

The structure of orthopaedic surgical training programs and research requirements

OPUS Webinar 19 May 2021



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Darkinjung land



Declaration of Interests

Conjoint Professor, University of Newcastle

Subject Coordinator, Graduate Programs in Surgical Education,
RACS / University of Melbourne

District Clinical Director of Surgery, CCLHD, NSW

Chair, NSW State Medical Committee, Avant Mutual

Australian Orthopaedic Association (AOA)
- Chair Federal Training Committee 2011-15
- Dean of Education 2015-20
- AOA 21 Goal Champion

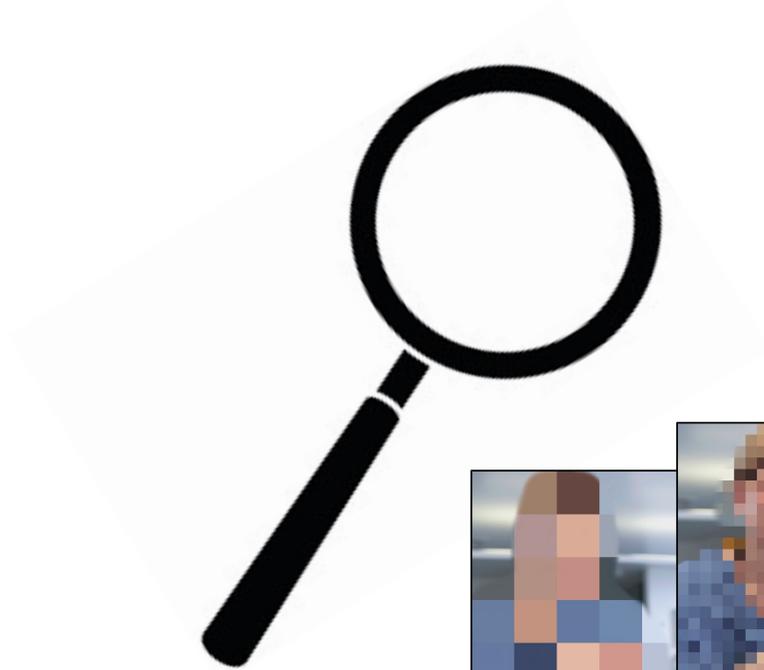
Today

- Describe the structure of the Australian orthopaedic surgical training program – ‘AOA 21’
- Compare international trends in orthopaedic surgical training programs
- Explain the research requirements for selection into the AOA 21 program.
- Outline the ‘in-training’ requirements for the AOA 21 program

