

NanoScope™ Operative Arthroscopy System and Nano Arthroscopy

The Synergy NanoScope operative arthroscopy system is the first medical-grade, 3-in-1, chip-on-tip, single-use camera system. The NanoScope visualization system combines the latest technology in 1 mm imaging sensors, LED lighting, image management, and OR integration with an intuitive tablet control.



PRODUCT OVERVIEW

The portability of the NanoScope visualization system allows surgeons to perform minimally invasive arthroscopy in the operating room, in a procedure room, or diagnostically in the physician's office. The NanoScope operative arthroscopy system provides an alternative advanced option to MRI and second-look arthroscopy, and the ability to guide injections under precise visualization.

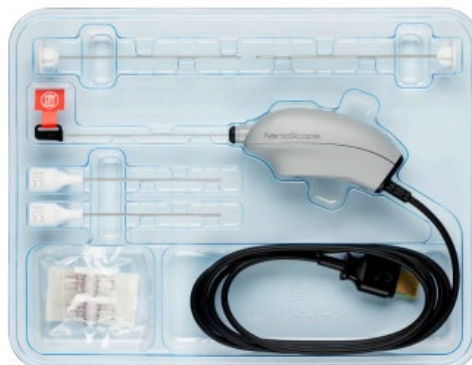
In addition to the single-use NanoScope camera system, Arthrex has introduced a series of 2 mm instruments to perform orthopedic or endoscopic procedures with 12-gauge (2.77 mm) needle-sized instruments. Needle-sized portals through the skin allow surgeons to see and treat damaged structures in tighter joint spaces like the knee, elbow, wrist, and ankle. Nano arthroscopy and endoscopy also facilitate less invasive surgery in an ASC procedure room or physician's office under local anesthesia instead of traditional surgery with general anesthesia.

Nano arthroscopy is cost-effective as an alternative to standard arthroscopy. A single-use camera component eliminates procedure delay, equipment cleaning, processing, and sterilization without costly maintenance, repairs, and upgrades that may occur with traditional video stacks. The minimally invasive patient experience and unlimited atraumatic access to joint spaces make the NanoScope visualization system and Nano arthroscopy instruments the tools of choice for instant diagnostic imaging and less invasive arthroscopy procedures.

KEY FEATURES AND BENEFITS

• Single-Use Sterile Packaging

- Minimally invasive direct visualization for preoperative (diagnostic), intraoperative, and postoperative phases of care
- Increased surgeon and staff efficiency
- Avoids cross-contamination
- Decreased scope repair cost
- Decreases sterilization and processing costs



Single-use Camera Kit Components

- Disposable camera
- 2 Inflow cannulas
- 1 Sharp obturator
- 1 Blunt obturator
- 2 Fluid stopcocks

• Small-Diameter Scope and Instrument Size

- Atraumatic access into tight spaces without compromised exposure
- Decreases OR footprint with less equipment

• HD Camera-Control Unit

- Medical-grade camera-control unit and camera card edge. **Allows for use in sterile OR and procedure room environments**
- 400 × 400 resolution on 13" 3-in-1 camera-control unit
- Synergy software network capabilities*
- Wireless connectivity and built-in microphone*
- HDMI output to extend the video signal to the in-room displays and integration systems



Tablet Control Unit Components

- 13" HD monitor
- Handpiece connector
- Microphone
- Ethernet, USB, and HDMI ports
- Wireless network capabilities

• 2.7 mm Diameter NanoCannula and Insertion Kits (1.5, 3, 4, 5, 7 cm lengths)

- Minimizes portal size: 2.7 mm designed to facilitate the insertion of the NanoProbe, Nano resection and excision hand instruments, and small-diameter shaver blades.
- Cannulated obturator for insertion over 18-gauge guidewire.
- Includes optional Tegaderm™ adhesive to maintain cannula position during instrument removal
- Controls both inflow extravasation and fluid pressure to maintain constant pressure



• Nano Arthroscopy Instrumentation

- 2 mm, Nano-sized instrumentation fits through the 2.7 mm NanoCannulas
- Designed for use in a traditional arthroscopic operative theaters or procedure rooms, or to complement in-office arthroscopy
- Available in standard (130 mm) or small joint (70 mm) working lengths

