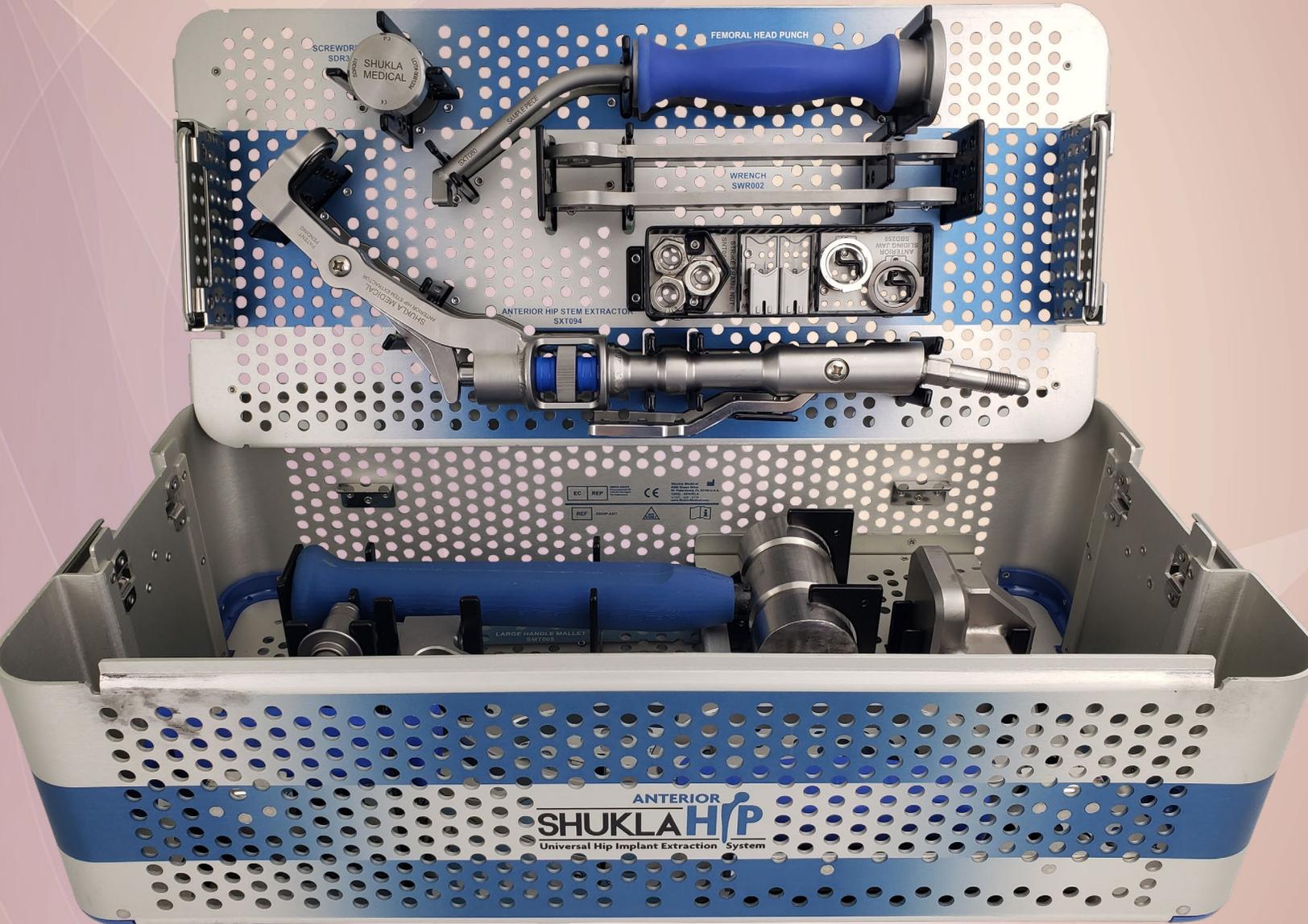


PRODUCT GUIDE

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ANTERIOR SHUKLA HIP

Universal Hip Implant Extraction System



SHUKLA MEDICAL®

Universal Orthopedic Extraction Technologies

Revolutionizing the Art of Revision Surgery

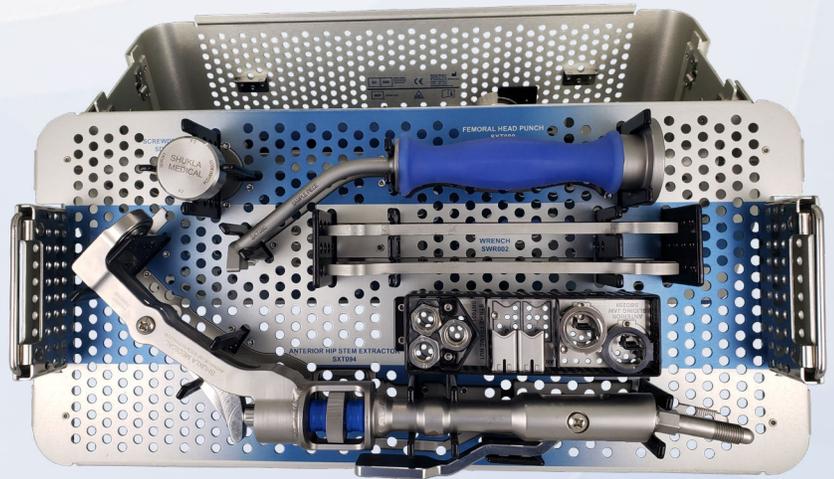
ANTERIOR SHUKLA HIP

Universal Hip Implant Extraction System

System Name: SHUKLA Anterior Hip v1

Primary Use

The SHUKLA Anterior Hip Universal Hip Implant Extraction System is designed for the removal of hip stems using the direct anterior approach during revision surgeries. The system consists of a variety of instrumentation geared towards the universal removal of varying designs of hip stems.



System History

Development on the inaugural SHUKLA Anterior Hip system began in 2018. We knew that over the past decade, the direct anterior approach to revision hip surgery was rapidly increasing in popularity. Working alongside several orthopedic surgeons, Shukla engineers worked on designing the tools that would allow our system to be universally compatible with all hip stem implants when using the direct anterior approach; a minimally invasive muscle splitting approach, that results in less pain after surgery, smaller incisions, and faster healing for patients.

