



THUASNE

Full Shell OA



Medical Professional Instruction Guide

This Townsend custom OA knee brace was fabricated according to your instructions and the order form you completed. A base level of correction was built into the brace during fabrication. To ensure the brace fits and functions properly, we recommend that you review the following instructions for fitting and adjusting the brace. If you have any questions or need technical assistance, please call 800.432.3466.

- 1) Ambulate the patient, preferably with the patient wearing shorts or a gown so the leg is visible. As the patient walks, note any changes to leg angulation (thrust, misalignment) when the patient's body weight is fully on the leg you are bracing.
- 2) Seat the patient on the edge of a chair, open all straps, and with the patient's leg bent at approximately 25-40 degrees of flexion, apply the brace to the leg (see fitting illustrations and instructions on the patient information form).
- 3) Because the hinges on Townsend braces are anatomically correct and carefully positioned at knee center during fabrication, it is important during the fitting procedure that the hinges be properly positioned on the leg at knee center. Townsend Design defines knee center at the apex of the lateral condyle. The patient should be instructed to center the joints at or above the middle to upper third of the patella. When the hinges are properly aligned with knee center, the brace shells and condyle pads should have comfortable contact with the leg.
- 4) While no specific strapping order is required, we recommend that you teach the patient to begin with the Synergistic Suspension Strap. This is the posterior tibia strap that needs to be tightened securely in the flexion fold behind the knee. This strap is the primary means of suspending the brace. As is the case with all straps, you can shorten the strap as needed. To shorten the strap, remove the alligator hook tab, cut the strap to the desired length, and reapply the hook tab. You may also need to shorten the comfort pad that is attached to this strap.
- 5) Tighten the remaining straps in any order, making sure the hinges are at knee center and the shells are in full contact with the leg. Remove the alligator tab and cut any strap and strap pad that is too long.
- 6) Ambulate the patient, noting any change in the thrust or misalignment of the leg. Seek verbal feedback from the patient regarding how the brace feels. Ask the patient if he or she feels the corrective force and/or if the brace is reducing pain (if the patient routinely has pain when ambulating).

- 7) If you or the patient feel it is necessary to increase the corrective force that was built into the brace, or if you need to adjust the range of motion of the hinges (i.e. extension stops), please follow the steps indicated on the reverse side of this instruction guide.
- 8) Have the patient reapply the brace to his or her own leg to demonstrate their understanding of the positioning and strapping of the brace.
- 9) Ambulate the patient again to determine patient satisfaction and comfort with the adjustments you have made. Instruct the patient to initially wear the brace for 2-4 hours a day, or for the activities that typically have caused the greatest degree of discomfort or load. Reschedule the patient for a follow-up visit within 30 days, or instruct the patient to call if he or she has any questions or problems with the fit, comfort or function of the brace. NOTE: We generally recommend that patients be instructed not to increase the brace's corrective forces after the initial fitting. The patient should return to your office if the brace needs additional adjustments.

Resolving initial fitting issues

If there is an initial problem with the fit of the brace, the hinge alignment, or the amount of correction, please call Townsend Design's Repair Department, 800-432-3466, before the patient leaves. If the brace needs to be returned to Townsend Design for adjustments, a new cast mold or digital leg scan may be required.

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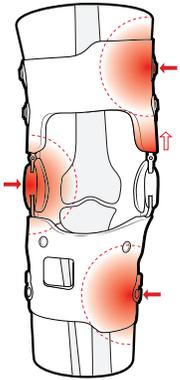
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Adjusting Corrective Force

A base level of correction is built into this custom brace during fabrication. The rigid superstructure -- combined with the initial correction -- will generally maintain the leg in a more neutral alignment and help redistribute load away from the damaged compartment. Your decision to increase correction should be

based on your assessment of the initial fit and the patient's need and/or desire for additional correction. Please be cautious about over-correcting the patient, which could apply more pressure than the patient can initially tolerate.