- Low-profile design enables greater access to hard-to-reach pathology without sacrificing resection efficiency providing effective and atraumatic resection
- Convenient, single-use design allows for an unmatched cutting-edge sharpness that ensures optimal resection and fully sterile instruments on every procedure and patient



- **Nano Arthroscopy Patient Prep Kit**

- Sterile prep kit that includes all the essential accessories to complete a diagnostic arthroscopy in the clinic and procedure room environments
- Eliminates the need for an extra assistant to gather sterile accessories
 - (4) 30 cc syringes for inflow and fluid aspiration
 - 10 cc syringe with a 25-gauge needle for anesthetic
 - 1 IV bag adapter
 - 11-blade mini scalpel
 - Disposable floor drape
 - 2 sterile towels
 - 1 elastic bandage



PRODUCT TECHNICAL SPECIFICATIONS

- Medical-grade 13" HD camera-control unit
- 1.9 mm diameter with 2.2 mm inflow/outflow sheath vs traditional 4.0 mm diameter with 5.9 mm inflow/outflow sheath (>50% size reduction)
- 400 × 400 resolution
- 3 mm to 100 mm depth of field
- 0.21 mm inflow channel allows 20 mL of fluid to be inserted and aspirated to and from the joint





TECHNICAL PEARLS

- The console arrives in ship mode. Upon arrival, ensure the console is plugged in and fully charged prior to use.
- The ATX-2601 NanoScope™ Console Cart Conversion Kit allows Synergy MSK™ ultrasound carts ordered and in the field to be converted to accommodate/mount the NanoScope console.
- Portal placement will differ from traditional 30° and 70° scopes (refer to technique guides).
- The inflow channel of the sheath allows for direct-guided injections into the joint space.
- Various fluid management options are available (30 cc syringe, gravity tubing, extension tubing for easy syringe control, Continuous Wave™ 4 and DualWave™ pumps).
- The 15° degree up-biter cannot pass through the 2.7 mm NanoCannula (insert percutaneously).
- The percutaneous insertion kit spinal needle has laser etchings to measure cannula depth (1.5, 3, 4, 5, 7 cm).
- The 18-gauge guidewire in the percutaneous kit can be used as a switching stick for the second NanoCannula.
- For resected tissue, loose body, and fluid removal, the Nano arthroscopy outflow cannula can be attached onto a sterile syringe or connected to outflow tubing.

- The 2.0 mm Sabre small-hub shaver is the only blade that fits through the 2.7 mm NanoCannula.
- To quickly start a case, select surgeon and plug in the NanoScope™ camera.
- The black calibration cap must remain on prior to auto calibration and initial white balance.
- To white balance again, remove the camera from the joint and white balance on a white cloth by pressing and holding the back camera button.

PROCEDURE TARGETS

The NanoScope visualization system and Nano arthroscopy instruments allow surgeons to perform advanced minimally invasive arthroscopy in various joint spaces. Below is a breakdown of initial procedure targets within the procedure room and OR settings.

 Hand & Wrist	 Foot & Ankle	 Knee	 Shoulder
Diagnostic and Second-Look Arthroscopy, and Direct Guided Injection	Diagnostic and Second-Look Arthroscopy, and Direct Guided Injection	Diagnostic and Second-Look Arthroscopy, and Direct Guided Injection	Diagnostic and Second-Look Arthroscopy, and Direct Guided Injection
Radiocarpal and Midcarpal Arthroscopy	Syndesmosis	Meniscectomy and Meniscal Repair	Biceps Tenotomy and Tenodesis
Thumb CMC Arthroscopy	Peroneal/Posterior Tibial Tendon	Lateral Release	Subacromial Decompression
DRUJ Arthroscopy	Talonavicular Joint and Calcaneocuboid	PCL and Meniscal Root Repair	Remplissage and PASTA Repair Assistance
Digit MCP and PIP Arthroscopy	1st TMT/1st MTP Joint	Preplanning for Joint Arthroplasty	Preplanning for Joint Arthroplasty

