-التخطيط لتطوير اداءه فالعمليات الجراحية.	6. Recognize and correct deficits in knowledge and technical skills through targeted learning	٦-٢-٢ التخطيط لتطوير الاداء في مجال التخصص
2-2-7-اتخاذ القرارات فالعمليات الجراحية الطارئة بصورة تساعد على نجاح العملية.		٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2-2-8-ابتكار اساليب حديثة و متنوعة فالعمليات الجراحية		٨-٢-٢ الابتكار/الابداع
٩-٢-٢ الحوار والنقاش بشكل مهذب و بصورة		٩-٢-٢ الحوار والنقاش المبني على البراهين والادلة



علمية ترجح وجهة نظره العلمية.		
-------------------------------	--	--

ج. مهارات مهنية وعملية :

المعايير الأكاديمية للبرنامج	External References Standards (Benchmark) for the royal college of physician and surgeon of Canada	المعايير القياسية العامة لبرامج الدراسات العليا (درجة الدكتوراة) Generic
1-3-2-2-3-1-2-3-1 رد الكسور و التعامل مع حالات الطوارئ	By the end of the program the graduate should be able to  Evaluate the impact of any change in practice	2-3-1-2-3-1 1-3-2-2-3-1 اتقان المهارات المهنية الأساسية والحديثة في مجال التخصص
2-3-2-2-3-2-2-3-2 الروشتات العلاجية و معرفة المفيد و الضار منها للمريض	Maintain clear, concise, accurate and appropriate records (e.g., written or electronic) of clinical encounters and plans	2-3-2-2-3-2 2-3-2-2-3-2 كتابة و تقييم التقارير المهنية
2-3-3-2-3-3-2-3-3 اجراء العمليات الجراحية بمهارة و استخدام الأجهزة الحديثة	Demonstrate proficient and appropriate use of procedural skills, both diagnostic and	2-3-3-2-3-3 2-3-3-2-3-3 3-3-2-3-3-2 تقييم وتطوير الطرق والادوات القائمة في مجال التخصص

و تطوير اساليب حديثة فالعليات تفيد المرضى.	therapeutic	
2-3-4 استخدام اجهزة المنظار الجراحي و احداث اجهزة متاحة لتغيير المفاصل.	Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to Orthopedic Surgery	٢-٣-٤ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
٢-٣-٥ التخطيط لتطوير منهج جراحة العظام و مساعدة صغار الأطباء على الفهم و توعيتهم.	Implement processes to ensure personal practice improvement	٢-٣-٥ التخطيط لتطوير الممارسة المهنية وتنمية اداء الاخرين

د . مهارات عامة :

المعايير الأكاديمية للبرنامج	External References Standards (Benchmark) for the royal college of physician and surgeon of Canada	المعايير القياسية العامة لبرامج الدراسات العليا (درجة الدكتوراة) Generic
1-4-2 التواصل مع اعضاء الفريق الطبى بصورة تخدم المريض و تحسن من الأداء العلاجى.	By the end of the program the graduate should be able to: Participate effectively and appropriately in an interprofessional healthcare team	٢-٤-١ التواصل الفعال بأنواعه المختلفة
2-4-2 استخدام اجهزة الكمبيوتر بالعمليات الجراحية.		٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية
2-4-3 تعليم صغار الأطباء و تقييم مدى	Facilitate the learning of patients, families,	٢-٤-٣ تعليم الاخرين و تقييم ادائهم

تطورهم العلمى و مدى استيعابهم.	students, residents, other health professionals, the public and others	
2-4-4التقييم الذاتى والتعليم المستمر و تطوير الأداء العلمى للجراحات.		٤-٤-٢ التقييم الذاتى والتعليم المستمر
2-4-5استخدام المصادر المختلفة للحصول على المعلومات والمعارف من ابحاث و رسائل علمية و الانترنت.		٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف
2-4-6العمل مع فريق طبي متكامل و القدرة على قيادة فريق طبي اثناء الطوارئ و العمليات الجراحية بكفاءة.		٦-٤-٢ العمل فى فريق وقيادة فرق العمل
٧-٤-٢ القاء محاضرات و ندوات علمية باقتدار و عرض ابحاث علمية بصورة مشوقة.		٧-٤-٢ ادارة اللقاءات العلمية والقدرة على ادارة الوقت

ملحق ٥

## Program courses



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: Surgical anatomy and embryology DOCTORATE (First PART)**

**Code: ORTH 701**

**Academic Year (2013 – 2014)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Anatomy and Embryology Department
- **Date of specification approval:** department council, date 5/9/2013.

Faculty council date 10/9/2013

- **Academic year:** First part MD

#### **A) Basic Information:**

- **Allocated marks:** 100.
- **Course duration:** 15 weeks of teaching.
- **Teaching hours:** 4 hours / week 60total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>1 hour/week</b>	<b>15 hours</b>
<b>2- Practical</b>	<b>3 hours/week</b>	<b>45 hours</b>
<b>Total</b>	<b>4 hours/week</b>	<b>60 hours</b>

- **Authorization date of course specification:**2010-2013

**B) Professional Information:**

**1-Overall Aim of the course:**

The aim of this program is

- To have the professional knowledge about the anatomy of upper limb.

- To know the embryology of upper limb.
- To have the professional knowledge about the anatomy of lower limb
- Know the anatomy and embryology of vertebral column.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a.. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1. Mention the normal structure of the human musculoskeletal system.

2.a.2. Describe the normal development of the human musculoskeletal system.

### **2.b. Intellectual skills:**

2.b.1. Interpret data acquired to understand applied anatomy of orthopedic diseases.

### **2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1. Master the basic professional skills in surgical dissection on anatomical basis.

### **2.d. General and transferable skills:**

2.d.1 Use of different sources for information and knowledge to learn more about abnormal anatomy of orthopedic disease.

**3- Course contents:**

**3-A) Topics:**

Topic No. of hours Lecture

Introduction

Anatomy and embryology of the upper limb

Anatomy and embryology of the vertebral column

Anatomy of the muscles of the back

Anatomy and embryology of the lower limb

Anatomy and embryology of the spinal nerves

Revision

Total 60 hs

**4- Teaching and learning methods:**

4.1-lectures.

4.2-practical lessons.

## 5- Students assessment methods:

5-A) Attendance criteria : Faculty bylaws

5-B) Assessment tools:

Tool	Purpose ( ILOs)
Written exam	To assess ( 2.1.1,2.1.2,2.2.1,2.3.1 )
Oral examination	To assess (2.1.1 , 2.1.2,2.2.1, 2.3.1,2.4.1)

5-C) Time schedule:

- Two sets of exams : 1<sup>st</sup> in april – 2<sup>nd</sup> in October. Oral exam

5-D) Weighting system:

Final written Examination 70 %

Oral Examination. 30 %

---



Total 100%

**6- List of references:**

6.1- Course Notes made by the staff of the department

6.2- Essential Books (Text Books)

Gray's Anatomy

6.3- Recommended Books

A colored Atlas of Human anatomy and Embryology.

