

SURGICAL TECHNIQUE GUIDE

#19
System 19 of 25

ACETABULAR SHUKLA CUPTM

Universal Acetabular Cup Extraction System



SHUKLA MEDICAL[®]
Universal Orthopedic Extraction Technologies
THE EXTRACTION EXPERTS

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ACETABULAR SHUKLA CUPTM

Universal Acetabular Cup Extraction System

1.1 System Name: SHUKLA Cup

Part Number: S9CUP

Version: 1

1.2 Primary Use

The SHUKLA Cup Universal Acetabular Cup Extraction System is designed for the removal of acetabular cups during hip revision surgeries. The system contains a universal range of blades and a variety of instrumentation designed for the rapid extraction of acetabular cups while minimizing bone loss.

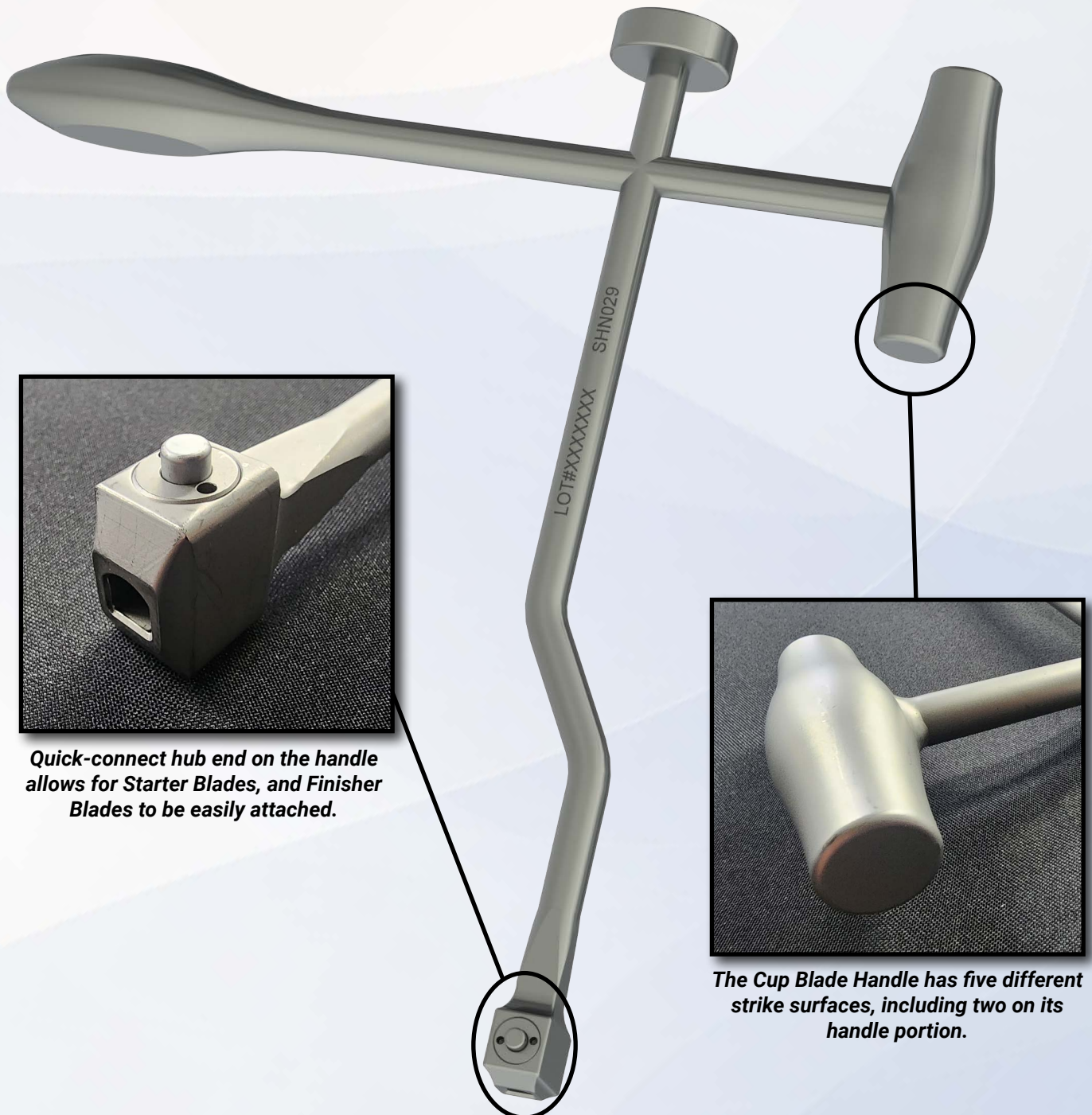


1.3 System History

Development on the SHUKLA Cup system began in 2015 in collaboration with both Dr. Minter and Dr. Oskouei. The need for a better acetabular cup removal product was known, and Shukla Medical was in a position to provide it. One must-have feature that was determined early on was the need for a way to measure the acetabular cup for blade size determination. The product also could not use our existing Strike Plate Frame, an issue that required a lot of creative engineering. The blade design alone went through 4 different iterations before the final design was settled on. After two separate prototype trials, the system was given the approval from the surgeons. Finally, after many years of hard work, the SHUKLA Cup system launched in 2023.

2.1 ACETABULAR CUP BLADE HANDLE

Has five different strike surfaces and two separate handholds for the impaction of the blade both in and out. The two elongated handholds allow the surgeon to use both hands to apply torque as needed.



Quick-connect hub end on the handle allows for Starter Blades, and Finisher Blades to be easily attached.



The Cup Blade Handle has five different strike surfaces, including two on its handle portion.

2.2 STARTER BLADE

- Starter Blades are used to make the initial cut into the bone around the acetabular cup through a series of plunge cuts.



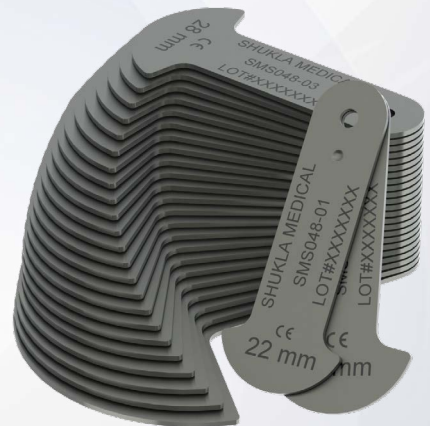
2.3 FINISHER BLADE

- Finisher Blades are used to complete the cut of the bone around the cup implant to prepare it for extraction.



