



**XTERN**

**FRONTIER**®  
A step up for foot drop

**Turbo**  **Med**™  
ORTHOTICS

# A truly unique design

Each Xtern model created is the result of careful research to improve performance, preserve comfort and meet high customer expectations. With these elements in mind, Turbomed is proud to present the newly developed Xtern Frontier, a model that offers a brand new way of putting on the revolutionary foot drop orthosis. Same “outside the shoe” style, with a whole new design.

The Xtern Frontier was developed specifically with ease of wear in mind. It features a magnetic attachment system that can be attached with one hand, and takes a frontal approach to leg support that leaves the back of the shoe opening fully accessible for easy donning. This is especially helpful for clients with reduced dexterity or mobility of the hands, such as stroke patients. These details make the Xtern Frontier a strong AFO that doesn't compromise on comfort or support.

The design of the Turbomed Frontier is based on the same technological, comfort and performance requirements as the previous product lines.





## Think outside the shoe

The Xtern Frontier, like the other models in the Xtern line, sits entirely outside the shoe, and is so flexible that it allows maximal range of motion and calf muscle strength. No more rubbing injuries or skin breakdowns: you'll barely notice it's there. Walking, running, mountain climbing, skiing? Not a problem! The Xtern Frontier will follow you as far and as long as you want.

The Xtern Frontier comes fully equipped with 5 lace clips for 5 shoes, and can be moved from shoe to shoe instantly.

# Advantages



## No skin contact

Exoskeleton design fits onto the outside of the shoe without touching the foot or the ankles



## Adaptable

Easily conforms to uneven ground and slopes



## Superior frontal support

Unique front leg support makes the Frontier easy to put on while attached to the shoe

\* FDA Registration No: 3011816892 FDA Medical Device Listing no: D246429  
\* Health Canada Medical Device Establ. Lic. No 6354 Class I  
\* U.S. Patent No.8529484 – Canadian Patent 2692534 – Europe Patent EP 2533734 – International Patent Pending



## Enhanced stability

Design allows for 25% more ankle stability over previous models



## Magnetized strap

New magnetized velcro strap can be opened and closed with one hand



## Versatile

Goes from shoe to shoe in 5 seconds.  
Fits majority of shoes



## Symmetrical design

Simplifies the assessment process by fitting both left and right foot



I first started having drop foot symptoms in high school. Back then, I lived in America after moving from South Korea. I officially got diagnosed with Charcot Marie Tooth disease (CMT) in my first year of college. I first tried plastic braces recommended by my physician, but I could only tolerate them for 30 minutes. After that, I upgraded to carbon fiber braces which my clinician was confident would be more comfortable and reliable; however, I could only walk extremely short distances, which also caused tremendous stress on my foot, and I was getting blisters and skin soreness, which led to my conclusion that braces were not for me and that I will instead deal with the pain and safety concerns with walking without braces.

I heard about TurboMed in 2019 while studying abroad in Ireland. When I returned to Korea, I immediately sought to get fitted with my first pair of Xterns. When the braces were finally fitted to me, it was a life changer. All the problems I had with previous braces were suddenly gone. For the longest time, I had been dealing with pain by ignoring and denying its existence. I managed without help as I didn't want to admit to myself that I had a disability. After I got my Xterns, my perspective completely changed. With my braces, I can walk faster and safer, and most importantly, it enabled me to become more active and enjoy my life again. It also resulted in an unexpected side effect which is that many people did not notice my foot drop with the braces.

In 2022, I traded my classic Xterns for a pair of Frontier. Having the primary support of the brace in the front (anterior) enables me to use that extra support to help me stand for a more extended period of time and provide more stability, especially during stair ambulation. In addition, the newly designed buckle and the braces reduce the time and effort required for putting on and taking off your braces. This means I can accomplish more day to day with confidence, and I don't feel held back like I used to."

— 남상현, Sanghyun(Sam) Nam  
Biomedical Engineering Research Assistant at C.O.R.E lab,  
New Jersey Institute of Technology and patient with CMT.