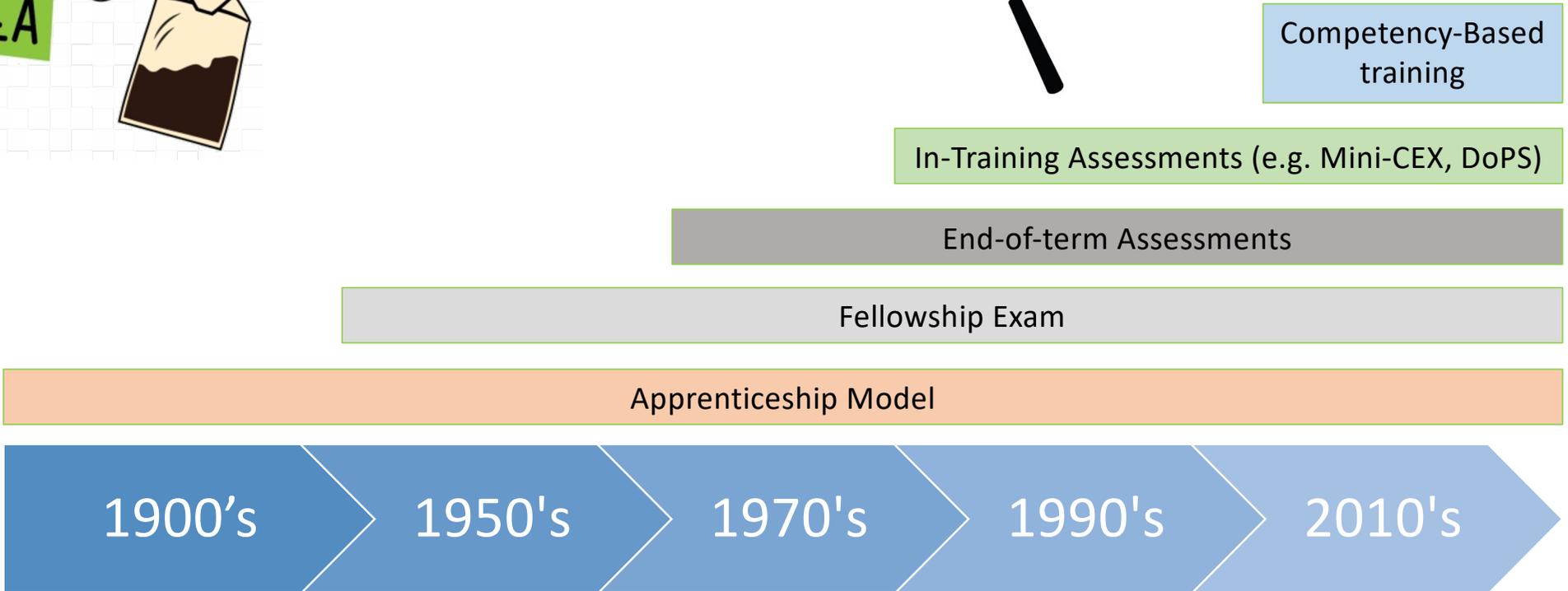
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Time- vs Competency-based program



Evolution of Surgical Education



Apprenticeship



Fixed time



Mostly direct observation



Incremental responsibility



High-stakes decisions made by the 'few'



Poor transparency and accountability



Tends to encourage 'clones'

Competency-based Education



Fixed goals/targets
Flexible time



Multiple types of
assessment



Entrustment
based on
achievement



High-stakes
decisions based
on the opinion of
the 'many'



Transparent &
accountable



Reliability comes
from multiple
samples

Flexible training

659 (55%) of Aust. surgical trainees

- 95% Full-time
- 0.3% Part-time (40hrs per week)

- 32% interested in flexible training (54% of females)

