

The Arab League
Council of Arab Health Ministers
The Arab Board of Health Specializations
General Secretariat



جامعة الدول العربية
مجلس وزراء الصحة العرب
المجلس العربي للاختصاصات الصحية
الأمانة العامة

المجلس العلمي لجراحة العظام

Scientific Council of Orthopedics

دليل اختصاص جراحة العظام

Guidebook of Orthopedics

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دليل اختصاص جراحة العظام Orthopedics and Traumatology

Introduction

Orthopedics and Traumatology Residency Training Program is a structured five-year postgraduate curriculum accredited by the Arab Board of Health Specializations, designed to develop proficient specialists in orthopedics and traumatology.

الملخص التنفيذي:

- مدة البرنامج التدريبي خمس سنوات تدريبية
- السنة الأولى سنة جراحية
- السنة الثانية أساسيات جراحة العظام
- السنوات الثلاث التالية يتم في دراسة إصابات وأمراض العظام والتخصصات الفرعية لجراحة العظام
- يلتزم المتدرب بتقديم السجل العلمي والعملية إلى المشرف العلمي لمراجعته في نهاية كل سنة (بجانب المراجعة الدورية خلال السنة التدريبية) ويرفع للجنة البرامج والتدريب لاتخاذ اللازم.
- بعد الانتهاء من الخمس سنوات التدريبية، يلتزم المتدرب بملاء ملخص السجل العلمي والعملية الذي يحتوي على كافة الأنشطة خلال سنوات التدريب
- يتم إرسال ملخص السجل العلمي والعملية إلى لجنة البرامج والتدريب في كل عام تدريبي كشرط للانتقال إلى العام التدريبي التالي، وفي نهاية البرنامج التدريبي للدراسة والتأكد من استيفاء متطلبات التدريب قبل التصريح بالجلوس للامتحان النهائي المعرفي.

Core Graduate Competencies

The curriculum includes the following core competencies: There is no fixed time limit or specific order for acquiring the following qualifications; however, trainees must demonstrate their understanding, application, and development of these competencies as they progress through the residency training program.

1. Patient care and procedural skills.
2. Medical knowledge
3. Interprofessional and Communication skills
4. Professionalism (professional behavior, ethical principles, accountability)
5. Life-long reflective learning, evidence-based informed practice, and contribution to improving healthcare through teaching and research.
6. Leadership, teamwork (Systems-Based Practice).

The trainee application and understanding of these competencies are evaluated annually by the trainers through proper yearly departmental exam to progress to higher years and sit for the Arab board examination, preferably at the end of both second and third year of training program. The questions and the way of these exams should be prepared by the local authority in the training centers accredited by the Arab board.

Overview of Educational Goals and Objectives

Description

Orthopedic residents rotate on different orthopedic services and non-orthopedic rotations during their time at the hospital. The orthopedic rotations consist of general surgery, vascular surgery, plastic surgery, rehabilitation, general orthopedics, trauma, joint reconstruction, sports, spine, pediatrics, hand and pelvis.

Resident Role and Expectations

Residents will act as a key member of the care team, participating in clinical diagnosis and treatment of myriad orthopedic conditions, requiring both non-operative and surgical interventions. This clinical experience will take place under the supervision and guidance of the teaching attending staff. As residents progress through the program, they gain gradual independence in patient care

and under supervision develop the skills and clinical acumen to practice independently as an attending orthopedic surgeon. By the time residents are in the PGY5 year, they are expected to function at the level of a junior attending physician but still have the supervision and guidance of the attending faculty.

Goals and Objectives

At completion of the orthopedic residency program, the resident will demonstrate the medical knowledge, patient care, professional, and communication skills necessary to function independently as an attending orthopedic surgeon. Through a broad range of varied clinical experiences and under the instruction and guidance of the teaching attending faculty, residents will demonstrate the ability to perform self-directed learning, evaluate their own patient outcomes and performance, and work effectively in numerous health care delivery settings. The resident will receive regular evaluations from the attending staff and incorporate feedback provided to continuously improve and hone their professional, interpersonal, medical and surgical skills.



The first year in residency program:

The first residency year is spent in medical and surgical experience relevant to orthopedic surgery. These include general surgery, vascular surgery, plastic surgery, orthopedic trauma surgery. In addition, rotations in the intensive care unit and the emergency room are also included.

Year	Departments	Duration
Year 1 Core Surgical Training	General Surgery	6 months
	Surgical ICU	2 months rotation in any 3 of the listed 6 sub- specialties
	Vascular Surgery	
	Plastic Surgery	
	Urology	
	Neurosurgery	
	Cardiothoracic	

The resident will focus on floor management, including evaluating new consults, management of the pre- and post-operative orthopedic patient, obtaining appropriate consults for risk stratification and medical co-management. They will develop skills in basic bedside procedures. In the outpatient clinics, they will be expected to perform thorough history and physical exams while gaining knowledge in ordering appropriate imaging and generating preliminary treatment plans. In the OR, the resident will work on developing skills in sterile technique, positioning, prepping and draping, wound closures and dressing application. Finally, the resident will understand the appropriate use of inpatient and outpatient rehabilitation services.