**7- Facilities required for teaching and learning:**

Data show device for lectures

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Assistant coordinator:**

**Dr. Ahmad Thabet Sadik**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**

**٢٠١٣ Date :**



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: BIOMECHANICS FOR ORTHOPEDIC DOCTORATE (FIRST PART)**

**Code: ORTH 702**

**Academic Year (2013– 2014)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department
- **Date of specification approval:** department council date 5/9/2013.

Faculty council date 10/9/2013

- **Academic year:** First part MD

**A) Basic Information:**

- **Allocated marks: 100** marks.
- **Course duration: 15** weeks of teaching.
- **Teaching hours: 1** hour / week **15** total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>1 hour/week</b>	<b>15 hours</b>
<b>Total</b>		<b>15 hours</b>

- **Authorization date of course specification:2011-2013**

**B) Professional Information:**

**1-Overall Aim of the course:**

- To provide the postgraduate with the advanced orthopedic knowledge of biomechanics essential for the practice of orthopedic surgery & Traumatology

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1 List the recent advances in the abnormal structure, function, growth and development of musculoskeletal system.

2.a.2 Describe recent advances in the techniques of different orthopedic operations and fixation of fractures.

2.a.3 Mention recent advances in biomechanics of orthopedic diseases and problems.

### **2.c. Practical and Clinical Skills:**

2.c.1 Plan to improve performance in the field of orthopedic surgery.

2.c.2 innovate nontraditional solutions to for orthopedic surgical & traumatology problems.

## **3- Course contents:**

### **3-A) Topics:**

<b>Subject</b>	<b>Lectures (hrs)</b>	<b>Tutorial / Small group discussion (hrs)</b>	<b>Practical (hrs)</b>	<b>Total (hrs)</b>	<b>% of Total</b>
1.general principles	1 hs	xx	Xx	1 hs	6.6%

of biomechanics					
2.biomechanics of the hip joint	1 h	Xx	Xx	1 h	6.6%
3. biomechanics of the knee joint	1 h	Xx	Xx	1 h	6.6%
4. biomechanics of the ankle joint	1 h	Xx	Xx	1 h	6.6%
5. biomechanics of the shoulder joint	1 h	Xx	Xx	1 h	6.6%
6. biomechanics of the elbow joint	1 h	xx	xx	1 h	6.6%
7. biomechanics of the wrist joint	1 h	xx	xx	1 h	6.6%
8. biomechanics of the spine	1 h	xx	xx	1 h	6.6%
9. materials used in orthopedic surgery	5 h	xx	xx	5 h	33.3%

10.biomechanics of internal fixation	1 h	xx	xx	1 h	6.6%
11.Gait cycle and abnormalities	1 h	xx	xx	1 h	6.6%
Total	15 hours	xx	xx	15 hours	100%

#### **4- Teaching and learning methods:**

4.1 Lectures.

4.2 Small group discussions

4.3 (Self learning) Information collection from different sources.

4.4 Attending and participating in scientific meeting and workshops

#### **Teaching plan:**

Lectures , journal clubs.

#### **Time plan:**

Item	Time schedule	Teaching hours	Total hours
Lectures	1 time/ week	15 hs/15weeks	15
<b>Total</b>	<b>1 time/ week</b>	<b>15 hs/15weeks</b>	<b>15</b>

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Written examination	To assess ( 2.1.1 ,2.1.2, 2.1.3 , 2.2.1 , 2.2.2)
Oral examination	To assess ( 2.2.1 , 2.2.2 , 2.3.1 , 2.3.2)

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in april – 2<sup>nd</sup> in October.

One written exams 3 hours Biomechanics.

Oral exam.

**5-D) Weighting system:**

<b>Examination</b>	<b>% of Total marks</b>
Final exam: Written	70 %
Final exam: Oral	30 %

- Other types of assessment : by log book.
- The minimum passing & passing grades : Faculty bylaws.

## **6- List of references:**

6.1- Essential Books (Text Books)

Campell"s Operative Orthopedic

6.2- Recommended Books:

- Manual of internal fixation
- Stanley"s Surgical approaches
- Spine Journal
- British bone and joint Journal
- American bone and joint Journal
- Journal of hand and microsurgery
- Clinical Orthopedic Journal

## **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.



- Small group classes.
- Operative theatres
- Live surgery video show.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Assistant coordinator:**

**Dr. Ahmad Thabet Sadik**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**

**٢٠١٣Date :**



*Benha University.*

*Faculty of Medicine.*

*Department of Orthopedic surgery and Traumatology.*



## **Course Specifications**

**Course title: Course title: Physiology**

**DOCTORATE (First PART)**

**Code: ORTH 703**

**Academic Year (2013 – 2014)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Physiology Department
- **Date of specification approval:** department council, date 9/2013.

Faculty council date 19/9/2013

- **Academic year:** First part MD

### **A) Basic Information:**

- **Allocated marks:** 50.
- **Course duration:** 15 weeks of teaching.
- **Teaching hours:** 1 hour / week 15 total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>1 hour/week</b>	<b>15 hours</b>
<b>2- Practical</b>		
<b>Total</b>		<b>15 hours</b>

### **B) Professional Information:**

#### **1-Overall Aim of the course:**

The aim of this course is

- To have the professional knowledge about the physiology of the human body.
- To Describe the biochemical properties of the human body.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1. Mention the normal physiology of the human body.

2.a.2. List the normal metabolism of the human musculoskeletal system.

### **2.b. Intellectual skills:**

2.b.1. Interpret data acquired to understand applied physiology and biochemical reactions of orthopedic diseases.

### **2.c. Professional and practical skills:**

### **2.d. General and transferable skills:**

2.4d.1 Use of different sources for information and knowledge to learn more about abnormal physiology and biochemistry of orthopedic disease.

## **3- Course contents:**

### **3-A) Topics:**

Topic No. of hours Lecture

Introduction

Physiology of the muscles

Physiology of the nerves

Physiology of the bone and bone turnover

Physiology of endocrine system and its bony affection

Physiology and biochemical reactions of calcium, phosphorus and its kidney excretion

Revision

Total 15 hs

**4- Teaching and learning methods:**

4.1-lectures.

