ABOS *Part I Certification Examination*

BLUEPRINT

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ABOS Part I Certification Examination Blueprint

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General Principles	**15.5%**
Biostatistics/Epidemiology	1%
Legal/Ethical/Systems-based Practice	1%
Basic Science Principles	4%
Anatomy and Surgical Approaches	4%
Multiple Trauma	1.5%
Metabolic Bone Disease	1%
Medical Aspects of Sports Medicine	1%
Perioperative Management	2%
Adult Spine	**9.5%**
Cervical	4%
Thoracic	0.5%
Lumbar	3.5%
Nonspecific site	1.5%
Upper Extremities	**24%**
Scapula/Clavicle/Acromioclavicular/Sternoclavicular	1%
Shoulder joint	7%
Humerus	0.5%
Elbow joint	4%
Forearm	1%
Wrist	5.5%
Hand	5%
Lower Extremities	**32%**
Pelvis	1.5%
Hip	5.5%
Femur	2%
Knee	10%
Tibia/fibula	3%
Ankle/Leg	6%
Foot	4%
Pediatrics	**12%**
Upper Extremity	2%
Lower Extremity	4.5%
Spine	1.5%
Sports	1.5%
General	1.5%
Neuromuscular	1%

Neoplasms	**7%**
Malignant Bone	*1%*
Benign Bone	*2%*
Metastatic Disease, Myeloma, Lymphoma	*2%*
Benign Soft Tissue	*0.5%*
Malignant Soft Tissue Tumor	*1%*
Syndromes	*0.5%*

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General Principles	*15.5%*
Biostatistics/Epidemiology	***1%***
Interpretation of epidemiologic information [disease prevalence and incidence, disease outcomes (eg, fatality rates), associations (eg, risk factors), health impact (eg, risk differences and ratios), sensitivity, specificity, predictive values]	
Study design and interpretation [types of experimental studies (eg, clinical trials), types of observational studies (eg, cohort, case-control), sampling and sample size, subject selection and exposure allocation (eg, randomization)]	
Hypothesis testing and statistical interference [confidence intervals, statistical significance and type I error, statistical power and type II error]	
Legal/Ethical/Systems-based Practice	***1%***
Consent and informed consent to treatment, physician-patient relationship, death and dying, research issues, interactions with other health professionals, cultural competence, physician wellness/burnout, safety, quality, teamwork, cost, value-based care, diversity	
Basic Science Principles	***4%***
Biology (fracture healing, biologics, pharmacology), biomechanics (including gait), inflammatory cascades and coagulation	
Anatomy and Surgical Approaches	***4%***
Anatomy, surgical approaches, and soft-tissue coverage	
Multiple Trauma	***1.5%***
Acute respiratory distress syndrome, systemic inflammatory response syndrome, fat embolism syndrome, orthopaedic management of polytrauma patient, initial assessment (ABCs, head, spine), open fractures, bone grafts/bone graft substitutes, mangled extremity, host risk factors, shock, hemopneumothorax	
Metabolic Bone Disease	***1%***
Osteoporosis, vitamin D, diabetes, Paget's disease, hyperparathyroidism	

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Medical Aspects of Sports Medicine	*1%*
Concussion*, cardiology, pulmonary, environmental exposure, infectious disease, endocrine (including female athlete triad, anabolic steroids, diabetes), gastrointestinal, genitourinary, return to play, skin conditions, facial/oral trauma, nutrition	
Perioperative Management	***2%***
Preoperative (infection and medical optimization, including nutrition, smoking cessation, glucose management/diabetes, weight loss, prehabilitation, inflammatory arthritis evaluation and management)	*0.5%*
Intraoperative (anesthesia/blocks, blood loss prevention, infection prevention, wound management, complications and safety)	*0.5%*
Postoperative (multimodal pain management*, rehabilitation, wound management, blood management, discharge disposition, prosthetics, deep vein thrombosis, pulmonary embolism, delirium, coagulopathy)	*1%*

