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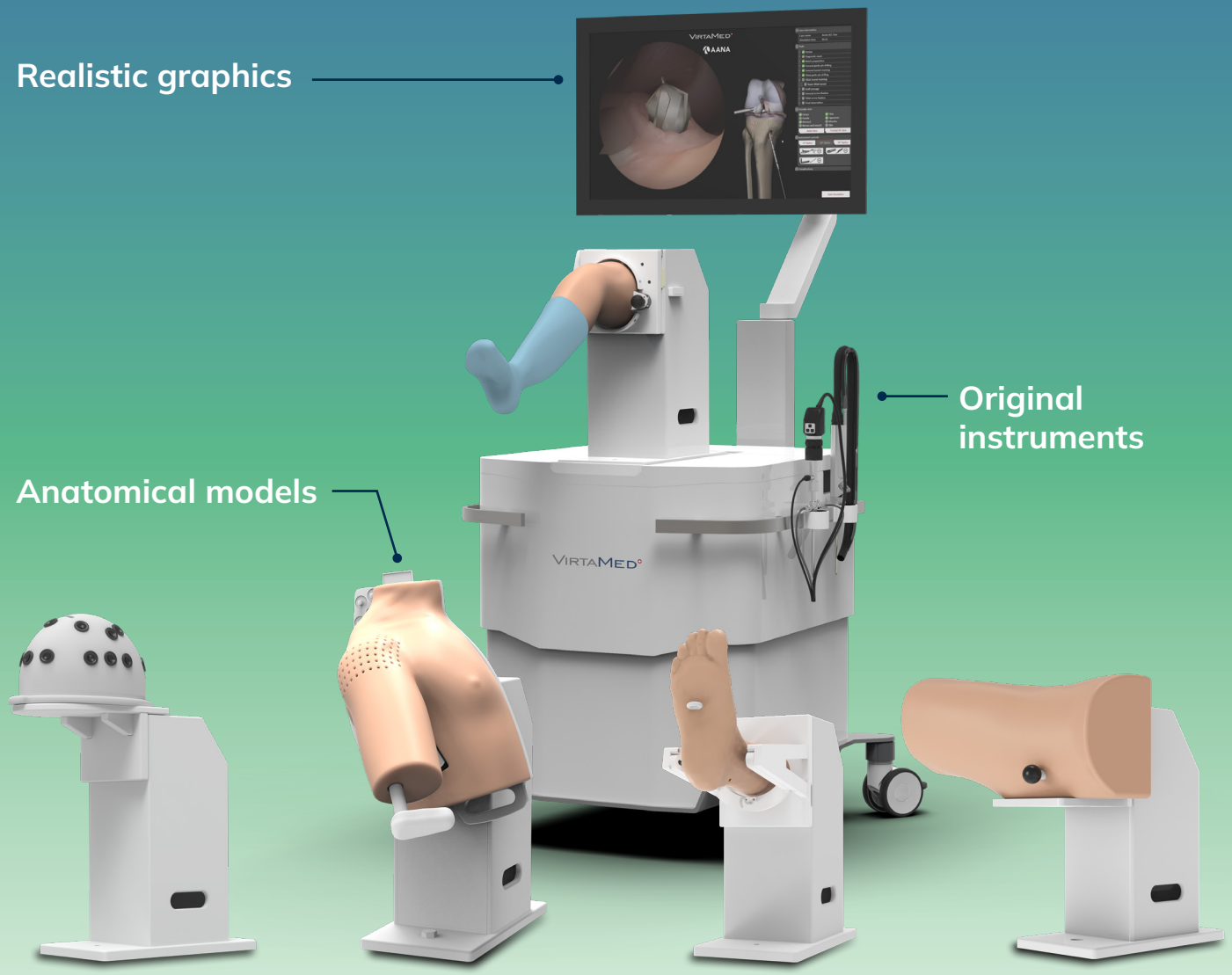
Better Surgeries



ArthroS™

Comprehensive arthroscopy training simulator with unmatched realism: real graphics, real instruments, real feel.

ArthroS™ enables the integration of modules from other specialties (LaparoS™, GynoS™ and UroS™) on the same platform.