The residents at the end of the 1st year of the program will be able to understand:

- Sterile Technique-Operating Room Setup
- Suturing and Knot Tying
- Basic surgical skills
- Soft Tissue Handling and Dissection
- Be able to apply Advanced Trauma Life Support principles in the care of the trauma patient

- Wound care, dressing technique, wound vac and drain management
- Basic instrument skills (tools for exposure, hemostasis, retraction)
- Principle of tourniquet
- Postoperative VTE prophylaxis

The second year in residency program:

Second-year rotations offer experience in managing different orthopedic conditions in both outpatient and inpatient settings. The operating room experience emphasizes acquiring basic psychomotor technical skills and learning the fundamental principles of anatomy, surgical dissection, and orthopedic surgery. During such rotations, residents serve as the junior resident of a clinical service while developing basic orthopedic knowledge, which is paramount during this year.

Residents on trauma service function as important members of the orthopedic trauma team and work in collaboration with a multidisciplinary trauma surgery team and other medical specialties. Typically, PGY2 residents will be focused on the inpatient and outpatient workup of trauma patients and assist in the operating room. The PGY5 resident will guide the PGY2 through this process and further develop their own skill set and sense of clinical autonomy. Through guided progress, the residents are expected to develop and improve upon their knowledge and skills

The residents at the end of the 2nd year of the program will be able to understand and treat:

- Casting and Splinting: Splints, Casts, and Removal
- Traction principles and Techniques
- Compartment Syndrome: Diagnosis and Treatment
- Fluoroscopic Knowledge and Skills
- K-Wire principles Techniques
- The role of rehabilitation
- Joint Aspiration and Injection
- Plan discharge and follow up
- Flexor and extensor tendon repair
- Open carpal tunnel release
- Trigger finger/thumb release

- Excision of dorsal ganglion cyst
- Establish a consistent work-up for patients with pain
- Tendinitis
- Pediatric fractures (green stick and torus)
- Supracondylar fracture
- Boxer fracture
- Tip of fingers injury

The third and fourth year in residency program:

The resident will be able to evaluate, diagnose, and create treatment plans for patients with musculoskeletal injuries in the in-patient and out-patient setting, ranging from low energy/acute to high energy/acute, poly-trauma patients.

At this point in the program, residents should have the knowledge and experience to more actively direct the care of patients. On some rotations, residents report directly to a fellow or to the attending faculty. The focus is on completing orthopedic subspecialty rotations, which helps residents consider which subspecialty fellowship to pursue. Experience in both inpatient and outpatient care, as well as in the operating room, increases at this level. Residents actively participate in more and increasingly complex cases, which provides preparation for the senior resident years

The residents at the end of the 3rd year and 4th year of the program will be able to understand and treat:

- Bone Handling techniques – Osteotomy
- Principles and Techniques of Internal Fixation of Fractures
- Principles and Techniques of Fracture Reduction
- Basic Techniques in External Fixation and its application
- Basic Arthroscopy Skills
- Basic Arthroplasty Skills (TKA & THA)
- Intertrochanteric femur fractures
- Subtrochanteric fractures
- Olecranon fracture ORIF
- Metacarpal head fracture ORIF
- Both bone forearm fracture ORIF

- Distal radius fracture ORIF
- Femoral shaft fracture antegrade/retrograde intramedullary fixation
- Patella fracture ORIF
- Tibial shaft fracture intramedullary fixation
- Ankle fracture ORIF
- Damage control orthopaedics
- Rotator cuff, Bankart/labral repair principles
- Femoroacetabular impingement
- Principles of ligaments and tendons injuries and repair
- Patellar instability
- Meniscus repair principles
- Peripheral nerve repair
- TKA, THA stability techniques
- Compartment syndrome
- Spine fractures and fixation principles
- Principles of Management of spine infections
- Achilles tendon injuries

The final year in residency program:

Fifth-year residents are responsible for all clinical activities of the service, including inpatient and outpatient care, as well as all operating room activity. The coordination of all resident and fellow activity and the oversight of the care provided are the responsibility of the senior residents. Fifth-year residents work directly with the chief of service and other members of the teaching faculty and serving as primary surgeon and/or first assistant in the operating room.

The residents at the end of the 5th year of the program will be able to understand and treat:

- Acetabular fractures
- Tibial plateau fractures
- Pelvic ring fractures
- Femoral neck fractures
- Amputations
- Tibial pilon fracture ORIF

- Calcaneus fractures
- Hindfoot and midfoot ORIF
- Clavicle fracture ORIF
- Humerus shaft fracture ORIF
- Distal humerus fracture ORIF
- Periprosthetic fracture management
- ACL, PCL, LCL reconstruction steps and graft prep
- MPFL reconstruction principles
- Microfracture techniques
- Four corner wrist fusion
- Dupuytren's open fasciotomy
- Primary total knee, hip arthroplasty
- Total and hemi shoulder arthroplasty
- Degenerative spinal disease
- Spinal tumors
- Spinal deformities
- Congenital and developmental disorders



شروط القبول للتسجيل في برنامج الجراحة العظمية:

1. أن يكون المتدرب لائقاً صحياً بما يتناسب مع طبيعة الاختصاص حسب تقدير المؤسسة الراعية.
2. حيازة شهادة البكالوريوس أو ما يعادلها في الطب البشري من جامعة تعترف بها إحدى الدول الأعضاء في المجلس العربي.
3. إنهاء فترة الامتياز بنجاح حسب النظام المعتمد لبرنامج الامتياز في الدولة.
4. تقديم ما يثبت التسجيل للتدريب في مركز تدريبي معتمد من قبل المجلس العربي بصفة متدرب في الاختصاص متدرج في المسؤولية خلال الفترة الكاملة لبرنامج التدريب للاختصاص ضمن الطاقة الاستيعابية المعتمدة.
5. تقديم ما يثبت التمتع بحق الممارسة المهنية أو اجتياز امتحان مزاوله المهنة حسب نظام الدولة.
6. استيفاء أي شروط خاصة بالاختصاص (إن وجدت) وفق ما يقرره ويعلنه المجلس العربي.
7. تقديم طلب التسجيل للتدريب مرفقاً بالوثائق المطلوبة حسب إجراءات التسجيل المعلنة عبر الموقع الإلكتروني للمجلس العربي في المواعيد المحددة من خلال الهيئة المحلية أو الجهة المعتمدة في المجلس العربي حسب المتفق مع كل دولة.
8. تسديد رسوم التسجيل والتعهد بتسديد الرسوم المالية المقررة في موعدها المحدد.

