

Curriculum Vitae Nico Verdonschot (long version)

Personal data

Nico Verdonschot
Born November 21, 1963 in Wervershoof, The Netherlands
Nationality: Dutch
Married, three children

Address

Orthopaedic Research Laboratory
Department of Orthopaedics
Radboud university medical center
P.O. Box 9101
6500 HB Nijmegen
The Netherlands
Phone: +31-24-3617080 or +31-24-3613366 (secr.)
Fax: +31-24-3540555
E-mail: n.verdonschot@orthop.umcn.nl

Education: Mechanical Engineering at the Twente University

1. General

1.1 Present position

- Full professor, University of Twente, Enschede, the Netherlands
- Full professor, Orthopaedic Research Laboratory, Radboud University Nijmegen Medical Centre
- Coordinator of the STREP European project entitled 'TLEMsafe' (see www.tlemsafe.eu)
- Recipient of ERC Advanced Grant 'Biomechanical diagnostic, pre-planning and outcome tools to improve musculoskeletal surgery'

1.2 Professional affiliations

- Editor of the Biomechanics Section of Hip International
- Member of the Editorial Board of the Bone and Joint Journal
- Member of the European Society of Biomechanics (ESB)
- Member of the Orthopaedic Research Society (ORS)
- Past President of the European Orthopaedic Research Society (EORS) 2008
- Member of the Nederlandse Orthopaedische Vereniging (Dutch Association of Orthopaedic Surgeons)
- Editorial consultant Journal of Biomechanics
- Editorial consultant Journal of Arthroplasty
- Member of the review panel at DEKRA
- 2009 – 2011, Chairman of the Organizing Committee (congress chair) of the 24th congress of the International Society for Technology in Arthroplasty (ISTA), 2011, Brugge, Belgium
- 2010 – 2012, Second past president of the International Society for Technology in Arthroplasty (ISTA)
- 2011 – 2012, Member of the Organizing Committee of of the 20th congress of the EORS 2012
- Consultant for Invivio Lancashire, United Kingdom
- Consultant for Exactech, Gainesville, USA

1.3 Dissertation

Verdonschot N. (1995) Biomechanical failure scenarios for cemented total hip replacement. PhD-dissertation, Institute of Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands.
J Bone Jnt Surg, 81B(6), 1052-1057.

1.4 Inauguration

Verdonschot, N. (2008). Reizen van techniek naar kliniek. Professor of Biomechanic implants at the University of Twente, Enschede, the Netherlands, 25 September 2009
Verdonschot, N. (2014). Personalized medicine in een ander perspectief. Radboud University Nijmegen, The Netherlands, 21 November 2014

1.5 Dissertations (promotor)

Janssen, D.W. (2009). Macro- and micro-mechanics of cemented total hip arthroplasty. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 14 April 2009, 153 pages.

(co)Promot.: prof. Verdonschot, N., Phd, Stolk, PhD, K.A. Mann, Phd.

ISBN: 978-90-9023405-2

Boonstra, M.C. (2010). The sit-to-stand movement: A clinical evaluation tool for knee and hip arthroplasty patients, Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 19 March 2010, 144 pages.

(co) Promot.: prof. N. Verdonschot, Ph.D., dr. M.C. de Waal Malefijt, M.D.

ISBN: 978-90-9025086-1.

Bullens, P.H. (2011). Reconstruction of segmental bone defects. 157 pag. ISBN: 978-90-9025954-3.

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, the Netherlands, 27 May 2011. (co)Promot.: Prof.

Buma, P., PhD, Prof. Verdonschot, N., PhD, Waal Malefijt, M. de, MD, PhD, Schreuder, H.W.B., MD, PhD

Kock, N.B. (2011). Autologous osteochondral transplantation. Patient selection and surgical technique. 159 pag. ISBN: 978-90-9026334-2

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, the Netherlands, 28 September 2011. (co)Promot.:

Prof. Buma, P., PhD, Prof. Verdonschot, N., PhD, Prof. Kampen, A. van, MD, PhD, Susante, J.L.C. van, MD, PhD

Heesterbeek, P.J. (2011). Mind the gaps! Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, the Netherlands, 25 January 2011, 239 pag.

(co)Promot: Prof. Verdonschot, N., PhD, Wymenga, A.B., MD, PhD, Keijsers, N.L.W., PhD

Zelle, J.G. (2011). Biomechanical aspects of high-flexion total knee arthroplasty.

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, the Netherlands, 12 July 2011, 172 pag.

(co)Promot.: Prof. Verdonschot, N., PhD, Waal Malefijt, M. de, MD, PhD

ISBN: 987-90-9026102-7

Waanders, D. (2012). Micro and macro level damage mechanics of the cement-bone interface in total hip arthroplasty, 233 pages. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, 3 April 2012.

(co)Promot.: Prof. Verdonschot, N., PhD, Janssen, D.W., PhD, Prof. Mann, K.A., PhD

ISBN: 978-90-9026613-8

Aquarius, R. (2013). Causes and effects of spinal fractures. Pages 193.

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 2 July 2013.

(co) Promot.: Prof. N. Verdonschot, PhD, J.J. Homminga, PhD, E. Tanck, PhD

ISBN: 978-94-6191-751-5

Mulder, E.L. de (2013). Meniscus tissue engineering. Pages 147.