2.4 ID RADII GAUGES

- The rounded end is placed into either the cup or the poly to properly size it for the centering tool.



3.1 Preoperative

- Appropriate x-rays and surgical notes may be used to identify manufacturer, brand, location, & condition of implanted hardware.
- The surgeon should be familiar with the general principles of revision surgery and techniques for the removal of implants.
- The instrumentation should be inspected for visible wear prior to use (see Reusable Instrument Inspection Manual, FCD-17089). Do not use the product if damage is suspected.
- Only recommended cleaning and sterilization guidelines should be used.

3.2 Operative

- Proper handling and storage of the instrumentation is mandatory. Damage to the instrumentation may produce stresses and cause defects, which could become a focal point for failure.
- The surgeon should be cautious with limb position change and/or excessive torque or twisting while using the instrumentation provided in the tray.

3.3 Storage

- It is recommended to store all Shukla Medical instrumentation in a clean, dry environment. Under 50% relative humidity; ≤75°F/24°C.
- Proper handling and storage of the instrumentation is mandatory. Long-term use of this system may produce stresses and cause weakness, which could become a focal point for failure.

3.4 Intended Use

The SHUKLA Cup (S9CUP) is intended for use during revision procedures to remove all known sizes of acetabular cup implants.

Instrumentation from Shukla Medical is recommended for use only within the intended design, and only by licensed healthcare professionals. Any uses other than those indicated may cause adverse results to the instrumentation or to the patient.

3.5 Indications for Use

The SHUKLA Cup (S9CUP) is indicated for use during any orthopedic revision procedure in which an acetabular cup must be removed.

3.6 Additional Recommendations

During total hip revision procedures, the SHUKLA Cup system is recommended for use in conjunction with the SHUKLA Hip system. If screws are required to be removed from the acetabular cup, the SHUKLA Maxi and SHUKLA ScrewFlex systems are recommended for intact screws and broken or stripped screws respectively.

