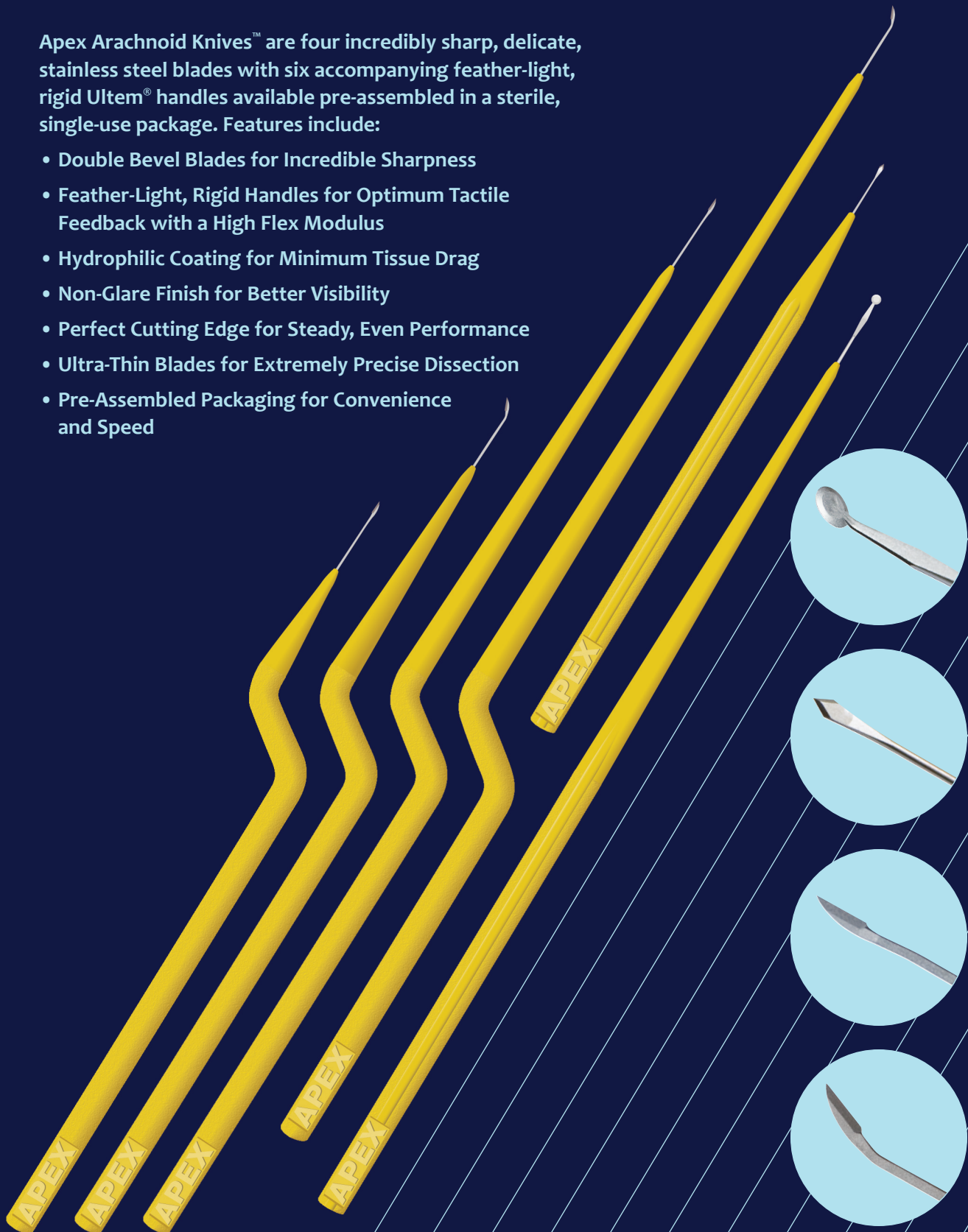


APEX ARACHNOID KNIVES™

Apex Arachnoid Knives™ are four incredibly sharp, delicate, stainless steel blades with six accompanying feather-light, rigid Ultem® handles available pre-assembled in a sterile, single-use package. Features include:

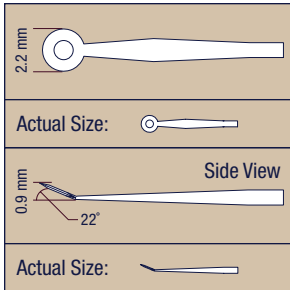
- Double Bevel Blades for Incredible Sharpness
- Feather-Light, Rigid Handles for Optimum Tactile Feedback with a High Flex Modulus
- Hydrophilic Coating for Minimum Tissue Drag
- Non-Glare Finish for Better Visibility
- Perfect Cutting Edge for Steady, Even Performance
- Ultra-Thin Blades for Extremely Precise Dissection
- Pre-Assembled Packaging for Convenience and Speed



Designed by Neurosurgeons for Use by Neurosurgeons

BLADES

CIRCULAR



2.2 mm circular blade with a 0.9 mm tip width and 320° cutting edge

Developing Planes: Facilitates the flow of an operation by permitting the transition from sharp to blunt dissection.

The most robust of the four knives.

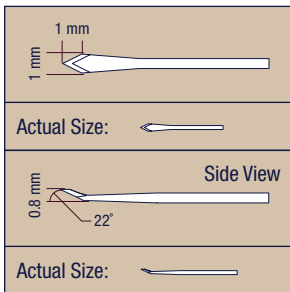
If presented with plane of arachnoid in a very small space the circular knife can be used to make a small hole prior to using the Backcutting Knife to more safely strip away tissue.

Surgeons use a rotating motion to move the leading edge across the surface either in a horizontal or vertical orientation. While using the knives in this manner, a surgeon can part the very top surface of tissue without penetrating deeper than the curved blade edge.

Because the circumference is sharp 320° around, the inside angle on either side can be used to catch and pull tissue.

This knife can also be used for heavier dissection in some of the most delicate spinal applications.

PENETRATOR



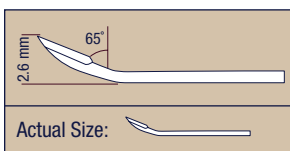
1.0 mm lancet blade with a 0.8 mm tip width

Pinpoint Precision: Permits meticulous pinpoint dissection in areas where no tension is permissible.

The sharpest of the four knives.

The Penetrator permits dissection without tension for operations requiring the utmost delicacy, such as dissecting adhesions from a carotid or an optic nerve or dissecting clot and scar tissue from the base of an aneurysm.

BACKCUTTING



2.6 mm tip width with a 65° blade angle

Safe Dissection Over Critical Areas: Dissect with confidence over the most critical and delicate structures.

The bottom of the blade is dull.

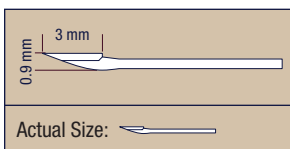
The safest and most popular knife for dissection over critical areas.

Not recommended for operating in an unopened plane of arachnoid, because surgeons would have to push the point down into an unknown area before it would cut.

Surgeons usually use the Circular Knife for making the initial incision in a plane before following the same incision with a backcutting blade.

The AM-23-S knife is often used to perform arteriotomies for cranial bypass operations.

SIDECUTTING



3.0 mm blade length and 0.9 mm tip width

Safe Precise Dissection: Slim profile with safe edge allows for safety and precision in tight areas.

The Sidecutting Knife has the same safe edge as the Backcutting Knife but is not angled.

Because of its slim profile, it fits into areas where the angled distance between the heel and tip of the Backcutting Knife would limit its maneuverability.

Because of its slim profile, the sharp tip of the Sidecutting knife is less visible than that of the Backcutting Knife in deep operations. However, this knife can fit in areas that would otherwise be inaccessible.



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HANDLES

① **8" Long Knife Handle**

Some surgeons are comfortable holding the smooth tapered distal portion of the handle and “choking up” on the knife during surgery near the surface of the brain or operating with wrist rests. But the primary purpose of the long 4.0" tapered distal shaft is to permit precise delicate controlled microsurgery in any deep seated location.

② **5" Superficial Knife Handle**

The shorter handle length permits surgeons to rest their hands on the patient and maintain meticulous control at superficial depths. If a surgeon is working on a deep seated lesion, this length will be effective for opening the Sylvian or interhemispheric fissure before switching to a longer instrument.

③ **1" Short Bayonet Knife Handle**

The short bayonet handles provide an instrument with facility and control for neurosurgeons operating at more superficial depths. The 1.0" and 2.0" distal shaft lengths enable surgeons to change their depth without changing their operative style or forgoing the stability gained by resting their hands on the patient. These instrument options are more effective for a large number of common cerebrovascular and skull base approaches.

