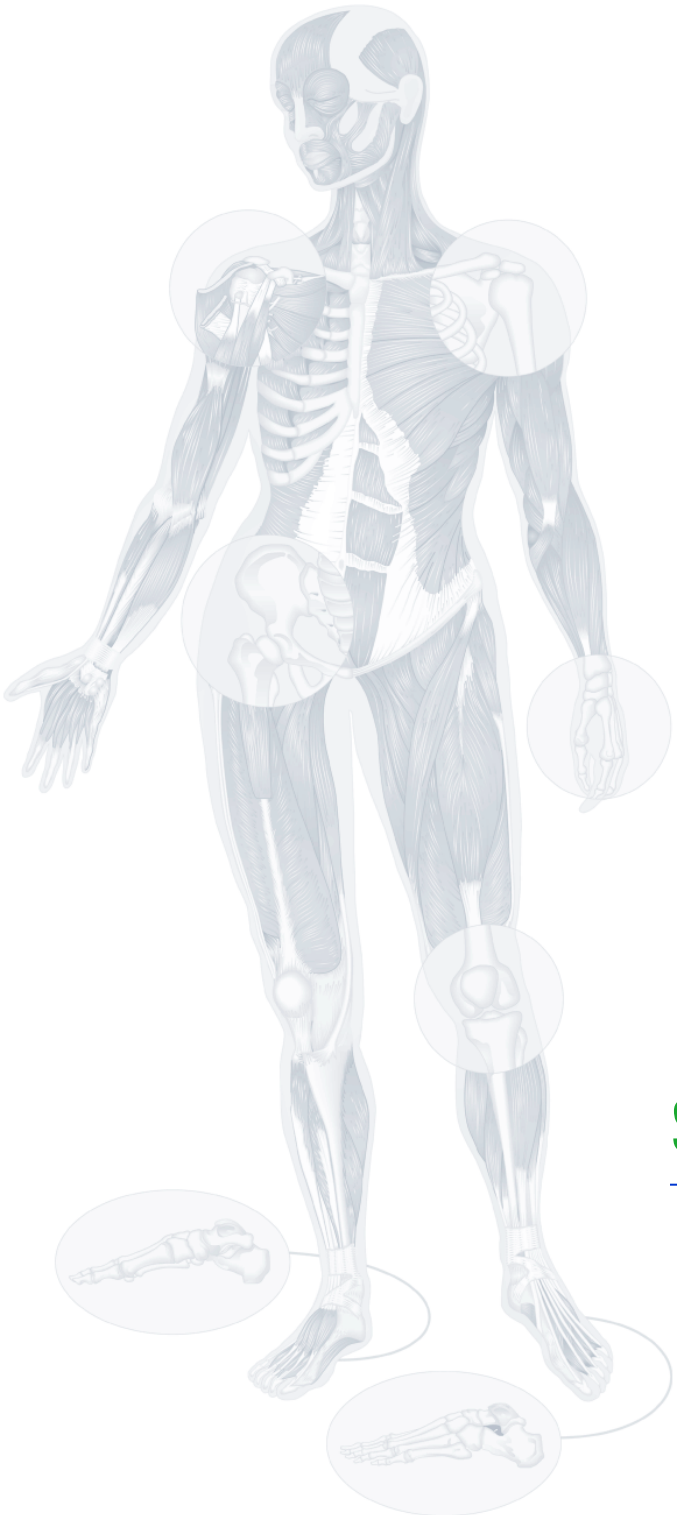


CurvTek®
BONE TUNNELING SYSTEM

surgical technique

APPLICABLE TO ALL CURVTEK®
BONE TUNNELING SYSTEM INDICATIONS

ARTHROTEK®
A Biomet Company

CurvTek® BONE TUNNELING SYSTEM

surgical technique

introduction

The CurvTek® System combines the benefits of preferred soft tissue reattachment with innovative pneumatic technology for creating curved transosseous tunnels. The unique CurvTek® handpiece and cartridge assembly machine curved tunnels, creating a strong bony bridge for each suture tie-down.