STEP 1

Screw Removal

Check the X-Ray to see if the cup has any screws holding the cup in place. If so, they will need to be removed after the poly is removed. The SHUKLA Maxi system has flexible drivers that can assist with accessing the screws (Image 1).

If the screws are broken or stripped, the SHUKLA Screw Flex system can remove broken screws from within the acetabulum.

Examine the poly liner and check it's condition. If it is in good condition, proceed to **Step 2** to use a Centering Ball. If not, remove the liner and proceed to **Step 3** to use a Centering Bob.

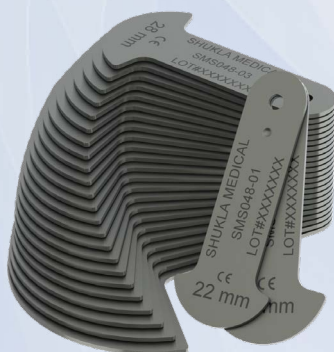


Image 1

STEP 2

Sizing for Centering Ball

Start by using the ID Radii Gauges (SMS048) to measure the inside diameter of the acetabular cup liner. Find the Gauge that fits the best within the liner (Image 2) and find the Centering Ball that matches the diameter written on the Gauge. Proceed to **Step 4**.



ID Radii Gauges

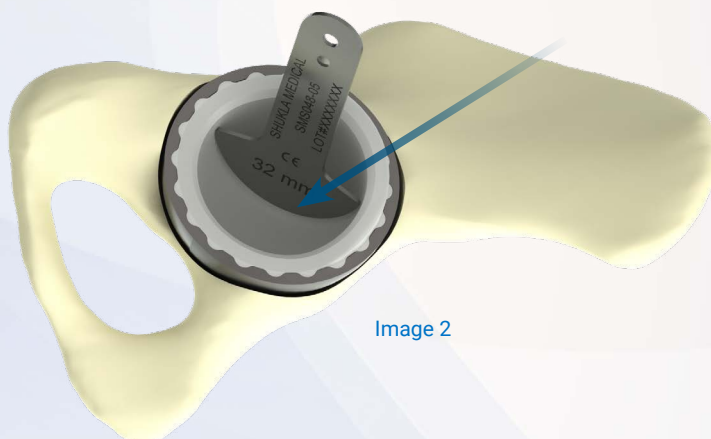


Image 2

STEP 3

Sizing for Centering Bob

With the liner removed, take it and match it up to the matching size on the Poly Radii Gauge (SMS054-01 - 02) (Image 3). The diameter that you measure corresponds to the size Centering Bob that you will use. Proceed to **Step 4**.

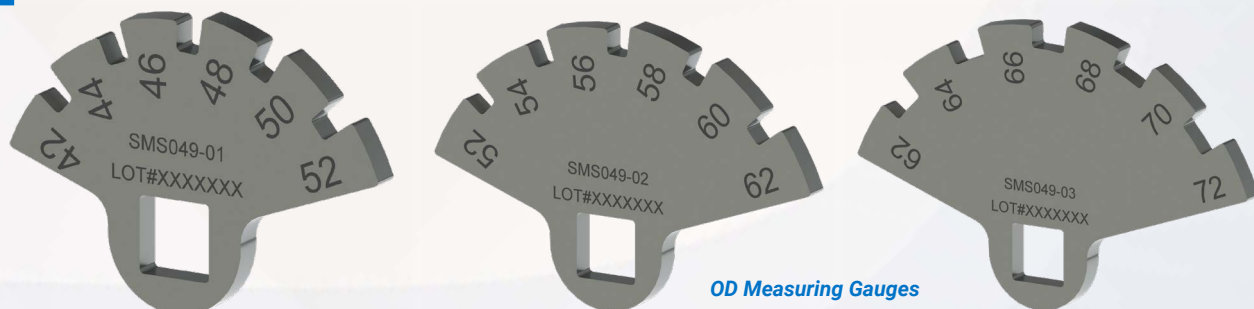


Image 3

Poly Radii Gauge

STEP 4**Sizing for Starter and Finisher Blades**

Select an OD Measuring Gauge (SMS049-01 - 03) that is likely in the range of the cup. This will measure the outer diameter of the cup.



