

# PUBLICATIONS

B.H. Walpoth, MD

## Cardiovascular research

### Development of vascular prostheses and new devices

**B. Walpoth**, A. Ammon, J. Galdikas, H.B. Ris, T. Schaffner, F. Höflin, W. Schilt, D. Mettler, B. Nachbur, U. Althaus: Experimental assessment of thrombogenicity in vascular prostheses before and during Prostaglandin E1 treatment. *Eur J Vasc Surg.* **1993**;7:493-499. (IF 1.484)

**B.H. Walpoth**, R. Rogulenko, E. Tikhvinskaia, S. Gogolewski, Th. Schaffner, O.M. Hess, U. Althaus: Improvement of patency rate in heparin-coated small synthetic vascular grafts. *Circulation.* **1998**;98 (Suppl. II):319-324. (IF 10.517)

**B.H. Walpoth**, M. Pavlicek, B. Celik, B. Nicolaus, T. Schaffner, U. Althaus, O.M. Hess, T. Carrel, R.E. Morris: Prevention of neointimal proliferation by immunosuppression in synthetic vascular grafts. *Eur J Cardiothorac Surg.* **2001**;19:487-492. (IF 1.676)

Karrer L, Duwe J, Zisch AH, Khabiri E, Cikirikcioglu M, Napoli A, Goessl A, Schaffner T, Hess OM, Carrel T, Kalangos A, Hubbell JA, **Walpoth BH**. PPS-PEG surface coating to reduce thrombogenicity of small diameter ePTFE vascular grafts. *Int J Art Organs* **2005**;28(10):993-1002. (IF 1.065).

Sell SA, McClure MJ, Barnes CP, Knapp DC, **Walpoth BH**, Simpson DG, Bowlin GL. Electrospun polydioxanone – elastin blends: potential for bioresorbable vascular grafts. *Biomed.Mater.*1 (2006) 72-80.

Cikirikcioglu M, Sedelnikov N, Osorio-da Cruz S, Khabiri E, Donmez Antal A, Tatar T, Tille J-C, Hess OM, Kalangos A, **Walpoth BH**: Improved neo-endothelialisation of small diameter ePTFE grafts with titanium coating. *Int J Art Org* **2006**:29(19):990-99. (IF 1.065)

**BH Walpoth**, P Zammaretti, M Cikirikcioglu, E Khabiri, MK Djebaili, J-C Pache, J-C Tille, Y Aggoun, D Morel, A Kalangos, JA Hubbell, AH Zisch. Enhanced Intimal Thickening of Expanded Polytetrafluoroethylene grafts coated with Fibrin or Fibrin-releasing Vascular Endothelial Growth Factor in the Pig Carotid Artery Interposition Model. *J Thor Cardio-vasc Surg* **2007**;133:1163-70. (IF 3.7)

Barnes C P, Sell S A, Knapp D, C, **Walpoth B H**, Brand D, Bowlin G L: Preliminary Investigation of Electrospun Collagen and Polydioxanone for Vascular Tissue Engineering Applications. *Int J Electrospun Nanofibers Applic.* **2007**;1:73-87.

Matthew J. Smith<sup>1</sup>, Michael J. McClure<sup>1</sup>, Scott A. Sell<sup>1</sup>, Catherine P. Barnes<sup>1</sup>, **Beat H. Walpoth**<sup>2</sup>, David G. Simpson<sup>3</sup>, and Gary L. Bowlin<sup>1</sup>. Suture-Reinforced Electrospun Polydioxanone – Elastin Small-Diameter Tubes for Use in Vascular Tissue Engineering: A Feasibility Study. *Acta Biomaterialia*, **2008**;4(1):58-66. (IF 2.132)

Cikirikcioglu M, Pektok E, Cikirikcioglu YB, Osorio-da Cruz S, Tille J-C, Kalangos A, **Walpoth BH**. Matching the Diameter of ePTFE bypass Prosthesis with a native Artery Improves Neoendothelialization. *Eur Surg Res* **2008**;40:333-340.

