Thrombinator™ System

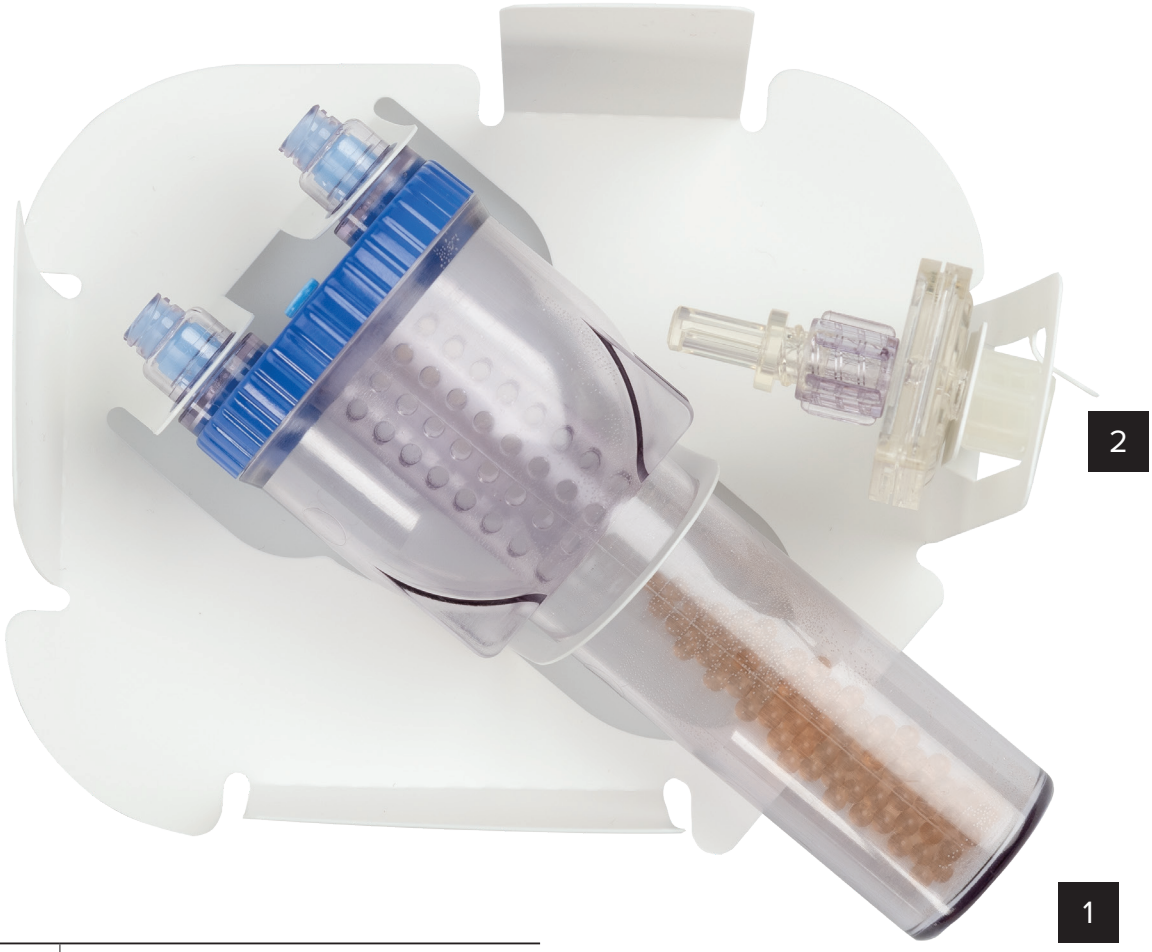
Surgical Technique

Arthrex®

Thrombinator™ System

The Thrombinator system was developed for use with Arthrex blood processing systems. It is designed for the preparation of autologous serum from anticoagulated or nonanticoagulated peripheral blood, platelet-poor plasma (PPP), or platelet-rich plasma (PRP) to mix with PPP and autograft or allograft bone prior to application to a bony defect for improved handling characteristics.

Thrombinator Kit Components



Pic.	Qty.	Description
1	1	Thrombinator System
2	1	18-µm Filter

Directions for Use for Anticoagulated Blood

Add 0.1 mL $CaCl_2$ and 4 mL autologous blood fraction through the “inject” port. Add $CaCl_2$ first, followed by the autologous blood fraction.

Note: Confirm “splashing” of $CaCl_2$ in Thrombinator™ device.

Mix the device for 5 seconds.

Place the Thrombinator device flat, with “withdraw” side up, and wait a minimum of 15 to 20 minutes or until signs of gelling occur. Avoid picking up or disturbing the device during this time.

Shake the device for 5 seconds to break the clot.

Add 0.2 mL $CaCl_2$ and 8 mL autologous blood fraction through the “inject” port. Add $CaCl_2$ first, followed by the autologous blood fraction.

Mix the device for 5 seconds.