OD Measuring Gauges

STEP 5

If using a Centering Ball, assemble the Centering Ball, OD Measuring Gauge, and the OD Gauge Handle (SHN052) together. If using a Centering Bob, assemble the Centering Bob, OD Measuring Gauge, and the OD Gauge Handle together. (Image 4)

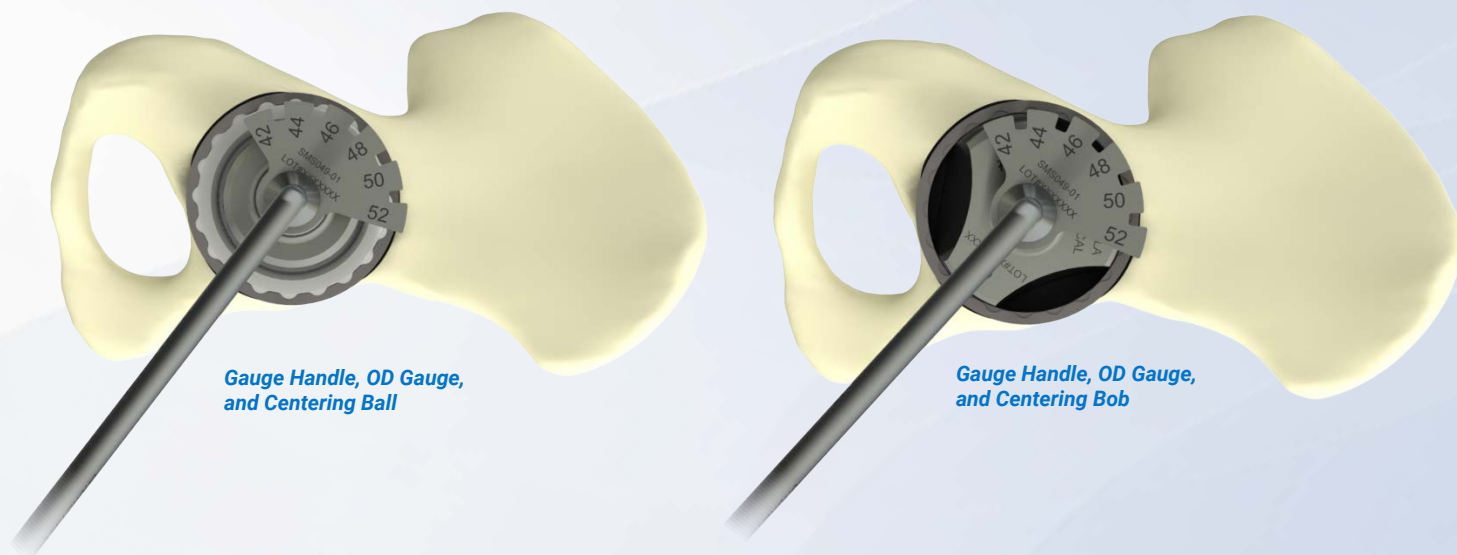


Image 4

Handle, Measuring Gauge, and Ball/
Bob Connecting Together

STEP 6

Use the Gauge Handle to help guide either the Ball into the liner or the Bob into the cup and place it so that the OD Measuring Gauge is parallel to the top surface of the cup. Match the size that is written on the gauge. If the cup is between sizes, opt for the larger size. The number chosen corresponds to the size of the Starter and Finisher Blades you will use. Proceed to **Step 7**.