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 10 June 2013.

(co) Promot.: Prof. P. Buma, PhD, Prof. N. Verdonschot, PhD, G. Hannink, PhD

ISBN: 978-90-8891-621-2

Smolders, J.M.H. (2013). Hip resurfacing, does it meet the expectations? Clinical outcome, metal ion analysis and bone mineral density. Pages 168.

Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 18 September 2013. (co) Promot.:

Prof. N. Verdonschot, PhD, Susante, J.L.C. van, MD, PhD

ISBN: 978-90-6464-687-4

Walschot, L.H.B. (2014). Porous Titanium particles as a full bone substitute for defect reconstruction in hip joint replacement surgery. Pages 205.

(co) Promot.: Prof. P. Buma, PhD, Prof. N. Verdonschot, PhD, Dr. B.W. Schreurs, MD, PhD

ISBN: 978-94-6108-580-1

1.6 Dissertations (co-promotor)

Loon, C.J.M. van (2000). Femoral bone loss in total knee arthroplasty. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 8 June 2000, 151 pages.

(co)Promot.: Prof.dr. R.P.H. Veth, dr. M.C. de Waal Malefijt, dr. P. Buma, dr.ir. N. Verdonschot.

Ooms, E.M. (2003). Injectable calcium phosphate cement for bone repair and implant fixation. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 6 June 2003, 154 pages.
(co)Promot.: Prof.dr. J.A. Jansen, Dr. J.G.C. Wolke, Dr.ir. N. Verdonschot.

Stolk, J. (2003). A computerized pre-clinical test for cemented hip prostheses based on finite element techniques. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, The Netherlands, 14 January 2003, 191 pages.
(co)Promot.: Prof.dr.ir. R. Huiskes, Dr.ir. N. Verdonschot.

Arnold, M.P. (2004). Spotlight on crucial details in anterior cruciate ligament surgery. About tension, position and twist. Depts. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, 5 November 2004, 108 pages.
(co)Promot.: prof.dr. A. van Kampen, prof.dr. A. Amis (Imperial College, London, UK), dr.ir. N. Verdonschot.
ISBN: 90-6464-805-0

Bolder, S.B. (2004). Defect reconstruction with impacted morsellized bone grafts in total hip arthroplasty. Depts. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, 25 March 2004, 159 pages.
(co)Promot.: prof.dr. R.P.H. Veth, dr. B.W. Schreurs, dr.ir. N. Verdonschot, dr. P. Buma.
ISBN: 90-9017832-5

Jaarsma, R.L. (2004). Rotational malalignment after fractures of the femur. Depts. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, 29 November 2004, 135 pages. (co)Promot.: prof.dr. A. van Kampen, prof.dr. J. Duysens, dr.ir. N. Verdonschot, dr. J. Biert.
ISBN: 90-9018665-4

Fennis, W.M.M. and Kuijs, R.H. (2005). Adhesive restorations replacing cusps. Depts. Preventive & Curative Dentistry and Oral Function & Prosthetic Dentistry in collaboration with the Orthopaedic Research Lab., Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, 27 April 2005, 198 pages. (co)Promot.: prof.dr. N.H.J. Creugers, dr. C.M. Kreulen, dr.ir. N. Verdonschot.
ISBN: 90-9019218-2

Arts, J.J.C. (2006). New developments in bone impaction grafting. Depts. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, 6 April 2006, 210 pages.
(co)Promot.: prof.dr. R.P.H. Veth, dr. P. Buma, dr. B.W. Schreurs, dr.ir. N. Verdonschot.
ISBN: 90-9020352-4

Barink, M. (2007). Design improvements in total knee arthroplasty, Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, 12 January 2007, 149 pages.
(co)Promot.: prof.dr. A. van Kampen, dr.ir. N. Verdonschot, dr. M.C. de Waal Malefijt
ISBN: 90-9021263-9

Gaasbeek, R.D.A. (2007). High tibial osteotomy. Treatment of varus osteoarthritis of the knee, 135 pages. Dept. Orthopaedics, Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, 21 September 2008,
(co)Promot.: prof.dr. A. van Kampen, dr. R.J. van Heerwaarden (St Maartenskliniek Nijmegen), dr.ir. N. Verdonschot
ISBN: 978-90-9021884-7

External reviewer for doctoral theses (outside The Netherlands)

Stadelman, Vincent A. (2008). Prevention of micromotion-related periprosthetic bone loss using local release of bisphosphonate: Theoretical developments and experimental validations, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, 4 July 2008, 174 pages.
(co)Promot.: Prof. N. Stergiopoulos, Prof. D. Pioletti. Jury: Dr. J. Gasser, Prof. B. Jolles-Haeberli, Prof. N. Verdonschot

Lunde, Knud B. (2008). Constitutive modelling of morsellised bone. Norwegian University of Science and Technology, Dept. of Structural Engineering, Trondheim, Norway, 29 May 2008.
(co) Promot.: Prof. B. Skallerud, Dr. L. Fosse. Jury: Prof. N. Verdonschot et al
ISBN: 978-82-471-7829-4

Strickland, Michael A. (2009). Enhanced pre-clinical assessment of total knee replacement using computational

modelling with experimental corroboration & probabilistic applications. University of Southampton, Faculty of Engineering, Science & Mathematics, Southampton, U.K., 1 June 2009.