*Must include at least one item

Adult Spine	*9.5%*
Cervical	***4%***
Occiput-C2 [fracture/dislocation/instability, spinal cord injury, herniated nucleus pulposus, arthritis (inflammatory, degenerative), spondylolisthesis (nondegenerative), radiculopathy, myelopathy]	*1%*
Cervical 3-7 [fracture/dislocation/instability, spinal cord injury, herniated nucleus pulposus, arthritis (inflammatory, degenerative), radiculopathy, myelopathy]	*3%*
Thoracic	***0.5%***
Thoracolumbar, fracture/dislocation/instability, spinal cord injury, herniated nucleus pulposus, arthritis (inflammatory, degenerative), deformity	
Lumbar	***3.5%***
Fracture/dislocation/instability, spinal cord injury, herniated nucleus pulposus, arthritis (inflammatory, degenerative), deformity	
Nonspecific site	***1.5%***
Spinal cord injury syndromes and management, infection*, deformity not elsewhere classified, disseminated idiopathic skeletal hyperostosis, ankylosing spondylitis, Reiter's syndrome, postoperative sagittal malalignment syndrome, sacroiliac dysfunction*, neurologic monitoring	

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Upper Extremities	*24%*
Scapula/Clavicle/Acromioclavicular/Sternoclavicular	***1%***
Fracture/dislocation/instability, reconstruction, malunion/nonunion, neuropathy/nerve injury, os acromiale, dyskinesia, snapping scapula, brachial plexus injuries	
Shoulder Joint	***7%***
Proximal humerus fractures	*1%*
Chronic/acute dislocations/instability, labral injuries	*1%*
Rotator cuff tendonitis/tendinopathy, rotator cuff tear, proximal biceps tendinopathy/tear	*1.5%*
Glenohumeral arthritis, arthritis with massive rotator cuff tear, other arthritis (osteonecrosis, post-traumatic, chondrolysis, capsulorraphy, inflammatory), infection (postoperative, septic vs aseptic arthritis)	*1%*
Primary shoulder arthroplasty (total, partial, reverse)	*1%*
Revision shoulder arthroplasty (infection, instability, loosening, malrotation, periprosthetic fracture)	*0.5%*
Other [throwing shoulder (glenohumeral internal rotation deficit, internal impingement), shoulder stiffness (adhesive capsulitis, postoperative, post-traumatic), Other (calcific tendonitis, pectoralis rupture, nerve injury, Charcot shoulder)]	*1%*
Humerus	***0.5%***
Shaft fracture, malunion/nonunion, nerve injury*	

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Elbow Joint	***4%***
Distal humerus fracture/dislocation*, proximal radius and ulnar fracture (radial head, Monteggia, coronoid, olecranon), tendon rupture (distal biceps, distal triceps)	*1.5%*
Arthritis (inflammatory, post-traumatic, joint replacement vs interposition), contracture/heterotopic ossification (osteoarthritis, post-traumatic), infection (postoperative, septic vs aseptic arthritis, periprosthetic)	*0.5%*
Acute and chronic Instability (medial collateral ligament injury, posterolateral rotatory instability)	*1%*
Other [tendinopathy/olecranon bursitis (medial and lateral epicondylitis), cartilage (osteochondritis dissecans/Panner's/ synovial chondromatosis), Other (arthroscopy, loose body, portal placement, posteromedial impingement)]	*1%*
Forearm	***1%***
Mid-shaft fracture, malunion/nonunion, longitudinal instability	*0.5%*
Other (compartment syndrome, nerve compression)	*0.5%*
Wrist	***5.5%***
Fracture (distal radius and ulna fracture, carpus, malunion, nonunion)	*1.5%*
Dislocation/Instability (distal radioulnar, radiocarpal, intracarpal)	*0.5%*
Arthritis/arthropathy (degenerative, post-traumatic, rheumatoid, septic, crystalline)	*1%*
Nerve (acute and chronic nerve injuries/compression, repair, tendon transfers)	*1%*
Tendon (tendonitis, lacerations, tears)	*0.5%*
Other [tendon (tendonitis, tears), osteonecrosis, triangular fibrocartilage complex, infection, Madelung deformity]	*1%*