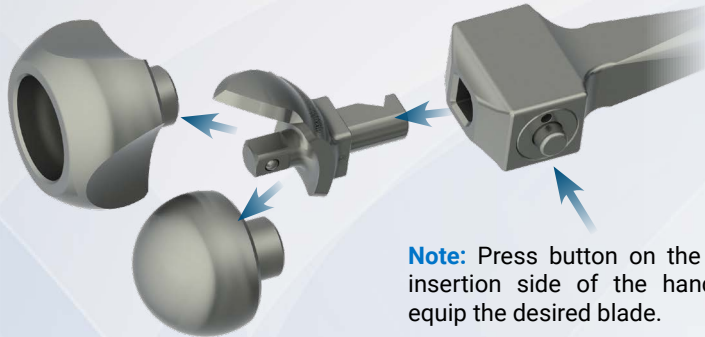
Gauge Handle, OD Gauge,
and Centering Ball

Gauge Handle, OD Gauge,
and Centering Bob

STEP 7

Initial Cuts with Starter Blade

Disassemble the measurement assembly from the previous step. Using the Starter Blade for the measured size, assemble it with the centering device you are using (Centering Ball or Centering Bob). Insert this assembly into the acetabular cup implant and align the ball/bob in the cup. (Image 5) Proceed to **Step 8**.



Note: Press button on the blade insertion side of the handle to equip the desired blade.

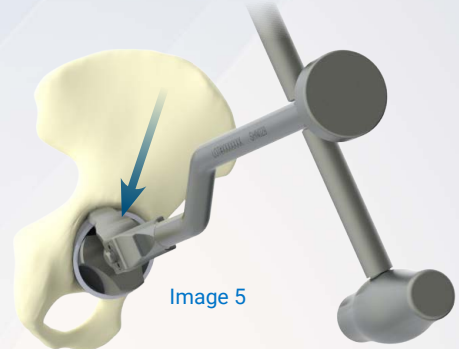


Image 5

STEP 8

Start by making plunge cuts around the circumference of the cup. Do this by rotating the blade forward so that the tip of the blade contacts the bone. Hammer the top of the handle or on the center strike plate inline with the main shaft until the blade has gone as deep as it can. Pull back on the handle to withdraw the blade from the plunge cut. If it is stuck, you may impact the top of the back handle and remove the blade. Rotate the handle so the blade rotates to a new position (Image 6) and repeat.

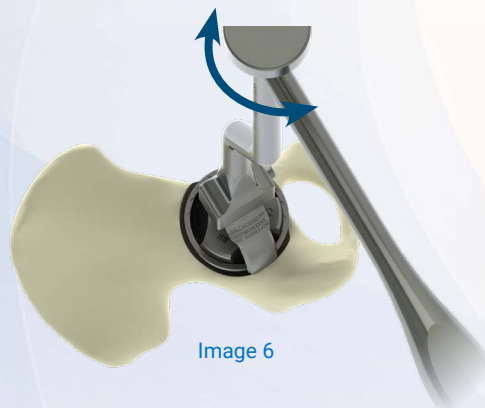
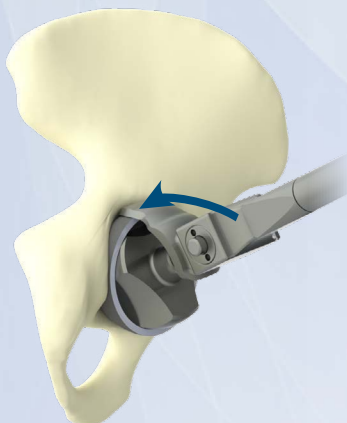
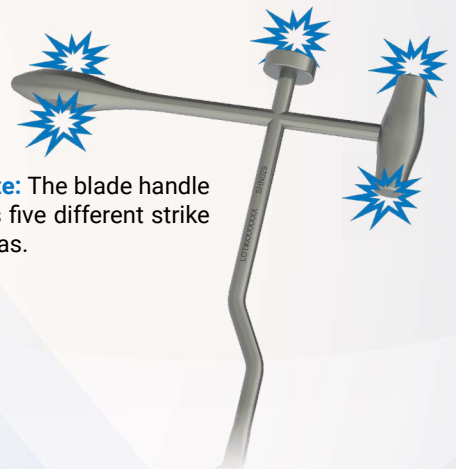


Image 6



Note: The blade handle has five different strike areas.

After the final plunge, grasp the two extended bars on the Handle and torque the handle to “connect-the-dots” of all of the plunge cuts. (Image 7) If unable to connect each of the plunge cuts, repeat **Step 8** to create more plunge cuts before trying again.