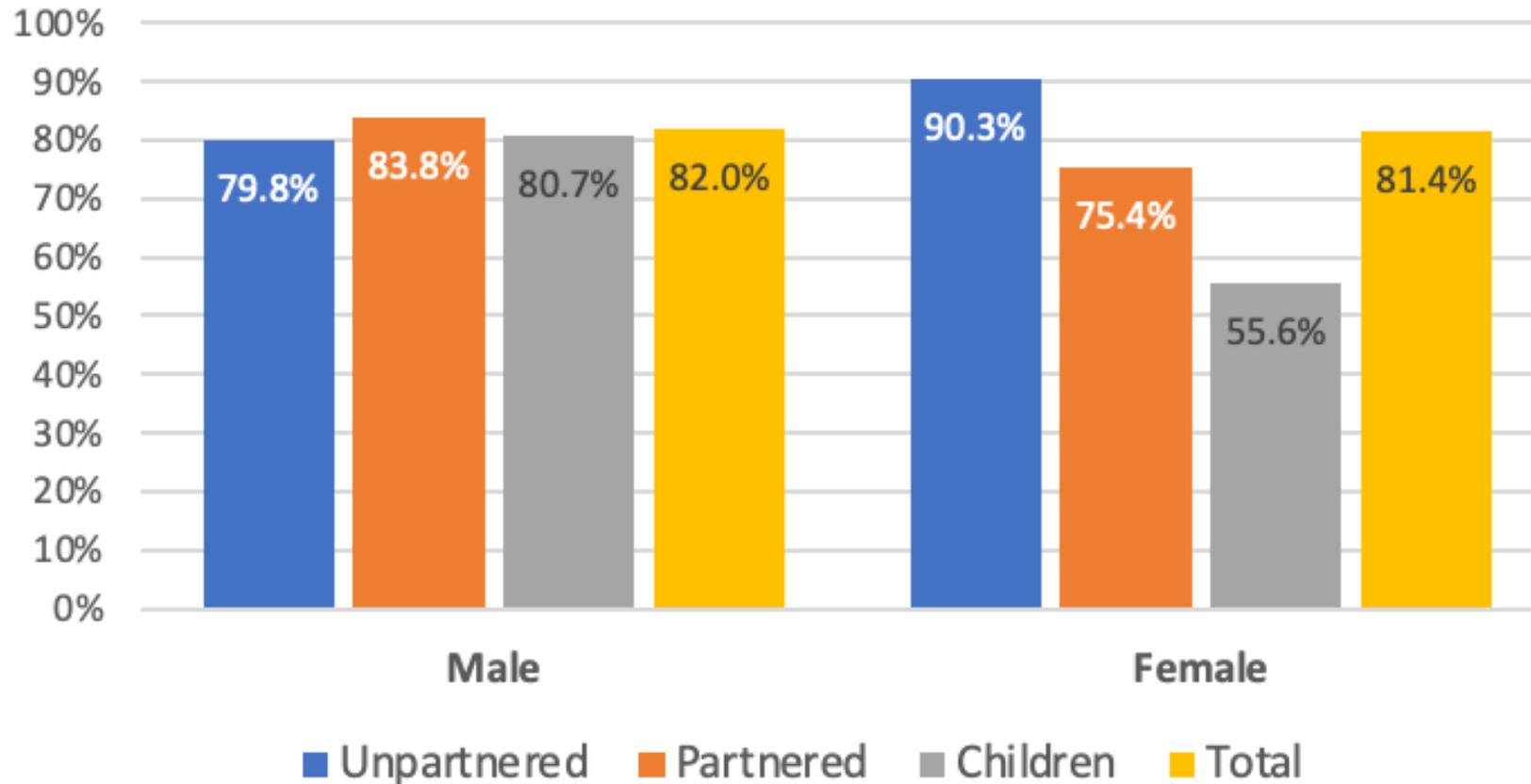
3 Factors associated with an increased interest in flexible training

Factor	<i>P</i> *
Fatigue is impairing concentration or performance at work	0.009
Fatigue is limiting participation in social or family life	< 0.001
Current working hours are in excess of preferred work–life balance	< 0.001
Perceived insufficient time in life for things outside of surgical training	< 0.001
Perceived insufficient time for surgical study and research needs	0.003

* Each question was assessed on a five-point Likert scale. *P* values reflect χ^2 analyses of Likert response and interest in flexible training. The full datasets for these analyses are provided as an Appendix (online at mja.com.au). ◆

McDonald, R., Jeeves, A., Vasey, C., Wright, D., O'Grady, G. (2013). **Supply and demand mismatch for flexible (part-time) surgical training in Australasia** Medical Journal of Australia 198(8), 423-425.

Pass Rate ABS Exams



Yeo, H., Dolan, P., Mao, J., Sosa, J. (2019). Association of Demographic and Program Factors With American Board of Surgery Qualifying and Certifying Examinations Pass Rates. *JAMA surgery* 155(1)

Expectations of Competency-based programs



Trainee-led assessments and ePortfolios



Trainer participation in assessments (and decisions)



Faculty development for trainers



Logistic and technological support from training organisations



Allocation of time for training in clinical setting by employers (accreditation)



Recognition of trainer efforts and excellence



Robust evaluation of training programs and pursuit of excellence





Curriculum Framework

Quality Patient Care

Section 3 - Applied Medical and Surgical Expertise Applied Sciences, Assessment, Management, Surgical Skills										
Trauma & Injury		Shoulder, Elbow, Hand & Wrist		Hip, Knee, Foot & Ankle, Spine		Tumour & Tumour-like Conditions		Paediatrics		Systemic Medical Conditions