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Written exam	To assess ( 2.1.1,2.1.2,2.2.1)
Oral examination	To assess (2.1.1 , 2.1.2,2.2.1, 2.4.1)

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in april – 2<sup>nd</sup> in October.

Oral exam.

**5-D) Weighting system:**

Final written Examination 70 %

Oral Examination. 30 %

---

Total 100%

**6- List of references:**

6.1- Course Notes made by the staff of the department

6.2- Essential Books (Text Books)

Physiology text

6.3- Recommended Books

Orthopedic physiology and orthopedic biochemistry.

**7- Facilities required for teaching and learning:**

Data show device for lectures

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Assistant coordinator:**

**Dr. Ahmad Thabet Sadik**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**

**٢٠١٣ Date :**



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

## **Course Specifications**

**Course title: Course title: Pathology**

**DOCTORATE (First PART)**

**Code: ORTH 704**

**Academic Year (201٣ – 201٤)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Pathology Department
- **Date of specification approval:** department council, date 5/٩/201٣.

Faculty council date 1٥/٩/201٣

- **Academic year:** First part MD

### **A) Basic Information:**

- **Allocated marks:** 50.



- **Course duration: 15 weeks of teaching.**
- **Teaching hours: 4 hours / week 60 total teaching hours.**

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>1 hour/week</b>	<b>15 hours</b>
<b>2- Practical</b>	<b>3 hours/week</b>	<b>45 hours</b>
<b>Total</b>	<b>4 hours/week</b>	<b>60 hours</b>

- **Authorization date of course specification:2011-2013**

**B) Professional Information:**

**1-Overall Aim of the course:**

The aim of this course is

- To have the professional knowledge about the pathology of bone tumors.
- To define the pathology of orthopedic diseases.

- To have the professional knowledge about the pathology of bone infections.
- Know the general pathology.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1. Develop understanding of the general and systemic pathology.

2.a.2. Be familiar with etiology, pathogenesis and pathologic manifestation of diseases especially musculoskeletal & soft tissue disorders.

2.a.3. Know sufficient information about the fate and complications and prognosis of different diseases especially musculoskeletal & soft tissue disorders.

### **2.b. Intellectual skills:**

2.b.1. Correlate gross and histopathology with the clinical basis of diseases especially musculoskeletal & soft tissue disorders.

2.b.2. Interpret data acquired to understand pathophysiology of orthopedic disease.

2.b.3. Interpret in a professional manner a pathology report.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1. Identify the macroscopic and microscopic criteria of the altered structure (pathology) of the body and its major organs and systems that are seen in various diseases.

**2.d. General and transferable skills:**

2.d.1 Utilize effectively various computer based instruction tools and E-learning of Pathology and utilize a variety of computer-based self assessment tools.

**3- Course contents:**

**3-A) Topics:**

Topic No. of hours Lecture

1- General Pathology:

1.1. Inflammation & repair.

1.2. Cell response to injury and aging.

1.3. Disturbances of circulation.

1.4. Fractures.

1.5. Bacterial infection.

1.6. Tuberculosis & Pott's disease.

1.7. Osteoporosis, rickets & osteomalasia.

1.8. Disturbances of cellular growth.

1.9. General pathology of tumors.

1.10. Genetic diseases.

2- Musculoskeletal system:

2.1. Osteomyelitis.

2.2. Tumor like lesions of bone & soft tissue.

2.3. Tumors of bones.

2.4. Soft tissue tumors.

2.5. Osteodystrophies.

2.6. Arthritis & synovitis.

2.7. Tumors of joints.

2.8. Plasma cell dyscrasis & multiple myeloma.

2.9. Bone lymphoma.

**4- Teaching and learning methods:**

4.1-lectures.

4.2-practical lessons.

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Written exam	To assess ( 2.1.1,2.1.2,2.1.3,2.2.1,2.2.2,2.2.3 )
Oral examination	To assess (2.1.1 , 2.1.2, 2.1.3,2.2.1,2.2.2,2.2.3,2.4.1)
Practical examination	To assess (2.3.1)

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in april – 2<sup>nd</sup> in October.

Oral exam.

**5-D) Weighting system:**

Final written Examination 60 %

Oral and practical examination. 40 %

---

Total 100%

**6- List of references:**

6.1- Course Notes made by the staff of the department

6.2- Essential Books (Text Books)

- Muir's text book of pathology.
- Robbins pathologic basis of diseases.

6.3- Recommended Books:

- Rosi & Ackerman text book of pathology.
- Sternberg text book of pathology.

6.4- Periodicals, American journal of pathology

Pathology

Human pathology

Web Sites: <http://www.ncbi.nlm.nih.gov/pubmed/>

**7- Facilities required for teaching and learning:**

-An appropriate teaching microscope with a screen.

-Good equipments essential for preparation of histological slides in the preparation room and staining set.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Assistant coordinator:**

**Dr. Ahmad Thabet Sadik**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**

**٢٠١٣ Date :**



*Benha University.*

*Faculty of Medicine.*

*Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: ORTHOPEDIC SURGERY FOR ORTHOPEDIC DOCTORATE (SECOND PART)**

**Code: ORTH 705**

**Academic Year (201٣ – 201٤)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department
- **Date of specification approval:** department council, date 5/٩/201٣.



Faculty council date 1٥/٩/201٣

- **Academic year:** Second part MD

**A) Basic Information:**

- **Allocated marks:** 275 marks.
- **Course duration:** 45 week of teaching.
- **Teaching hours:** 8 hours / week 360 total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>8 hours/week</b>	<b>360 hours</b>
<b>2-practical/clinical</b>		
<b>3-others</b>		
<b>4-total</b>	<b>8 hours</b>	<b>360 hours</b>

- **Authorization date of course specification:**2011-2013

## **B) Professional Information:**

### **1-Overall Aim of the course:**

The aim of the course is

- to provide the postgraduate with the advanced orthopedic knowledge and skills essential for the mastery of practice of orthopedic surgery & Traumatology and necessary for further training and practice in the field of orthopedic surgery and traumatology through providing:
- to provide the postgraduate with Recent scientific knowledge essential for the practice of orthopedic surgery& Traumatology according to the international standards.
- to provide the postgraduate with Skills necessary for proper diagnosis and management of patients including diagnostic, problem solving and decision making and operative skills.
- to Provision of sound ethical principles related to orthopedic& Traumatology practice.
- Maintenance of learning abilities necessary for continuous medical education.
- Upgrading research interest and abilities.

