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Rebel Reliever

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Medical Professional Instruction Guide

Indications:

- Conditions requiring mild to moderate Osteoarthritis uni-compartmental offloading, bi-compartmental stabilizing, meniscal Cartilage Repair, Avascular Necrosis, Varus and Valgus instability

Contraindications:

- Ambulatory patients with severe genu recurvatum
- Open Ulcerations
- Severe fluctuating edema
- Hyperbaric patients, patients who present DVT or a history of DVT
- High impact sports or activities
- Excessive varum or valgum knee angulation.

Medial OA

If this brace was ordered for medial OA, there will be a thicker condylar pad installed on the lateral hinge – opposite the affected compartment.

Lateral OA

If you ordered this brace for LATERAL OA, the thicker condylar pad should be on the medial hinge – opposite the affected compartment.

Universal Stock Inventory

Rebel Reliever braces ship with condylar pads configured for MEDIAL OA. If you need to set the brace up for lateral compartment syndrome, switch the round condylar pads so the thicker (round) pad is on the medial side and the oval (smaller) pad is on the lateral side. A condyle pad kit is included with the brace to give you the ability to amplify the three-point pressure at joint line – for increased unloading.

1) Ambulate the patient without the brace. You can note changes to the leg angulation and any "thrust" that occurs when the patient is at mid stance phase of gait on the affected leg. After applying the brace to the leg, you can have the patient walk again and make any necessary adjustments to the corrective force (see instructions on back page).

2) Adjusting the fit of the shells and medial-lateral pressure at joint line. For the brace to function properly, the shells need to fit intimately to the leg and there should be moderate compression of the condylar pads against the sides of the knee. If you make subtle modifications to the shape of the brace (with your hands or bending irons) it is important that the knee joints remain square.

3) The adjustment kit includes additional condylar pads. You can use the thicker pads in the kit, as needed, to snug up the M-L and/or increase compression on the sides of the knee. The pad on the inside of the hinge opposite the affected compartment should be thicker than the pad on the affected side of the knee. Both pads can be the same thickness if that achieves the ideal amount of compression.

4) Adjusting the Length of Straps and Strap Pads The straps on the brace are generally longer than needed, and may require adjustment. The Velcro hook tab at the end of the strap can be removed, and the strap can be cut to the appropriate length. We recommend that you leave the strap as long as possible to increase the useful life of the strap. After wearing the brace for several months, the patient can cut the straps shorter to allow the Velcro hook tabs to fixate on fresh fibers. Strap pads, which diffuse load and increases comfort, may also need to be trimmed shorter during the initial fitting if the pad prevents the strap from tightening adequately to suspend the brace. Any trimmed pad should be re-centered on the strap.

Lift lever to release/ move uprights; push down lever to lock uprights

5) Adjusting Corrective Force Rebel Reliever braces feature Townsend's LOADSHIFTER Relief Mechanism (see illustrations, right) that allows corrective force adjustments to be made at the proximal end of the brace. The bilateral LOADSHIFTER mechanisms will allow you to shift the angle of the femoral shell as needed to increase correction and amplify the three-point pressure needed to reduce load on the affected compartment. Both uprights are preset during fabrication in a neutral position halfway up the slotted slide mechanism. To shift the shell and increase correction, you must unfasten the two thigh straps and lift up on the SnapLock lever to disengage the lock on the LOADSHIFTER. (ILLUSTRATION above) We generally recommend that you increase correction by extending the shell on the affected side, as increasing the length of the brace provides better leverage than shortening the brace on the unaffected side. After shifting the thigh shell to the desired position, you must reengage the SnapLock lever to lock shells into place. You can also trim the bottom ends of the thigh shell pad (just above the hinges) to the desired length once the shell position has been finalized. There are reference marks silk screened onto the slots in the brace. There is no correlation between these marks and a specific degree change. These marks will allow you to make notes in the patient's chart regarding the initial setting.

How Do You Determine the Amount of Initial Correction?

How much you change the angle of the thigh shell will depend on a variety of factors including observations who make when ambulating the patient; severity of OA; soft tissue; and, the amount of corrective force the patient can comfortably tolerate. We generally recommend that you start slow and let the patient wear the brace for a couple of weeks. If additional correction is needed, you can see the patient again or allow the patient to make their own adjustments.

