Postgraduate Orthopaedics: The Candidate's Guide to the FRCS (Tr & Orth) Examination

Second edition

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Foreword

Success with the examination is about technique as much as knowledge. This book will be as good as others from the knowledge point of view but adds huge insight into technique. All examinations, whether it be your driving test or the FRCS (Tr & Orth), demand a disciplined technique. This book gives many pointers as to where a good technique helps to overcome the stress of the examination. Knowledge is a must but in itself is not enough. I would advocate this book to all orthopaedic year 1 trainees. That is when you need to start preparation – not year 4. Use this book to guide preparation for the examination. If I can add my own advice, then it is to practise every day. Pester your consultants to viva you every day for 10 minutes. Understand the principles of everything you do in the course of your orthopaedic practice.

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Preface to second edition

One of the aims of the first edition was to cover the whole FRCS (Tr & Orth) syllabus in one book, which had never previously been attempted. As such there were always going to be areas that could have read better. In addition, the exam format keeps changing with the long case format now dropped in favour of the intermediate cases. There was a feeling of unfinished business and a need for a second edition.

Whilst 'Examination corner' has proved extremely popular with candidates it has been criticized in some quarters. Rather than providing a list of topics asked in the orals we wanted to give a more detailed account of the interaction between candidate and examiner but without going into minutiae. Examination corner does not magically allow candidates to pass the exam but rather guides them better; it is not a substitute for the hard work and slog needed to get through the exam successfully.

As the first edition had been extensively edited we were able to revisit and improve several examination corner scenarios with more dialogue. If this has not been possible we have gone with the original first edition versions except where the dialogue is now dated and incorrect. We have continued to include long case material despite this format being dropped as the material still offers good learning opportunities. The long case material is still relevant because the same cases appear in the exam, a comprehensive performance is still expected and the examiners ask the same sorts of questions.

It is our great pleasure to be able to involve a number of trainees who have used the first edition to navigate through the exam successfully. It is vital that the book stays relevant and up to date, and involving newly exam-qualified trainees will hopefully ensure the continued success of the book.

The second edition features five additional chapters: surgical approaches, anatomy, Article 14, SAS doctors and orthopaedic oncology. Whilst each chapter is an exciting new addition to the book we are particularly pleased with the anatomy and surgical approaches chapters as they cover difficult dry areas of the syllabus that still need to be learnt by a candidate. All other chapters have been thoroughly revised to improve the content and cover the syllabus more thoroughly.

As with the first edition we continue to make no claim for the originality of the material contained in the text. We are attempting to synthesize material in the wider orthopaedic domain into a succinct and easily readable format to guide candidates through the exam. The original core material evolved from notes made whilst preparing for the FRCS (Tr & Orth) examination from a wide variety of differing sources. We are still trying to avoid reinventing the wheel!

A special word of thanks to Nicholas Dunton at Cambridge University Press who luckily had the foresight to agree fairly quickly to a second edition. Life moves in many different directions very quickly and otherwise we may not have been writing this preface.