### **2- Intended Learning Outcomes (ILOs):**

#### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

- 2.a.1 Mention the recent advances in the normal structure and function of the musculoskeletal system on the macro and micro levels.
- 2.a.2 Describe recent advances in the normal growth and development of the musculoskeletal system.
- 2.a.3 List the recent advances in the abnormal structure, function, growth and development of musculoskeletal system.
- 2.a.4. Define recent advances in the natural history of orthopedic diseases.
- 2.a.5 List recent advances in the causation of orthopedic diseases and problems.
- 2.a.6 Mention recent advances in the techniques of different orthopedic operations and fixation of fractures.
- 2.a.7 List the clinical picture and differential diagnosis of orthopedic diseases and deformities.
- 2.a.8 Enumerate recent advances in the common diagnostic radiological and laboratory techniques necessary to establish diagnosis of orthopedic and traumatology problems.
- 2.a.9 Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases & traumatology.
- 2.a.10 Describe recent advances in the mechanism of action, advantages, disadvantages, side effects and complications of arthroscopic surgery.
- 2.a. 11 Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology.

2.a.12 List the principles and fundamentals of quality assurance of professional practice in the field of orthopedic surgery & traumatology

2.a.13 Enumerate recent advances in biomechanics of orthopedic diseases and problems.

**2.b. Intellectual skills:**

*By the end of the course , student should be able to:*

2.b.1 Interpret data acquired through history taking to reach a provisional diagnosis for orthopedic surgical problems.

2.b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic surgical problems.

2.b.3 Conduct research studies, that adds to knowledge.

2.b.4 Formulate scientific papers in the area of orthopedic surgery & traumatology.

2.b.5 Assess risk in professional practices in the field of orthopedic surgery & traumatology.

2.b.6 Plan to improve performance in the field of orthopedic surgery.

2.b.7 Have the ability to innovate nontraditional solutions to for orthopedic surgical & traumatology problems.

2.b.8 Manage Scientific discussion based on scientific evidences and proofs.

2.b.9 Criticize researches related to for orthopedic surgery.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1 collects the basic and modern professional skills in the area of orthopedic surgery.

2.c.2 Write and evaluate medical reports.

2.c.3 Evaluate and develop methods and tools existing in the area of orthopedic surgery.

2.c.4 Use technological methods to serve the professional practice.

2.c.5 Plan for the development of professional practice and development of the performance of others.

2.c.6 Train to develop new methods, tools and ways of professional practice

**2.d. General and transferable skills:**

*By the end of the course , student should be able to:*

2.d.1 presents reports in seminars effectively.

2.d.2 Use the information technology to serve the development of professional practice

2.d.3 teach others and evaluating their performance.

2.d.4 assess himself and identify his personal learning needs.

2.d.5 use different sources for information and knowledge.

2.d.6 Work coherently and successfully as apart of a team and team's leadership.

2.d.7 manage scientific meetings administration according to the available time

**3- Course contents:**

**3-A) Topics:**

<b>Subject</b>	<b>Lectures (hrs)</b>	<b>Tutorial / Small group discussion (hrs)</b>	<b>Practical (hrs)</b>	<b>Total (hrs)</b>	<b>% of Total</b>
1.general principles	15 hs	15 hs		30	8.3%
2. ARTHRODESIS	15 hs	15 hs		30	8.3%
3. ARTHROPLASTY	15 hs	15 hs		30	8.3%
4. INFECTIONS	15 hs	15 hs		30	8.3%
5 TUMORS	15 hs	15 hs		30	8.3%
6. NONTRAUMATIC SOFT TISSUE DISORDERS	15 hs	15 hs		30	8.3%
7. CONGENITAL ANOMALIES	15 hs	15 hs		30	8.3%

8. OSTEochondrosis	15 hs	15 hs		30	8.3%
9. NERVOUS SYSTEM DISORDERS IN CHILDREN	15 hs	15 hs		30	8.3%
10. THE SPINE	15 hs	15 hs		30	8.3%
11. MICROSURGERY and The hand	15 hs	15 hs		30	8.3%
12. THE FOOT AND ANKLE	15 hs	15 hs		30	8.3%
<b>Total</b>	<b>180 hs</b>	<b>180 hs</b>		<b>360 hs</b>	<b>100%</b>

#### GENERAL PRINCIPLES

\* Surgical Techniques and Approaches

#### ARTHRODESIS

\* Arthrodesis of Ankle, Knee, and Hip \* Arthrodesis of

Shoulder, Elbow, and Wrist

#### ARTHROPLASTY

\*Introduction and Overview

\* Arthroplasty of Ankle and Knee

\* Arthroplasty of Hip

\* Arthroplasty of Shoulder and Elbow

## INFECTIONS

General Principles of Infection

Osteomyelitis

Infectious Arthritis

Tuberculosis and Other Unusual Infections

## TUMORS

\* General Principles of Tumors

\* Benign Tumors of Bone

\* Benign (Occasionally Aggressive) Tumors of Bone

\* Malignant Tumors of Bone

\* Soft Tissue Tumors and Nonneoplastic Conditions

Simulating Bone Tumors

## NONTRAUMATIC SOFT TISSUE DISORDERS

\* Nontraumatic Soft Tissue Disorders

\* Miscellaneous Nontraumatic Disorders

## CONGENITAL ANOMALIES



\* Congenital Anomalies of Lower Extremity

\* Congenital and Developmental Anomalies of Hip and  
Pelvis

\* Congenital Anomalies of Trunk and Upper Extremity

#### OSTEOCHONDROSIS

Osteochondrosis or Epiphysitis and Other

Miscellaneous Affections

#### NERVOUS SYSTEM DISORDERS IN CHILDREN

Cerebral Palsy

Paralytic Disorders

Neuromuscular Disorders

#### THE SPINE

\* Spinal Anatomy and Surgical Approaches

\*Fractures, Dislocations, and Fracture-Dislocations of  
Spine

\*Arthrodesis of Spine

\*Pediatric Cervical Spine

\* Scoliosis and Kyphosis

\* Lower Back Pain and Disorders of Intervertebral

Discs

\* Infections of Spine

\* Other Disorders of Spine

MICROSURGERY

THE HAND

Basic Surgical Technique and Aftercare

Acute Hand Injuries

Flexor and Extensor Tendon Injuries

Wrist Disorders

Special Hand Disorders

Paralytic Hand

Cerebral Palsy of the Hand

Arthritic Hand

Compartment Syndromes and Volkmann

Contracture

Dupuytren Contracture

Carpal Tunnel, Ulnar Tunnel, and Stenosing

Tenosynovitis

Tumors and Tumorous Conditions of Hand

Hand Infections

Congenital Anomalies of Hand

THE FOOT AND ANKLE

Surgical Techniques

Disorders of Hallux

Pes Planus

Lesser Toe Abnormalities

Rheumatoid Foot

Diabetic Foot

Neurogenic Disorders

Disorders of Nails and Skin

Disorders of Tendons and Fascia

#### **4- Teaching and learning methods:**

4.1 Lectures.

4.2 Practical / surgical /clinical lessons

4.3 Discussion sessions.

4.4 Information collection from different sources.

4.5 Attending and participating in scientific meeting and workshops

**Time plan:**

<b>Item</b>	<b>Time schedule</b>	<b>Teaching hours</b>	<b>Total hours</b>
Lectures	4 times/ week	8 hs/week	360
Clinical lessons			
<b>Total</b>	<b>4 times/week</b>	<b>8hs/week</b>	<b>360</b>

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Written examination	To assess ( 2.1.1 to 2.1.13 )
Oral examination	To assess (2.1.11 to 2.1.13 & 2.2.1 to 2.2.9 )

Practical examination	To assess ( 2.3.1 to 2.3.6 & 2.4.1 to 2.4.7)
-----------------------	--

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in April – 2<sup>nd</sup> in October.