Jury: Prof. N. Verdonschot et al

Shri Bidyut Pal (2009). Biomechanical analysis of failure mechanisms and design considerations for femoral resurfacing implants: numerical and experimental investigations. Indian Institute of Technology, Kharagpur, India.

Jury: Prof. N. Verdonschot et al

Ming Ding (2010). Microarchitectural adaptations in aging and osteoarthrotic succchondral bone tissues. Aarhus University, Faculty of Health Sciences, Aarhus, Denmark, 27 February 2010.

Jury: Prof. N. Verdonschot et al

Gortchacow, Miguel (2011). Effect of micromotion on morphogen dynamics in peri-implant healing. École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, 22 March 2011.

Courtis, R.P.(2012). Computational design tools for population-based joint replacement systems. University College Dublin, College of Engineering & Architecture, School of Mechanical & Materials Engineering, Dublin, Ireland, 27 July 2012.

Jury: Prof. N. Verdonschot et al

PhD committee Krishnagoud Manda (22 May 2013, Stockholm, Norway)

Jury: Prof. N. Verdonschot et al

Review committee of Prof. Ming Ding (2013, Odense, Denmark)

Jury: Prof. N. Verdonschot et al

Joyce Van den Broeck (2014). Patient-specific instrumentation in orthopaedic surgery. A computational model for design optimization. KU Leuven, Leuven, Belgium, 7 January 2014.

Jury: Prof. N. Verdonschot et al

1.7 Awards

Promotieprijs 1997 of the Stichting World Biomechanics

(Best PhD thesis in the biomechanics field of that year in The Netherlands)

Poster Award: Buma P., Waal Malefijt M.C. de, Loon C. van, Verdonschot N., Stolk P., Tromp A.(1998) The incorporaton of impacted chip graft behind a femoral component of a total knee prosthesis-an animal experiment in the horse. Trans EORS, 23, Amsterdam, The Netherlands.

ESB award 12th Conference European Society of Biomechanics, Dublin, Ireland.

Bergmann, G., Graichen, F., Rohlmann, A., Verdonschot, N., Lenthe, G.H. van (2000): „Frictional heating in and around total hip implants.”

CeramTec Publication Award 6th International Symposium Bioceramics in Joint Arthroplasty, Stuttgart, Germany.

Bergmann, G., Graichen, F., Rohlmann, A., Verdonschot, N., Lenthe, G.H. van (2001): „Frictional heating in and around total hip implants.”

Poster Award: Stolk, J., Verdonschot, N. & Huiskes, R. (2001). Hip-joint and abductor-muscle forces adequately represent in vivo loading of a cemented total hip reconstruction.

NVB/NWO-Biomechanica Conference , Lunteren, The Netherlands, 18-19 December 2001.

Barink, M., Verdonschot, N. & Waal Malefijt, M.C. de (2003). Optimizing the prosthetic patello-femoral joint. Student Award for Best Paper in Biomechanics, 16th Annual Symposium of the International Society for Technology in Arthroplasty (ISTA), 24-27 September 2003, San Francisco, California, U.S.A.

Fennis, W.M.M., Kuijs, R.H., Barink, M., Fokkinga, W.A., Kreulen, C.M., Creugers, N.H.J., Verdonschot, N. (2004). Een einde-elementenmodel van een knobbelvervangende adhesieve restauratie.

Jaarprijs Nederlands Tijdschrift voor Tandheelkunde 2003: (110): 149-153.

The B., Flivik G., Diercks R.L., Verdonschot N. (2006). A new technique to make 2D wear measurements insensitive to radiographic differences of cemented total hip prostheses. From development to validation. SELVIK Award, 16th Annual meeting of the European Orthopaedic Research Society (EORS), 7 – 9 June 2006

Janssen, D.W., Mann, K.A., Verdonschot, N. (2008). Finite element simulation of cement-bone interface micromechanics; a comparison to experimental results. Mimics Innovation Award 2008. Category I: Innovative implant design system and the development of innovative medical procedures.

Research teams of the Radboudumc, Nijmegen, the Netherlands, University of Twente, Enschede, the Netherlands, Aalborg University, Denmark and Materialise, Leuven, Belgium (2014). First prize of the "International Grand Challenge Competition" at the World Congress of Biomechanics (WCB), 6 – 11 July, Boston, USA.

ORS Outreach prize; second place with the video of TLEMsafe project (2015)

2. Publications

2.1 List of publications in peer reviewed journals as first author

Verdonschot, N., Huiskes, R., Freeman, M.A.R. (1993). Pre-clinical testing of hip prosthetic designs: a comparison of finite element calculations and laboratory tests. *J. Engineering in Medicine*, 207, 149-154.

Verdonschot N., Huiskes, R. (1994) The creep behavior of hand-mixed Simplex P bone cement under cyclic tensile loading. *J. Appl. Biomat.*, 5 (3), 235-243.