Building off of the success of the SHUKLA Hip, the SHUKLA Anterior Hip system was released in early 2022.

2022: Version 1 Introduced

Key Benefits

- Strike Plate Frame and Mallet combo makes extraction simple, effective, and fast.
- Extraction force remains inline with implant. This greatly reduces the side-load of the force, reducing the risk of fractures.
- Ability to remove a universal range of hip stems with a trunnion.



Tapered Neck Stem



Cross Hole Stem



Proximally Threaded Stem

- Femoral Head Punch quickly removes the femoral head component off the hip stem thanks to its unique angle and ergonomic silicone grip.



- Avoids the need to perform an osteotomy.
- Modular T-Handle easily connects to the Strike Plate Frame allowing for controlled extraction no matter the angle.

Universal Shukla System Benefits for Better Patient Outcomes

Less Time Spent in O.R.

- Reduces risk of infection to patient
- Reduces time spent under anesthesia
- Reduces cost to the hospital

Universal Designs

- Less prep time for surgeons
- Less space taken up in the O.R.
- Reduces need for other systems or tools

Ergonomic Design

- Reduces surgeon stress
- Reduces surgeon fatigue
- Better grip/reduces slippage

Comprehensive Design

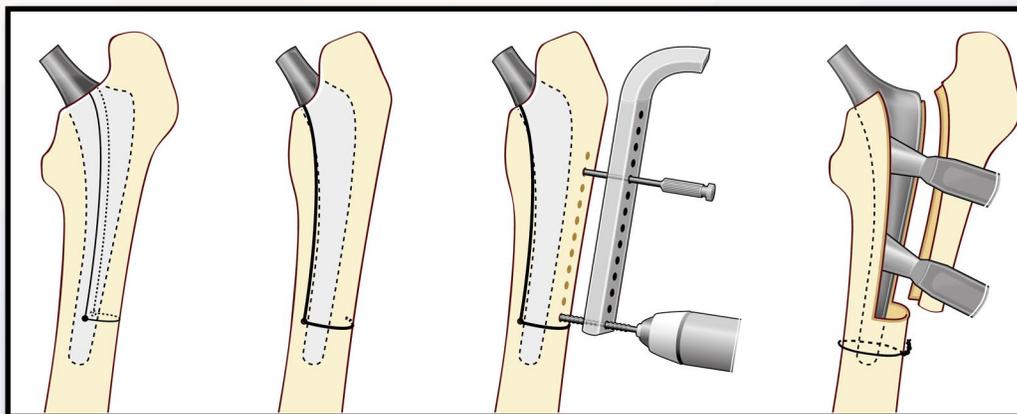
- Addresses all known challenges
- Tools ensure surgery is a success
- Provides backup solutions during surgery