Paul A. Banaszkiewicz
Deiary F. Kader

Abbreviations

ABC	airway, breathing, circulation
ACJ	acromioclavicular joint
ACL	anterior cruciate ligament
AD	autosomal dominant
ADL	activities of daily living
ADM	abductor digiti minimi
AER	apical ectodermal ridge
AFO	ankle–foot orthosis
AIIS	anterior inferior iliac spine
AIN	anterior interosseous nerve
AKP	Anterior knee pain
ALL	anterior longitudinal ligament
ALVAL	aseptic lymphocyte-dominated vasculitis-associated lesions
AP	anterior–posterior
APB	abductor pollicis brevis
APL	abductor pollicis longus
AR	autosomal recessive
ARDS	adult respiratory distress syndrome
AS	ankylosing spondylitis
ASB	anatomical snuffbox
ASIS	anterior superior iliac spine
ATD	articular–trochanteric distance
ATFL	anterior talofibular ligament
ATLS	Advanced Trauma Life Support
ATP	adenosine triphosphate
AVN	avascular necrosis
BDGF	bone-derived growth factor
BMG	bone matrix gelatin
BMP	bone morphogenetic protein
BMUs	basic multicellular units
BOA	British Orthopaedic Association
BPTB	bone patella tendon–bone
CAP	Clubfoot Assessment Protocol
CCL	coracoclavicular ligament
CDH	congenital dislocation of the hip
CFL	calcaneofibular ligament
CIA	carpal injury adaptive
CIC	carpal instability complex
CID	carpal instability dissociative
CIND	carpal instability non-dissociative
CJD	Creutzfeldt–Jakob disease
CL	capitolunate
CMAP	compound muscle action potential
CMC	carpometacarpal
CMT	Charcot–Marie–Tooth
CMV	cytomegalovirus
CP	cerebral palsy
CPM	continued passive motion
CPN	common peroneal nerve
CR	cruciate retaining
CRP	C-reactive protein
CRPS	complex regional pain syndrome
CSF	cerebrospinal fluid
CTEV	congenital talipes equinovarus
CVP	central venous pressure
DCP	dynamic compression plate
DCS	dynamic condylar screw
DD	Dupuytren's disease
DDH	developmental dysplasia of the hip
DHS	dynamic hip screw
DI	dorsal interosseous
DIP	distal interphalangeal
DIPJ	distal interphalangeal joint
DISH	diffuse idiopathic skeletal hyperostosis
DISI	dorsal intercalated segmental instability
DMARDS	disease-modifying antirheumatic drugs
DP	distal phalanx
DRUJ	distal radioulnar joint
DV	dorsoventral
DVT	deep vein thrombosis
ECRB	extensor carpi radialis brevis
ECM	extracellular matrix
ECRL	extensor carpi radialis longus
ECU	extensor carpi ulnaris
EDB	extensor digitorum brevis
EDC	extensor digitorum communis
EDL	extensor digitorum longus
EDM	extensor digiti minimi
EDQ	extensor digiti quinti
EGF	epidermal growth factor
EHL	extensor hallucis longus

EIP	extensor indicis proprius
EMG	electromyograph
EMIs	extended matching items
EPB	extensor pollicis brevis
EPL	extensor pollicis longus
ESR	erythrocyte sedimentation rate
EUA	examination under anaesthesia
FBC	full blood count
FCR	flexor carpi radialis
FCU	flexor carpi ulnaris
FDB	flexor digitorum brevis
FDL	flexor digitorum longus
FDP	flexor digitorum profundus
FDQ	flexor digiti quinti
FDS	flexor digitorum superficialis
FFD	fixed flexion deformity
FGF	fibroblast growth factor
FHL	flexor hallucis longus
FPA	foot progression angle
FPB	flexor pollicis brevis
FPL	flexor pollicis longus
FTA	foot thigh angle
GA	general anaesthetic
GAGs	glycosaminoglycans
GI	gastrointestinal
HEA	Hilgenreiner's epiphyseal angle
HMSN	hereditary motor sensory neuropathies
HNP	herniated nucleus pulposus
HO	heterotopic ossification
HPT	hyperparathyroidism
HTO	high tibial osteotomy
HU	Hounsfield units
HVA	hallux valgus angle
IDGF	insulin-derived growth factor
II	image intensifier
ILs	interleukins
IMT	intermetatarsal
INR	international normalized ratio
IP	interphalangeal
IPJ	interphalangeal joint
ISB	Intercollegiate Specialty Boards
ITB	iliotibial band
IVC	inferior vena cava
JCA	juvenile chronic arthritis
JRA	juvenile rheumatoid arthritis
JRF	joint reaction force
KAFOs	knee–ankle–foot orthoses
LCDCP	low-contact dynamic compression plates
LCFA	lateral circumflex femoral artery
LCL	lateral collateral ligament
LCP	low compression plates
LHB	long head of biceps
LISS	less invasive stabilization system
LLD	limb length discrepancy
LRTI	ligament reconstruction tendon interposition
LTL	lunotriquetral ligament
MCFA	medial circumflex femoral artery
MCL	medial collateral ligament
MCP	metacarpophalangeal
MCQs	multiple choice questions
MDP	methylene diphosphonate
MDT	multidisciplinary team
MEN	multiple endocrine neoplasia
MEPs	motor-evoked potentials
MFC	medial femoral condyle
MFH	malignant fibrous histiocytoma
MMP	metalloproteinase
MOM	metal-on-metal
MS	multiple sclerosis
MSU	monosodium urate
MUA	manipulation under anaesthetic
NCS	nerve conduction studies
Nf-1	neurofibromatosis type 1
Nf-2	neurofibromatosis type 2
NICE	National Institute for Health and Clinical Excellence
NJR	National Joint Registry
NSAIDs	non-steroidal anti-inflammatory drugs
OA	osteoarthritis
OCD	osteochondritis dissecans
ODF	osteoclast differentiation factor (aka RANK ligand)
OPG	osteoprotegerin
OPLL	ossification of the posterior longitudinal ligament
ORIF	open reduction with internal fixation
ORL	oblique retinacular ligament
PCL	posterior cruciate ligament
PD	proximodistal
PDGF	platelet-derived growth factor
PE	pulmonary embolism
PE	polyethylene
PEEK	polyetheretherketone
PET	positron emission tomography
PFFD	proximal focal femoral deficiency
PFJ	patellofemoral joint
PGE_2	prostaglandin E2
PICU	paediatric intensive care unit
PIN	posterior interosseous nerve
PIP	proximal interphalangeal
PIPJ	proximal interphalangeal joint
PL	palmaris longus
PLAD	posterior lip augmentation device
PLC	posterolateral corner
PLIF	posterior interbody lumbar fusion
PLL	posterior longitudinal ligament
PMMA	polymethylmethacrylate
PNET	primitive neuroectodermal tumour