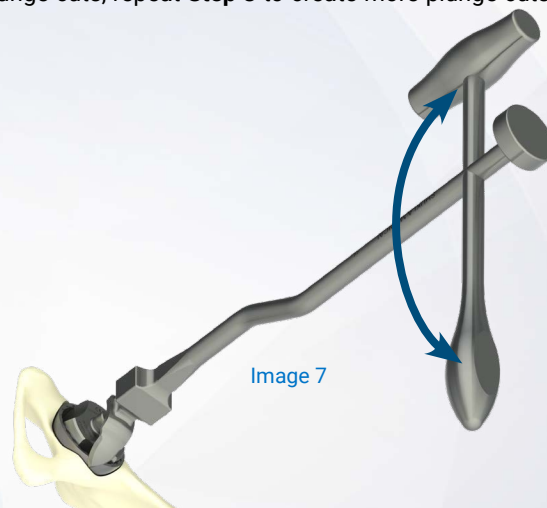
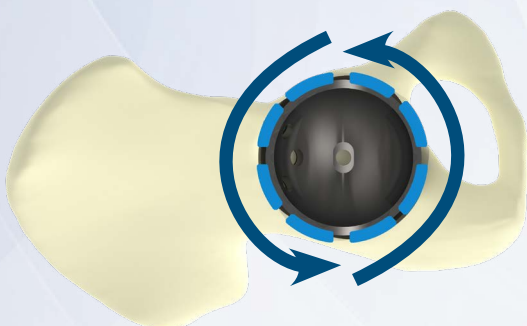
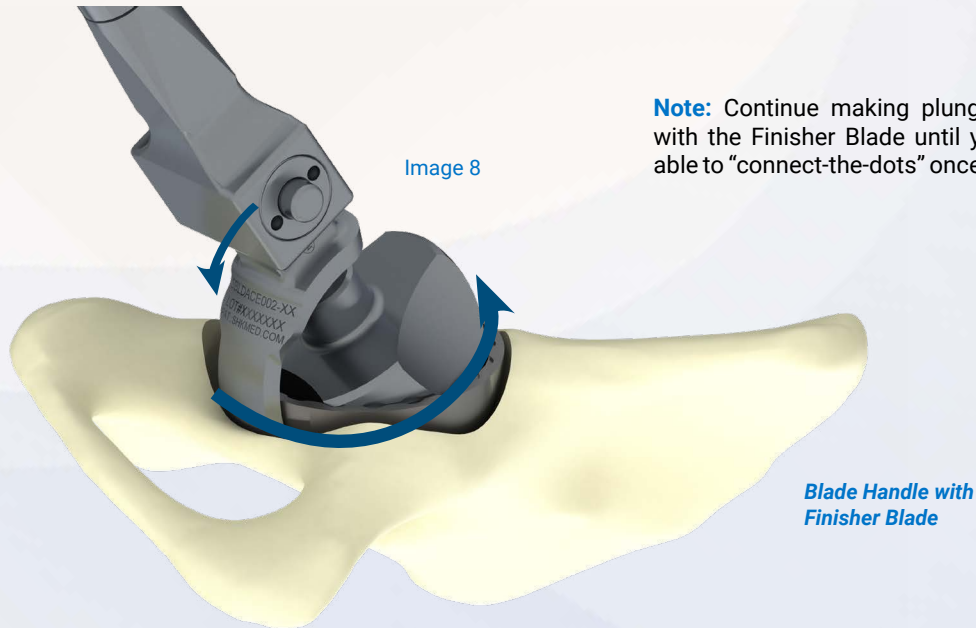


Image 7

STEP 9

Finisher Blade and Cup Extraction

Once the blade has penetrated the bone as much as it can, repeat Step 8 with the Finisher Blade equipped into the Blade Handle. (Image 8) When the cup implant has been fully cut from the bone, it can be removed from the patient.



Note: Continue making plunge cuts with the Finisher Blade until you are able to “connect-the-dots” once again.

5 TIPS and TRICKS

SHUKLA Cup

- Use the Blade Handle to attach to the Starter and Finisher Blades while they are still housed inside the system case. This will allow you to connect to the blades without risking cutting or tearing any gloves while manually picking them up.
- Utilize the second available Blade Handle to have your Finisher Blade set up and ready to go for when the Starter Blade equipped Blade Handle has finished with its plunge cuts.
- The OD Gauge Handle has two different angles on either side. Surgical preference can be applied when deciding which end to use.
- The torque provided by the Blade Handle allows for less plunge cuts to be required before connecting-the-dots around the implant. However, please note that the less plunge cuts performed, the higher the chance for damage to the blade.
- Bob/Ball sizes *are not* reflective of the blade or cup size. They are designed to reflect the size of the *inner diameter* of the cup.