One written exams 3 hours in orthopedic.

One written exam 1.5 hour in a case commentary.

Oral & clinical exam.

**5-D) Weighting system:**

Examination	% of Total marks
Final exam: Written	70 %
Final exam: Oral	30 %
Final exam: Clinical	

- Other types of assessment : by log book.
- The minimum passing & passing grades : Faculty bylaws.

**Formative assessment:**

Student knows his marks after the formative exams.

**6- List of references:**

6.1- Essential Books (Text Books)

Campell"s Operative Orthopedic

6.2- Recommended Books:

- Apley,s system of orthopedics
- Stanley"s Surgical approaches
- Spine Journal
- British bone and joint Journal
- American bone and joint Journal
- Journal of hand and microsurgery

- Clinical Orthopedic Journal

### **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.
- Small group classes.
- Operative theatres
- Live surgery video show.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

### **Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Professor Dr. Mohamed Salah Shawky**

**Date : 5 /10/2011**



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: TRAUMATOLOGY FOR ORTHOPEDIC DOCTORATE (SECOND PART)**

**Code: ORTH 706**

**Academic Year (201<sup>٣</sup> – 201<sup>٤</sup>)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department



- **Date of specification approval:** department council, date 5/9/2013.

Faculty council date 10/9/2013

- **Academic year:** Second part MD

**A) Basic Information:**

- **Allocated marks:** 275 marks.
- **Course duration:** 45 week of teaching.
- **Teaching hours:** 8 hours / week 360 total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures</b>	<b>8 hours/week</b>	<b>360 hours</b>
<b>2-practical/clinical</b>		
<b>3-others</b>		
<b>4-total</b>	<b>8 hours</b>	<b>360 hours</b>

- **Authorization date of course specification:2011-2013**

## **B) Professional Information:**

### **1-Overall Aim of the course:**

The aim of the course are

- to provide the postgraduate with the advanced orthopedic knowledge and skills essential for the mastery of practice of orthopedic surgery & Traumatology and necessary for further training and practice in the field of orthopedic surgery and traumatology through providing:
- to provide the postgraduate with Recent scientific knowledge essential for the practice of orthopedic surgery& Traumatology according to the international standards.
- Skills necessary for proper diagnosis and management of patients including diagnostic, problem solving and decision making and operative skills.
- Provision of sound ethical principles related to orthopedic& Traumatology practice.
- Maintenance of learning abilities necessary for continuous medical education.
- Upgrading research interest and abilities.

### **2- Intended Learning Outcomes (ILOs):**

#### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

- 2.a.1 Mention the recent advances in the normal structure and function of the musculoskeletal system on the macro and micro levels.
- 2.a.2 Describe recent advances in the normal growth and development of the musculoskeletal system.
- 2.a.3 List the recent advances in the abnormal structure, function, growth and development of musculoskeletal system.
- 2.a.4. List recent advances in the natural history of orthopedic diseases.
- 2.a.5 Enumerate recent advances in the causation of orthopedic diseases and problems.
- 2.a.6 Describe recent advances in the techniques of different orthopedic operations and fixation of fractures.
- 2.a.7 List the clinical picture and differential diagnosis of orthopedic diseases and deformities.
- 2.a.8 Enumerate recent advances in the common diagnostic radiological and laboratory techniques necessary to establish diagnosis of orthopedic and traumatology problems.
- 2.a.9 Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases & traumatology.
- 2.a.10 Describe recent advances in the mechanism of action, advantages, disadvantages, side effects and complications of arthroscopic surgery.
- 2.a. 11 Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology.

2.a.12 List the principles and fundamentals of quality assurance of professional practice in the field of orthopedic surgery & traumatology

2.a.13 Enumerate recent advances in biomechanics of orthopedic diseases and problems.

**2.b. Intellectual skills:**

*By the end of the course , student should be able to:*

2.b.1 Interpret data acquired through history taking to reach a provisional diagnosis for orthopedic surgical problems.

2.b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic surgical problems.

2.b.3 Conduct research studies, that adds to knowledge.

2.b.4 Formulate scientific papers in the area of orthopedic surgery & traumatology.

2.b.5 Assess risk in professional practices in the field of orthopedic surgery & traumatology.

2.b.6 Plan to improve performance in the field of orthopedic surgery.

2.b.7 Have the ability to innovate nontraditional solutions to for orthopedic surgical & traumatology problems.

2.b.8 Mange Scientific discussion based on scientific evidences and proofs.

2.b.9 Criticize researches related to for orthopedic surgery.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1 collects the basic and modern professional skills in the area of orthopedic surgery.

2.c.2 Write and evaluate medical reports.

2.c.3 Evaluate and develop methods and tools existing in the area of orthopedic surgery.

2.c.4 use technological methods to serve the professional practice.

2.c.5 Plan for the development of professional practice and development of the performance of others.

2.c.6 train to develop new methods, tools and ways of professional practice

**2.d. General and transferable skills:**

*By the end of the course , student should be able to:*

2.d.1 presents reports in seminars effectively.

2.d.2 Use the information technology to serve the development of professional practice

2.d.3 teach others and evaluating their performance.

2.d.4 assess himself and identify his personal learning needs.

2.d.5 use different sources for information and knowledge.

2.d.6 Work coherently and successfully as apart of a team and team's leadership.