correct cartridge insertion

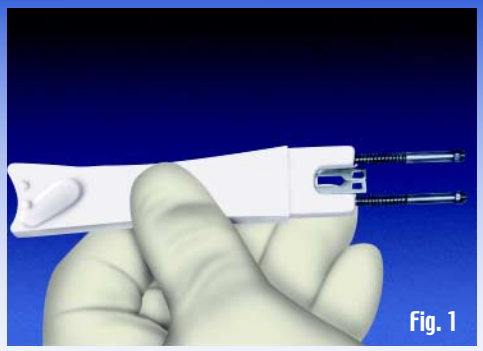


Fig. 1

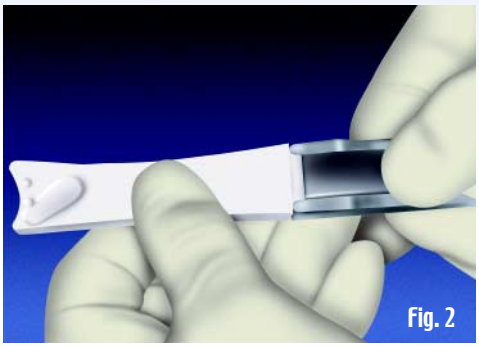


Fig. 2

incorrect cartridge insertion

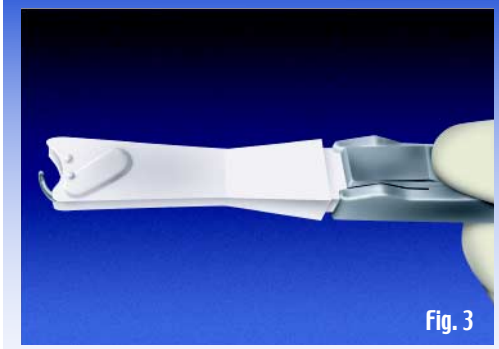


Fig. 3

Fig. 4

inserting the cartridge

To insert the cartridge into the handpiece:

- Be certain the On-Off switch on the handpiece is in the "Off" position when inserting a cartridge.
- Hold the cartridge between the thumb and forefinger of one hand (Fig. 1).
- With the free hand, grasp the "barrel" of the handpiece and depress the toggle latch on the handpiece. Carefully insert the back end of the cartridge, with the two male hex drives, into the barrel of the handpiece until the cartridge snaps into place (Fig. 2).

NOTE: If one or both cutter heads advance from the cartridge during insertion, the male and female hex drive(s) did not mate properly (Fig. 3 and 4). If this occurs, remove the cartridge and rotate the non-mating male hex drive(s) ⅛ turn (Fig. 5).

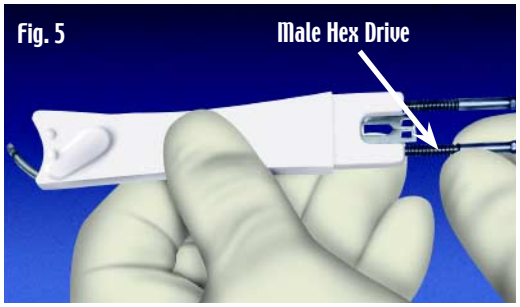


Fig. 5

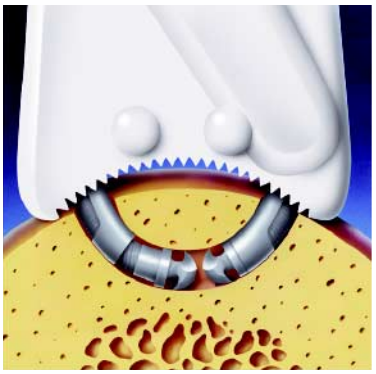
- Carefully reinsert the cartridge into the handpiece. Repeat until properly seated.