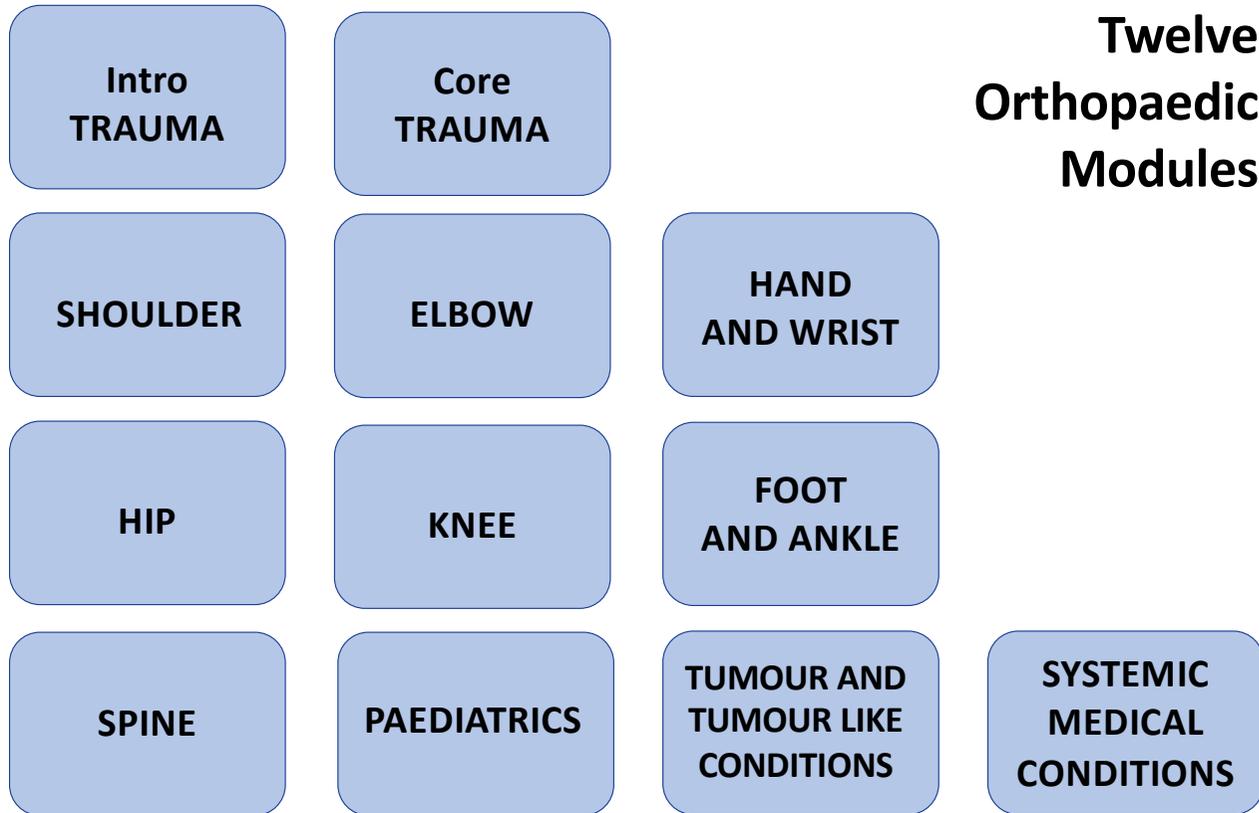
Section 2 - Medical and Surgical Expertise Orthopaedic Basic Sciences, Medical Expertise, Surgical Expertise

Section 1 - Foundation Competencies					
Communication	Teamwork & Conflict Management	Professionalism	Leadership & Organisational Skills	Advocacy	Education & Research