List of abbreviations

POP	plaster of Paris
PP	proximal phalanx
PQ	pronator quadratus
PS	posterior-stabilized
PT	pronator teres
PTFL	posterior talofibular ligament
PTH	parathyroid hormone
PVNS	pigmented villonodular synovitis
RA	rheumatoid arthritis
RHK	rotating-hinge knee
RLT	radiolunotriquetral
ROM	range of movement
RSD	reflex sympathetic dystrophy
RSWP	radial side wrist pain
RTA	road traffic accident
RVAD	rib vertebral angle difference
SACH	solid ankle cushion heel
SBA	single best answer
SCIWORA	spinal cord injury without radiological abnormality
SCJ	sternoclavicular joint
SEPs	sensory-evoked potentials
SHH	sonic hedgehog
SI	sacroiliac
SL	scapholunate
SLAC	scapholunate advanced collapse wrist
SLAP	superior labrum anterior to posterior
SLL	scapholunate ligament
SLR	straight leg raise
SNAC	scaphoid non-union advanced collapse wrist
SNAP	sensory nerve action potential
SOMI	Sternal Occipital Mandibular Immobilizer
SSEPs	somatosensory evoked potentials
STAR	Scandinavian total ankle replacement
STR	soft-tissue realignment
STS	soft-tissue sarcoma
STT	scaphotrapeziotrapezoid
SUFE	slipped upper femoral epiphysis
TAR	total ankle arthroplasty
TBW	tension band wiring
TENS	transcutaneous electrical nerve stimulation
TFA	tibiofemoral angle
TFCC	triangular fibrocartilage complex
TGF	transforming growth factor
THA	total hip arthroplasty
TIMPs	tissue inhibitory metalloproteinases
TKA	total knee arthroplasty
TKR	total knee replacement
TLHKAFO	thoraco–lumbar–hip–knee–ankle–foot orthosis
TLIF	transforaminal lumbar interbody fusion
TLSO	thoracolumbar spinal orthosis
TMA	transmalleolar thigh angle
TMJ	temporomandibular joint
TNF	tumour necrosis factor
TORCH	**t**oxoplasmosis, **o**ther, **r**ubella, **c**ytomegalovirus, **h**erpes simplex
TT	tibial tubercle
UCL	ulnar collateral ligament
UHMWPE	ultra high molecular weight polyethylene
UKA	unilateral knee arthroplasty
UKR	unilateral knee replacement
US	ultrasound
USS	ultrasound scan
USWP	ulnar side wrist pain
VIP	vasoactive intestinal polypeptide
VISI	volar intercalated segment instability
VMO	vastus medialis obliquus
VP	ventriculoperitoneal
VTE	venous thromboembolism
VVC	varus–valgus constrained
WCC	white cell count
ZPA	zone of polarizing activity