Verdonschot N., Huiskes, R. (1995) Dynamic creep behavior of acrylic bone cement. *J. Biomed. Mat. Res.*, 29, 575-581.

Verdonschot N., Huiskes, R. (1996) The mechanical effects of stem-cement interface characteristics in total hip replacement. *Clin. Orthop. Rel. Res.*, 329, 326-336.

Verdonschot N., Huiskes, R. (1996) Subsidence of THA stems due to acrylic cement creep is extremely sensitive to interface friction. *J Biomech*, 29:1569-1575.

Verdonschot N., Huiskes, R. (1997) The cement debonding process of THA stems and its effects on cement stresses. *Clin. Orthop. Rel. Res.*, 336, 297-307.

Verdonschot N., Huiskes, R. (1996) Acrylic cement creeps but does not allow much subsidence of femoral stems. *J Bone Jnt. Surg*, 79-B(4), 665-669.

Verdonschot N., Huiskes, R. (1997) The effects of cement-stem debonding in THA on the long-term failure probability of cement. *J Biomech*, 30, 795-802.

Verdonschot N., Huiskes, R. (1997) Surface roughness of debonded straight-tapered stems in cemented th reduces subsidence but not cement damage. *Biomaterials*, 19, 1773-1779.

Verdonschot N., Tanck E., Huiskes, R. (1998) The effects of prosthetic surface roughness on the failure process of cemented hip implants after stem-cement debonding. *J Biomed Ma. Res*, 42, 554-559.

Verdonschot, N. & Huiskes, R. (2000). Creep properties of three low temperature-curing bone cements: a preclinical assessment. *J Biomed Mater Res*, 53(5), 498-504.

Verdonschot, N., Hal, C.T.H. van, Schreurs, B.W., Buma, P., Huiskes, R., Slooff, T.J.J.H. (2001). Time-dependent mechanical properties of HA/TCP particles in relation to morsellized bone grafts for use in impaction grafting. *J Biomed Mater Res (Appl Biomater)*, 58(5), 599-604.

Verdonschot, N., Fennis, W.M.M., Kuijs, R.H., Stolk, J., Kreulen, C.M., Creugers, N.H.J. (2001). Generation of 3-D finite element models of restored human teeth using micro-CT techniques. *Int J Prosthodont*, 14(4), 310-315.

Verdonschot, N., Vena, P., Stolk, J. & Huiskes, R. (2002). Effects of metal-inlay thickness in polyethylene cups with metal-on-metal bearings. *Clin Orthop Relat Res*, 404, 353-361.

Verdonschot, N., Barink, M., Stolk, J., Gardeniers, J.W. & Schreurs, B.W. (2002). Do unloading periods affect migration characteristics of cemented femoral components? An in-vitro evaluation with the exeter stem. *Acta Orthop Belg*, 4, 348-355.

Verdonschot, N. (2005). Philosophies of stem designs in cemented total hip replacement. *Orthopedics*, 28(8), s833-s840. Review

2.2 List of publications in peer reviewed journals as co-author (171)

Argenson J.N., Verdonschot N., Seyral P., Huiskes R. (1994). The effect of vancomycin and tobramycin on the tensile properties of cured low viscosity bone cements. *Eur. J Exp. Musculoskel Res.*, 3, 43-47.

Moscovich H., Roeters F.J.M., Verdonschot N., Kanter R.J.A.M., Creugers N.H.J. (1998) Effect of composite basing on the resistance to bulk fracture of industrial porcelain inlays. *J Dent* 26(2) 183-189.

Huiskes R., Verdonschot N., Nivbrant B. (1998) Migration, stem shape, and surface finish in cemented total hip arthroplasty. *Clin. Orthop. Rel. Res.*, 355, 103-112.

Giesen, E., Lamerigts, N.M.P., Verdonschot, N., Buma, P., Schreurs, B.W. & Huiskes, R. (1999). Mechanical characteristics of impacted morsellised bone grafts used in revision of total hip arthroplasty. *J Bone Joint Surg Br*, 81-B(6), 1052-1057.

Loon, C.J.M. van, Waal Malefijt, M.C. de, Buma, P., Verdonschot, N. & Veth, R.P.H. (1999). Femoral bone loss in total knee arthroplasty - a review. *Acta Orthop Belg*, 65(2), 154-163.

Loon, C.J.M. van, Waal Malefijt, M.C. de, Verdonschot, N., Buma, P., Aa, A.J.A.M. van der & Huiskes, R. (1999). Morsellized bone grafting compensates for femoral bone loss in revision total knee arthroplasty. An experimental study. *Biomaterials*, 20, 85-89.

Taylor, M., Verdonschot, N., Huiskes, R. & Zioupos, P. (1999). A combined finite element method and continuum damage mechanics approach to simulate the invitro fatigue behavior of human cortical bone. *J Mater Sci-Mater M*, 10, 841-846.

Stolk, P.W.Th., Verdonschot, N., Tromp, A.M. & Barneveld, A. (2000). Autologous morsellised bone grafting restores uncontained femoral bone defects in knee arthroplasty. *J Bone Joint Surg Br*, 82-B(3), 436-444.