Place the Thrombinator™ device flat, with “withdraw” side up, and wait 1 to 2 minutes. Avoid picking up or disturbing the device during this time.

Shake the device for 5 seconds to break the clot.

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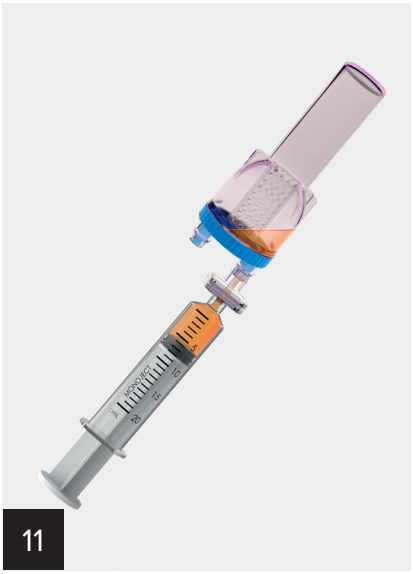
Shake the device for 5 seconds to break the clot.



Connect the filter to the “withdraw” port. Invert the device at a 45° angle toward the “withdraw” port and withdraw serum through the filter.

Use serum within 15 minutes of withdrawal from device.

Directions for Use for Nonanticoagulated Blood

Add 4 mL autologous blood fraction through the “inject” port.

Mix the device for 5 seconds.

Place the Thrombinator™ device flat, with “withdraw” side up, and wait a minimum of 10 minutes or until signs of gelling occur. Avoid picking up or disturbing the device during this time.

Shake the device for 5 seconds to break the clot.

Add 8 mL autologous blood fraction through the “inject” port.

Mix the device for 5 seconds.

7

Place the Thrombinator™ device flat, with “withdraw” side up, and wait 1 to 2 minutes. Avoid picking up or disturbing the device during this time.

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Shake the device for 5 seconds to break the clot.

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Place the Thrombinator device flat, with “withdraw” side up, and wait 1 to 2 minutes. Avoid picking up or disturbing the device during this time.

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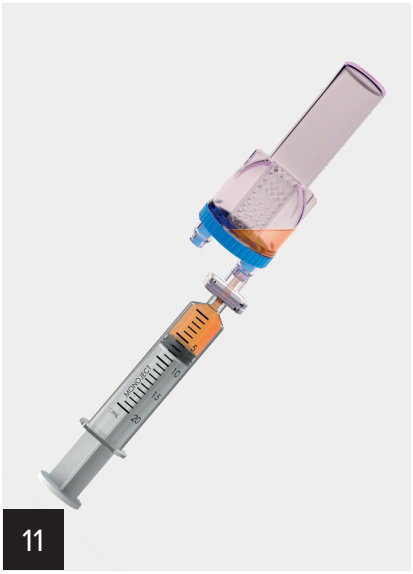
Shake the device for 5 seconds to break the clot.



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Connect the filter to the “withdraw” port. Invert the device at a 45° angle toward the “withdraw” port and withdraw serum through the filter.

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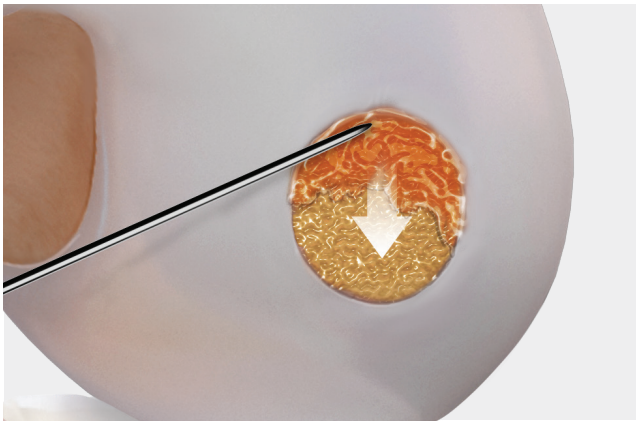
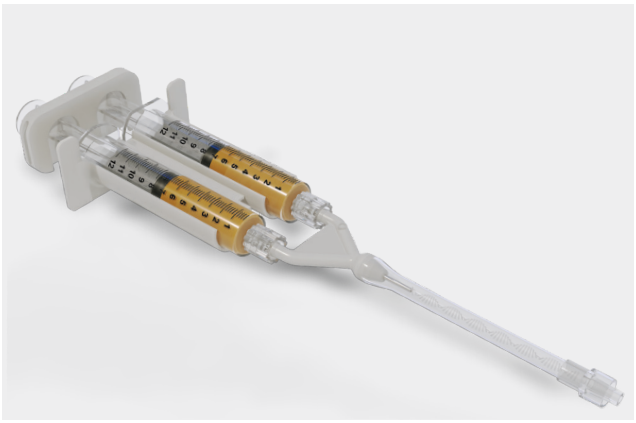
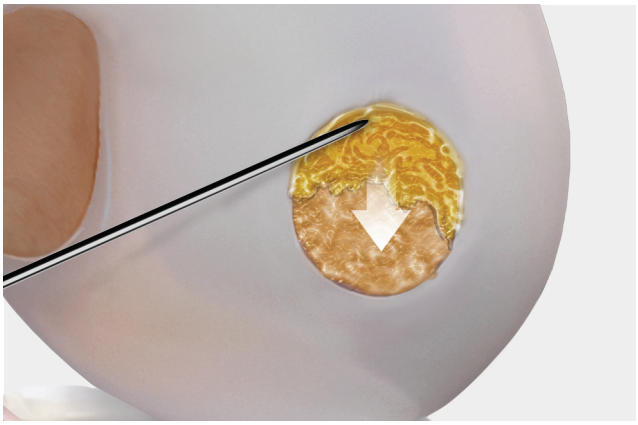
Use serum within 15 minutes of withdrawal from device.