إجراءات اعتماد التدريب من خارج المجلس العربي:

1. يكون تقديم الطلبات خلال الفترة من الأول من تشرين الأول / أكتوبر ولغاية الحادي والثلاثين من كانون الثاني / يناير من كل عام.
2. يقدم طلب اعتماد التدريب من خلال الهيئة المحلية مرفقاً بالوثائق المطلوبة على أن تكون أصلية أو طبق الأصل وإشعار سداد رسم تقديم الطلب.
3. تقوم اللجنة المختصة في المجلس العلمي المعني بدراسة الطلب في اجتماعها الأول من كل عام ورفع توصيتها إلى اللجنة التنفيذية لاتخاذ القرار المناسب ورفعها إلى الأمين العام من خلال الأمين المساعد.
4. يتحمل المتقدم في حال القبول المبدئي لطلبه رسوم التحقق من صحة الوثائق من الجهات الصادرة عنها.

معايير ومتطلبات الاعتماد البرامجي:

Serial	Qualifying Criteria	Weight	Excellent (3)	V- Good (2)	Good (1)
Hospital Facilities					
1	Total number of hospital beds	5	>150	100 - 149	50 - 99
2	ICU beds (trauma and post-operative)	10	>10	5 - 9	<5
3	Physiotherapy and rehabilitation centre	10	In- & out-patient	outpatient	-
4	Availability of X- Ray & U/S *	10	Both available 24/7	One only 24/7	Daytime only
5	Availability of CT scan	10	Available 24/7	Daytime only	Outsource
6	Availability MRI	9	Available 24/7	Daytime only	Outsource
7	Laboratory services (Haematology, Chemistry, CRP) *	10	All available 24/7	24/7, Missing modality	Daytime only
8	Immunology lab	5	Available 6 days /week	Available 5-4 days /week	Available 3-1 days /week
9	Histopathology service	7	Available – frozen section	Available	Outsource
10	Blood bank service *	8	Available 24/7	Daytime only	Outsource
11	Medical records *	10	Electronic + paper	Paper only	-
12	Other surgical specialties: (General surgery, Plastic, Neurosurgery, Vascular surgery and Urology)	9	All available	3 - 4 available	1 - 2 available
Department workload					
13	Number of consultants: * • Full-time • Part-time (Full-time equivalent = hours*days/36) †	10 7	>10 >10	5 – 9 5 – 9	3 – 4 3 – 4
14	Number of Orthopaedic in-patient beds *	10	>30	10- 29	5 – 9
15	Number of Orthopaedic theatre rooms / week *	10	>12	6 - 11	3 – 5
16	Availability of C-arm in orthopaedic OR *	10	Available full time	Shared with other specialties	-
17	Dedicated Orthopaedic emergency theatre	7	Available full time	Shared with other specialties	-
18	Number of OPD patient / day *	6	>50	20 - 49	10 – 19
19	Number of emergency patients / day *	7	>50	20 - 49	10 – 19
20	Number of Minor & Moderate operations / week *, ††	8	>40	20 - 39	10 – 19
21	Number of Advanced operations / per month *, ††	10	>24	12 - 23	5 – 11
22	Orthopaedic subspecialties (Trauma, Spine, Arthroplasty, Arthroscopy, Paediatric, Hand & Microsurgery, Foot & Ankle and Deformity Corrections) *	10	All available	At least 4 subspecialties	1 – 3 available
Training Facilities					
23	Identified Head of Training (Hospital) *	10	Named - protected time	Named only	-
24	Identified Program Director (Department) *	10	Named - protected time	Named only	-
25	Number of Candidates / trainer *	10	2 – 3	4	5
26	Scientific activities (sessions / month): * • Grand round • Structured teaching • Journal club	10	>8	5 - 7	3 – 4
27	Courses / national meetings organised last year	7	>2	1	-
28	Library: * • Quite study space • Internet access • EKB dedicated computer	8	All available	Missing 1	Missing 2
29	Lecture theatre / breakout rooms (>2 rooms)	7	Both available	Only one	-
30	Surgical skills / simulation lab	5	Both available	Only one	-
Total			780	520	180

Mandatory accreditation criteria

- Full-time equivalent is calculated for each part-time consultant as follows: number of daily contracted hours multiplied by number of days divided by 36 hours (The normal working week for a full-time consultant).
- Operations classification (items 20 & 21) follow the National Health Insurance guidelines
- Class (C) center (4th & 5th year training) must have at least 650 points and fulfil all mandatory criteria
- Class (B) center (3rd year training) must have at least 450 points and fulfil all mandatory criteria
- Class (A) center (2nd year training) must have at least 250 points and fulfil all mandatory criteria

- For every training post in a Class A or B Centre, there must be an available agreed training post in an identified and approved Class C Centre to which the candidate will rotate in his 4th and 5th year of training .
- Unqualified for training: less than 249 points or missing any of the mandatory criteria

المنهاج والخطة التدريبية:

يتضمن المنهاج التدريبي المنهجي خلال سنوات التدريب سنة تدريبية في الجراحة العامة ثم أربع سنوات تدريبية في جراحة العظام العامة، جراحة العظام المناطقية، الإصابات العامة، والإصابات الهيكلية المناطقية.