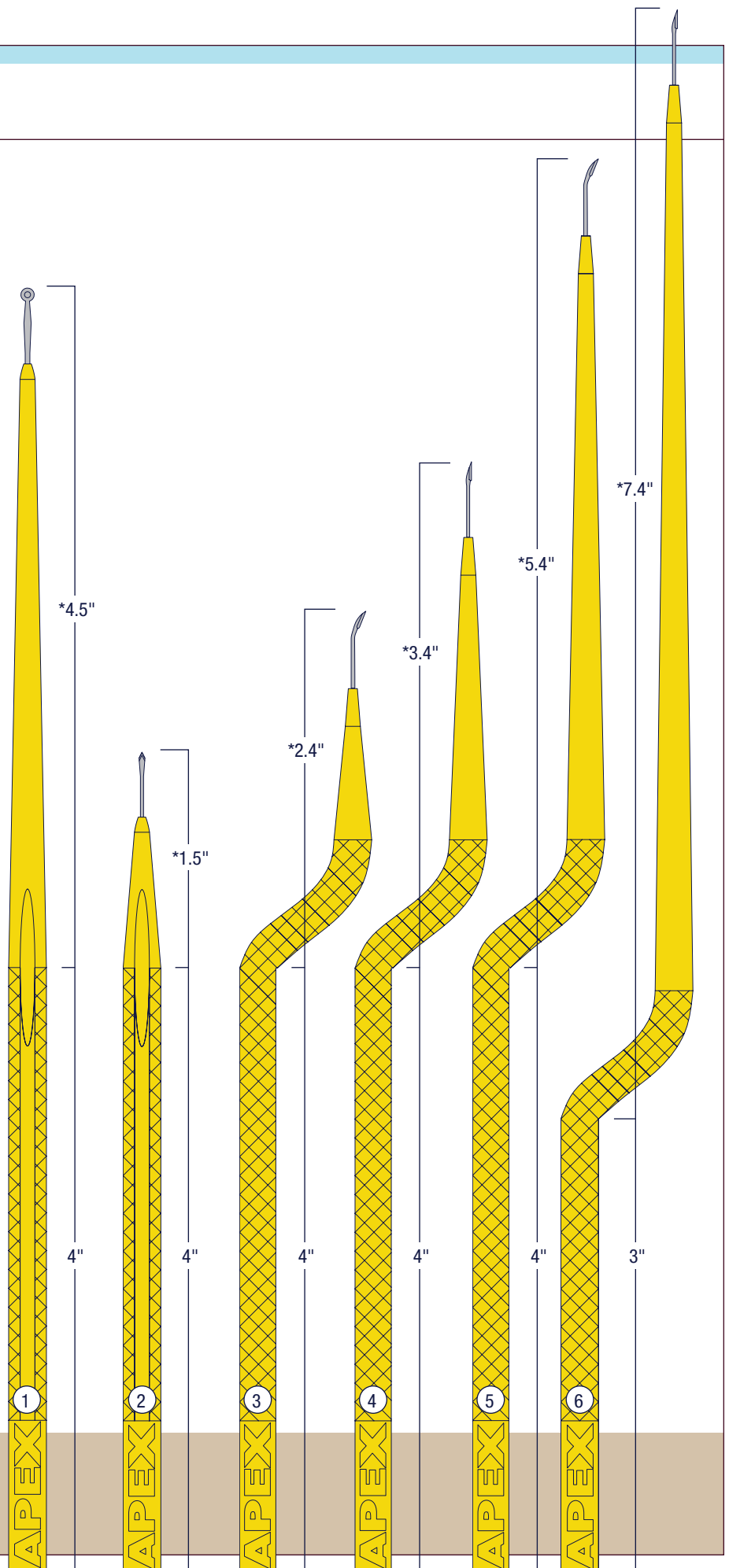
④ **2" Short Bayonet Knife Handle**

⑤ **Bayonet Knife Handle**

The bayonet handle was created for the 30% of neurosurgeons who only use bayoneted instruments. While the bayonet handle provides better visibility, there is a trade-off in that the handle can't be rotated to change the orientation of the blade as can be done with a straight instrument.

⑥ **Extended Bayonet Knife Handle**

The extended bayonet handle with its 6.0" tapered distal shaft is intended for precise surgery in relatively inaccessible regions of the brain, where the standard bayonet would not be usable. The 0.25" diameter proximal portion of the handle is shortened from 4.0" to 3.0" to keep the overall length usable in the field and to facilitate approach to more inaccessible lesions.



