



# MUSCULOSKELETAL SURGICAL ONCOLOGY FELLOWSHIP TRAINING PROGRAM

Department of Orthopedic Surgery

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## I. INTRODUCTION

The King Faisal Specialist Hospital & Research Centre (General Organization) [KFSH&RC] is a tertiary care institution that deals with complex problems referred Kingdom-wide for specialized care. A fellowship in Musculoskeletal Surgical Oncology is established to utilize and take advantage of the wealth of material that is available in the Institution.

### **Clinical resources**

*Outpatients.* Outpatient clinics, including a Combined Sarcoma Clinic are held regularly. Patients referred to the clinics are approved by the Department of Orthopedic Surgery through the medical eligibility system. Approximately 400 patients are seen at the clinics monthly of which 50 are new referrals. A combined interdisciplinary clinic, the Sarcoma Clinic, has been established to improve patient care. Local outreach visits are regularly done by consultants which fellows may attend.

*Inpatients.* Ward C2 is the Orthopedic Department ward which has a complement of 26 beds; approximately 8 beds are constantly occupied by oncologic cases.

*Operating Room.* Sunday and Tuesday are full Operating Room days; total of 26 hours per week. Total major cases performed per year is over 200, while the total minor cases performed per year is over 300. The Hospital has a superb infrastructure in place for day surgical and medical surgical cases managed in conjunction with other disciplines.

*Technologic advances* at KFSH&RC include electronic medication, PACS, radiologic programs within a superb Medical Imaging Services, CBAY dictating system, and electronic library access to most orthopedic journals.

*Research,* basic and clinical, is carried out in conjunction with the Research Centre, and academic activities such as departmental symposia and workshops are actively conducted with Academic and Training Affairs.

## II. GENERAL OBJECTIVE

It is the purpose of the fellowship in Musculoskeletal Surgical Oncology to develop the clinical skills and principles of orthopedic care at the level of a subspecialist in the management of musculoskeletal tumors of adults and children. There are some special aspects of the KFSH&RC that make this a unique fellowship program. The Hospital is a tertiary referral center of tumors for the entire Kingdom. Many patients are candidates for limb surgery, requiring wide resection of the tumors followed by

reconstruction. All tumors are managed jointly with Oncology and Radiotherapy; cases of adult tumors are seen and followed in the Combined Sarcoma Clinic held weekly, involving all three specialties.

### **III. SPECIFIC OBJECTIVES**

This Program will essentially be a “hands-on” fellowship training with direct responsibility for patient care. It aims to train orthopedic surgeons towards proficiency and competency in the following aspects of orthopedic oncology patient care.

- Comprehensive history taking pertaining to all orthopedic oncologic conditions.
- Coordination of work-ups including involvement and consultations of other services, treatment planning, and participation in major surgery with the aim of acquiring requisite surgical and management skills.
- Attendance at clinics and daily rounds.
- Comprehensive management of patients throughout the perioperative period; timely detection of problems and complications which may result in morbidity.
- Compiling and structuring comprehensive rehabilitation program for each postoperative case involving paramedical services such as physiotherapy, occupational therapy and orthotic and prosthetic services, where applicable.

### **IV. ADMISSION REQUIREMENTS**

Candidates must have completed residency training in Orthopedic Surgery. Applicants should possess a Saudi Specialty Certificate or must have at least passed the written examination and registered for the final parts. Other candidates must possess an equivalent certification; for example, the FRCS in Canada or certification by American Board of Orthopedic Surgery.

Candidates must submit reference letters from at least three consultants with whom the candidate had worked during the previous four years and for a period of at least six months and must provide a letter of release and sponsorship from his/her base hospital for full-time fellowship at KFSH&RC for a period of two years.

They must have successfully undergone a personal interview with the program director, Head of Section and other members of the Department.

### **V. STRUCTURE OF TRAINING PROGRAM**

#### ***A. Duration:***

The Musculoskeletal Surgical Oncology fellowship program will be 24 months in duration, commencing on the first day of the Gregorian calendar each year. An optional extra year may be offered to meritorious fellows to undertake research work

in the subspecialty, if the fellow's sponsoring hospital would permit it. This can be undertaken at KFSH&RC or can be spent overseas.

***B. Training capacity:***

The fellowship program can accommodate one clinical fellow per year, with a maximum capacity of two fellows in both levels, F1 and F2.

***C. Faculty Qualifications:***

The fellowship program faculty should be board certified orthopedic surgeons with subspecialty training and should have at least five years or more experience in the field of orthopedic oncology. They should have an academic background and experience in postgraduate education training in order to fulfill the comprehensive teaching responsibilities to achieve the educational goals of the fellowship program.

