

MPJ Hemi Implants

The proven joint fusion alternative backed by 70 years of clinical data.^{1,2}



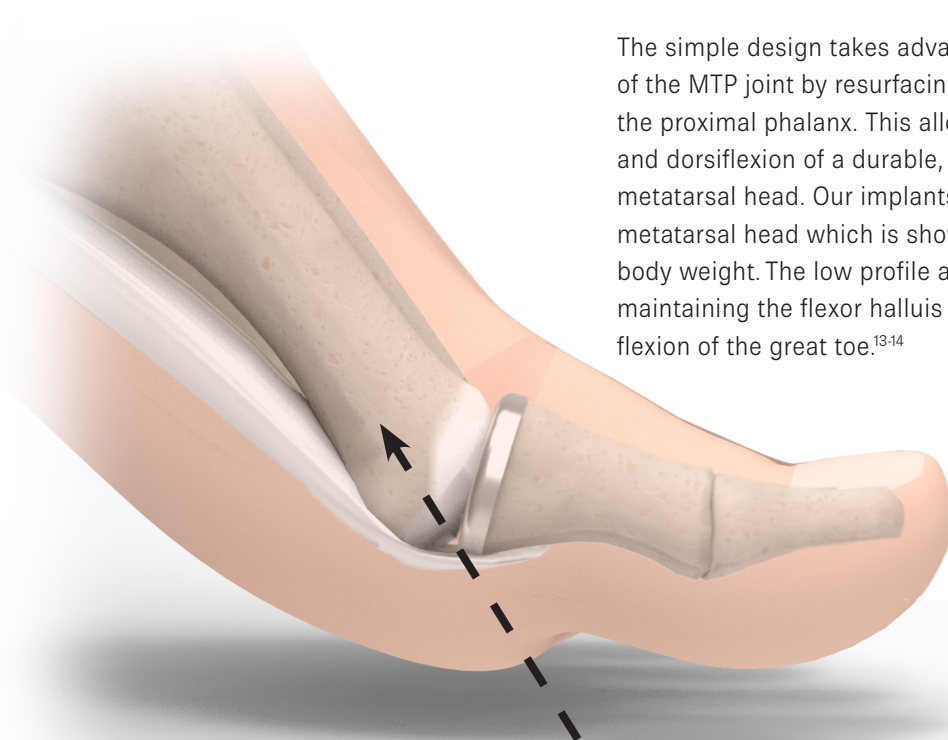
A time-tested and reproducible joint replacement for hallux rigidus.

The BioPro® MPJ Hemi Implant is the only hemi backed by 70 years of clinical data. Our low-profile, press-fit implants are designed to replace the articular surface of the proximal phalanx in a painful, arthritic metatarsophalangeal (MTP) joint. The procedure offers restoration of motion and pain relief, with a minimal bone resection technique.^{1,2}

- ✓ 20+ year survivorship data¹
- ✓ +95% implant survivorship on average^{1,2}
- ✓ 97% of patients would recommend the procedure²
- ✓ >2 weeks return to regular shoes²
- ✓ >6 weeks return to activities²

Design Rationale

The simple design takes advantage of the favorable biomechanics of the MTP joint by resurfacing only the articular cartilage of the proximal phalanx. This allows for minimal bone resection and dorsiflexion of a durable, smooth implant on the remodeled metatarsal head. Our implants avoid the shear forces on the metatarsal head which is shown to be as high as 119% of the patient's body weight. The low profile allows for minimal bone resection, maintaining the flexor hallucis brevis (FHB) attachment responsible for flexion of the great toe.¹³⁻¹⁴



119% Bodyweight

MPJ Hemi Systems

The most comprehensive phalangeal hemi on the market.

First MPJ Hemi



The First MPJ Hemi Implant is the original implant developed and first implanted in 1952 by Charles Townley, MD. We have further developed the system with additional sizing, material and coating options allowing you to choose the best implant for the patient.

- 2.5mm profile thickness
- Available in 5 sizes
- Available in non-porous coated (NPC) with a porous coated (PC) option for improved biological fixation
- Manufactured from cobalt chrome with a titanium option for patients with a metal sensitivity

	SM 17MM	M/S 18.5MM	MD 20MM	M/L 21.5MM	LG 23MM
Cobalt Chrome PC	10412	17034	10413	14960	10414
Cobalt Chrome NPC	10060	17033	10061	14958	10062
Titanium PC	17035	17197	17036	17037	17038
Titanium NPC	16813	17198	16814	16815	16816

HemiEDGE™



Our patented HemiEdge™ uses our proven implant profile with an added edge that extends over the dorsal, medial and lateral cortices beyond the resected base of the phalanx. The plantar surface does not include the edge, preserving the flexor attachment. This edge helps ensure proper implant sizing, improves implant stability, and reduces the potential of bony overgrowth.

- 2.5mm profile with 2mm overlapping edge
- Available in 5 sizes
- Manufactured from cobalt chrome

	SM 17MM	M/S 18.5MM	MD 20MM	M/L 21.5MM	LG 23MM
HemiEDGE	19538	19539	19540	19541	19542

Lesser MPJ Hemi



The Lesser MPJ Hemi Implant is designed to resurface the proximal phalanx in the second through fifth MTP joints. It may be used in the treatment of arthritis, Freiberg's disease, post traumatic arthritis and metatarsal head fractures.