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Hand	5%
Fracture (metacarpals, phalanges, malunion/nonunion)	1%
Dislocation/instability (carpometacarpal, metacarpophalangeal, interphalangeal, Gamekeeper's thumb)	0.5%
Arthritis/arthropathy (degenerative, inflammatory, traumatic, septic)	0.5%
Nerve (acute and chronic nerve injuries, neuroma, nerve repair/grafting, tendon transfers)	0.5%
Tendon (flexor and extensor, laceration, tendonitis, repair, reconstruction)	1%
Contracture (Dupuytren, Volkmann, intrinsic, factitious)	0.5%
Skin (lacerations, infection, lesions)	0.5%
Other (amputations, nailbed injuries, pressure injection injuries, carpal coalition, complex regional pain syndrome)	0.5%

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Lower Extremities	*32%*
Pelvis	***1.5%***
Pelvic and acetabular fractures, tendon/muscle, neuropathy/ nerve injury, insufficiency fractures	
Hip	***5.5%***
Femoral head and neck and intertrochanteric fracture, dislocations/instability	*1.5%*
Primary hip arthroplasty (total, partial)	*1.5%*
Revision hip arthroplasty (diagnostic evaluation, infection, instability, loosening, malrotation, periprosthetic acetabular fracture)	*1%*
Femoral acetabular impingement/labral tear	*0.5%*
Arthritis (inflammatory, degenerative)	*0.5%*
Other (tendon/tear, cartilage, osteonecrosis, nerve injury/ compression, infection, heterotopic ossification)	*0.5%*
Femur	***2%***
Periprosthetic fracture (hip and knee)	*0.5%*
Subtrochanteric, shaft, distal fracture	*1.5%*
Knee	***10%***
Dislocations/instability/ligament (ACL, PCL, MCL, LCL, PLC)	*2%*
Cartilage/meniscus	*1.5%*
Arthritis (inflammatory, degenerative)	*0.5%*
Primary knee arthroplasty (total, partial)	*2%*
Revision knee arthroplasty (infection, instability, loosening, malrotation, periprosthetic fracture)	*1%*
Extensor mechanism injury, patellofemoral joint (dislocation/ instability, fracture, arthritis)	*2%*
Other [osteochondral injuries, tendon, muscle, osteonecrosis, nerve injury, infection, heterotopic ossification, Baker's cyst, tibial spine fracture, amputation (above, through, and below knee)]	*1%*

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Tibia/fibula	***3%***
Proximal tibial fracture, plateau fracture and fracture/dislocations, proximal fibular fracture, shaft, distal tibia/fibula, stress injury, compartment syndrome*, proximal tibial osteotomy	
Ankle/Leg	***6%***
Fracture (ankle, pilon, stress), fracture/dislocation (syndesmosis injuries)	*2%*
Acute and chronic sprain, instability (medial and lateral collateral ligament)	*1%*
Arthritis (inflammatory, degenerative, total ankle arthroplasty, arthrodesis, osteotomy)	*1%*
Tendon/muscle (Achilles rupture acute or chronic, Achilles tendinopathy, peroneal tendon dislocation/rupture, gastrocnemius tear/contracture)	*1%*
Other [osteochondral injuries, nerve injury/entrapment (peroneal, superficial peroneal, footdrop), infection, ankle impingement syndrome, ankle deformity, Charcot arthropathy]	*1%*
Foot	***4%***
Hindfoot [fracture (navicular, cuboid, calcaneus, talus), dislocation, tarsal tunnel syndrome, heel pain (plantar fascitis, calcaneal stress fracture), posterior tibial dysfunction, adult acquired flatfoot deformity, Charcot-Marie-Tooth disease, cavovarus, spasticity, arthritis, accessory navicular]	*2%*
Midfoot (Lisfranc, midfoot sprain, arthritis, Charcot arthropathy)	*0.5%*
Forefoot [metatarsophalangeal/sesamoid fracture (stress fracture, acute fracture, jones fracture), hallus valgus/metatarsus primus varus, hallus varus, hallus rigidus, lesser toe deformities including arthritis, Freiberg disease, bunionette, interdigital neuroma, metatarsalgia, metatarsophalangeal instability including turf toe]	*1%*
Other (infection/puncture, amputation, compartment syndrome, gout, rehabilitation, complex regional pain syndrome, orthotics/bracing, diabetic foot, inflammatory arthropathy)	*0.5%*