4615 Shepard Street Bakersfield, CA 93313
Tele 800.432.3466 - Fax 800.798.2722
www.ThuasneUSA.com

MADE IN USA BY
TOWNSEND DESIGN
4615 SHEPARD STREET
BAKERSFIELD, CA 93313
TEL 661.837.1795

CE

EC REP
EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

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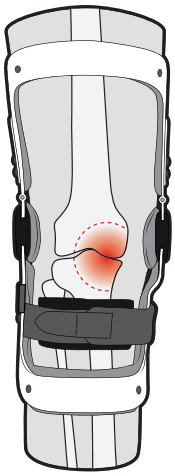
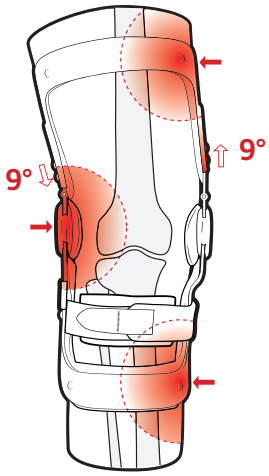
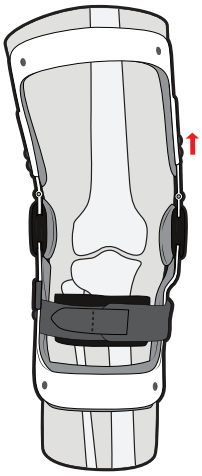
Loadshifter Mechanism



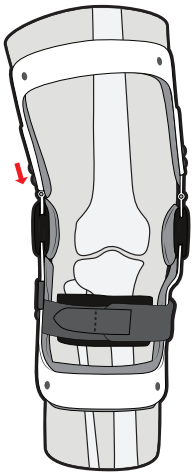
Rebel Reliever braces are fabricated with the LOADSHIFTER in a neutral position with the SnapLock mechanism on both uprights.



Rebel Reliever braces with LOADSHIFTER technology have a maximum shift change of 18 degrees, medially or laterally, so the braces can be used universally for unloading either compartment.



To increase corrective force, the fitter can extend the thigh shell on the same side of the leg as the affected compartment, shifting the shell angle from 0-9 degrees.



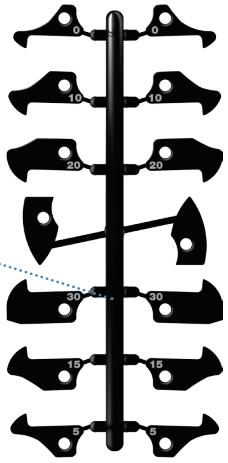
To increase corrective force, the fitter can reduce the thigh shell on the same side of the leg as the unaffected compartment, shifting the shell angle from 0-9 degrees

Extension Stop Instructions

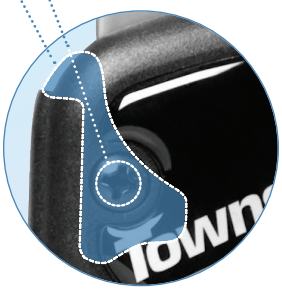
(An extension stop kit ships with every brace.)

At the time of fabrication, a zero degree extension stop has been installed in the TM5+ Hinge. To install a different extension stop, follow these instructions:

1) Twist off the desired stop from the nylon stop tree.
2) Remove the screw located on the side of the hinge.
3) After removing the screw, flex the brace and remove the zero degree stop from the hinge. Note the direction the stop is facing.
4) Insert the desired replacement stop, hole end first, with the hook end at the top and facing forward. Straighten the brace to full extension to push the stop down into position. The small hole in the stop must be aligned and visible through the screw hole so the screw will thread into the stop.
5) Reinsert and tighten the screw. Flex and extend the brace several times to ensure the stop is locked into position and functioning properly.



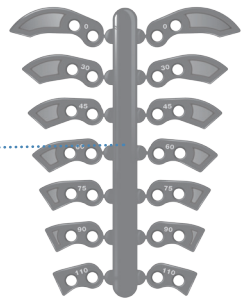
Extension Stop Kit



Flexion Stop Instructions

(Flexion stops are an optional accessory item.)