Alternative Method Comparison

Without a SHUKLA Anterior Hip set, the most common alternative method in the O.R. is to perform an osteotomy. An osteotomy is a surgical operation whereby part of the bone is removed to allow easier access to the implant. Think of it as a surgery within a surgery. Some surgeons were taught in medical school to resort to an osteotomy if it seemed as if the extraction would take longer than fifteen minutes. This is something Shukla strives to help correct. With a SHUKLA Anterior Hip system, you can reduce the number of osteotomies by a staggering amount.

Benefits to Avoiding an Osteotomy

- Reduces the risk of infection
- Reduces the risk of nonunion fractures
- Reduces the risk of complication due to bone loss
- Reduces the need for physical therapy
- Reduces the cost to hospital
- Reduces the length of hospital stay for patient



Visual representation of an Extended Trochanteric Osteotomy procedure.

Return On Investment Justification

According to a study published in JAMA Surgery, the average cost for one minute in an O.R. is a staggering \$66! The median time spent in an O.R. per surgery is 75 minutes per surgery. Therefore, the typical per surgery cost could be calculated as 75 minutes per surgery x \$66 per minute for a total of \$4,950. The SHUKLA Anterior Hip system would pay for itself in less than four surgeries.

When You Don't Have It

When using a hip stem extraction system from our competitors, you immediately run into the "Three Strikes" of extraction for hip stems.

- **STRIKE ONE** - Competitor's system extractors are not inline with the hip stem itself, wasting up to 60% of the force exerted and increasing the risk of fractures.
- **STRIKE TWO** - Failing to get a good "bite" on the trunnion, resulting in wasted time and effort for the surgeon.
- **STRIKE THREE** - The inefficiency of the traditional slap hammer system. The slap hammer does not generate significant force on the implant, does not employ vibrational harmonics, and leads to both increased surgeon fatigue as well as wasted time in the O.R.

The SHUKLA Anterior Hip system directly counters all of those strikes.

- **COUNTER STRIKE ONE** - Our extractors are all inline with the hip stem, leading to a quicker extraction and a greater reduction in the risk of a fracture.
- **COUNTER STRIKE TWO** - Our methods of extraction don't slip off the trunnion once clamped down. This ensures that a surgeon will not waste time trying to get the needed "bite" in order to extract.
- **COUNTER STRIKE THREE** - Our Strike Plate Frame and Mallet combo offer unparalleled vibrational harmonics and impact force control that facilitates the separation of the implant to bone growth interface. This leads to quicker extraction, less surgeon fatigue, and less time spent in the O.R.

How We Compare

Most orthopedic implant manufacturers provide revision/extraction tools suited only for their specific implants. Suppliers that claim to offer extraction systems for a variety of implants really only offer an assortment of tools thrown together as an afterthought. At Shukla Medical, **extraction is what we do**. Our engineers design truly universal tools to help remove any implant/hardware available on the market today. Our comprehensive, patented designs are revolutionizing the art of revision surgery; we proudly stand alone. That being shared, we did our best to provide a competitor comparison below.