The faculty should have the expertise and knowledge to identify, coordinate and bring to completion all clinical and basic research projects of fellows that will ultimately result in a publication. They should be in a position to guide fellows in the evaluation of investigative methods and interpretation of accumulated data and statistics.

## **VI. PROGRAM CONTENT**

The program will be structured such that optimal patient care is assured at all times, whilst providing the fellows with opportunities to develop clinical skills and surgical dexterity. Fellows will be afforded the opportunity to develop skills in history taking, clinical examination, therapeutic judgment, radiologic assessment, practical surgical skills, perioperative care and rehabilitative aftercare. In addition, fellows will acquire experience in applicable administration, quality assurance, performance improvement and teaching. Fellows will be expected to participate in scientific or clinical projects, ongoing or new, that will ultimately result in a publication.

Fellows are expected to also actively participate in all academic activities of the Department and to present at least one Grand Round topic every six months. They must participate in regular literature reviews and reading tasks related to basic theoretical knowledge and advanced clinical information as directed by the consultant. Fellows will be expected to attend at least one international conference during each year of the program.

Fellows are required to do the hospital and unit orientations. They are second on-call and must attend and supervise all the residents' activities and conduct of examination with the Program Director, Section Head, and other medical staff.

During the rotation, the fellow will be expected to learn and perform oncological procedures, have surgically assisted or performed the following elective procedures:

Bone and soft-tissue sarcomas: epidemiology, radiology, pathology and fundamentals of surgical treatment

Biopsy of musculoskeletal tumors

The role of chemotherapy in the treatment of bone and soft-tissue sarcomas  
Isolated-limb perfusion in the treatment of advanced soft-tissue sarcomas  
The role of radiation therapy in the treatment of bone and soft-tissue sarcomas  
The biology and role of cryosurgery in the treatment of bone tumors  
Management of abdominopelvic sarcoma  
Management of truncal sarcoma  
Overview of resections around the shoulder girdle: anatomy, surgical considerations and classifications.  
Overview of pelvic resections: surgical considerations and classification  
Treatment of metastatic bone disease  
Buttockectomy  
Quadriceps muscle group excision  
Adductor muscle group excision  
Resection of the posterior compartment of the thigh  
Resections in the popliteal fossa and the posterior compartments of the leg  
Forequarter amputation  
Above-elbow and below-elbow amputations  
Posterior flap hemipelvectomy  
Hip disarticulation  
Above-knee amputation  
Below-knee amputation  
Phantom limb pain  
Review of endoprosthetic reconstruction in limb-sparing surgery  
Pelvic resections (internal hemipelvectomies)  
Sacrectomy  
Periacetabular resections  
Proximal and total femur resection with endoprosthetic reconstruction  
Distal femoral resection with endoprosthetic reconstruction  
Proximal tibia resection with endoprosthetic reconstruction  
Fibular resection  
Proximal humerus resection. The Tikhoff-Linberg procedure and its modifications  
Scapulectomy  
Pain management following limb-sparing surgery  
Rehabilitation following limb-sparing surgery  
Abdominoinguinal incision for the resection of pelvic tumors  
Canine osteosarcoma

## **VII. EVALUATION AND PROMOTION**

The fellow's level of competence and performance will be evaluated at a frequency determined by the Postgraduate Education Committee and in the manner as detailed in the Policy for Fellowship Training Program. A self-assessment examination covering the different topics in Orthopedic Oncology will be given at the end of the first and second years of fellowship training.

A fellow's advancement from year to year is contingent upon professional performance and personal growth. The criteria for promotion are as enumerated in the Policy for Fellowship Training Program.

Fellows are assessed continuously during preoperative and postoperative rounds, operating room, emergency room situations, bed side teaching, journal club, and other academic activities. They usually run clinic under consultant supervision and operating room and clinical privileges are also monitored.

The fellow's progress and promotion depend on their attendance in departmental activities (at least 75%). He/She should be on time in operating room, in responding to pages, and would do at least one daily patient round. He/She should be able to come on one of the weekend days to hand over documentation, medical records, and perform research.

### **VIII. COMPLETION**

A certificate of fellowship training at KFSH&RC will be awarded upon satisfactory completion of the requirements of the program.

A special certificate and a Department souvenir will be given to the fellows at the end of their fellowship program and during the Recognition day of the Department.

### **IX. DUTIES, LEAVES AND HOLIDAYS**

Regulations governing duties, leaves and holidays are as stipulated in the Policy for Fellowship Training Program.

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