# PUBLICATIONS

B.H. Walpoth, MD

## Cardiovascular research

### Development of vascular prostheses and new devices

Pektok E, Nottelet B, Tille J-C, Gurny R, Kalangos A, Moeller M, **Walpoth BH**. Degradation and healing characteristics of small-diameter poly(e-caprolactone) vascular grafts in the rat systemic arterial circulation. *Circulation*. **2008**;118:2563-2570 (IF 12.755)

B. Nottelet, D. Mandracchia, E. Pektok, J-C. Tille, **B. Walpoth**, R. Gurny, M. Möller Factorial design optimization and *in vivo* feasibility of poly(caprolactone)-micro-and nanofiber-based small diameter vascular grafts. *J Biomed Mater Res A*. **2009** Jun 15;89(4):865-75. (IF 2.612)

Pektok E, Cikirikcioglu M, Tille J-C, Kalangos A, **Walpoth B.H.** Alcohol pre-treatment of small-diameter ePTFE grafts: quantitative analysis of graft healing characteristics in the rat abdominal aorta interposition model. *Artificial Organs* **2009**; 33(7)532-537 (IF 0.854)

Innocente F, Mandracchia D, Pektok E, Nottelet B, Tille J-C, de Valence S, Faggian G, Mazzucco A, Kalangos A, Gurny R, Moeller M, **Walpoth BH**. Paclitaxel-eluting biodegradable synthetic vascular prostheses: a step towards reduction of neointima formation? *Circulation*. **2009**;120[suppl 1]:S37–S45 (IF 12.755)

McClure MJ, Sell SA, Simpson DG, **Walpoth BH**, Bowlin GL. A three-layered electrospun matrix to mimic native arterial architecture using polycaprolactone, elastin, and collagen: a preliminary study. *Acta Biomater*. **2010** Jul;6(7):2422-33. Epub 2010 Jan 11.

McClure MJ, Sell SA, Simpson DG, **Walpoth BH**, Bowlin GL. Tri-layered Electrospinning to Mimic Native Arterial Architecture using Polycaprolactone, Elastin and Collagen: A preliminary study *J Vis Exp*. **2011** Jan 4;(47). pii: 2084. doi: 10.3791/2084.

Sarra de Valence; Jean-Christophe Tille; Damiano Mugnai; Wojciech Mrowczynski; Robert Gurny; Michael Möller; **Beat H Walpoth**. Long term performance of polycaprolactone vascular grafts in a rat abdominal aorta replacement model. *Biomaterials* 33 (2012) 38-47.

de Valence S, Tille JC, Giliberto JP, Mrowczynski W, Gurny R, **Walpoth BH**, Möller M. Advantages of bilayered vascular grafts for surgical applicability and tissue regeneration. *Acta Biomater*. **2012** Nov;8(11):3914-20. doi: 10.1016/j.actbio.2012.06.035

Mugnai D, Tille JC, Mrówczyński W, de Valence S, Montet X, Möller M, **Walpoth BH**. Experimental noninferiority trial of synthetic small-caliber biodegradable versus stable vascular grafts. *J Thorac Cardiovasc Surg*. **2013**;146(2):400-407.

Valence Sd, Tille JC, Chaabane C, Gurny R, Bochaton-Piallat ML, **Walpoth BH**, Möller M. Plasma treatment for improving cell biocompatibility of a biodegradable polymer scaffold for vascular graft applications. *Eur J Pharm Biopharm*. **2013** Sep;85(1):78-86

# PUBLICATIONS

B.H. Walpoth, MD

## Cardiovascular research

### Development of vascular prostheses and new devices

Mrówczyński W, Mugnai D, de Valence S, Tille JC, Khabiri E, Cikirikcioglu M, Möller M, **Walpoth BH**. Porcine carotid artery replacement with biodegradable electrospun poly-ε-caprolactone vascular prosthesis. *J Vasc Surg.* **2014**; 59: 210-9.