6 CLEANING & STERILIZATION

SHUKLA Cup

All Shukla Medical surgical instruments require manual cleaning with a neutral pH cleanser. Open and disassemble all instruments, making sure to remove all contamination during cleaning. Instruments must be reassembled prior to sterilization. Machine washing is not recommended. Maintenance and care using an autoclaveable lubricant on movable parts is required to preserve the life of the instrument. For more cleaning, inspection, maintenance, and care tips, contact Shukla Medical directly.

For detailed cleaning and sterilization instructions, please visit www.ShuklaMedical.com/Sterilization



Emergo Europe
Prinsessegracht 20
2514 AP The Hague
The Netherlands



SHUKLA Medical
8300 Sheen Drive
St. Petersburg, FL 33709
USA



Components List

S9CUP Component List			
Std Qty	Part Number	Description	
1	SCS058	Case 1, Acetabular Cup	CASE #1
1	SCS050	Lid, Case 1, Acetabular Cup	
2	SHN029	Handle, Blade, Acetabular Cup	
1	SCS055	Case 2, Acetabular Cup	CASE #2
1	SCS050	Lid, Case 2, Acetabular Cup	
1	SBD066-01	Centering Ball 22mm	
1	SBD066-02	Centering Ball 26mm	
1	SBD066-03	Centering Ball 28mm	
1	SBD066-04	Centering Ball 30mm	
1	SBD066-05	Centering Ball 32mm	
1	SBD066-06	Centering Ball 36mm	
1	SBD066-07	Centering Ball 40mm	
1	SBD066-08	Centering Ball 44mm	
1	SBD204-34	Centering Bob 34mm	
1	SBD204-36	Centering Bob 36mm	
1	SBD204-38	Centering Bob 38mm	
1	SBD204-40	Centering Bob 40mm	
1	SBD204-41	Centering Bob 41mm	
1	SBD204-42	Centering Bob 42mm	
1	SBD204-43	Centering Bob 43mm	
1	SBD204-44	Centering Bob 44mm	
1	SBD204-45	Centering Bob 45mm	
1	SBD204-46	Centering Bob 46mm	
1	SBD204-47	Centering Bob 47mm	
1	SBD204-48	Centering Bob 48mm	
1	SBD204-49	Centering Bob 49mm	
1	SBD204-50	Centering Bob 50mm	
1	SBD204-51	Centering Bob 51mm	
1	SBD204-52	Centering Bob 52mm	
1	SBD204-54	Centering Bob 54mm	
1	SBD204-56	Centering Bob 56mm	
1	SBD204-58	Centering Bob 58mm	
1	SBD204-60	Centering Bob 60mm	
1	SMS049-01	OD Cup Measuring Gauge 34-43mm	
1	SMS049-02	OD Cup Measuring Gauge 44-50mm	
1	SMS049-03	OD Cup Measuring Gauge 50-60mm	
1	SMS048	ID Radii Gauge Assembly	
1	SHN052	OD Gauge Handle	
1	SMS054-01	OD Polly Radii Gauge 34-47mm	
1	SMS054-02	OD Polly Radii Gauge 48-60mm	
3	SXT096	Poly Extractor, Cup	

