

# The Ascender

Unloader Knee Brace Designed for the Treatment of Patellofemoral and Tibiofemoral Osteoarthritis (OA)

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## Off-The-Shelf Brace, Fitting/Adjustment required by Certified Prosthetist Orthotist

L1845

### Product and Fit

The Icarus Ascender 4000 Series is a premium-quality knee brace that can be readily tailored by a CPO to relieve pain associated with knee OA. The brace is 3D-printed with a smooth, injection-molded like finish, based on the sizing diagram shown below. The Ascender 4000 is the next-best-thing to a custom fabricated brace.

### Key Features:

- ✓ Double upright knee orthotic
- ✓ Contoured thigh and calf support
- ✓ Bicentric hinge with adjustable flexion and extension settings
- ✓ Medial-lateral and rotation control based on contours
- ✓ Varus and valgus adjustment in 1-degree increments
- ✓ Prefabricated brace adjusted to fit a specific patient by a certified orthotist



This brace has been prefabricated, however, it requires fitting and adjustment from a certified prosthetist/orthotist (CPO) or other medical professional to ensure optimal fit, comfort, and benefit to the patient.

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The CPO or medical professional will tailor the brace to the needs of the patient with the following:

1. **Hinge cap thickness adjustment** based on the severity of valgus or varus condition. Each hinge thickness variation approximately corresponds to a Q-angle delta of +/-1 degrees from normal. The Q-angle should be measured by a professional and the correction angle adjusted accordingly, considering the degree of cartilage wear to the opposite tibiofemoral compartment. Hinge caps will be prefabricated by Icarus and assigned to each patient's individual brace based on the CPO's recommendation, or a telescoping hinge will be provided if the CPO wishes to opt for a progressive treatment that will involve adding condyle spaces to the hinge to increase the thickness of the hinge cap over time.
2. **Recommended Quadriceps-assistance adjustment** based on amount of unloading required for the patellofemoral compartment. Patients with more severe OA will have the brace preloaded with higher tension based on activities and injury severity; for example, 5 lbs at 0 degrees preload based on light OA, 10 lbs for moderate OA, and 15 lbs for severe OA. The amount of preloaded force in the tensioning band can be measured by a force plate or tension meter provided to a CPO by Icarus.
3. **Patella stabilizer adjustment** (if required) to provide the correct amount of support for problems associated with medial or lateral patellar tracking.
4. **Strap adjustment** to ensure the brace remains centered along the midline of the thigh and calf. The calf strap must rest atop the gastrocnemius to prevent downward migration.

The Ascender minimizes discomfort and increases the wearer's overall level of activity. The off-the-shelf (OTS) Ascender 4000 brace series is designed to fit a range of knee sizes, from XS to XXXL, for both the right and left leg. Patients who order their OTS Ascender 4500 may expect a ready-to-wear brace that has a range of condyle pad inserts, pads, and strap options to adapt to their leg's contours. The OTS model is slightly more flexible than the custom model.

Icarus Medical OTS Knee Brace Sizing Guide			
Size	Thigh	Knee Center	Calf
<b>XS(X=1)</b>	12" - 14.5"	11" - 12"	9" - 11"
<b>S(X=2)</b>	14.5" - 17.5"	12" - 13"	11" - 13"
<b>M(X=3)</b>	17.5" - 20"	13" - 14"	13" - 15"
<b>L(X=4)</b>	20" - 22.5"	14" - 16"	15" - 17"
<b>XL(X=5)</b>	22.5" - 25.5"	16" - 18"	17" - 19"
<b>XXL(X=6)</b>	25.5" - 28.5"	18" - 20"	19" - 21"
<b>XXXL(X=7)</b>	28.5" - 31"	20" - 22"	21" - 23"

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