الخطة التدريبية:

تشمل المعرفة والمهارات التي يجب تغطيتها في كل مرحلة من مراحل التدريب موزعة تدريجياً على سنوات التدريب، حيث تركز السنوات الأولى من التدريب في جراحة العظام على اكتساب المهارات الأساسية المناسبة في رعاية المرضى، سواء داخل غرفة العمليات أو خارجها، بالإضافة إلى توفير أساس قوي في "المهارات" الأخرى مع التركيز بشكل خاص على مهارات التواصل والتعامل مع الآخرين بمهنية مع مراعات أخلاق المهنة. الهدف هو الحصول على جراح قادر على تدبير الحالات الشائعة ومقاربتها بأمان واستقلالية والقدرة على استخدام مهارات تقنية مناسبة وضرورية لرعاية المرضى.

1. العلوم الأساسية: التي يتم تعلمها من خلال سلسلة من المحاضرات، والتعلم الذاتي، والندوات والدورات عبر الإنترنت، والمؤتمرات وورش العمل.
2. المهارات الجراحية الأساسية: يتم تعلمها من خلال التدريب على رأس العمل والدورات التدريبية وورش العمل والمشاركة في المؤتمرات والتعلم الذاتي.
3. حالات امراض العظام الشائعة: يتم تعلمها من خلال التدريب على رأس العمل في العيادة الخارجية وقسم المرض الداخلي وغرف العمليات وقسم الحوادث والطوارئ، والدورات التدريبية وورش العمل والمشاركة في المؤتمرات والتعلم الذاتي.
4. رعاية المرضى ومتابعتهم: التي يتم تعلمها من خلال التدريب على رأس العمل داخل أقسام المستشفى والعيادات الخارجية، والدراسات القائمة على الحالة المرضية، التعلم القائم على حل المشكلات، والدورات التدريبية وورش العمل والمشاركة في المؤتمرات والتعلم الذاتي.
5. الرعاية المحيطة بالجراحة العظمية: يتم تعلمها من خلال التدريب على رأس العمل داخل أقسام المستشفى والعيادات الخارجية، والدراسات القائمة على الحالة المرضية، التعلم القائم على حل المشكلات، والدورات التدريبية وورش العمل والمشاركة في المؤتمرات والتعلم الذاتي

6. مهارات التواصل: التي يتم تعلمها من خلال سلوكيات وتوجيهات المدرب والدورات التدريبية عن مهارات التواصل.
7. أخلاقيات المهنة: يتم تعلم الأخلاقيات يتم تعلمها من خلال سلوكيات وتوجيهات المدرب والدورات التدريبية عن أخلاقيات المهنة.
8. القيادة: التي يتم تعلمها من خلال البرامج التدريبية والنماذج القيادية على رأس العمل والبرامج التدريبية التي تشمل تحديد أولويات المهام وتنفيذها بفعالية، وإدارة الوقت، وإدارة الأولويات لتحقيق التوازن بين رعاية المرضى، والأنشطة التعليمية، والأنشطة الأخرى، والحياة الشخصية.

Orthopaedic Diseases: 50 %	General Orthopaedic: 5 %	Infections:	
		Metabolic diseases:	
		Operative topics:	
		Basic science:	
		Prosthetic and orthotics:	
		Research:	
		Investigations:	
	Upper limb (shoulder & elbow pathology including sports): 5 %	Basic science:	
		History and physical examination:	
		Diagnostic work up:	
		Treatment:	
		Surgical approach:	
		Risk assessment / complications:	
	Hand & wrist: 5 %	Basic science:	
		History and physical examination:	
		Diagnostic work up:	
		Treatment:	
		Surgical approach:	
		Risk assessment / complications:	
	Adult reconstruction: 10 %	Hip: 5%	Basic science:
			History and physical examination:
			Diagnostic work up:
			Treatment:
			Surgical approach:
			Risk assessment / complications:
		Knee: 5 %	Basic science:
			History and physical examination:
			Diagnostic work up:
			Treatment:
			Surgical approach:
			Risk assessment / complications:

Sport medicine: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Foot and ankle: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	

Spine: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Paediatrics: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Orthopaedic oncology: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	

General trauma: 10%

Basic Science	
	Anatomy
	Biomechanics
	Pathology
Clinical Assessment	
	Severely injured patient
	All types of fractures & Dislocations
	Life & limb threatening
Investigations	
Treatment	
	Options
	Pros & Cons
	Severely injured
	Common fractures, Open & Pathological fractures
	Specialised fractures
	malunion, non-union, etc
	amputation

Upper limb: 10%

Basic science:	
History and physical examination:	
Diagnostic work up:	
Treatment:	
Surgical approach:	

Orthopaedic trauma: 50 %

General trauma: 10%

Basic Science	
	Anatomy
	Biomechanics
	Pathology
Clinical Assessment	
	Severely injured patient
	All types of fractures & Dislocations
	Life & limb threatening
Investigations	
Treatment	
	Options
	Pros & Cons
	Severely injured
	Common fractures, Open & Pathological fractures
	Specialised fractures
	malunion, non-union, etc
	amputation

