

Improving patient **comfort & mobility,** one ankle at a time

We developed a prosthetic ankle that adapts itself to uneven terrain just like a natural ankle



SELF-ADAPTIVE ANKLE

More than 50% of lower limb amputees suffer from discomfort and pain due to prosthesis misalignment, socket pressure, and non-adaptability to gait and terrain changes.

Our **Goralign PSA 2 Self-adaptive Ankle** automatically adapts to gait and terrain changes in real-time. For prosthetists, it reduces fitting time and subjectivity by extending the optimal range of dynamic alignment. For amputees, this means sustained comfort both indoors and outdoors, and fewer visits to the clinic for tune-up.

Goralign PSA (GPSA) 2 is unrivaled for slopes, twists, and turns. The ankle can be mounted on most commercially available prosthetic feet. Included is an “optional”, lightweight casing that protects it from unwanted dust, water and “wear and tear”.

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ANKLE FEATURES

- 1 SELF-ADAPTIVE**
Adapts to gait and terrain changes, provides non-linear stiffness, shock absorption, and reduced socket moments
- 2 INNOVATIVE**
Adjusts in all three planes of motion with self-adapting structures to mimic the natural ankle
- 3 PASSIVE**
Designed and assembled uniquely, without any hydraulics, sensors, actuators, or electronics
- 4 WEATHER-RESISTANT**
Completely passive design allows full-functionality, rain or shine, with little to no product maintenance



PERFORMANCE

Clinical studies of unilateral transtibial amputees using our GPSA-1 and GPSA-2 vs. a fixed control ankle, all three with induced misalignments were conducted. Gait force and moment data from 159 tasks in 18 sessions indicated functional improvements when using our Goralign Ankle. (ref. Rajula et al, Vassiliou et al.)

PARTICIPANT COMMENTS:

“More like a natural foot”

“Less Stiff”

“More stability on hills”

“Smoother rollover”

RELIABILITY

The Goralign PSA 2 has passed static and cyclic loading tests according to ISO 10328 at the P6 level (≤ 275 lbs).

Goralign PSA 2 requires minimal to no maintenance.


SPECIFICATIONS


SIZE: 80X59X46mm **WEIGHT:** 327g
(including “optional” casing, 23g)

Fits most commercially available prosthetic feet and foot shells and is mounted using an industry standard 4- hole pattern pyramid adapter.

 RECOMMENDED L-CODES
L5986+L5988


 Sponsor: **US DOD (DHA) SBIR**
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 VR Rajula, L Springgate, A Haque, M Kamrunnahr, SJ Piazza, B Kaluf. *A biomimetic Adapter for Passive Self-alignment of Prosthetic Feet*. Military Medicine, Volume 186, Issue Supplement_1, Jan-Feb 2021, Pages 665-673.

 CJ Vassiliou, A Haque, M Kamrunnahr. *A Lighter, Smaller, and More User Friendly Goralign PSA Self-Adaptive Prosthetic Ankle*. 50th Academy Annual Meeting & Scientific Symposium, Mar 2024.

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