2.d.7 manage scientific meetings administration according to the available time

**3- Course contents:**

**3-A) Topics:**

<b>Subject</b>	<b>Lectures (hrs)</b>	<b>Tutorial / Small group discussion (hrs)</b>	<b>Practical (hrs)</b>	<b>Total (hrs)</b>	<b>% of Total</b>
1.general principles	15 hs	15 hs		30	8.3%
2. ARTHRODESIS	15 hs	15 hs		30	8.3%
3. AMPUTATIONS	15 hs	15 hs		30	8.3%
4. THE SPINE	15 hs	15 hs		30	8.3%
5. SPORTS MEDICINE	15 hs	15 hs		30	8.3%
6. ARTHROSCOPY	15 hs	15 hs		30	8.3%
7. FRACTURES AND DISLOCATIONS	15 hs	15 hs		30	8.3%
8. FRACTURES AND DISLOCATIONS IN	15 hs	15 hs		30	8.3%

CHILDREN					
9. PERIPHERAL NERVE INJURIES	15 hs	15 hs		30	8.3%
10. THE FOOT AND ANKLE	15 hs	15 hs		30	8.3%
11. MICROSURGERY	15 hs	15 hs		30	8.3%
12. THE Hand	15 hs	15 hs		30	8.3%
<b>Total</b>	<b>180 hs</b>	<b>180 hs</b>		<b>360 hs</b>	<b>100%</b>

#### GENERAL PRINCIPLES

\* Surgical Techniques and Approaches

#### ARTHRODESIS

\* Arthrodesis of Ankle, Knee, and Hip \* Arthrodesis of

Shoulder, Elbow, and Wrist

#### AMPUTATIONS

General Principles of Amputations

Amputations About Foot

Amputations of Lower Extremity

Amputations of Hip and Pelvis

Amputations of Upper Extremity

Amputations of Hand

## THE SPINE

\* Spinal Anatomy and Surgical Approaches

\*Fractures, Dislocations, and Fracture-Dislocations of  
Spine

\*Arthrodesis of Spine

## SPORTS MEDICINE

Ankle Injuries

Knee Injuries

Shoulder and Elbow Injuries

Recurrent Dislocations

Traumatic Disorders

## ARTHROSCOPY

General Principles of Arthroscopy



Arthroscopy of Lower Extremity

Arthroscopy of Upper Extremity

## FRACTURES AND DISLOCATIONS

General Principles of Fracture Treatment

Fractures of Lower Extremity

Fractures of Hip

Fractures of Acetabulum and Pelvis

Fractures of Shoulder, Arm, and Forearm

Malunited Fractures

Delayed Union and Nonunion of Fractures

Acute Dislocations

Old Unreduced Dislocations

## FRACTURES AND DISLOCATIONS IN CHILDREN

## PERIPHERAL NERVE INJURIES

## MICROSURGERY

## THE HAND

Basic Surgical Technique and Aftercare

Acute Hand Injuries

Flexor and Extensor Tendon Injuries

Fractures, Dislocations, and Ligamentous Injuries

Nerve Injuries

Wrist Disorders

Special Hand Disorders

## THE FOOT AND ANKLE

Surgical Techniques

Fractures and Dislocations of Foot

### **4- Teaching and learning methods:**

4.1 Lectures.

4.2 Practical / surgical /clinical lessons

4.3 Discussion sessions.

4.4 Information collection from different sources.

4.5 Attending and participating in scientific meeting and workshops

**Time plan:**

<b>Item</b>	<b>Time schedule</b>	<b>Teaching hours</b>	<b>Total hours</b>
Lectures	4 time/ week	8 hs/week	360
Clinical lessons			
<b>Total</b>	<b>4 times/week</b>	<b>8hs/week</b>	<b>360</b>

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Written examination	To assess ( 2.1.1 to 2.1.13)
Oral examination	To assess ( 2.2.1 to 2.2.9)

Practical examination	To assess ( 2.3.1 to 2.3.6 & 2.4.1 to 2.4.7)
-----------------------	--

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in April – 2<sup>nd</sup> in October.

One written exams 3 hours in traumatology.

One written exam 1.5 hour in a case commentary.

Oral & clinical exam.

**5-D) Weighting system:**

Examination	% of Total marks
Final exam: Written	70 %
Final exam: Oral	30 %

Final exam: Clinical	%
----------------------	---

- Other types of assessment : by log book.
- The minimum passing & passing grades : Faculty bylaws.

**Formative assessment:**

Student knows his marks after the formative exams.

**6- List of references:**

6.1- Essential Books (Text Books)

Rock Wood and Wilkins'

Campell"s Operative Orthopedic

6.2- Recommended Books:

- Manual of internal fixation
- Stanley"s Surgical approaches
- Spine Journal

- British bone and joint Journal
- American bone and joint Journal
- Journal of hand and microsurgery
- Clinical Orthopedic Journal

### **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.
- Small group classes.
- Operative theatres
- Live surgery video show.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**



*Benha University.*

*Faculty of Medicine.*

*Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: GRAND CLINICAL ROUND FOR ORTHOPEDIC DOCTORATE (SECOND PART)**

**Code: ORTH 707**

**Academic Year (201٣ – 201٤)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department
- **Date of specification approval:** department council, date 5/٩/201٣.

Faculty council date 1٥/٩/201٣

- Academic year: Second part MD

**A) Basic Information:**

- Allocated marks: 150.
- Course duration: 45 weeks of teaching.
- Teaching hours: 9 hours / week 405 total teaching hours.

	Hours/week	Total hours
1-Clinical round	9 hours/week	405 hours
<b>Total</b>		<b>405 hours</b>

- Authorization date of course specification:2011-2013

**B) Professional Information:**



## **1-Overall Aim of the course:**

The aim of the course are to

- provide the postgraduate with the advanced orthopedic knowledge for proper diagnosis of orthopedic diseases
- Gain skills necessary for proper management of patients including problem solving and operative skills.
- Gain skills necessary for proper decision making.
- Display skills necessary for proper diagnosis of patients including diagnostic skills.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1. List the clinical picture and differential diagnosis of orthopedic diseases and deformities.

2.a.2. Enumerate recent advances in the common diagnostic radiological and laboratory techniques necessary to establish diagnosis of orthopedic and traumatology problems

2.a.3. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology.

### **2.b. Intellectual skills:**

2.b.1. Interpret data acquired through history taking to reach a provisional diagnosis for orthopedic surgical problems.

2.b.2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic surgical problems.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1. collects the basic and modern professional skills in the area of orthopedic surgery.

**2.d. General and transferable skills:**

2.d.1 presents reports in seminars effectively

2.d.2 teach others and evaluating their performance.

2.d.3 Work coherently and successfully as apart of a team and team's leadership.