# Which Xtern is right for you?



**XTERN** CLASSIC®

**XTERN** SUMMIT®

**XTERN** FRONTIER®

100% dynamic AFO	✓	✓	✓
No skin contact	✓	✓	✓
Symmetrical design that fits left and right shoes	✓	✓	✓
Conforms to uneven grounds and slopes	✓	✓	✓
Lace clip technology that allows fast installation from shoe to shoe	✓	✓	✓
Included lace clips	5	10	5
Warranty on plastic and/or carbon fiber parts	2 years	3 years	2 years
insurance coverage such as VA, Medicare and Medicaid	✓	✓	✓
HCPCS PDAC approved	L-1951	L-1951	L-1932 (pending)

\* HCPCS Code L-1932 (pending) : Afo, rigid anterior tibial section, total carbon fiber or equal material, prefabricated, includes fitting and adjustment

## See through design that is almost invisible when worn

- ✓ 25% lighter\*\*
- ✓ 18% more dorsi-flexion power\*\*
- ✓ 35% more medio-lateral strength\*\*

## Designed for patients with reduced dexterity and hand mobility such as stroke patients

- ✓ Unique front support design
- ✓ Easy rear entry thanks to revolutionary frontal design
- ✓ Magnetized velcro strap is easily attached with one hand
- ✓ 25% more medio-lateral stability\*\*

\*\* compared to the Xtern Classic

# AT-X trial tool

The AT-X, or try on device, is an orthosis exclusively reserved for healthcare professionals to allow them to quickly check whether the Xtern is an adequate orthosis for their patients. Fully assembled and easy to use, the AT-X is adjustable in length and height for quick installation on the client's shoe.

Only a few steps need to be taken for the professional to know whether the Xtern is the right choice for the customer. The customer can also immediately feel the benefits of his future Xtern as the AT-X and the Xtern share the same dorsiflexion assistance.





# Sizing chart

An assessment from a healthcare professional is recommended to confirm whether the indications and limitations listed below make the patient a candidate for the Xtern. Sizing can then be determined using the patient's foot width and length.

## Clinical indications

- Stroke (CVA)
- Drop foot
- Dorsiflexion weakness
- Peroneal nerve injury
- Idiopathic Toe-walking
- Charcot Marie Tooth (CMT)
- Multiple Sclerosis (MS)
- Cerebral Palsy (CP)
- Hemiplegia
- Guillain-Barre Syndrome (GBS)
- Motor neuropathy
- Motor Neurone Disease (MND)
- Back injury or surgery
- Cancer
- Knee injury or surgery

## Known clinical limitations

- × Inappropriate footwear
- × Gross fixed deformities of foot or ankle
- × Severe spasticity
- × Quadriceps weakness
- × Severe knee weakness
- × Crouch gait

SHOE SIZE				XTERN KIT SIZE SELECTION		
US		UK	EU	PRODUCT: 102100-SA-L	PRODUCT: 102100-SA-M	PRODUCT: 102100-SA-S
MEN	WOMEN			LARGE	MEDIUM	SMALL
16		15.5	51	●		
15.5		15	50.5	●		
15		14.5	50	●		
14.5		14	49.5	●		
14		13.5	49	●		
13.5		13	48	●		
13		12.5	47.5	●		
12.5		12	47	●		
12		11.5	46.5	●		
11.5		11	46	●		
11		10.5	45	●		
10.5	11.5	10	44.5	●	●	
10	11	9.5	44		●	
9.5	10.5	9	43		●	
9	10	8.5	42.5		●	
8.5	9.5	8	42		●	
8	9	7.5	41.5		●	●
7.5	8.5	7	40.5		●	●
7	8	6.5	40			●
6.5	7.5	6	39			●
6	7	5.5	38.5			●
5.5	6.5	5	38			●
5	6	4.5	37.5			●
4.5	5.5	4	37			●
4	5	3.5	36			●
3.5	4.5	3	35.5			●
3	4	2.5	35			●
2.5	3.5	2	34.5			●

● Upgrade to alternate size according to shoe or foot width

\* HCPCS Code L1932 (pending) : Afo, rigid anterior tibial section, total carbon fiber or equal material, prefabricated, includes fitting and adjustment

\* Suggested L codes. The responsibility for accurate coding lies with the patient care facility that selects the product, fits the patient, and bills for the service

# Meet the Turbomed team



## Stéphane Savard

Stéphane Savard has been an entrepreneur and businessman for more than 32 years. Following his studies in prosthetic orthoses, he became a shareholder in the family business designing, manufacturing, adjusting and repairing all orthoses available on the market, both in the laboratory and in hospitals. He also worked closely with health professionals to satisfy customers requiring orthotics and/or technical aids.

Stéphane has been working full time for TurboMed Orthotics since January 2015, and owns all shares alongside two members of his family.

## François Côté

François Côté has been a mechanical engineering and naval architecture designer for Groupe Océan for over 20 years. He's worked in research and development on the design and construction of new fleet tugs, and has been involved in the engineering of several bold and far-reaching projects such as Groupe Océan shipyard's new haulage system at L'Île-aux-Coudres.

In 2001, Francois suffered a serious snowmobile accident, breaking his 2 legs and 2 knees. This left him with various disabilities, including a full foot drop to the left leg. This accident affected his personal and sporting life, but didn't extinguish his desire to push his limits.




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