AOA Training Program						
Stage	Pre-requisites	Introduction to Orthopaedics	Core Orthopaedics	Transition to Consultant Practice	Fellowship	
Approximate time frame*	12 - 36 months	Approx. 12 - 18 mths MAX 2 YEARS	Approx. 3 years MAX 7 YEARS (INTRO+CORE)	Approx. 12 mths MAX 2 YEARS	Career	
Assessment	General Surgical Science Examination Basic orthopaedic surgery skills	SELECTION Portfolio: Attendance at bone camp ASSET, CriSP & TIPS courses DBPS Exam Feedback Entries Workplace Based Assessment: <ul style="list-style-type: none"> • Patient Consultation Assessment • Management Plan Assessment • Case Based Discussion • Surgical Skills Assessment Logbook of surgical skills Completion of trauma procedures (assessed by SSA)	REVIEW OF COMPETENCE TO PROGRESS Portfolio: Attendance at Bone School EMST Course Feedback Entries Workplace Based Assessment: <ul style="list-style-type: none"> • Patient Consultation Assessment • Management Plan Assessment • Case Based Discussion • Surgical Skills Assessment Logbook surgical skills Completion of Orthopaedic modules Fellowship Examination	REVIEW OF COMPETENCE TO PROGRESS Research Project Workplace based assessment relevant to plan Tailored CPD (110 points)	REVIEW OF ELIGIBILITY FOR FELLOWSHIP	

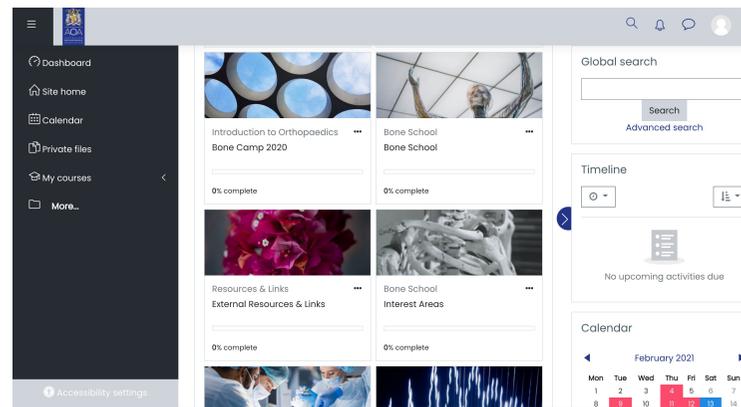
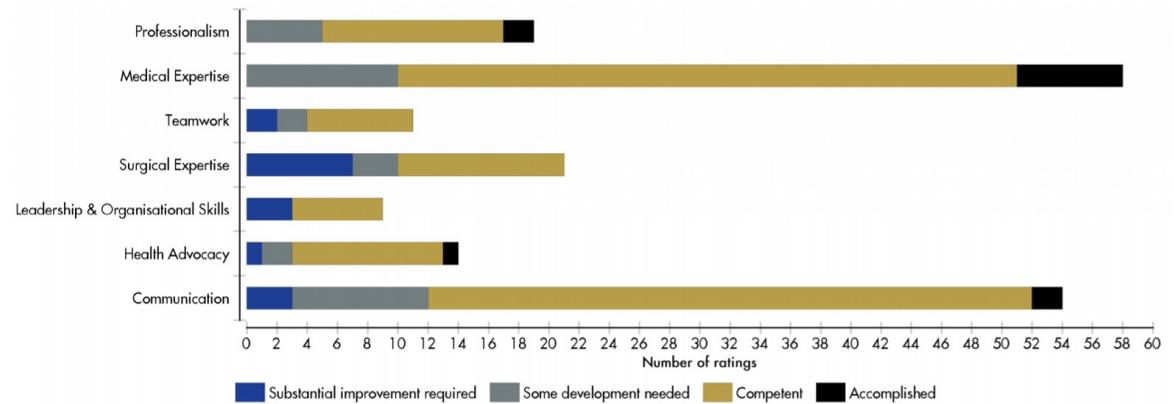
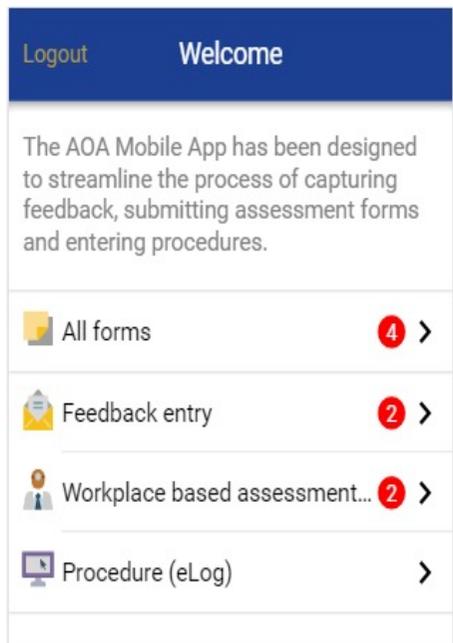
* Competency-based assessment. Approximate time frame indicates anticipated progression for the majority of trainees.