CAUTION: Keep hands away from, and do not push on, the serrated front end of the cartridge during insertion since this could result in injury. Do not force the cartridge to facilitate proper insertion.

chip cycles

Chip cycles 1 – 3

Chip cycles 4 – 10



Chip cycles 10 – 15

creating the tunnel

Ensure that the repair site is free from soft tissue to prevent interference with the cutting performance of the cutter heads. Stabilize the instrument perpendicular to the bone into which you will drill the transosseous tunnel.

The CurvTek® System is a unique soft tissue repair system that requires attention to the bone chip removal technique to ensure successful results. Unlike conventional straight drills that allow bone debris removal through flutes, the CurvTek® System requires two simultaneous activities for bone debris removal: Chip Cycles and Continuous Irrigation.

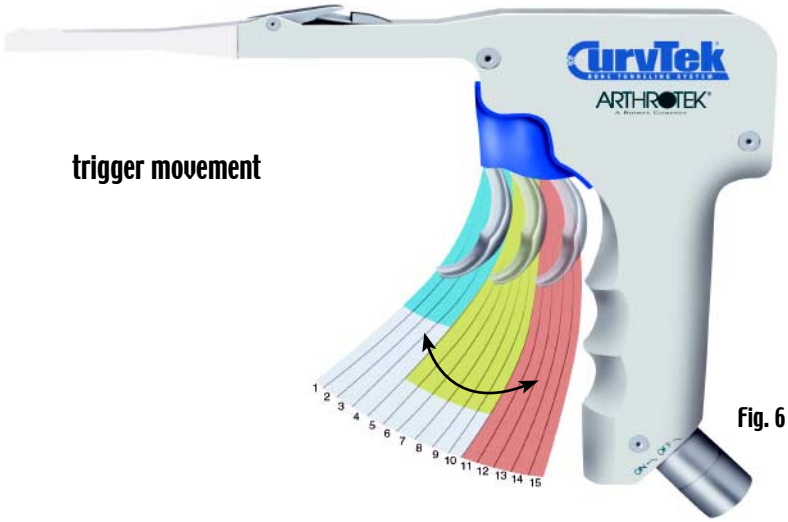


Fig. 6

the chip cycle technique

One trigger advance and release action is called a “chip cycle.” Chip cycles are required to allow bone debris removal throughout the process of creating a tunnel. The technique is as follows:

- As the trigger is pulled, the cutters engage the cortex, and bone chips develop.
- As the trigger is released, the cutters retract and the bone chips clear the tunnel.
- Each pull and release of the trigger is a “chip cycle.”
- To adequately clear the chips for a complete tunnel, 12 – 15 chip cycles may be necessary (Fig. 6).

NOTE: The trigger must be fully released to the starting position at the end of each chip cycle or the bone chips will not clear the tunnel.

continuous irrigation

In addition to the Chip Cycle Technique, constant copious irrigation is required throughout the chip cycle process to ensure bone debris removal from the drill holes and to cool the cutting tips (Fig. 7). Irrigation technique should be either pulsed lavaged or submerged.

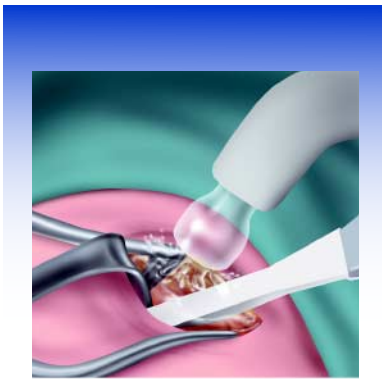


Fig. 7

completing the tunnel

When the chip cycle process is complete and the trigger is fully depressed, one cutter head passes across the center line of the cartridge to complete the transosseous tunnel (Fig. 8).