Sterile Pack Component List			
Std Qty	Part Number	Description	
1	SBLDACE-42-SP	Blade, Ace Cup, 42mm, Starter, Single Use Blade, Ace Cup, 42mm, Finisher, Single Use	STERILE PACK BLADES
1	SBLDACE-44-SP	Blade, Ace Cup, 44mm, Starter, Single Use Blade, Ace Cup, 44mm, Finisher, Single Use	
1	SBLDACE-46-SP	Blade, Ace Cup, 46mm, Starter, Single Use Blade, Ace Cup, 46mm, Finisher, Single Use	
1	SBLDACE-48-SP	Blade, Ace Cup, 48mm, Starter, Single Use Blade, Ace Cup, 48mm, Finisher, Single Use	
1	SBLDACE-50-SP	Blade, Ace Cup, 50mm, Starter, Single Use Blade, Ace Cup, 50mm, Finisher, Single Use	
1	SBLDACE-52-SP	Blade, Ace Cup, 52mm, Starter, Single Use Blade, Ace Cup, 52mm, Finisher, Single Use	
1	SBLDACE-54-SP	Blade, Ace Cup, 54mm, Starter, Single Use Blade, Ace Cup, 54mm, Finisher, Single Use	
1	SBLDACE-56-SP	Blade, Ace Cup, 56mm, Starter, Single Use Blade, Ace Cup, 56mm, Finisher, Single Use	
1	SBLDACE-58-SP	Blade, Ace Cup, 58mm, Starter, Single Use Blade, Ace Cup, 58mm, Finisher, Single Use	
1	SBLDACE-60-SP	Blade, Ace Cup, 60mm, Starter, Single Use Blade, Ace Cup, 60mm, Finisher, Single Use	
1	SBLDACE-62-SP	Blade, Ace Cup, 62mm, Starter, Single Use Blade, Ace Cup, 62mm, Finisher, Single Use	
1	SBLDACE-64-SP	Blade, Ace Cup, 64mm, Starter, Single Use Blade, Ace Cup, 64mm, Finisher, Single Use	
1	SBLDACE-66-SP	Blade, Ace Cup, 66mm, Starter, Single Use Blade, Ace Cup, 66mm, Finisher, Single Use	
1	SBLDACE-68-SP	Blade, Ace Cup, 68mm, Starter, Single Use Blade, Ace Cup, 68mm, Finisher, Single Use	
1	SBLDACE-70-SP	Blade, Ace Cup, 70mm, Starter, Single Use Blade, Ace Cup, 70mm, Finisher, Single Use	
1	SBLDACE-72-SP	Blade, Ace Cup, 72mm, Starter, Single Use Blade, Ace Cup, 72mm, Finisher, Single Use	

**Single-use Only: Always use new trephines in every procedure.
Discard any used single-use parts at the conclusion of the case.**



THE EXTRACTION EXPERTS

Shukla Medical designs and manufactures instrumentation for orthopedic implant extraction at our headquarters in St. Petersburg, Florida, USA. We are proud to be an ISO 13485:2016 Certified company.

In 1998, aerospace component manufacturer S.S. White Technologies, Inc. acquired the Medical Products Division of Snap-On. S.S. White rebranded the medical division in 2007 to create Shukla Medical.

Today, Shukla Medical is the industry leader in orthopedic implant extraction tools. We are the only company to offer a comprehensive, truly universal orthopedic revision line for removing IM nails, hip and knee implants, spine hardware, and broken or stripped screws. Surgeons and industry leaders know: **If Shukla can't get it out, no one can.**

Contact us to learn more

Shukla Medical
8300 Sheen Drive
St. Petersburg, FL 33709
www.ShuklaMedical.com

T: 888-4-SHUKLA
T: 888-474-8552
F: 727-626-2770

CS@ShuklaMedical.com



Emergo Europe
Westervoortsedijk 60
6827 AT Arnhem
The Netherlands



S9CUP



SHUKLA Medical
8300 Sheen Drive
St. Petersburg, FL 33709
USA



CONSULT
INSTRUCTIONS
FOR USE



NON-STERILE
PRODUCT



SHUKLA Surgical Tech Support
24 hours a day, 7 days a week
727-626-2771

When you have tried all known techniques to extract an implant or remove a screw but determine you need suggestions for alternate techniques, help is only a phone call away. We will quickly put you in touch with our Technical Experts who will suggest other solutions to use our tools.



SHUKLA Medical offers the best warranty in the industry. Every component in a SHUKLA extraction system is designed and manufactured by us. Every component in our extraction systems that is not a single-use* or a wear* component is warranted against manufacturing defects for the life* of the system. All other parts are covered for as long as the purchased version of the system is actively marketed by SHUKLA Medical.

*Please see our website for the complete explanation of these terms and full details on our warranty.