Potential Surgical Applications of the Thrombinator™ System

AutoCart™ Technique for Osteochondral Defects
To create a stable clot that holds the graft in the lesion, apply prepared thrombin serum to osteochondral paste containing a fibrinogen source (from previously mixed autologous fluid).

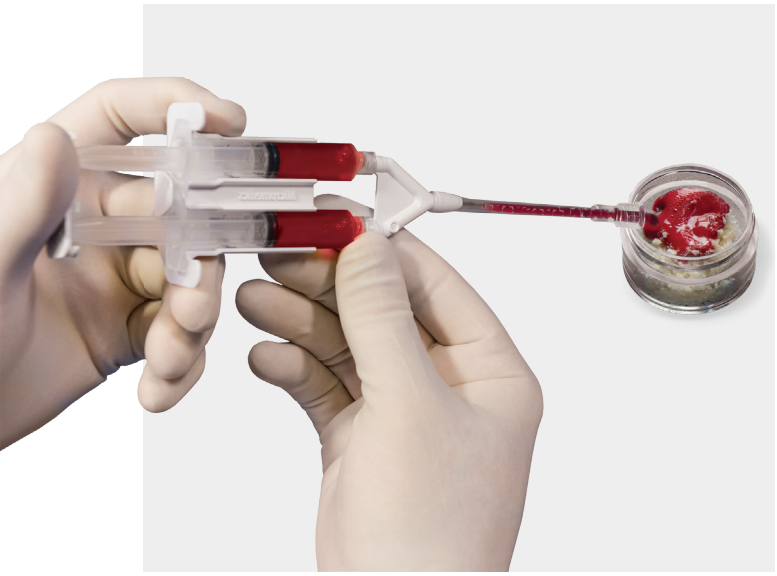


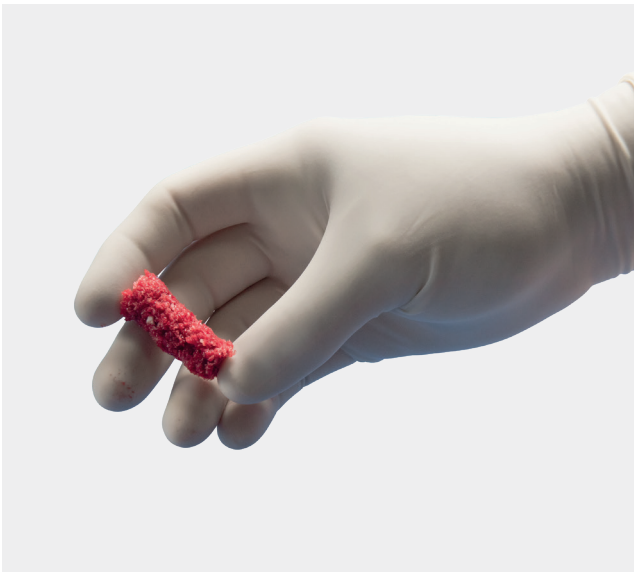




In addition to a fibrinogen source such as whole blood, PPP, or PRP, thrombin serum can be delivered over a treated cartilage lesion using a 1:1 applicator to create a final seal.

Bone Graft Hydration





Autologous activation serum improves bone graft handling by activating platelets to produce a gel that serves as a binding agent for bone graft material.

Ordering Information

Product Description	Item Number
Thrombinator™ system	ABS-**10080**
Arthrex ACP® double-syringe system w/ cap	ABS-**10010S**
Series I ACP blood draw kit	ABS-**10011**
Series I ACP blood draw kit w/ ACD-A	ABS-**10011T**
Series II ACP blood draw kit	ABS-**10012**
Angel® PRP kit	ABS-**10061T**
Applicator assembly 10 cc, 1:1 ratio	SA-**3310**
Blending connector w/ mixer	SA-**3678**
Tuohy delivery needle, 17 ga, 16 in	ABS-**21000**

Arthrex®

This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

Arthrex manufacturer, authorized representative, and importer information (Arthrex eIFUs)

US patent information

arthrex.com