SALES TOOLS AND RESOURCES

NanoScope_Brochure_en-US: LB1-000011-en-US

Nano Arthroscopy Features and Benefits Flyer_en-US: FL1-000055-en-US

Nano Instrumentation Product Release_Playsheet_en-US: KH1-000014-en-US

Nano Instrumentation_Flyer_en-US: FL1-000036-en-US

Nano Arthroscopic Cannulas and Insertion Kit Flyer_en-US: FL1-000059-en-US

OTIF 2019_Bedi_Future of Minimally Invasive Surgery_Video_en-US: VID1-000212-en-US

Daggett_Nano Arthroscopy Meniscal Debridement_Surg Tech Video_en-US: VID1-000501-en-US

Kakar_Radio Carpal and Mid Carpal Nano_Product Demonstration Video_en-US: VID1-000333-en-US

Bedi_NanoScope Arthroscopy Introduction_Product Demo_en-US: VID1-000165-en-US

ORDERING INFORMATION

NanoScope™ Operative Arthroscopy System

Imaging System			Pricing
AR-3200-0030	NanoScope Tablet Control Unit	13" HD Medical-Grade Imaging Console	\$ 24,999.00
AR-3210-0040	NanoScope Camera Head & Cable Kit, single use	1 Camera, sterile packaged	\$ 942/\$ 659

Mobile Carts

AR-3502-CRT	Synergy MSK™ Ultrasound Mobile Cart	Mobile Cart	\$ 1715/\$1200
ATX-2601	NanoScope Console Mount	MSK Cart NanoScope Conversion Kit	\$ 426.00

Nano Arthroscopy 2 mm Instrumentation (130 mm Shaft Length)

AR-10911D-1	NanoBiter, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10922D-1	NanoBiter, 15° up	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10913D-1	NanoGrasper, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10915D-1	NanoScissor, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10100N	NanoProbe	Disposable, sterile packaged, single pack	\$ 250/\$ 155

Nano Arthroscopy 2 mm Instrumentation (70 mm Shaft Length)

AR-10901D-1	NanoBiter, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10902D-1	NanoBiter, 15° up	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10903D-1	NanoGrasper, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-10905D-1	NanoScissor, straight	Disposable, sterile packaged, single pack	\$ 350/\$ 265
AR-30000	Small Joint Probe	Reusable, single pack	\$ 236/\$ 165

Patient Prep Kit

74312-01M	Nano Arthroscopy Prep Kit	Disposable, sterile packaged	\$ 86
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Tissue and Fluid Outflow Cannula

AR-109OS-10	Outflow Cannula, Nano arthroscopy	Disposable, sterile packaged	\$ 59/\$45
AR-109OS-70	Outflow Cannula, Nano arthroscopy	Disposable, sterile packaged	\$ 59/\$45

Fluid Management Tube Set Options

AR-6412	Gravity Tube Set	Disposable, sterile packaged	\$ 23/\$16
AR-6220	Extension Tube Set	Disposable, sterile packaged	\$ 30/\$21

Nano Arthroscopy 2.7 mm Diameter NanoCannula and Insertion Kits

AR-1090C-15-1	2.7 mm Cannula & Cannulated Obturator, 1.5 cm length	Disposable, sterile packaged, single pack	\$ 99/\$69
AR-1090C-30-1	2.7 mm Cannula & Cannulated Obturator, 3 cm length	Disposable, sterile packaged, single pack	\$ 99/\$69
AR-1090C-40-1	2.7 mm Cannula & Cannulated Obturator, 4 cm length	Disposable, sterile packaged, single pack	\$ 99/\$69
AR-1090C-50-1	2.7 mm Cannula & Cannulated Obturator, 5 cm length	Disposable, sterile packaged, single pack	\$ 99/\$69
AR-1090C-70-1	2.7 mm Cannula & Cannulated Obturator, 7 cm length	Disposable, sterile packaged, single pack	\$ 99/\$69
AR-109PK-1	Nano Arthroscopy Percutaneous Insertion Kit	Disposable, sterile packaged, single pack	\$ 99/\$69

SERVICE AGREEMENT / TECH SUPPORT / REPAIRS

For service agreements, please contact Alison Carnevale at (800) 933-7001 ext. 71205.

For Synergy technical support, please call Arthrex at (800) 391-8599.

For repairs and complaints, please contact the Product Surveillance Department at (800) 933-7001 ext. 78718 to obtain the return merchandise authorization (RMA).