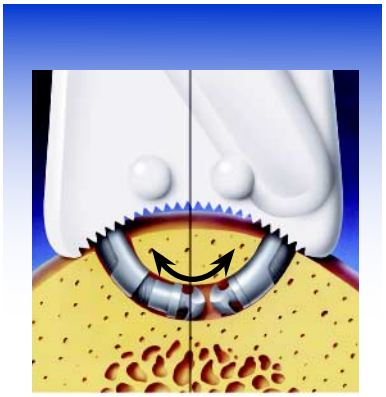


Fig. 8

passing the suture

To pass the CurvTek® needle, place the jaws of the instrument utilized to grasp the needle on the sides of the needle and orient the needle parallel to the long axis of the instrument (Fig. 9). Position the needle to follow the path of the tunnel created by the cartridges (Fig. 10). This aligns the needle with the radius of the transosseous tunnel. Advance the needle while rotating the instrument away from the entry point (Fig. 11). Gently feed the needle through the length of the tunnel (Fig. 12).

Fig. 9

Fig. 10

Fig. 11

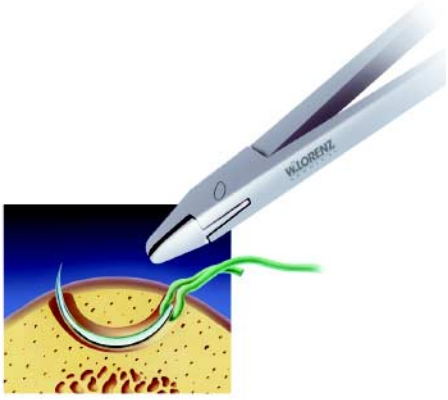


Fig. 12

suture tie-down

Once the suture is passed through the tunnel, the soft tissue can be tied down, directly on bone (Fig. 13). This technique and the resulting repair maximizes the surface area of soft tissue-to-bone contact.

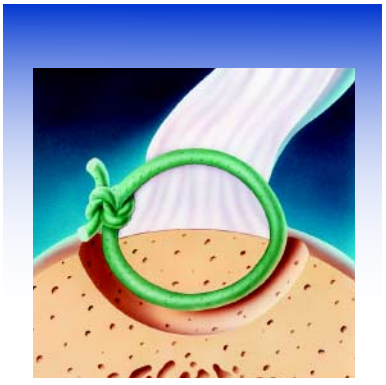
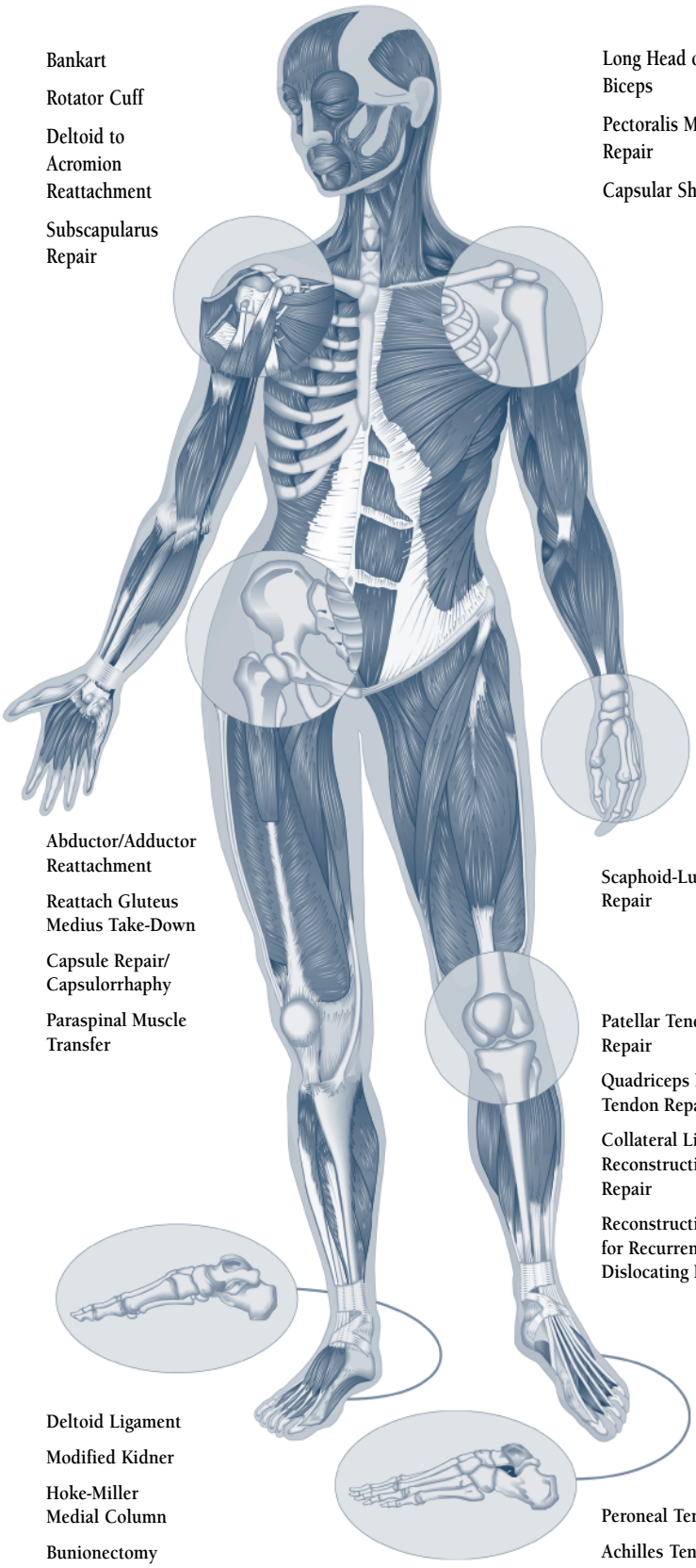