Wojciech Mrowczynski, Alessio Rungatscher, Franz Buchegger, Jean-Christophe Tille, Sophy Namy, Osman Ratib, Michael Kutryk, **Beat Hans Walpoth**. Biological Effects of Anti-CD34-coated ePTFE Vascular Grafts. Early *in vivo* Experimental Results. *Kardiochirurgia I Torakochirurgia Polska* **2014**;11(2):1-9

Jean-Christophe Tille, Sarra de Valence, Delia Mandracchia, Benjamin Nottet, Francesco Innocente, Robert Gurny, Michael Möller, **Beat H. Walpoth**. Histologic Assessment of Drug-Eluting Grafts Related to Implantation Site. *J. Dev. Biol.* **2016**, 4, 11; doi:10.3390/jdb4010011

L Dunn, S de Valence, J-C Tille, P Hammel, A Poncet, **BH Walpoth**, W R Stocker, B Imhof, Marijana Miljkovic-Licina. Biodegradable and plasma-treated electrospun scaffolds coated with recombinant Olfactomedin-like 3 for accelerating wound healing and tissue regeneration. *Wound Repair Regen.* **2016** Nov;24(6):1030-1035

Tornike Sologashvilia, Shahrul A. Saat, Jean-Christophe Tille, Sarra De Valence, Damiano Mugnai, Jean Pierre Giliberto, Jeswant Dillon, Azhari Yakub, Zamrin Dimon, Robert Gurny, **Beat H. Walpoth**, Michael Moeller. Effect of implantation site on outcome of tissue-engineered vascular grafts. *European J of Pharmaceutics & Biopharmaceutics.* 2019. 139:272-278.

**Walpoth B**, Bergmeister H, Bowlin G, Kong D, Rotmans J, Zilla P (Eds). Springer e-book on Tissue Engineered Vascular Grafts. **2020**. XXV, 588p. 86 illus in color. Hardcover ISBN: 978-3-030-05335-2. (<http://www.springer.com/978-3-030-05335-2>).

**Walpoth BH**, de Valence S, Tille J-Ch., Mugnai D, Sologashvili T, Mrowczynski W, Cikirikcioglu M, Pektok E, Osorio Lugan S, Innocente F, Pierrat-Bochaton M, Nottet B, Kalangos A, Gurney R. *In Vitro* Tissue Engineered Vascular Grafts. Chapter in: Springer e-book on Tissue Engineered Vascular Grafts. **2020**. Hardcover ISBN: 978-3-030-05335-2. (<http://www.springer.com/978-3-030-05335-2>). Part II, Approaches of Tissue Engineered Vascular Grafts. P 187-206

Marjan Enayati, Karl H. Schneider, Ciarra Almeria, Christian Grasl, Christoph Kaun, Barbara Messner, Sabrina Rohringer, Ingrid Walter, Johann Wojta<sup>2</sup>, Lubos Budinsky, **Beat Walpoth**, Heinrich Schima, Gerd Kager, Seth Hallström, Bruno K. Podesser, Helga Bergmeister. S-nitroso human serum albumin as a nitric oxide donor in drug-eluting vascular grafts; biofunctionality and preclinical evaluation. *Acta Biomater.* **2021** Oct 15;134:276-288

Stegmayr B, Willems C, Groth T, Martins A, Neves NM, Mottaghy K, Remuzzi A, **Walpoth B**. Arteriovenous access in hemodialysis: A multidisciplinary perspective for future solutions. *Int J Artif Organs.* 2021 Jan;44(1):3-16. doi:10.1177/0391398820922231. Epub **2020** May 22. PMID: 32438852

Cheng, Q., Zhi, D., Midgley, A.C. et al, including **Beat H. Walpoth**. Reinforced biotubes as readily available and regenerative vascular grafts. *Nat Commun* (**2026**). <https://doi.org/10.1038/s41467-026-70799-0>

# **PUBLICATIONS**

**B.H. Walpoth, MD**

**Cardiovascular research**

**Development of vascular prostheses and new devices**