Upper limb: 10%

Basic science:	
History and physical examination:	
Diagnostic work up:	
Treatment:	
Surgical approach:	

Hand & wrist: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
lower limb: 10%	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Pelvis and Acetabulum: 2.5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Foot and Ankle: 2.5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	
Spine: 5 %	Basic science:	
	History and physical examination:	
	Diagnostic work up:	
	Treatment:	
	Surgical approach:	
	Risk assessment / complications:	

Paediatrics: 5 %	basic science	
	History and physical examination	
	Diagnostic work up	
	Treatment	
	Surgical approach	
	Risk assessment / complications:	

طرق التدريب والتعليم

تحديد طرق التدريب والتعليم المناسبة للمحتوى والمتوافقة مع الأهداف المرجوة ضمن مجموعة من الطرق ومنها:

النشاط العلمي:

يلتزم المتدرب بالمشاركة الأسبوعية طوال سنوات التدريب بالأنشطة العلمية مثل:
Morbidity & Mortality meeting – case presentation – Journal club – lecture presentation – Grand round – MDT meeting -etc

وذلك بجانب المشاركة في المؤتمرات والندوات وورش العمل وغيرها

الدورات المكملة :

يلتزم المتدرب خلال السنة الأولى من سنوات التدريب بالمداورة على الوحدات والاختصاصات التالية:
وحدة الرعاية المركزة – قسم الحوادث والطوارئ – مسالك بولية – أوعية دموية أطفال – تجميل وحروق – جراحة عصبية

دورات البرنامج الأساسي:

1. منهجية البحث العلمي
2. دورة إنعاش الحياة
3. دورة أساسيات الطوارئ
4. دورة أخلاقيات المهنة والحرفية
5. سلامة المريض والوقاية من الأخطاء الطبية
6. مهارات التواصل

السجل العلمي والعمل:

تحديد مكونات السجل العلمي والعمل وإرشادات إعداده بصورة واضحة وطبقاً لمحتويات برنامج التدريب

تحديد آلية ومواعيد تقييم السجل ومتطلبات الإنجاز للترقية السنوية والتأهل للامتحان النهائي، ترفق الاستمارة لكل سنة من سنوات التدريب، ويحتوي على الآتي:

1. بيانات المدرب ومركز التدريب
2. مقدمة عن البرنامج التدريبي لجراحة العظام في المجلس العربي للاختصاصات الصحية
3. كيفية استخدام السجل العلمي والعمل
4. العمليات الجراحية ومستوى المشاركة فيها

5. تقرير مجمع لعدد ومسميات العمليات خلال السنة التدريبية، وتحديد مستوى مشاركة المتدرب
6. نشاط العيادات الخارجية
7. نشاط قسم الحوادث والطوارئ
8. الأنشطة العملية
9. البرامج التدريبية
10. المداورة على الوحدات والاختصاصات الأخرى

يلتزم المتدرب بتقديم السجل العلمي والعملية الى المشرف العلمي لمراجعته في نهاية كل سنة (بجانب المراجعة الدورية خلال السنة التدريبية). بعد الانتهاء من الخمس سنوات التدريبية، يلتزم المتدرب بملء ملخص السجل العلمي والعملية الذي يحتوى على كافة الأنشطة خلال سنوات التدريب، وتحتوى على الآتي:

1. بيانات المدرب ومركز التدريب
2. كيفية استخدام ملخص السجل العلمي والعملية
3. اجمالي العمليات الجراحية ومستوى المشاركة فيها
4. الأنشطة العلمية
5. البرامج التدريبية
6. المداورة على الوحدات والاختصاصات
7. ملخص البحث العلمي وَقُلْ رَبِّ زِدْنِي عِلْمًا

يتم إرسال ملخص السجل العلمي والعملية والملخص السنوي الى لجنة البرامج والتدريب في نهاية البرنامج التدريبي للدراسة للتأكد من استيفاء متطلبات التدريب قبل التصريح بالجلوس للامتحان الكتابي النهائي.

البحث العلمي

يعتبر تقديم بحث علمي سريري (Clinical Research) أحد الأدلة على تميز المتدرب ويؤخذ في الاعتبار عند تقييم السجل العلمي للمتدرب، بشرط الالتزام بتطبيق المنهجية العلمية للعمل البحثي وعلى ان يكون تم نشره في مجلة علمية او تمت مناقشته من قبل لجنة اكااديمية لمناقشة البحوث العلمية او تم عرضه وتقديمه في مؤتمر علمي.

Research Preparation Requirements:

1. **Choosing the research topic:**
 - The topic must be relevant to the specialty or one of its branches.
 - It is preferable that the topic addresses a common or practically applicable health problem.
2. **Obtaining ethics committee (IRB) approval** if the research involves collecting patient data.

3. Developing the research proposal:

- Title
- Introduction and literature review
- Research hypothesis or question
- Objectives
- Methodology (design, sample, analytical methods)
- Ethical considerations
- Timeline

4. Data collection and analysis:

- Use appropriate statistical tools for data analysis.
- Maintain scientific integrity and complete confidentiality when handling information.

5. Writing the final research paper:

- Follow the scientific structure: abstract, introduction, methodology, results, discussion, conclusions, references.
- Write in clear, unbiased scientific language.