Loadshifter Relief Mechanism

The LOADSHIFTER will allow you to change the angle of the thigh shell, which will apply additional corrective force to the femur. This also increases the counter force applied at joint line and at the distal end of the brace. Locate the Allen head screw that secures the thigh shell to the LOADSHIFTER mechanism (this screw will be positioned about one inch above the top of the hinge on the same side of the brace as the affected compartment). Loosen the screw, and at the same time, loosen the two thigh straps to allow the shell to slide up the leg. Slide the thigh shell up, which will "shift" the angle of the femoral section of the brace. At its highest point, the shell will increase about 3/4 of an inch in length with a maximum angle change of approximately eight degrees. Most patients will probably not need this much additional correction, so you may want to start by sliding the shell only part way up the slot. The amount you increase corrective forces will depend on patient feedback and your evaluation (soft tissue, severity of OA, leg angulation, etc.). Be cautious about applying too much initial correction as the patient may not be able to comfortably tolerate the maximum adjustment you can make to the brace. Retighten the Allen screw and thigh straps.

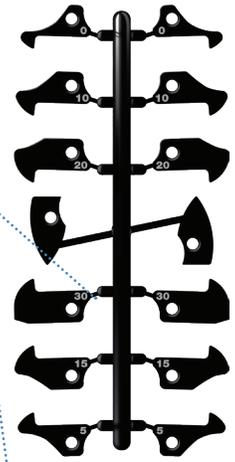
You can also increase corrective force by installing a thicker condylar pad (included with the brace) on the hinge opposite the affected compartment.

Extension Stop Instructions

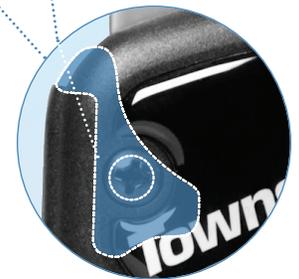
(An extension stop kit ships with every brace.)

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.



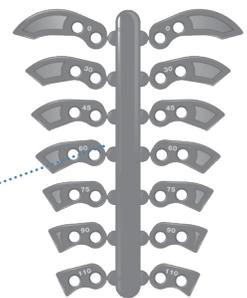
Extension Stop Kit



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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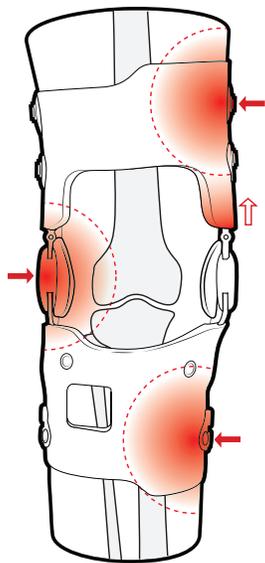
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Patient Instruction Guide

The medical professional providing your brace will supervise your initial fitting and show you how to put on the brace. Please refer to these illustrations and instructions to help ensure you are putting your brace on properly.



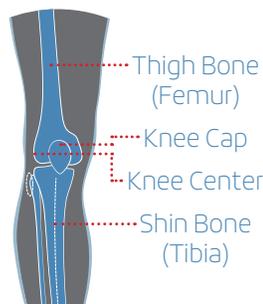
How the Reliever Air Works

Osteoarthritis alters the natural characteristics of the knee joint. This generally occurs as part of the aging process or as the result of an earlier knee injury or knee surgery. OA causes degeneration of the articular cartilage and tissues which provide a natural cushion between the bones in the knee. Patients with OA will often have abnormal angulation of the leg -- medial OA causes the knee to bow out and lateral OA causes the knee to bow in. When you stand or walk and all of your weight is on your affected leg, your body weight is concentrated on the damaged side of the knee. This can cause swelling, pain and other symptoms during and after routine physical activity.

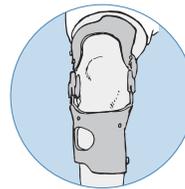
The Reliever Air is custom fabricated with rigid graphite shells. The brace is designed to provide a three point pressure system. The corrective force applied to the leg is intended to maintain normal alignment (reduce abnormal angulation) and redistribute weight away from the damaged side of your knee. Transferring your body weight and maintaining a more neutral alignment of the leg generally relieves knee pain and reduces degeneration of the joint.