Loon, C.J.M. van, Kyriazopoulos, A., Verdonschot, N., Waal Malefijt, M.C. de, Huiskes, R. & Buma, P. (2000). The role of femoral stem extension in total knee arthroplasty. *Clin Orthop Relat R*, 282-289.

Van Loon, C.J., De Waal Malefijt, M.C., Buma, P., Stolk, T., Verdonschot, N., Tromp, A.M., Huiskes, R., Barneveld, A. (2000). Autologous morsellised bone grafting restores uncontained femoral bone defects in knee arthroplasty. An in vivo study in horses. *J Bone Joint Surg Br*, 82(3), 436-44.

Vena, P., Verdonschot, N., Contro, R. & Huiskes, R. (2000). Sensitivity analysis and optimal shape design for bone-prosthesis interfaces in a femoral head surface replacement. *Comput Meth Biomech Biomed Engin*, 3(3), 245-256.

Welten, M.L.M., Schreurs, B.W., Buma, P., Verdonschot, N. & Slooff, T.J.J.H. (2000). Acetabular reconstruction with impacted morcellized cancellous bone autograft and cemented primary total hip arthroplasty. *J Arthroplasty*, 15(7), 819-824.

Bergmann, G., Graichen, F., Rohlmann, A., Verdonschot, N., Lenthe, G.H. van (2001). ESB Research Award:

- Frictional heating of total hip implants. Part I.: measurements in patients. *J Biomechanics*, 34(4), 421-428.
- Bergmann, G., Graichen, F., Rohlmann, A., Verdonschot, N., Lenthe, G.H. van (2001). ESB Research Award: Frictional heating of total hip implants. Part II.: Finite element study. *J Biomechanics*, 34(4), 429-435.
- Thien, T.M., Welten, M.L., Verdonschot, N., Buma, P., Yong, P., Schreurs, B.W. (2001). Acetabular revision with impacted freeze-dried cancellous bone chips and a cemented cup: a report of 7 cases at 5 to 9 years' follow-up. *J Arthroplasty*, 16(5), 666-670.
- Loon, C.J.M. van, Oyen, W.J.G. van, Waal Malefijt, M.C. de, Verdonschot, N. (2001). Distal femoral bone mineral density after total knee arthroplasty: a comparison with general bone mineral density. *Arch Orthop Trauma Surg*, 121, 282-285.
- Schreurs, B.W., Tienen, T.G. van, Buma, P., Verdonschot, N., Gardeniers, J.W.M., Slooff, T.J.J.H. (2001). Favorable results of acetabular reconstruction with impacted morsellized bone grafts in patients younger than 50 years. A 10 to 18-year follow-up study of 34 cemented total hip arthroplasties. *Acta Orthop Scand*, 72(2), 120-126.
- Schreurs, B.W., Slooff, T.J.J.H., Buma, P., Verdonschot, N. (2001). Basic science of bone impaction grafting. *Intr Course Lect*, 50, 211-220.
- Stolk, J., Verdonschot, N., Huiskes, R. (2001). Hip-joint and abductor-muscle forces adequately represent in vivo loading of a cemented total hip reconstruction. *J Biomechanics*, 34(7), 917-926.
- Donk, S. van der, Buma, P., Verdonschot, N., Schreurs, B.W. (2002). Effect of load on the early incorporation of impacted morsellized allografts. *Biomaterials*, 23(1), 297-303.
- Bolder, S.B.T., Verdonschot, N., Schreurs, B.W., Buma, P. (2002). Acetabular defect reconstruction with impacted morsellized bone grafts or TCP/HA particles. A study on the mechanical stability of cemented cups in an artificial acetabulum model. *Biomaterials*, 23, 659-666.
- Donk, S. van der, Buma, P., Verdonschot, N. & Schreurs, B.W. (2002). Effect of load on the early incorporation of impacted morsellized allografts. *Biomaterials*, 23 (1), 297-303.
- Donk, S. van der, Verdonschot, N., Schreurs, B.W. & Buma, P. (2002). Soft tissue movement and stress shielding do not affect bone ingrowth in the bone conduction chamber. *Comparative Med*, 52(4), 332-335.
- Van Lenthe, G.H., Willems, M.M., Verdonschot, N., De Waal Malefijt, M.C., Huiskes, R. (2002). Stemmed femoral knee prostheses: effects of prosthetic design and fixation on bone loss. *Acta Orthop Scand*, 73(6):630-7.
- Stolk, J., Verdonschot, N., Cristofolini, L., Toni, A. & Huiskes, R. (2002). Finite element and experimental models of cemented hip joint reconstructions can produce similar bone and cement strains in pre-clinical tests. *J Biomech*, 35(4), 499-510.
- Stolk, J., Verdonschot, N. & Huiskes, R. (2002). Stair climbing is more detrimental to the cement in hip replacement than walking. *Clin Orthop Relat Res*, 405, 294-305.
- Fennis, W.M.M., Kuijs, R.H., Barink, M., Fokkinga, W.A., Kreulen, C.M., Creugers, N.H.J., Verdonschot, N. (2003). Een eindige-elementenmodel van een knobbelvervangende adhesieve restauratie. *Nederlands Tijdschrift voor Tandheelkunde*, 110(4), 149-153.
- Barink, M., Groes, S. van de, Verdonschot, N. & Waal Malefijt, M.C. de (2003). The trochlea is bilinear and oriented medially. *Clin Orthop Relat Res*, 411, 288-295.