Procedures

- The trainee begins work on the research project in the third year of training. The research proposal, along with academic and ethical approvals, must be submitted to the General Secretariat through the training canter during the second year.
- The research project is completed during the third – fourth year of training.
- The research is reviewed by the Programs and Training Committee at the end of the fourth year (classified as “satisfactory” or “unsatisfactory”) and is one of the prerequisites for taking the final cognitive exam.
- The approved standards for recognizing research completion are as follows:
 1. Publication in the Arab Board Journal or any peer-reviewed scientific journal, or presentation at a scientific conference.
 2. Discussion and approval of the research by an academic committee in the training canter.
 3. Review and approval of the research by the Programs and Training Committee.

Course contents and suggested references

1. Campbell's Operative Orthopedics, 4-Volume Set
2. Rockwood CA Jr, Wilkins KE, Beaty JH, eds. Fractures in Children.
3. Tachdjian's Pediatric Orthopedics
4. McRae's Orthopaedic Trauma and Emergency Fracture Management
5. Apley & Solomon's system of orthopaedics and trauma
6. Paley D. Principles of Deformity Correction.
7. Operative Approaches in Orthopedic Surgery and Traumatology
8. Shoulder arthroscopy. 3rd Ed.
9. Coughlin and Mann's Surgery of the Foot and Ankle. 10th ed.
10. Morrey's the Elbow and Its Disorders. 5th ed.
11. Browner BD, Jupiter JB, Krettek C, Anderson P, eds. Skeletal Trauma: Basic Science, Management, and Reconstruction. 6th ed.
12. E. Carlos Rodríguez-Merchán, Advances in Orthopedic Surgery of the Knee
13. Stephen Kates, Olivier Borens: Principles of orthopedic infection management
14. Orthopedic Management of the Hip and Pelvis

طرق القياس والتقويم:

- تحديد طرق القياس والتقويم المستمر بحيث تكون واضحة ومفصلة بما يضمن قياس مستوى تقدم المتدربين نحو أهداف التدريب والتعلم.
- وصف مكونات الامتحانات التحصيلية (الأولي - النهائي بشقيه المعرفي والعملي) وفق أنظمة المجلس العربي

الامتحان الأولي: بعد إتمام تسعة أشهر تدريب فعلي من تاريخ بداية التدريب، وهو عبارة عن ورقتين كل ورقة تحتوي على 100 سؤال (أسئلة متعددة الخيارات MCQs) ومدة كل ورقة ساعتان ونصف الساعة.

الامتحان النهائي المعرفي: بعد إتمام سنوات التدريب وكافة متطلبات التدريب الواردة في دليل التدريب، واجتياز مراجعة السجل العلمي والعملي Logbook، يتكون الامتحان من ورقتين كل ورقة تحتوي على 100 سؤال (أسئلة متعددة الخيارات MCQs) ومدة كل ورقة ساعتان ونصف الساعة.

Assessment Methods and tools

In CBME residency training programs, assessment is continuous, frequent, and criterion-based, focusing on measuring trainees' progress toward specific training and learning objectives.

First: Workplace-Based Assessment and End of Rotation Evaluation

These assessments are carried out by the attending consultant responsible for the resident during the training unit. This takes the form of examinations, whether written or clinical, with the aim of giving the resident feedback about performance, knowledge level, and skills.

- Multiple workplace-based assessment tools are used, including:
- Mini-Clinical Evaluation Exercise (mini-CEX)
- Direct Observation of Procedural Skills (DOPS)
- Case-based discussions
- Multi-source feedback (MSF)
- Record reviews
- Clinical Encounters

Residents' performance is reviewed by Clinical Competency Committees (CCC) at least twice a year, using milestones and other performance data to track progress and identify areas needing support or remediation. Assessments are conducted regularly and documented systematically, with feedback provided to residents to guide their learning and improvement.

Second: Assessment of Professional and Behavioral Performance

This includes patient satisfaction surveys, peer assessments, evaluations by support staff, direct observation of patient interactions, and student evaluations.

Third: Summative Assessment

These take the form of written (knowledge) and clinical (practical) exams based on the learning outcomes for each stage of training.

Primary (Cognitive) Exam at the End of Year One

A knowledge exam designed to ensure trainees have obtained the necessary knowledge in basic and applied health sciences relevant to the specialty and general professional principles. The format, number of questions, number of allowed trials and details are determined by the relevant scientific council according to general principles in cooperation with the measurement and evaluation administration and the Arab Board bylaw of academic regulations.

This exam is held twice a year on the electronic examination platform at accredited exam centers simultaneously. The passing mark is set according to the bylaws of the Arab Board following standard settings.

The primary exam of Orthopedics consists of two papers, each paper containing 100 (MCQs) questions aligning with the training curriculum map. The time is two hours and a half for each paper.

Final Exam: Consists of Two Parts: knowledge and practical clinical exams.