**3- Course contents:**

**3-A) Topics:**

1. grand clinical round

#### **4- Teaching and learning methods:**

4.1 Practical clinical lessons

4.2 Discussion sessions

4.3. Attending and participating in scientific meeting and workshops

#### **Teaching plan:**

##### **Time plan:**

<b>Item</b>	<b>Time schedule</b>	<b>Teaching hours</b>	<b>Total hours</b>
Clinical lessons	3 times / week	9 hs/week	405
<b>Total</b>	<b>3 times/week</b>	<b>9 hs/week</b>	<b>405</b>

#### **5- Students assessment methods:**

5-A) Attendance criteria : Faculty bylaws

5-B) Assessment tools:

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Clinical examination	To assess(2.1.1 to2.1.3,2.2.1,2.2.2,2.3.1,2.4.1 to2.4.3)

5-C) Time schedule:

- Two sets of exams : 1<sup>st</sup> in April – 2<sup>nd</sup> in October.

clinical exam.

**5-D) Weighting system:**

Examination	% of Total marks
Final exam: clinical	100 %

- Other types of assessment: by log book.
- The minimum passing & passing grades: Faculty bylaws.

**Formative assessment:**

Student knows his marks after the formative exams.

**6- List of references:**

6.1- Essential Books (Text Books)

Campell"s Operative Orthopedic

6.2- Recommended Books:

- British bone and joint Journal
- American bone and joint Journal
- Journal of hand and microsurgery

- Clinical Orthopedic Journal

### **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.
- Small group classes.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Head of the department:**



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: OPERATION THEATRE FOR ORTHOPEDIC DOCTORATE (SECOND PART)**

**Code: ORTH 708**

**Academic Year (201٣ – 201٤)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department
- **Date of specification approval:** department council, date 5/9/201٣.

**Academic year:** Second part MD

#### **A) Basic Information:**

- **Allocated marks:** included in Orth 705 and Orth 706.

- **Course duration: 45** weeks of teaching.
- **Teaching hours: 9** hours / week **405** total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1- Training intra-operative</b>	<b>9 hour/week</b>	<b>405 hours</b>
<b>2-Lectures</b>		
<b>Total</b>	<b>9 hours/week</b>	<b>405 hours</b>

- **Authorization date of course specification:2011-2013**

**B) Professional Information:**

**1-Overall Aim of the course:**

The aim of this program are

- To provide the postgraduate with the advanced orthopedic knowledge and skills essential for the mastery of practice of Traumatology and orthopedic surgery.
- To fit the postgraduate with the advanced orthopedic knowledge necessary for further training and practice in the field of orthopedic surgery.
- To fit the postgraduate with the advanced orthopedic knowledge necessary for further training and practice in the field of traumatology.
- To mention recent scientific knowledge and surgical techniques essential for the practice of orthopedic surgery.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1. Describe recent advances in the various surgical methods used for orthopedic diseases & traumatology.

2.a.2. Describe recent advances in the mechanism of action, advantages, disadvantages, side effects and complications of arthroscopic surgery

2.a.3. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology.

### **2.b. Intellectual skills:**

2.b.1. innovate nontraditional solutions to for orthopedic surgical & traumatology problems.



2.b.2. Plan to improve performance in the field of orthopedic surgery.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

2.c.1. Use technological methods to serve the professional surgical practice.

2.c.2. Plan for the development of professional practice and development of the performance of others.

**2.d. General and transferable skills:**

2.d.1 Teach others and evaluating their performance.

2.d.2 Work coherently and successfully as apart of a team and team's leadership.

**3- Course contents:**

**3-A) Topics:**

1. arthroscopy of the knee

2. arthroscopy of the shoulder

3. total hip replacement

4. total knee replacement

5- lumber disectomy

6- high tibial osteotomy

7- trochantric osteotomy

8- DDH surgery

9-ORIF fractures different bones

10- hemiarthroplasty hip joint

11- hip arthrodesis

12- triple arthrodesis

**4- Teaching and learning methods:**

4.1 Practical / surgical /clinical lessons

4.2 Discussion sessions

**Teaching plan:**

Lectures , training intra-operative.

**Time plan:**

<b>Item</b>	<b>Time schedule</b>	<b>Teaching hours</b>	<b>Total hours</b>
Lectures			
Training intra-operative	3 time / week	9 hs/week	405
<b>Total</b>	<b>3 times/week</b>	<b>9 hs/week</b>	<b>405</b>

**5- Students assessment methods:**

**5-A) Attendance criteria :** Faculty bylaws

**5-B) Assessment tools:**

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Log book	To assess ( 2.2.2,2.3.2,2.4.1,2.4.2 )
Oral examination	To assess (2.1.1 to 2.1.3,2.2.1,2.2.2,2.3.1,2.3.2)

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in April – 2<sup>nd</sup> in October.

Oral exam.

**5-D) Weighting system:**

- Types of assessment: by log book.
- The minimum passing & passing grades : Faculty bylaws.

**Formative assessment:**

Student knows his marks after the formative exams.

## **6- List of references:**

6.1- Essential Books (Text Books)

Campell"s Operative Orthopedic

6.2- Recommended Books:

- Manual of internal fixation
- Stanley"s Surgical approaches

## **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.
- Operative theatres
- Live surgery video show.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**



*Benha University.  
Faculty of Medicine.  
Department of Orthopedic surgery and Traumatology.*

### **Course Specifications**

**Course title: Course title: EMERGENCY UNIT FOR ORTHOPEDIC DOCTORATE (SECOND PART)**

**Code: ORTH 709**

**Academic Year (201٣ – 201٤)**

- **Department offering the program:** Orthopedic surgery and Traumatology department
- **Department offering the course:** Orthopedic surgery and Traumatology department
- **Date of specification approval:** department council date 5/٩/201٣.

Faculty council date 1٥/٩/201٣

- **Academic year:** Second part MD

**A) Basic Information:**

- **Allocated marks:** included in Orth 705 and Orth 706.
- **Course duration:** 45 weeks of teaching.
- **Teaching hours:** 6 hours / week 270 total teaching hours.

	<b>Hours/week</b>	<b>Total hours</b>
<b>1-Lectures in emergency room</b>	<b>6 hours/week</b>	<b>270 hours</b>
<b>Total</b>	<b>6 hours/week</b>	<b>270 hours</b>

- **Authorization date of course specification:2012-2013**

**B) Professional Information:**

## **1-Overall Aim of the course:**

The aim of this course are to

- provide the postgraduate with the advanced orthopedic knowledge of management of acute trauma patients
- provide the postgraduate with the advanced orthopedic knowledge and skills essential for the mastery of practice of Traumatology.
- describe recent scientific knowledge essential for the practice of traumatology according to the international standards.

## **2- Intended Learning Outcomes (ILOs):**

### **2.a. Knowledge and understanding:**

*By the end of the course , student should be able to:*

2.a.1 identify the clinical picture and differential diagnosis of emergency orthopedic trauma.