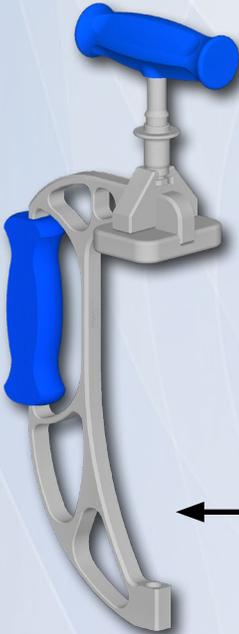
Our competitor's extractors primarily use slap-hammers which do not provide as much extraction force. Only the SHUKLA Anterior Hip offers a Hip Stem Extractor to allow for the use of a strike plate frame and mallet to generate much higher extraction force. In addition, it can adjust to any diameter of trunnion and offers a 360-degree grip for superior positioning.

Some competitor's extraction instruments apply the extraction force inline with the trunnion instead of the stem, which can fracture proximal bone. The SHUKLA Anterior Hip Stem Extractor ensures the extraction force is applied directly inline with the hip stem to minimize bone loss.

PATENT

- Strike Plate Frame
- Anterior Hip Extractor
- Femoral Head Punch

Engineers at Shukla are the best at what they do. They've worked hard to create ingenious patented items like our Strike Plate Frame.



Strike Plate

The wide strike plate allows surgeons to hit the "sweet spot" with a much larger degree of accuracy. This reduces the chance of a mis-hit which could result in unwanted lateral force.

Strike Plate Frame

Our Strike Plate Frame features an integrated connection adaptor as well as an integrated t-handle for proper grippage. The body has been reinforced to help withstand the immense vibrational harmonics that occur with every strike.

Mallet

Stainless steel head and silicone grip allow for precise blows to the Strike Plate for exceptional extraction force.



Anterior Hip Extractor

An adjustable jaw makes sure the extractor gets a good bite on the trunnion every time. The extractor is offset to reduce fractures during impact.



Femoral Head Punch

The ergonomic grip and angled tip of the punch allows for the rapid removal of the femoral head from the hip stem.

Attention to Detail

Every aspect of the SHUKLA Anterior Hip system is the result of our engineers steadfast focus on quality, ease of use, and universal compatibility.

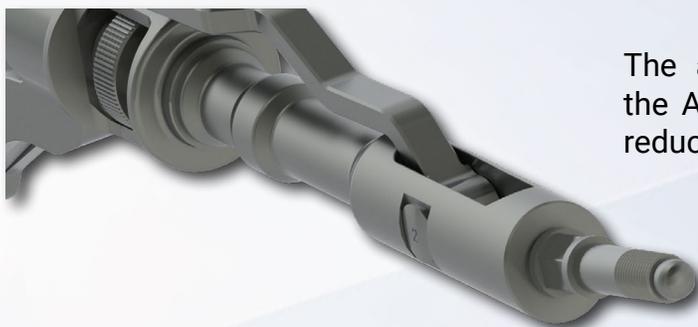


The Strike Plate Frame possesses more modes of frequency than a slap hammer. The Strike Plate vibrates the bone-implant interface with each hit. This increases the likelihood of weakening the bone interface and loosening the implant.



Inline with implant

The Universal Anterior Hip Extractor attaches to hip stems inline with the implant itself, reducing the risk of fracture and maximum application of extraction force.



The attachment point for the Strike Plate Frame on the Anterior Hip Extractor is angled. This angle greatly reduces the moment created by the offset.

Additional consumables are available for the Anterior Hip Extractor. Both the Fixed and the Sliding Jaws are replaceable to ensure the best connection with the trunnion every time.



Fixed Jaw



Sliding Jaw

Components List

Component List		
Std Qty	Part Number	Description
1	SCS075	Case, Tray, S9HIP-ANT
1	SCS076	Case, Bottom, S9HIP-ANT
1	SCS011	Lid, Hip, Knee, Broken & Stripped, Blade, Systems
1	SXT094	Extractor, Hip Stem, Anterior Assy
2	SBD220	Jaw, Anterior, Fixed
2	SBD259	Jaw, Anterior, Sliding
1	SXT080	Punch, Femoral Head
1	SBD008	Strike Plate, Assy, Frame
3	SNT001	Nut, Hex, 7/16-20 UNF-2B
1	SHN019	T-Handle, Assy, for Strike Plate
2	SWR002	Wrench, Double Open End, 1/2" & 11/16"
1	SMT005	Mallet, Assy, Big
1	SDR301	Driver, Phillips, #3, Stubby



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

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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.