AOA 21 - Orthopaedic Modules



Managing the program

- Electronic capture and presentation essential



International trends in orthopaedic surgical training programs

- Increase in competency-based training programs that are less time-dependent
- Increased use of 'programmatic assessment' principles
- Logbook vs assessment of competence
- Far greater use of simulation for surgical training – Australia slowly increasing
- Increased focus on 'intrinsic roles' required in surgery
- Intake direct from medical schools
- Varied demand for training positions
 - Canada have similar numbers of applicants and positions
 - Australia have 5 applicants for every position

Questions?



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AOA 21 program selection



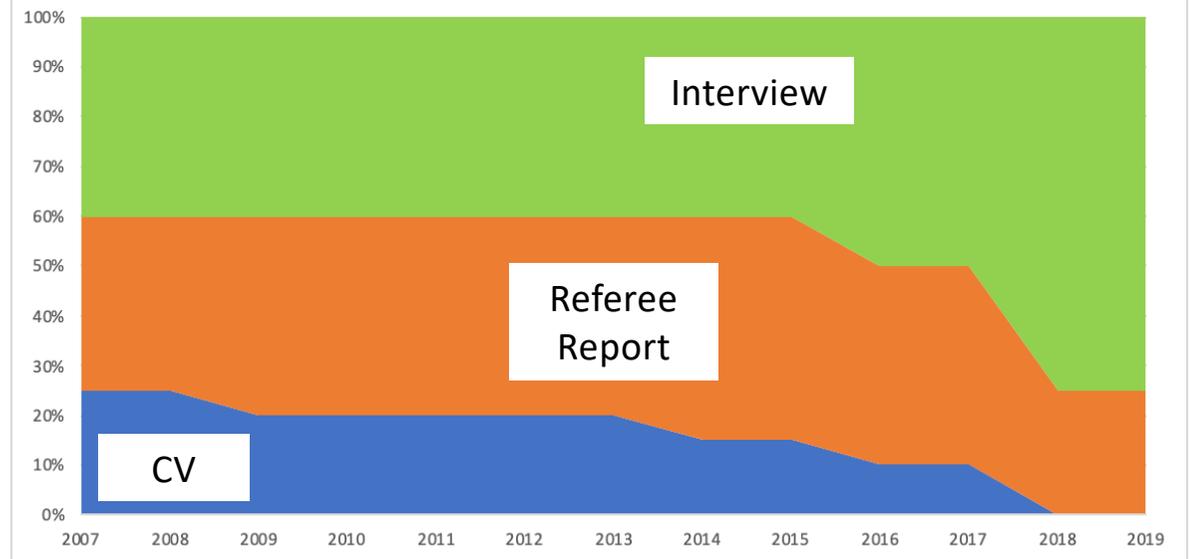
Regulations for Selection to the AOA 21 Training Program in Orthopaedic Surgery for 2022