- Barink, M., Groes, S. van de, Verdonschot, N. & Waal Malefijt, M.C. de (2003). A different fixation of the femoral component in total knee arthroplasty may lead to preservation of femoral bone stock. *Proc Inst Mech Eng [H]*, 217(5), 325-332.
- Barink, M., Mark, P.C.P. van de, Fennis, W.M., Kuijs, R.H., Kreulen, C.M. & Verdonschot, N. (2003). A 3D finite element model of the polymerization process in dental restorations. *Biomaterials*, 24(8), 1427-1435.
- Bolder, S.B., Verdonschot, N., Schreurs, B.W. & Buma, P. (2003). The initial stability of cemented acetabular cups can be augmented by mixing morsellized bone grafts with TCP/HA particles in bone impaction grafting. *J Arthroplasty*, 18(8), 1056-1063.
- Bolder, S.B., Schreurs, B.W., Verdonschot, N., Unen, J.M.J. van, Gardeniers, J.W. & Slooff, T.J.J.H. (2003). Particle size of bone graft and method of impaction affect initial stability of cemented cups. *Acta Orthop Scand*, 74(6), 652-657.
- Kuijs, R.H., Fennis, W.M., Kreulen, C.M., Barink, M. & Verdonschot, N. (2003). Does layering minimize shrinkage stresses in composite restorations?. *J Dent Res*, 82(12), 967-971.
- Stolk, J., Maher, S.A., Verdonschot, N., Prendergast, P.J. & Huiskes, R. (2003). Can finite element models detect clinically inferior cemented hip implants?. *Clin Orthop Relat Res*, 409(4), 138-150.
- Stolk, J., Verdonschot, N., Mann, K.A. & Huiskes, R. (2003). Prevention of mesh-dependent damage growth in finite element simulations of crack formation in acrylic bone cement. *J Biomech*, 36(4), 861-871.
- Waide, V., Cristofolini, L., Stolk, J., Verdonschot, N. & Toni, A. (2003). Experimental investigation of bone remodelling using composite femurs. *Clin Biomech*, 18, 523-536.
- Bolder, S.B., Schreurs, B.W., Verdonschot, N., Veth, R.P.H. & Buma, P. (2004). Wire mesh allows more revascularization than a strut in impaction bone grafting. An animal study in goats. *Clin Orthop Relat Res*, 423, 280-286.
- Buma, P., Schreurs, B.W. & Verdonschot, N. (2004). Skeletal tissue engineering - from in-vitro studies to large animal models. *Biomaterials*, 25(9), 1487-1495.
- Ooms, E.M., Verdonschot, N., Wolke, J.G.C., Wijdeven, W. van de, Willems, M.M.M., Schoenmaker, M.F.T. & Jansen, J.A. (2004). Enhancement of initial stability of press-fit femoral stems using injectable calcium phosphate cement: an in vitro study in dog bones. *Biomaterials*, 25, 3887-3894.
- Schreurs, B.W., Bolder, S.B., Gardeniers, J.W., Verdonschot, N., Slooff, T.J.J.H. & Veth, R.P.H. (2004). Acetabular revision with impacted morsellised cancellous bone grafting and a cemented cup. A 15- to 20-year follow-up. *J Bone Joint Surg Br*, 86-B(4), 492-497.
- Stolk, J., Verdonschot, N., Murphy, B.P., Prendergast, P.J. & Huiskes, R. (2004). Finite element simulation of anisotropic damage accumulation and creep in acrylic bone cement. *Engineering Fracture Mechanics*, 71(4-6), 513-528.
- Waide, V., Cristofolini, L., Stolk, J., Verdonschot, N., Boogaard, G.J. & Toni, A. (2004). Modelling the fibrous tissue layer in cemented hip replacements: experimental and finite element methods. *J Biomech*, 37(1); 13-26.
- Arnold, M.P., Blankevoort, L., Ham, A. ten, Verdonschot, N. & Kampen, A. van (2004). Twist and its effect on ACL graft forces. *J Orthop Res*, 22(5), 963-969.
- Barink, M., Meijers, H., Spruit, M., Fankhauser, C., Verdonschot, N. (2004). How close does an uncemented hip stem match the final rasp position? *Acta Orthop Belg*, 70(6), 534-9.