Preferred simulation training partner of:

AANA ADVANCING THE SCOPE™

ESSKA

AGA KOOPERATIONSPARTNER

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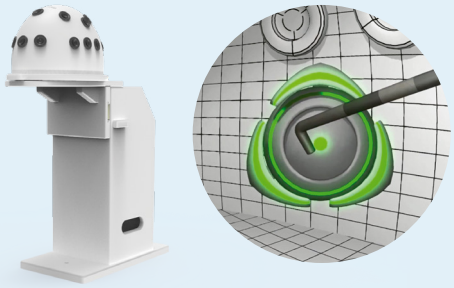
ArthroS™ FAST

The Fundamentals of Arthroscopic Surgery Training (FAST) program was developed with the goal of improving and standardizing surgical education in the field of arthroscopy. Trainees will learn the basic skills that are a prerequisite for any arthroscopy. ArthroS™ FAST features more than 300 joint-independent cases, including exercises for camera navigation, ambidextrous skills, and triangulation.



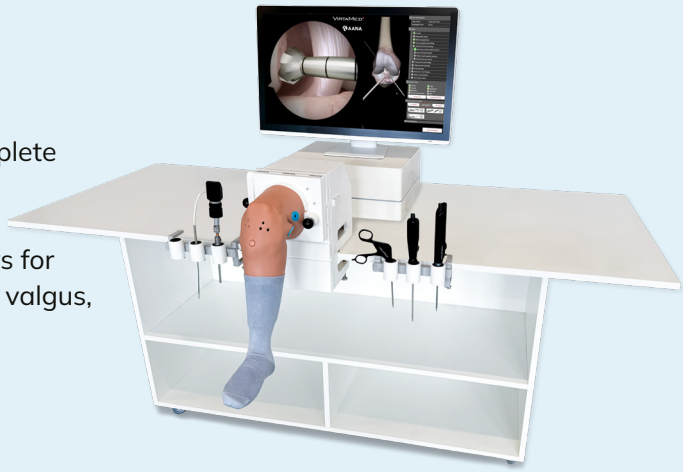
ADD-ON

ArthroS™ DASS + KNEE ADD-ON

The Diagnostic Arthroscopy Skill Score (DASS) was developed by 10 AGA (Society for Arthroscopy and Joint Surgery) instructors for the assessment of arthroscopic skills. DASS consists of two parts: the evaluation of standardized diagnostic knee arthroscopy (DASSpart1) and the evaluation of manual dexterity, including ambidexterity and triangulation, using objective measurement parameters (DASSpart2). Passing the AGA DASS exam is mandatory to become “AGA Certified Surgeon”.

ArthroS™ Knee

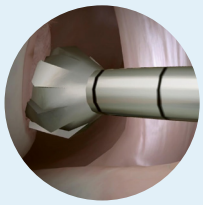
Trainees learn the basics of knee arthroscopy, perform complete diagnostic arthroscopies, and carry out smaller surgical interventions on more than 40 patient cases with different pathologies. An anatomical knee model with soft skin allows for physical manipulation of the knee joint, including varus and valgus, flexion, extension, hip flexion, hyperflexion, and figure 4.



ADD-ONS

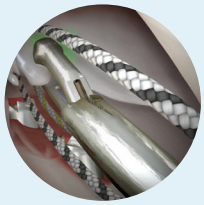
ArthroS™ Meniscectomy

Practice and perform a partial meniscectomy of suitable tears such as flap tears, bucket handle tears, and horizontal cleavage tears. 10 cases have been developed in collaboration with the Arthroscopy Association of North America (AANA).



ArthroS™ ACL Reconstruction

Practice and perform an anatomical ACL reconstruction with a bone-patellar tendon-bone BTB graft and interference screw graft fixation. Cases were designed in collaboration with the Arthroscopy Association of North America (AANA) and use a proficiency-based progression training model.

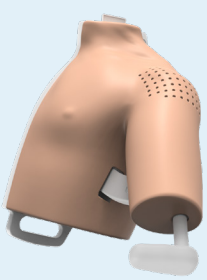


ArthroS™ Meniscal Repair

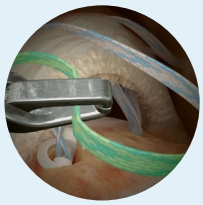
Practice and perform a range of techniques to repair different types of meniscus tears: all-inside technique, outside-in technique, transtibial technique for meniscal root repair, and meniscal ramp repair using a two-portal posteromedial approach. Cases were designed in collaboration with Prof. Dr. med. Romain Seil.

ArthroS™ Shoulder

With more than 30 cases available, trainees will learn to explore the glenohumeral and subacromial spaces, detecting various pathologies such as SLAP and Bankart lesions. Minor surgical interventions such as subacromial decompressions can be trained. An anatomical shoulder model allows for a realistic palpation of landmarks, and movements such as abduction, adduction, flexion, traction, and rotation.