All Handle Drawings
Are Shown Actual Size

*Working Length

WHY USE APEX ARACHNOID KNIVES™?

Designed by Neurosurgeons for Use by Neurosurgeons.

- Apex Arachnoid Knives™ are four, precise, ultra-thin, knives available on six accompanying handles for use in cerebrovascular, tumor, spinal, and epilepsy procedures.
- Each blade is manufactured from extremely hard 400 series stainless steel. This material enables Apex to etch an extremely acute edge on the blade. The feather-light handle is manufactured from an extremely stiff Ultem® plastic for better tactile feedback and no whiplash.
- Apex blades are chemically etched to provide a perfect cutting edge. The proprietary hydrophilic blade coating ensures minimum tissue drag and the feather-light yet stiff handle provides optimum tactile feedback. The combination of these three important factors enhances a surgeon's ability to perform elegant microsurgery.
- Apex Arachnoid Knives™ permit delicate, safe, sharp microdissection in situations where it is simply impossible to safely use a less elegant instrument. Even for relatively simple superficial dissections, Apex Arachnoid Knives™ help to preserve delicate tissue and improve patient outcomes. Apex Arachnoid Knives™ are the superior instrument for delicate dissections as well as for instances where pulling on delicate structures is not permissible.
- Apex Arachnoid Knives™ are superior to scissors and reusable knives. Although the arachnoid can be dissected with scissors, often the angle of attack is poor and a reusable knife is used instead.

However, a reusable knife will subject delicate structures to much greater stress and risk of damage. Dissections with a sharp, appropriately angled knife, such as Apex Arachnoid Knives™, is much safer and faster, and greatly increases the speed of dissection. A few minutes of OR time saved more than pays for these knives — this time savings has been the justification for bioplate, craniotomy closure, staples for skin closure, or paper drapes.

How are Apex Arachnoid Knives™ sold?

- Apex Arachnoid Knives™ are sold individually, preassembled in a sterile peel pack.
- Apex Medical recommends that Apex Arachnoid Knives™ be used only once. The fine razor thin edge is precisely what makes these knives unique. It is impossible to maintain the sharpness of a fine delicate edge with extended use. These knives are so sharp, that even when dulled through use, they remain much sharper than any instrument previously used in surgery. With such sharpness, a surgeon may not realize that the performance of the knife has deteriorated significantly.
- Please contact Apex Medical Inc. by phone at 610-240-4905 or by e-mail at information@apexmed.com and we will direct you to the appropriate distributor for Apex Arachnoid Knives™.
- For more information, call Apex Medical at 610-240-4905, e-mail Apex Medical at information@apexmed.com, or visit Apex Medical on the web at www.apexmed.com.

WHO USES APEX ARACHNOID KNIVES™?

"I won't do a bypass without Apex knives."

- *David Langer, M.D., Albert Einstein College of Medicine*

"I use the Apex knife for dissecting the cranial nerves and vessels off tumor capsule. It also allows me to sharply identify the dorsal nerve root entry zone in tethered and retethered spinal cord cases."

- *Peter P. Sun, M.D., Children's Hospital of Oakland*

"When it comes to making the arteriotomy to start a bypass, there is nothing better than Apex knives, especially when doing a deep bypass."

- *Michael T. Lawton, M.D., University of California, San Francisco*

"The Apex knife is the best tool for opening the arachnoid of the Sylvian fissure and for separating cranial nerves from a tumor surface microscopically."

- *Harry R. Van Loveren, M.D., University of South Florida*

"The Apex knives are versatile tools for sharp dissection of arachnoid planes in both open and endoscopic skull base surgery."

- *James K. Liu, M.D., Rutgers*



CATALOG NUMBERS

Blade	8" Long Handle	5" Superficial Handle	1" Short Bayonet Handle	2" Short Bayonet Handle	Bayonet Handle	Extended Bayonet Handle
Circular	AM-21	AM-21-S	AM-21-XSB	AM-21-SB	AM-21-B	AM-21-X
Penetrator	AM-22	AM-22-S	AM-22-XSB	AM-22-SB	AM-22-B	AM-22-X
BackCutting	AM-23	AM-23-S	AM-23-XSB	AM-23-SB	AM-23-B	AM-23-X
SideCutting	AM-24	AM-24-S	AM-24-XSB	AM-24-SB	AM-24-B	AM-24-X



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