Fig. 13

surgical indications



Bankart

Rotator Cuff

Deltoid to Acromion Reattachment

Subscapularus Repair

Long Head of the Biceps

Pectoralis Major Repair

Capsular Shift

Abductor/Adductor Reattachment

Reattach Gluteus Medius Take-Down

Capsule Repair/ Capsulorrhaphy

Paraspinal Muscle Transfer

Scaphoid-Lunate Repair

Patellar Tendon Repair

Quadriceps Femoris Tendon Repair

Collateral Ligament Reconstruction/ Repair

Reconstruction for Recurrent Dislocating Patella

Deltoid Ligament

Modified Kidner

Hoke-Miller Medial Column

Bunionectomy

Brostrom

Peroneal Tenodesis

Achilles Tendon

Lateral Stabilization

7mm (medium) cartridge

- Bone Bridge: 7mm*
- Depth: 4.7mm* (curved)
- Tunnel Size: 2mm*

*Approximate Sizes

Shoulder

- Bankart Lesion Repairs—Anterior and Posterior
- Subscapularis Repairs

12mm (large) cartridge

- Bone Bridge: 12mm*
- Depth: 5.2mm* (curved)
- Tunnel Size: 2mm*

*Approximate Sizes

Shoulder

- Rotator Cuff Repairs
- Pectoralis Major Repairs

22mm (x-large) cartridge

- Bone Bridge: 22mm*
- Depth: 7.8mm* (curved)
- Tunnel Size: 2mm*

*Approximate Sizes

Hip

- Reattach Abductor/Adductor Complex

Shoulder

- Rotator Cuff Repairs

potential applications:

shoulder

Bankart Lesion Repair—Anterior
Bankart Lesion Repair—Posterior
Rotator Cuff Repair
Deltoid to Acromion Reattachment
Subscapularus Reattachment
Long Head of the Biceps Tendons Repair
Pectoralis Major Repair to Anterior Humerus
Trapezium Transfer to Spine of Scapula