- Bolder, S.B., Arts, J.J.C., Klein, S.A., Walschot, L.H.B., Verdonschot, N. & Buma, P. (2004). Is hydroxyapatite cement an alternative for allograft bone chips in bone grafting procedures? A mechanical and histological study in a rabbit cancellous bone defect model. *J Biomed Mater Res*, 71B(2), 398-407.
- Bolder, S.B., Schreurs, B.W., Verdonschot, N., Veth, R.P.H. & Buma, P. (2004). Segmental defect reconstruction with a strut graft reduces revascularization of impacted bone grafts in the femur. *Clin Orthop Relat Res*, 423, 280-286.
- Bolder, S.B., Schreurs, B.W., Verdonschot, N., Ling, R.S.M. & Slooff, T.J.J.H. (2004). The initial stability of an Exeter femoral stem after impaction bone grafting in combination with segmental defect reconstruction. *J Arthroplasty*, 19(5), 598-604.
- Fennis, W.M., Kuijs, R.H., Kreulen, C.M., Verdonschot, N. & Creugers, N.H. (2004). Fatigue resistance of teeth restored with cuspal-coverage composite restorations. *Int J Prosthodont*, 17(3), 313-317.
- Fennis, W.M., Kreulen, C.M., Barink, M., Kuijs, R.H., Verdonschot, N., Creugers, N.H. (2004). [Research methods in dentistry 5. The finite element method]. *Ned Tijdschr Tandheelkd*, 111(11), 447-51. Review. Dutch.
- Jaarsma, R.L., Bruggeman, A.W., Pakvis, D.F., Verdonschot, N., Lemmens, J.A. & Kampen, A. van (2004). Computed tomography determined femoral torsion is not accurate. *Arch Orthop Trauma Surg.*, 124(8), 552-554.
- Jaarsma, R.L., Ongkiehong, B.F., Grüneberg, C., Verdonschot, N., Duysens, J. & Kampen, A. van (2004). Compensation for rotational malalignment after intramedullary nailing for femoral shaft fractures; an analysis by plantar pressure measurements during gait. *Injury*, 35(12), 1270-1278.
- Jaarsma, R.L., Pakvis, D.F., Verdonschot, N., Biert, J. & Kampen, A. van (2004). Rotational malalignment after intramedullary nailing of femoral fractures. *J Orthop Trauma*, 18(7), 403-409.
- Oosterom, R., Rozing, P.M., Verdonschot, N., Bersee, H.E. (2004). Effect of joint conformity on glenoid component fixation in total shoulder arthroplasty. *Proc Inst Mech Eng [H,]* 218(5), 339-47.
- Schreurs, B.W., Busch, V.J., Welten, M.L., Verdonschot, N., Slooff, T.J.J.H. & Gardeniers, J.W. (2004). Acetabular reconstruction with impaction bone-grafting and a cemented cup in patients younger than fifty years old. *J Bone Joint Surg Am*, 86-A(11), 2385-2392.
- Tienen, T.G. van, Verdonschot, N., Heijkants, R.G.J.C., Buma, P., Scholten, J.G.F., Kampen, A. van & Veth, R.P.H. (2004). Prosthetic replacement of the medial meniscus in human cadaver knees. Does the prosthesis mimic the functional behavior of the native meniscus?. *Am J Sport Med*, 32(5), 1182-1188.
- Voor, M.J., Arts, J.J., Klein, S.A., Walschot, L.H., Verdonschot, N., Buma, P. (2004). Is hydroxyapatite cement an alternative for allograft bone chips in bone grafting procedures? A mechanical and histological study in a rabbit cancellous bone defect model. *J Biomed Mater Res B Appl Biomater*, 71(2), 398-407
- Arnold, M.P., Verdonschot, N. & Kampen, A. van (2005). The normal anterior cruciate ligament as a model for tensioning strategies in anterior cruciate ligament grafts. *Am J Sport Med*, 33(2), 277-283.
- Arnold, M.P., Lie, D., Verdonschot, N., Graaf, R. de, Amis, A. & Kampen, A. van (2005). The remains of anterior cruciate ligament graft tension after cyclic knee motion. *Am J Sport Med*, 33(4), 536-542.
- Arnold, M.P., Verdonschot, N. & Kampen, A. van (2005). ACL graft can replicate the normal ligament's tension curve. *Knee Surg Sport Traum Arthr*, 13(8), 625-631.