1) To limit the degree of flexion, detach the desired stop from the metal tree. Each stop has the degree etched into the surface.
2) If you are installing the 0, 30, 45, 60, 75, 90 or 110 degree flexion stop, remove both screws from the posterior aspect of the hinge cap and take out the spacer that was installed at the factory. Insert the stop with the flat end facing up and position it so that both holes in the stop are visible through the screw holes in the cap. Thread and tighten the screws through the cap and into both holes in the stop.
3) Flex the brace until the upright contacts the stop to ensure it is functioning properly.



Flexion Stop Kit

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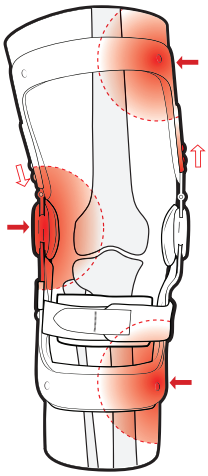
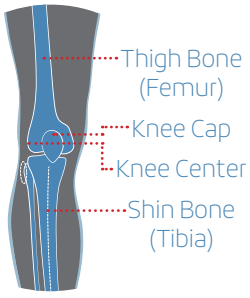
The medical professional who performs the initial fitting of your brace should make any necessary adjustments to the fit of the shells, the corrective force applied by the brace, the condylar pads, and the length of the straps. The fitter should also walk you through the steps you will need to follow each time you put on your brace. While the process is relatively easy, you are encouraged to refer to the instructions below to ensure you are putting the brace on correctly.



How the Rebel Reliever Works

The Rebel Reliever is designed to accomplish two primary goals. First, the rigid superstructure of the brace will help maintain the leg in a normal (also called neutral) alignment. Second, the brace applies corrective forces by means of a three-point pressure system. These corrective forces help distribute load away from the damaged compartment. The amount of corrective force can be increased as needed by making adjustments to the angle of the thigh shell. By applying more force, the three-point pressure is amplified which redistributes weight through both sides of the knee and the shells of the brace. Relieving the load on the damaged side of the knee generally relieves pain and reduces degeneration of the joint. While the Rebel Reliever can't cure OA, the benefits of wearing the brace will generally allows you to increase your physical activities and delay the need for knee surgery. The medical professional who fit your brace. You should only make your own adjustments to the corrective force if the medical professional in charge of your care has instructed you to do so. Too much correction can cause potential injury to your knee, and Townsend Design cannot be held responsible for problems or injuries resulting from any unsupervised adjustments you make.



Knee Center

When you begin to put on your brace, it is important for the hinges to be aligned with knee center. This means the center of the hinges should press against the side of your knee in a position that corresponds with the upper third of your knee cap. Additionally, tightening the Synergistic Suspension Strap in the flexion fold behind your knee will help to ensure the hinges are at the correct height on your leg.

Suspension

The Synergistic Suspension Strap is attached to the outside of the frame and is designed to wrap inside between the brace's lower shell and your leg. The strap is also angled to match the natural contour of the top of your calf muscle. This strap should be tightened in the flexion fold in the back of your knee.

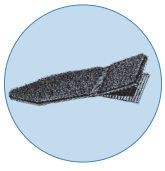
Fitting Instructions

Figure 1:
Put the brace on

Figure 2:
Tighten the SS Strap

Figure 3:
Tighten remaining straps

1) Sit on the edge of a chair and bend your leg slightly (about 30 to 45 degrees of flexion).
2) Unfasten the four straps on the brace and slide the brace onto your leg.
3) Position the brace on the leg so that the oval shaped pads that are attached to the inside of the hinges press against both sides of your knee. The middle of the pads should line up with the center to upper third of your knee cap, and should also be centered on the side of your leg. (See illustration 1 in the box at the bottom of the page.)
4) Tighten the Synergistic Suspension Strap, which is the most important strap for preventing the brace from slipping down your leg. You will tighten this strap in the flexion fold behind your knee, on top of the natural shelf formed by your calf muscle. (See illustration 3 in box at the bottom of the page.) The strap must be tight, but not so tight as to cut off circulation and/or cause discomfort. There is a pad attached to the Synergistic Suspension Strap. This pad can be cut shorter and re-centered on the strap if the pad prevents you from tightening the strap completely. (See illustration 2 in box at the bottom of the page.)
5) Tighten the lowest strap on the brace. Shorten the straps or strap pads if necessary.
6) Tighten the two top straps that secure the upper shell to your thigh. Shorten the straps or strap pads if necessary.