### **2.b. Intellectual skills:**

2.b.1. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic surgical problems.

2.b.2. Interpret data acquired through history taking to reach a provisional diagnosis for orthopedic surgical problems.

**2.c. Professional and practical skills:**

*By the end of the course , student should be able to:*

- 2.c.1. collect the basic and modern professional skills in the area of orthopedic surgery and traumatology.
- 2.c.2. Evaluate and develop methods and tools existing in the area of orthopedic surgery and traumatology

**2.d. General and transferable skills:**

- 2.d.1 Use the information technology to serve the development of professional practice
- 2.d.2 Work coherently and successfully as apart of a team and team's leadership.

**3- Course contents:**

**3-A) Topics:**

- 1. acute trauma patient
- 2. acute fractures management
- 3. compound fractures
- 4. assessment of polytrauma patients
- 5- complication of polytrauma



#### **4- Teaching and learning methods:**

4.1 Practical / surgical /clinical lessons

4.2 Discussion sessions

4.3. Attending and participating in scientific meeting and workshops

#### **Teaching plan:**

Lectures, seminars ,assignments & training : in emergency room.

#### **Time plan:**

<b>Item</b>	<b>Time schedule</b>	<b>Teaching hours</b>	<b>Total hours</b>
Lectures	2 time / week	6 hs/week	270
<b>Total</b>	<b>2 time/week</b>	<b>6 hs/week</b>	<b>270</b>

#### **5- Students assessment methods:**

5-A) Attendance criteria : Faculty bylaws

5-B) Assessment tools:

<b>Tool</b>	<b>Purpose ( ILOs)</b>
Oral examination	To assess(2.1.1, 2.2.1, 2.2.2, 2.3.1,2.3.2,2.4.1,2.4.2)

**5-C) Time schedule:**

- Two sets of exams : 1<sup>st</sup> in April – 2<sup>nd</sup> in October.

Oral exam.

**5-D) Weighting system:**

Examination	% of Total marks
Final exam: Oral	100 %

- Other types of assessment: by log book.
- The minimum passing & passing grades: Faculty bylaws.

**Formative assessment:**

Student knows his marks after the formative exams.

**6- List of references:**

6.1- Essential Books (Text Books)

Campell"s Operative Orthopedic, 21th edition, (Canale [and Beaty ,2010](#))

6.2- Recommended Books:

- Manual of internal fixation
- Stanley"s Surgical approaches
- Spine Journal
- British bone and joint Journal
- American bone and joint Journal
- Journal of hand and microsurgery
- Clinical Orthopedic Journal

### **7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Lecture halls.
- Small group classes.
- Operative theatres
- Live surgery video show.
- Adequate infrastructure including teaching rooms, comfortable desks.
- Teaching tools including screen, slide Projector, computer and data show.

**Course coordinator:**

**Professor Dr. Mohammed Osama Hegazy**

**Head of the department:**

**Professor Dr. Mohamed Salah Shawky**

ملحق (٦) مصفوفة المعارف والمهارات للبرنامج الدراسي

كلية /الطب

برنامج: **M.D. degree of Orthopedic & Traumatology**

جامعة /بناها

مصفوفة المعارف والمهارات للبرنامج الدراسي

المعارف Knowledge & Understanding													ILOs	
													Courses	
2.a.13	2.a.12	2.a.11	2.a.10	2.a.9	2.a.8	2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1		
√										√	√	√	Orth 701	1-Anatomy
													Orth 702	2-Biomechanics
										√		√	Orth 703	3-Physiology
								√	√				Orth 704	4-Pathology
	√	√	√	√	√	√	√					√	Orth 705	5- Orthopedics
	√	√	√	√	√	√	√					√	Orth 706	6- Traumatology
		√					√	√	√				Orth 707	7-Clinical round
		√		√			√	√					Orth 708	8-Operative room
		√		√	√								Orth 709	9-Emergency room

مهارات ذهنية Intellectual Skills								ILOs Courses	
2.b.9	2.b.8	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2		
				√			√	<b>Orth 701</b>	1-Anatomy
				√			√	<b>Orth 702</b>	2-Biomechanics
				√			√	<b>Orth 703</b>	3-Physiology
				√			√	<b>Orth 704</b>	4-Pathology
				√			√	<b>Orth 705</b>	5- Orthopedics
√	√	√	√	√	√	√	√	<b>Orth 706</b>	6- Traumatology
√	√	√	√	√			√	<b>Orth 707</b>	7-Clinical round
					√	√	√	<b>Orth 708</b>	8-Operative room
							√	<b>Orth 709</b>	9-Emergency room
		√					√		

مهارات عملية و مهنية Practical & Clinical Skills						ILOs	
2.c.6	2.c.5	2.c.4	2.c.3	2.c.2	2.c.1	Courses	
√						Orth 701	1-Anatomy
						Orth 702	2-Biomechanics
						Orth 703	3-Physiology
						Orth 704	4-Pathology
√						Orth 705	5- Orthopedics
√	√	√	√	√	√	Orth 706	6- Traumatology
√	√	√	√	√	√	Orth 707	7-Clinical round
			√		√	Orth 708	8-Operative room
						Orth 709	9-Emergency room

مهارات عامة General and transferable							ILOs	Courses
2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1		
							Orth 701	1-Anatomy
							Orth 702	2-Biomechanics
							Orth 703	3-Physiology
							Orth 704	4-Pathology
√	√	√	√	√	√	√	Orth 705	5- Orthopedics
√	√	√	√	√	√	√	Orth 706	6- Traumatology
√	√			√		√	Orth 707	7-Clinical round
							Orth 708	8-Operative room
							Orth 709	9-Emergency room

عميد الكلية

رئيس القسم

أستاذ المادة

( أ.د. / ..... )

التوقيع

التوقيع :

التوقيع :



<b>2.b intellectual skills</b>					<b>2.a knowledge&amp; understanding</b>							<b>ILOs</b>
<b>2.b.5</b>	<b>2.b.4</b>	<b>2.b.3</b>	<b>2.b.2</b>	<b>2.b.1</b>	<b>2.a.7</b>	<b>2.a.6</b>	<b>2.a.5</b>	<b>2.a.4</b>	<b>2.a.3</b>	<b>2.a.2</b>	<b>2.a.1</b>	
									X		X	<b>Orth 701</b>
							X		X			<b>Orth 702</b>
					X		X					<b>Orth 703</b>
					X		X					<b>Orth 704</b>
	X	X					X					<b>Orth 705</b>
	X						X					<b>Orth 706</b>
	X						X					<b>Orth 707</b>
									X			<b>Orth 708</b>
X	X	X	X	X	X	X		X				<b>Orth 709</b>