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Selection Score



Current Selection Requirements	Points Allocation
Eligibility	
<ul style="list-style-type: none"> Evidence of permanent residency Evidence general medical registration Hand Hygiene Learning Module completed Operating with Respect eModule completed Pass in Generic Surgical Sciences Examination 	
CV Components and Marking	
Surgical and Medical Experience Orthopaedic surgical terms and surgical terms in plastic surgery, vascular surgery, neurosurgery or general surgery undertaken within the last five years	4 points maximum, maximum of 2 points for experience gained in one hospital
Skills Courses BST, ASSET, CCrISP or EMST Attendance at an AOA National Scientific Meeting	3 points maximum, 1 point per course or ASM
Higher Education Qualifications Successful completion of a <u>Masters</u> relevant to the practice of orthopaedic surgery, or Doctorate	3 points maximum, 2 points per <u>Masters</u> degree, 3 points per Doctorate.
Research Presentation Presentations personally delivered by applicant at various AOA or RACS meetings, or equivalent international meetings	2 points maximum
Research Publication Article in a peer reviewed journal, with a minimum impact factor of one or above, where applicant is the published author	4 points maximum 3 points per article where applicant is the first author, 1 point where applicant is a latter author
Maximum score	16

Referee Reports	
Applicants must list each site they have worked during the previous two clinical years. One departmental Referee Report is collected from each site, which rates the applicant against a series of behavioural descriptors across CanMEDs competency domains. The departmental Referee report represents the consensus opinion of the surgical team and incorporates non-surgical colleagues.	Score out of 100.

Interviews	
Interviews conducted by a series of six interview panels, each comprised of at least two members. Applicants spend a maximum of 10 minutes with each panel. Applicants asked standard initiating questions, followed by probing questions to explore breadth and depth of experience. Interviewers use criterion referenced marking guide with embedded point scoring options. The score for each panel in the mean of the interviewer scores.	Scores for interview. Panels combined and converted to score out of 75.

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AOA 21 program research requirements

Key features

- Choice of three pathways
 - Project pathway
 - Coursework pathway
 - PhD pathway
- Collaboration on research completed for project pathway
- Support for trainee interested in becoming a surgeon scientist
- Recognition of prior learning and completed research
- Completion after the Fellowship Examination



Project Pathway

- Major research project
 - Randomised controlled trial
 - Cross sectional study
 - Prospective or retrospective cohort study
 - Comparative study
- Up to three trainees can collaborate on one project
- Supervisor provides the continuity
- Must be directly relevant to orthopaedic surgery



Project Pathway

- Five components:
 1. Literature review
 2. Hypothesis and study design
Submit and continue or handover
 3. Data collection and analysis
Submit and continue or handover
 4. Interpretation of results
 5. Discussion and conclusions
- Publishable standard - assessment by Federal review panel
- Trainees must present at AOA ASM or equivalent

Coursework Pathway

Part A

- Completion of a graduate certificate, graduate diploma or Masters degree
- Study must include a minimum of 2 of the following subjects:
 - Clinical Epidemiology
 - Biostatistics
 - Research Methods
 - Evidence based Medicine
- Trainees prospectively submit an application for a course of study

Coursework Pathway

Part B

- 'Mini' research project
- Study design as per the project pathway or:
 - Systematic review
 - Case series or case reports
 - Clinical Audit
- Assessment by research panel to a regional review panel
- May be selected to present at a Regional ASM

PhD Pathway

- Accredited research training posts during Core Orthopaedics
- Applications would be made to the hospital
- Clinical load at 0.5 FTE while completing research toward a PhD
- Communication to training sites regarding criteria will commence mid-year



Recognition of prior learning

- Research or study completed within the last 5 years will be considered
- Study must be equivalent to requirement in coursework pathway
- Research must be equivalent to requirements of the project or coursework pathway and directly relevant to orthopaedic surgery
- Trainees must present their research

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