ADD-ON



ArthroS™ Rotator Cuff Repair

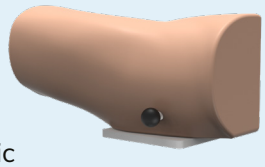
Practice and perform a rotator cuff repair, including portal establishment, correct anchor placements, suture management, and fixation procedure steps. Cases were designed in collaboration with the Arthroscopy Association of North America (AANA) and use a proficiency-based progression training model.

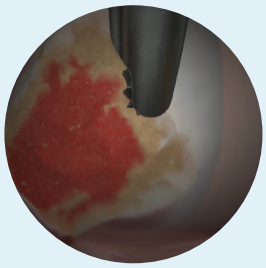
ArthroS™ Bankart Repair

Practice and perform an arthroscopic Bankart repair for anterior shoulder instability, including portal establishment, knotless anchor placement, suture management, and fixation of the labrum. The procedure emphasizes a three-anchor repair technique to restore shoulder stability. Cases were designed in collaboration with the Arthroscopy Association of North America (AANA) and follow the Copernicus curriculum, using a proficiency-based progression training model.

ArthroS™ Hip

The ArthroS™ Hip offers realistic soft tissue layers that allow trainees to palpate bony landmarks for portal placement. Additionally, access training is enhanced by real-time simulated zero radiation fluoroscopy. Residents will train the usage of a 70-degree scope in central and peripheral compartments and improve their skills through more than 20 different cases from basic skills to therapeutic interventions.





ArthroS™ Ankle

Navigating the ankle joint is difficult: the joint is narrow, the risk of damaging cartilage or nerves is higher than for most other arthroscopic surgeries, the curved bone horizon is disorienting, and surgeons often lose track of the exact location of the arthroscopic camera in the absence of visual landmarks. The ArthroS™ Ankle allows trainees to tackle and overcome these challenges.

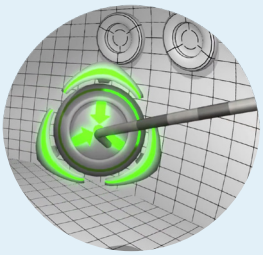
"This simulator is a fantastic tool for surgical skills training."

Prof. Dr. Romain Seil
Head Division of Neurosciences and Musculoskeletal Diseases
at Centre Hospitalier de Luxembourg

ACGME milestones | Competency-based outcomes

Simulation exercises align with the ACGME Milestones 2.0 in Orthopaedic Surgery and their defined proficiency levels.[1]

Level 1 | novice



Essential skills
Demonstrates basic surgical skills

Level 2

Diagnostic exams
Performs surgical approach, with minimal assistance

Level 3

Therapeutic cases
Performs critical steps of core procedures, with assistance

Level 4 | graduation goal

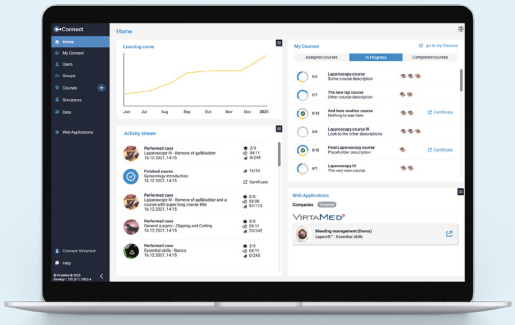
Advanced procedures
Independently performs core procedures; performs complex procedures, with assistance

"Our goal is to improve patient care by advancing education in arthroscopy. We want to ensure all arthroscopic surgeons have access to high-quality skills training and continuous education. Working with VirtaMed's first-rate simulators, experienced developers and dedicated education specialists helps AANA reach that goal."

Joseph C. Tauro, M.D., FAANA
AANA Board of Directors/AANA Executive Committee and Professor of Orthopedic Surgery, Rutgers NJ Medical School

VirtaMed Connect

Connect is VirtaMed's cloud-based solution that lets you access your simulator data anytime from anywhere. Use Connect to remotely create courses, track student progress, and manage your simulator usage – all from the convenience of your desk or tablet. With Connect, trainees are motivated through online leader boards and can compare their own results over time.



[1] ACGME Orthopaedic Surgery Milestones (2021), *Patient Care: Operative Management of Arthroscopically Treated Conditions*

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