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Pediatrics	*12%*
Upper Extremity	***2%***
Developmental: Limb deficiencies/deformities, brachial plexus birth injury, congenital hand and forearm, trigger thumb	*0.5*
Trauma: Shoulder/clavicle (including instability), elbow (including supracondylar, medial epicondylar, lateral condyle, radial head), dislocations, transphyseal humerus, olecranon, instability), wrist/forearm (including Monteggia, scaphoid), hand	*1.5%*
Lower Extremity	***4.5%***
Developmental: Hip (including Legg-Calve-Perthes disease, developmental dysplasia of the hip, FAI, slipped capital femoral epiphysis, osteonecrosis, coxa vara), limb deficiency (including proximal femoral focal deficiency, tibial and fibular hemimelia, amputation), foot (including club foot, congenital vertical talus, flatfoot, coalitions, accessory navicular, bunions, cavus, polydactyly), torsional and angular deformity (including Blount's disease and tibial bowing), limb-length discrepancy	*2.5%*
Trauma: Pelvic fractures, hip dislocations/fractures, pelvic avulsion injuries, femoral shaft, knee (including physeal injuries and vascular injuries), tibia, foot/ankle (including Tillaux fractures, triplane fractures, talus, ankle sprain, Lisfranc injuries, penetrating injuries)	*2%*
Spine	***1.5%***
Idiopathic/congenital scoliosis, thoracic insufficiency syndrome, kyphosis, cervical spine, torticollis, instability, congenital fusions, spondylolysis, spondylolisthesis, back pain, disk disease, spine trauma (including cervical, thoracolumbar, and spinal cord)	
Sports	***1.5%***
Osteochondritis dissecans, Little Leaguer's shoulder/elbow, Panner's disease, knee (including anterior cruciate ligament, discoid meniscus, meniscus tear, tibial spine, patellar instability), overuse injuries (including stress fractures, Osgood-Schlatter's disease, Sever's disease, patellar tendonitis)	

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General	*1.5%*
Child abuse*, syndromes and dysplasias (metabolic syndromes, osteogenesis imperfecta, connective tissue disorders (including Marfan's syndrome, Ehlers-Danlos syndrome), Down syndrome, achondroplasia, neurofibromatosis, rickets, fibrous dysplasia), growth and development including physis, infection/inflammatory* (including juvenile rheumatoid arthritis, lyme disease, septic arthritis, discitis, chronic multifocal osteomyelitis, pyomyositis)	

Neuromuscular	*1%*
Cerebral palsy (including gait), spina bifida, spinal muscular atrophy/muscular dystrophy, Charcot-Marie-Tooth disease, peripheral neuropathy, arthrogryposis	

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Neoplasms	*7%*
Malignant Bone	***1%***
Imaging, staging, biopsy, sytemic therapy, local therapy, osteosarcoma, chondrosarcoma, Ewing sarcoma, chordoma	
Benign Bone	***2%***
Imaging, biopsy, operative and nonoperative treatment, nonossifying fibromas, cysts, giant cell tumors, osteoid osteoma, osteoblastoma, metabolic bone disease, Langerhans cell histiocytosis	
Metastatic Disease, Myeloma, Lymphoma	***2%***
Pathologic fractures, prophylactic fixation, spine, radiation, bisphosphonates, Denosumab, imaging, evaluation, biopsy	
Benign Soft Tissue	***0.5%***
Imaging, biopsy, pigmented villonodular synovitis, arteriovenous malformation, myositis, myxoma, lipoma, nerve sheath tumors	
Malignant Soft Tissue Tumor	***1%***
Imaging, biopsy, staging, operative treatment, radiation, sarcoma	
Syndromes	***0.5%***
Li Fraumeni, multiple hereditary exotoses, Ollier disease, Maffucci syndrome, McCune-Albright syndrome, neurofibromatosis	

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