Shortening Straps

The straps on your brace can be cut to any length. Simply remove the alligator closure from the end of the strap, cut the strap to the desired length, and reposition the closure onto the end of the strap. Be very careful not to cut any strap too short! Additionally, any comfort pad that is attached to the inside of a strap (see illustration) must be removed and cut shorter if the pad interferes with your ability to completely tighten the strap. You can cut the pad and re-center it on the strap.

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CE

EC REP
EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

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Patient Benefits & Physical Activity

There are two primary benefits to be achieved from wearing your Rebel Reliever. First, you should experience a reduction in pain. This should enable you to participate more freely in normal physical activities. Second, your brace should help slow down the continued degeneration of bones and tissues in your knee joint.

Carefully follow your physician's instructions regarding physical activities. Be careful, especially initially, not to overdo things. It may take several weeks to feel comfortable with the brace on your leg. We recommend that you initially wear the brace for only a few hours a day. Some patients feel immediate pain relief. For others, it can take several weeks to notice measurable benefits. You may experience mild aching in your knee joint as your leg muscles and ligamentous tissues stretch to allow the joint to open. If you experience severe pain that is hard to tolerate, develop any skin irritation from the straps or pads, experience any loss of circulation (tingling or numbness), stop wearing your brace until you can see the medical care professional directing your care.

Adjusting Correction

During your initial fitting, the medical professional will make any necessary adjustments to create a base level of corrective force. If you need additional correction in the future, we recommend that you revisit the medical professional who fit your brace. You should only make your own adjustments to the corrective force if the medical professional in charge of your care has instructed you to do so. Too much correction can cause potential injury to your knee, and Townsend Design cannot be held responsible for problems or injuries resulting from any unsupervised adjustments you make.

Care & Maintenance

Hinge – The hinges on your brace are pre-lubricated. If sand, dirt or water get inside the hinges, they may require periodic lubrication. If you notice the hinges not gliding smoothly, a few drops of a synthetic lubricant can be applied. You can purchase this type of lubricant at a hardware store.

Straps – The straps on your brace are nonelastic for maximum control. After considerable use, if the fibers on your strap do not adhere as well to the Velcro "hook" tab, if possible, cut the strap shorter so the Velcro hook tab adheres to a section of the strap that has fresher fibers. Otherwise the straps may need to be replaced.

Pads – Your brace is lined with padding that provides a comfortable interface between your leg and the shells. Certain straps may also have pads. Do not remove the pads from the brace or straps. Wipe the pads after each use to remove any moisture and let the pads air dry. You can also clean the pads with a mild anti-bacteria soap and rinse them off with fresh water. DO NOT wash pads in a machine or dry them with a blow dryer.

Parts & Service

Comfort pads, condylar pads, hinge covers, straps and other parts on your brace may need to be repaired or replaced due to normal wear and tear. If your brace requires repairs or replacement parts, you should contact the professional who assisted you in ordering and fitting your brace. Certain parts are covered by a limited warranty (see information below).

Undersleeves & Protective Covers

This brace has a soft liner and is designed to be worn directly against the skin. Neoprene or cotton undersleeves may be ordered if you prefer to wear a sleeve under your brace. Wearing an undersleeve may enhance comfort, however, a sleeve can potentially cause the brace to slip down your leg. If you intend to wear your brace for high intensity sports (football, soccer, baseball, etc.) Or activities that may expose the brace to objects that could damage the painted shells, we strongly recommend that you speak with the medical professional who fit your brace about ordering a protective cover. A cover is also often required for team sports.

Warranty Information

Under normal use and conditions, the shells and hinges on your brace are covered by a one year warranty against defects or breaking. Straps, hinge covers, and other replaceable parts are covered for six months. If you experience a problem with the fit or function of the brace, please call the medical provider who fit your brace.

Product Disclaimer

This brace should be used in accordance with the directives of your physician as part of a treatment plan for managing your total health. While this type of brace has proven beneficial to many patients, outcomes will vary based on factors including patient age, general health, and/or lack of compliance with instructions for how to put on and use the product. Because of variations in the health and condition of each patient, Townsend Design also does not make any specific recommendations regarding appropriate activities for the user of this brace. While a Townsend functional knee brace may aid in decreasing the risk or degree of injury, Townsend Design cannot and does not guarantee that the brace will restrict all instabilities or prevent injuries – especially as the intensity of physical activity increases. Contact and high velocity sports are inherently dangerous and create a higher risk for injury.