foot and ankle

Attachment of Distal EHL at Hallux IPJ (Jones Arthrodesis)
Attachment of EHL to First Metatarsal (Jones Tenodesis)
Attachment of EDL into Midfoot (Modified Hibbs Tenosuspension)
Attachment of Split Portion of Anterior Tibial Tendon into Lateral Tarsal (STATT)
Attachment of PT Tendon to Medial Foot (Modified Kidner, PT Dysfunction)
Attachment of Osteoperiosteal Flap into Midfoot
Attachment of Lateral Ankle Ligaments (for Stabilization)
Attachment of Peroneal Tendons to Talus and Calcaneus (Secondary Stabilization)
Attachment of Retinaculum to Ankle Capsule (Brostrom Stabilization Procedure)
Attachment of Achilles Tendon to Calcaneus (Excision of Retrocalcaneal Exostosis)
Bunionectomy
Soft Tissue Stump Attachment after Amputation

hip

Reattach Abductor/Adductor Complex following Anterior/Lateral Hip Arthroplasty
Reattach Gluteus Medius Take-Down (for Total Hip Arthroplasty)
Capsule Repair/Capsulorrhaphy (for Partial Hip Arthroplasty)
Paraspinal Muscle Transfer (to Hip)

knee

Quadriceps Femoris Tendon Repair (for Rupture)
Patellar Tendon Repair (for Rupture)
Semimembranosus Tendon Reconstruction (for Posteriormedial Compartment Instability)
Posterior Oblique Ligament Reconstruction (for Posteriormedial Compartment Instability)
Tibial Collateral Ligament Reconstruction (for Posteriormedial Compartment Instability)
Collateral Ligament Reconstruction/Repair
Hamstring Tendon Transplant (to Patella)
Hamstring Tendon Transfer (to Femur)
Reconstruction for Recurrent Dislocating Patella (Hauser Type Procedure)

NOTE: Anatomy should be assessed pre-operatively prior to use to determine appropriate cartridge size.

ordering information

CurvTek® Handpiece
906740

Nitrogen Hose, 3 Meters Long
906743

CurvTek® Lubricant
906740

CurvTek® Sterilization Case
906796

CurvTek® Sterilization Case Accessories
906797

CurvTek® Cartridge
906750 7mm Medium
906754 12mm Large
906758 22mm X-Large

CurvTek® Needles (pkg. of 3)
906760 7mm Medium
906764 12mm Large
906768 22mm X-Large
906770 22mm X-Large Blunt
906771 7mm Medium Extra Long
906775 7mm Medium Extended Flat

part number conversion chart

Arthrotek Part No.	Biolectron Part No.	Description
906750	30-0202	CurvTek Cartridge 7mm (Medium)
906754	40-0203	CurvTek Cartridge 12mm (Large)
906758	22-0202	CurvTek Cartridge 22mm (X-Large)
906760	30-0001	CurvTek Eye Needle 7mm (Medium) Pkg. 3
906764	40-0001	CurvTek Eye Needle 12mm (Large) Pkg. 3
906768	22-0001	CurvTek Eye Needle 22mm (X-Large) Pkg. 3
906770	22-0010	CurvTek Eye Blunt Needle 22mm (X-Large) Pkg. 3
906771	30-0055	CurvTek Eye Extra Long Needle 7mm Pkg. 3
906775	30-0052	CurvTek Eye Extended Flat Needle 7mm Pkg. 3
906740	100-0001	CurvTek Handpiece
906743	100-0020	Nitrogen Hose, 3 meters long
906744	100-0005	CurvTek Lubricant, 1 oz.
906796	101-0111	Sterilization Container System
906797	101-1234	Sterilization Container Accessories

Arthrotek, as the manufacturer of this device, does not practice medicine and does not recommend this or any other surgical technique for use on a specific patient. The surgeon who performs any procedure is responsible for determining and utilizing the appropriate techniques for such procedure for each individual patient. Arthrotek is not responsible for selection of the appropriate surgical technique to be utilized for an individual patient.

ARTHROTEK®
A BIOMET COMPANY

P.O. Box 587, Warsaw, IN 46581-0587 • 574.267.6639 •
web site: www.arthrotek.com • Domestic eMail: arthrotek@arthrotek.com
International eMail: arthrotekeurope@arthrotek.com
Form No. Y-BMT-694R/121501/M