General Positioning Instructions

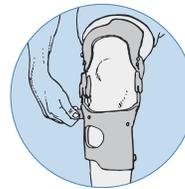
The Townsend Motion Hinges on your brace mirror the anatomical motion of your knee. It is very important for the hinges to be properly positioned the center of each hinge should line up with the middle to upper third of the knee cap. It is better to put the brace on a little too high than too low. It is also important to make sure the hinges are set approximately in the center of the side of your leg.



Fitting Instructions



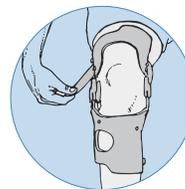
Sit in a chair with your leg extended and slightly bent (flexed) at the knee. Position the brace on your leg so the hinges are centered at the upper third of the patella (knee cap). It is always better to put the brace on too high than too low.



Begin by tightening the Synergistic Suspension Strap™. This strap, which is closest to the hinges on the lower portion of your brace, should be tightened in the flexion fold behind your knee (on top of your calf muscle). **Note: The comfort pad on the inner side of this strap MUST be peeled back and cut if it prevents you from tightening the strap securely.**



Tighten the bottom calf strap to secure the lower shell to your leg.



Tighten the two thigh straps to finish securing the brace to your leg.





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Patient Benefits

There are two primary benefits to be achieved from wearing your Townsend OA brace. First, you should experience a reduction in knee pain. Second, the brace can help slow down the continuous degeneration of your knee joint (helps keep your knee from getting worse).

Recommendations

We recommend that you initially wear the brace for only a few hours at a time. It may take you several weeks to adjust to the rigid shells and corrective forces, so don't expect to feel comfortable wearing your brace the first day. Follow your physician's instructions regarding physical activities. If you experience less pain by wearing the brace, you may feel like walking farther and doing more physically strenuous activities. Be careful, however, not to overdo it. Gradually increase your activity level. Additionally, your skin may need to build up a tolerance for where the strap and shells contact your leg. 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, or if you develop any skin redness or pressure sores, or experience any loss of circulation (tingling or numbness), stop wearing your brace and call the medical professional directing your care.

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 ordered and fit your brace. Certain parts are covered by a limited warranty.

Undersleeves & Protective Covers

Your Townsend OA brace can be worn directly against the skin. Wearing a neoprene or cotton undersleeve can increase comfort. We recommend wearing an undersleeve if you have sensitive skin or experience any discomfort from the straps. Wearing an undersleeve can, however, cause sweating, make it harder for you to bend your leg, or cause the brace to slip down your leg. If you wear your brace for sports or activities that can potentially damage the shells or hinges, we recommend that you speak with the medical professional who fit your brace about ordering a protective cover.

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.

Cleaning Brace Pads – Your brace is lined with padding that provides a comfortable interface between your leg and the shells. The straps also have pads. It is best not to 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.

Warranty Information

Under normal use and conditions, the shells and hinges on your brace are covered by a lifetime warranty against defects or breaking. Straps, hinge covers, and other replaceable parts are covered for six months. Free remolding service (to make fitting adjustments) is provided for six months from the date of manufacturing. If you experience a problem with the fit or function of the brace, please call the medical provider who ordered your brace.

Product Disclaimer

This OA brace is a prescription product that 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 OA brace has proven beneficial to many patients with unicompartment osteoarthritis, outcomes will vary based on factors including patient age, general health, severity of OA, and/or lack of compliance with instructions for how to put on and use the product. Townsend Design provides general information to assist medical professionals in determining which patients are most likely to benefit from an OA knee brace. Because patient selection and other factors are beyond our control, Townsend Design cannot provide specific guarantees this product will reduce pain or joint degeneration in all patients. 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. Additionally, while Townsend's custom OA brace may aid in decreasing the risk or degree of injury to the leg for which it is fabricated, Townsend Design cannot and does not guarantee that the brace will 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.

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