- Available in 9 sizes
- Manufactured from cobalt chrome
- Cannulated versions are available, allowing a k-wire to be temporarily passed through the metatarsal head to stabilize the entire digit when performed in conjunction with a hammertoe correction

	8MM	8.75MM	9.5MM	10.25MM	11.00MM	11.75MM	12.50MM	13.25MM	14.00MM
Standard	16818	16867	16819	16820	16821	16822	16868	16869	16870
Cannulated	17324	17325	17326	17327	17328	17329	17330	17331	17332

BIOLOGICALLY ORIENTED PROSTHESES
BIOPRO

Call us at 1-810-982-7777 to schedule a case today.

REFERENCES

1. Townley, MD, Taranow, DO. A metallic hemiarthroplasty resurfacing prosthesis for the hallux metatarsophalangeal joint. *Foot & Ankle International* 1994;15(11):575-80
2. Beekhuizen, Stefan R. et al. Long-Term Results of Hemiarthroplasty Compared With Arthrodesis for Osteoarthritis of the First Metatarsophalangeal Joint. *The Journal of Foot and Ankle Surgery*, Volume 57, Issue 3, 445 - 450
3. Clement, N. D., MacDonald, D., Dall, G. F., Ahmed, I., Duckworth, A. D., Shalaby, H. S., & McKinley, J. (2016). Metallic hemiarthroplasty for the treatment of end-stage hallux rigidus. *Bone Joint J*, 98-B(7), 945-951.
4. Karin H. Simons, MD, Pieter van der Woude, MD, Frank W.M. Faber, MD, PhD, Paulien M. van Kampen, PhD, Bregje J.W. Thomassen, PhD. Short-Term Clinical Outcome of Hemiarthroplasty Versus Arthrodesis for End-Stage Hallux Rigidus. *The Journal of Foot & Ankle Surgery* (2015) 1–4
5. Giza, E., Sullivan, M., Ocel, D., Lundeen, G., Mitchell, M., & Frizzell, L. (2010). First metatarsophalangeal hemiarthroplasty for hallux rigidus. *International Orthopaedics*, 34(8), 1193–1198. <http://doi.org/10.1007/s00264-010-1012-x>
6. Christine C. Salonga, DPM, David C. Novicki, DPM, FACFAS, Martin M. Pressman, DPM, FACFAS, D. Scot Malay, DPM, MSCE, FACFAS. A Retrospective Cohort Study of the BioPro Hemiarthroplasty Prosthesis. *The Journal of Foot & Ankle Surgery* 49 (2010) 331–339
7. Charles G. Kissel, DPM, FACFAS, Zeeshan S. Husain, DPM AACFAS, Paul H. Wooley, PhD, Michael Kruger, MS, Mark A. Schumaker, DPM, Michael Sullivan, DPM, and Todd Snoeyink, DPM. A Prospective Investigation of the BioPro® Hemi-Arthroplasty for the First Metatarsophalangeal Joint. *The Journal of Foot & Ankle Surgery* 47(6):505–509, 2008
8. Taranow, DO. et al. Contemporary Approaches to Stage II and III Hallux Rigidus: The Role of Metallic Hemiarthroplasty of the Proximal Phalanx. *Foot and Ankle Clinics*, Volume 10, Issue 4, 713 - 728
9. Roukis TS, Townley, MD. BIOPRO resurfacing endoprosthesis versus periarticular osteotomy for hallux rigidus: short-term follow-up and analysis. *Journal of Foot & Ankle Surgery* 2003;42(6):350-8
10. Vanore, J.V.: Use of the Biopro First MTP Joint Implant. In *Update 2002: Proceedings of the Annual Meeting of the Podiatry Institute*, Chapter 26, pp 142-148, The Podiatry Institute Inc., Tucker, GA 2002.
11. Juan C. Goetz, DPM, Charles O. Townley MD, Warren Taranow, DO. An Update on the Metallic Hemiarthroplasty Resurfacing Prosthesis for the Hallux. Presented at the 56th Annual Meeting and Scientific Seminar of the American College of Foot and Ankle Surgeons. Orlando FL February 1998
12. Taranow, DO, Townley, MD. Metallic proximal phalangeal hemiarthroplasty for hallux rigidus. *Operative Techniques in Orthopaedics* 1999;9(1):33
13. Jacob, H.A.C. Forces acting in the forefoot during normal gait – an estimate. *Clinical Biomechanics*, Volume 16, Issue 9, 783 - 792.
14. Palastanga, N., & Soames, R. (2012). *Anatomy and human movement: structure and function* (6th ed.). Edinburgh: Churchill Livingstone.

This content is provided as an educational tool only and is not meant as medical advice in the usage of specific BioPro products. A healthcare professional must use their professional judgment in making any final determinations in product usage and technique. The product's Instructions for Use, should always be reviewed prior to surgery. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes. This information does not constitute medical, legal, or any other type of professional advice and should not be relied upon as such. It is not to be redistributed, duplicated, or disclosed without the express written consent of BioPro, Inc.



BioPro, Inc.
2929 Lapeer Road, Port Huron, MI 48060, USA
info@bioproimplants.com | 1-810-982-7777
www.bioproimplants.com



intertek