Final knowledge Exam:

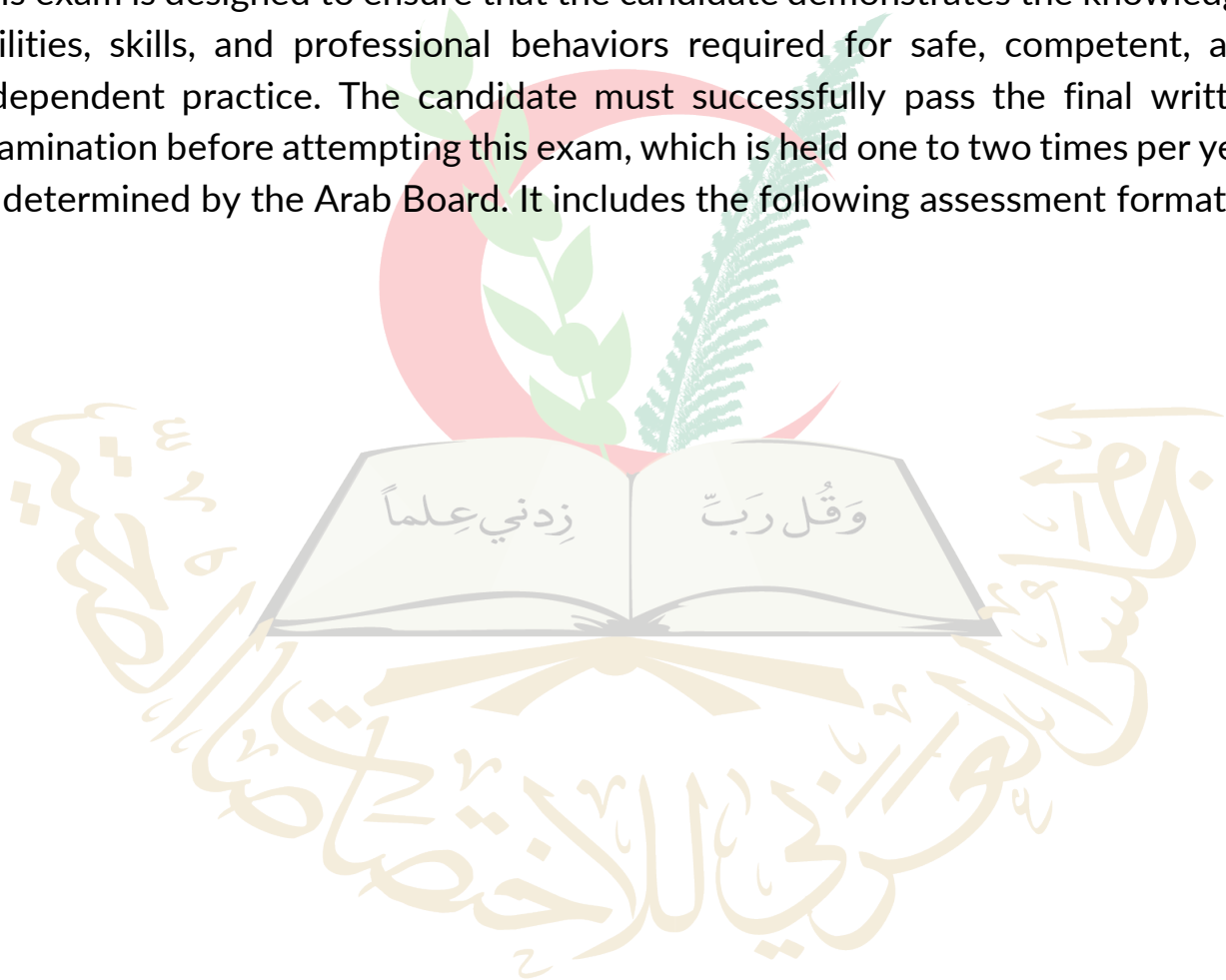
Ensures the trainee's knowledge and cognitive competence in advanced applied and clinical sciences relevant to their specialty. This is taken before the final practical exam. The format, number of questions, number of allowed trials and details are determined by the Arab Board bylaw of academic regulations.

The final knowledge exam is held once a year on the electronic examination platform at accredited centers in the last quarter of the year, concurrently with the second round of the primary exam. An exceptional round may be held with

first round timing upon request by the scientific council chair. The passing mark is set according to the bylaws of the Arab Board following standard settings. The final exam of Orthopedics consists of two papers, each paper containing 100 (MCQs) questions aligning with the training curriculum map, the time is two hours and a half for each paper.

Final Practical Clinical Exam:

This exam is designed to ensure that the candidate demonstrates the knowledge, abilities, skills, and professional behaviors required for safe, competent, and independent practice. The candidate must successfully pass the final written examination before attempting this exam, which is held one to two times per year as determined by the Arab Board. It includes the following assessment formats:



Blueprint for discussion: Arab Board Orthopaedic Surgery				Representation in the different assessments				
				MCQ	Viva	Long case	Short case (OSCE)	logbook
Orthopaedic Diseases: 50 %	General Orthopaedic: 5 %	Infections:		Yes	Yes	Yes	Yes	
		Metabolic diseases:		Yes	Yes	Yes	yes	
		Operative topics:		Yes	Yes			Yes
		Basic science:		Yes	Yes			
		Prosthetic and orthotics:		Yes				Yes
		Research:		Yes	Yes	Yes	Yes	
		Investigations:		Yes	Yes	Yes		
	Upper limb (shoulder & elbow pathology including sports): 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes			
		Surgical approach:		Yes	Yes	Yes		
		Risk assessment / complications:		Yes	Yes	Yes		
	Hand & wrist: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment / complications:		Yes	Yes	Yes		
	Adult reconstruction: 10 %	Hip: 5 %	Basic science:	Yes	Yes			
			History and physical examination:	Yes	Yes	Yes	Yes	
			Diagnostic work up:	Yes	Yes	Yes		
			Treatment:	Yes	Yes	Yes		Yes
			Surgical approach:	Yes	Yes	Yes		Yes
			Risk assessment / complications:	Yes	Yes	Yes		
		Knee: 5 %	Basic science:	Yes	Yes			
			History and physical examination:	Yes	Yes	Yes	Yes	
			Diagnostic work up:	Yes	Yes	Yes		
			Treatment:	Yes	Yes	Yes		Yes
			Surgical approach:	Yes	Yes	Yes		Yes
			Risk assessment / complications:	Yes	Yes	Yes		
	Sport medicine: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment /						
	Foot and ankle: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes

Blueprint for discussion: Arab Board Orthopaedic Surgery				Representation in the different assessments				
				MCA	Viva	Long case	Short case (OSCE)	Logbook
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment / complications:		Yes	Yes	Yes		
	Spine: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment / complications:		Yes	Yes	Yes		
	Paediatrics: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment / complications:		Yes	Yes	Yes		
	Orthopaedic oncology: 5 %	Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes
		Risk assessment / complications:		Yes	Yes	Yes		
Orthopaedic trauma: 50 %	General trauma: 10%	Basic Science						
		Anatomy		Yes	Yes	Yes	Yes	
		Biomechanics		Yes	Yes			
		Pathology		Yes	Yes			
		Clinical Assessment						
		Severely injured patient		Yes	Yes			Yes
		All types of fractures & Dislocations		Yes	Yes	Yes	Yes	Yes
		Life & limb threatening		Yes	Yes			Yes
		Investigations		Yes	Yes			
		Treatment						
		Options		Yes	Yes	Yes	Yes	
		Pros & Cons		Yes	Yes	Yes	Yes	
		Severely injured		Yes	Yes			
		Common fractures, Open & Pathological fractures		Yes	Yes	Yes	Yes	Yes
	Upper limb: 10%	Specialised fractures		Yes	Yes	Yes	Yes	Yes
		malunion, non-union, etc		Yes	Yes	Yes	Yes	Yes
		amputation		Yes	Yes	Yes	Yes	Yes
		Basic science:		Yes	Yes			
		History and physical examination:		Yes	Yes	Yes	Yes	
		Diagnostic work up:		Yes	Yes	Yes		
		Treatment:		Yes	Yes	Yes		Yes
		Surgical approach:		Yes	Yes	Yes		Yes

Blueprint for discussion: Arab Board Orthopaedic Surgery				Representation in the different assessments				
				MCQ	Viva	Long case	Short case (OSCE)	logbook
		Risk assessment / complications:		Yes	Yes	Yes		
Hand & wrist: 5 %	Basic science:			Yes	Yes			
	History and physical examination:			Yes	Yes	Yes	Yes	
	Diagnostic work up:			Yes	Yes	Yes		
	Treatment:			Yes	Yes	Yes		Yes
	Surgical approach:			Yes	Yes	Yes		Yes
	Risk assessment / complications:			Yes	Yes	Yes		
lower limb: 10%	Basic science:			Yes	Yes			
	History and physical examination:			Yes	Yes	Yes	Yes	
	Diagnostic work up:			Yes	Yes	Yes		
	Treatment:			Yes	Yes	Yes		Yes
	Surgical approach:			Yes	Yes	Yes		Yes
	Risk assessment / complications:			Yes	Yes	Yes		
Pelvis and Acetabulum: 2.5 %	Basic science:			Yes	Yes			
	History and physical examination:			Yes	Yes	Yes	Yes	
	Diagnostic work up:			Yes	Yes	Yes		
	Treatment:			Yes	Yes	Yes		Yes
	Surgical approach:			Yes	Yes	Yes		Yes
	Risk assessment / complications:			Yes	Yes	Yes		
Foot and Ankle: 2.5 %	Basic science:			Yes	Yes			
	History and physical examination:			Yes	Yes	Yes	Yes	
	Diagnostic work up:			Yes	Yes	Yes		
	Treatment:			Yes	Yes	Yes		Yes
	Surgical approach:			Yes	Yes	Yes		Yes
	Risk assessment / complications:			Yes	Yes	Yes		
Spine: 5 %	Basic science:			Yes	Yes			
	History and physical examination:			Yes	Yes	Yes	Yes	
	Diagnostic work up:			Yes	Yes	Yes		
	Treatment:			Yes	Yes	Yes		Yes
	Surgical approach:			Yes	Yes	Yes		Yes
	Risk assessment / complications:			Yes	Yes	Yes		
Paediatrics: 5 %	basic science			Yes	Yes			
	History and physical examination			Yes	Yes	Yes	Yes	
	Diagnostic work up			Yes	Yes	Yes		Yes
	Treatment			Yes	Yes	Yes		Yes
	Surgical approach			Yes	Yes	Yes		
	Risk assessment / complications:			Yes	Yes	Yes		

Review and Improvement Mechanism for the Program:

Quarterly Logbook/Portfolio revision by the educational supervisor

Annual evaluation of the logbook/Portfolio by the scientific council member of the country

Whole program Logbook summary review by the Program & Training Committee

Yearly Trainer Report

Feedback from trainees

Formative assessment according to the attached guidelines.

Annual Review Process; interviewing the trainee about the Logbook/Portfolio content by the scientific council member of the country

Appendices

1. Annual logbook summary
2. Final logbook summary
3. Blueprint
4. Accreditation matrix for hospitals
5. Formative assessment guidelines.

Upon completion the training program successfully and fulfilling all the requirements and passing the final exams, the physician is awarded the Arab Board specialty certificate.

Name of Certificate (English)

**Arab board of Health Specializations – Orthopedics
(ABHS-Ortho)**

اسم الشهادة باللغة العربية

**شهادة المجلس العربي للاختصاصات الصحية
اختصاص في الجراحة العظمية**