- Arts, J.J.C., Schreurs, B.W., Buma, P. & Verdonschot, N. (2005). Cemented cup stability during lever-out testing after acetabular bone impaction grafting with bone graft substitutes mixes containing morselized cancellous bone and tricalcium phosphate-hydroxyapatite. *Proc Inst Mech Eng [H]*, 219(4), 257-263.
- Arts, J.J.C., Gardeniers, J.W., Welten, M.L., Verdonschot, N., Schreurs, B.W. & Buma, P. (2005). No negative effects of bone impaction grafting with bone and ceramic mixtures. *Clin Orthop Relat Res*, 438, 239-247.
- Arts, J.J.C., Gardeniers, J.W., Welten, M.L., Verdonschot, N., Schreurs, B.W. & Buma, P. (2005). TCP-HA granules and impacted morselized cancellous bone graft mixes for acetabular reconstruction with the bone impaction grafting technique. A loaded and critical sized defect model in the goat. *Key Eng Mater*, 284-286, 869-872.
- Barink, M., Kampen, A. van, Waal Malefijt, M.C. de & Verdonschot, N. (2005). A three-dimensional dynamic FE model of the prosthetic knee joint: simulation of joint laxity and kinematics. *Proc. IMechE: J Eng in Med*, 219(6 (Part H)), 415-424.
- Fennis, W.M., Kuijs, R.H., Barink, M., Kreulen, C.M., Verdonschot, N. & Creugers, N.H. (2005). Can internal stresses explain the fracture resistance of cusp-replacing composite restorations?. *Eur J Oral Sci*, 113(5), 443-448.
- Gaasbeek, R.D.A., Welsing, R., Verdonschot, N., Rijnberg, W.J., Loon, C.J.M. van & Kampen, A. van (2005). Accuracy and initial stability of open- and closed-wedge high tibial osteotomy: a cadaveric RSA study. *Knee Surg Sport Traum Arthr*, 13(8), 689-694.
- Jaarsma, R.L., Verdonschot, N., Venne, R. van der & Kampen, A. van (2005). Avoiding rotational malalignment after fractures of the femur by using the profile of the lesser trochanter: an in vitro study. *Arch Orthop Trauma Surg*, 125(3), 184-187.
- Jansen, J.A., Ooms, E.M., Verdonschot, N. & Wolke, J.G.C. (2005). Injectable calcium phosphate cement for bone repair and implant fixation. *Orthop Clin North Am*, 36(1), 89-95.
- Janssen, D.W., Stolk, J. & Verdonschot, N. (2005). Why would cement porosity reduction be clinically irrelevant, while experimental data show the contrary?. *J Orthopaed Res*, 23(4), 691-697.
- Janssen, D.W., Aquarius, R., Stolk, J. & Verdonschot, N. (2005). Finite element analysis of failure of the capital hip designs. *J Bone Joint Surg Br*, 87-B(11), 1561-1567.
- Janssen, D.W., Aquarius, R., Stolk, J. & Verdonschot, N. (2005). The contradictory effects of pores on fatigue cracking of bone cement. *J Biomed Mater Res B*, 74(2), 747-753.
- Renard, A.J.S., Schutte, B.G., Verdonschot, N. & Kampen, A. van (2005). The Ilizarov external fixator: what remains of the wire pretension after dynamic loading?. *Clin Biomech*, 20(10), 1126-1130.
- Schreurs, B.W., Arts, J.J.C., Verdonschot, N., Buma, P., Slooff, T.J.J.H. & Gardeniers, J.W. (2005). Femoral component revision with use of impaction bone-grafting and a cemented polished stem. *J Bone Joint Surg Am*, 87(11), 2499-2507.
- Tienen, T.G. van, Buma, P., Scholten, J.G.F., Kampen, A. van, Veth, R.P.H. & Verdonschot, N. (2005). Displacement of the medial meniscus within the passive motion characteristics of the human knee joint: an RSA study in human cadaver knees. *Knee Surg Sports Traumatol Arthrosc*, 13(4), 287-292.
- Toms, A.D., McClelland, D., Chua, L., Waal Malefijt, M.C. de, Verdonschot, N., Spencer-Jones, R. & Kuiper, J.H. (2005). Mechanical testing of impaction bone grafting in the tibia: initial stability and design of the stem. *J Bone Joint Surg Br*, 87(5), 656-663.

Arts JJ, Verdonschot N, Buma P, Schreurs BW. Larger bone graft size and washing of bone grafts prior to impaction enhances the initial stability of cemented cups: experiments using a synthetic acetabular model. *Acta Orthop*. 2006 Apr;77(2):227-33.

Arts JJC, Verdonschot N, Schreurs BW, Buma P. The use of a bioresorbable nano-crystalline hydroxyapatite paste in acetabular bone impaction grafting. *Biomaterials*. 2006 Oct;27(7):1110-8.

Barink M, Van de Groes S, Verdonschot N, De Waal Malefijt M. The difference in trochlear orientation between the natural knee and current prosthetic knee designs; towards a truly physiological prosthetic groove orientation. *J Biomech*. 2006;39(9):1708-15.

Boonstra MC, van der Slikke RM, Keijsers NL, van Lummel RC, de Waal Malefijt MC, Verdonschot N. The accuracy of measuring the kinematics of rising from a chair with accelerometers and gyroscopes. *J Biomech*. 2006;39(2):354-8.

Boonstra MC, Jenniskens AT, Barink M, van Uden CJ, Kooloos JG, Verdonschot N, de Waal Malefijt MC. Functional evaluation of the TKA patient using the coordination and variability of rising. *J Electromyogr Kinesiol*, 17(1), 49-56.

Brandt, E., Verdonschot, N., Van Vugt, A., Van Kampen, A. (2006). Biomechanical analysis of the percutaneous compression plate and sliding hip screw in intracapsular hip fractures: experimental assessment using synthetic and cadaver bones. *Injury*, 37(10), 979-83.

Kock, N.B., Van Susante, J.L., Buma, P., Van Kampen, A., Verdonschot, N. (2006). Press-fit stability of an osteochondral autograft: Influence of different plug length and perfect depth alignment. *Acta Orthop*, 77(3):422-8.

Willems, M.M., Kooloos, J., Gibbons, P., Minderhoud, N., Weernink, T., Verdonschot, N. (2006). The stability of the femoral component of a minimal invasive total hip replacement system. *Proc Inst Mech Eng [H]*, 220(3), 465-72.

Janssen, D., Stolk, J., Verdonschot, N. (2006). Finite element analysis of the long-term fixation strength of cemented ceramic cups. *Proc Inst Mech Eng [H]*, 220(4), 533-9.

Kuijs RH, Fennis WM, Kreulen CM, Roeters FJ, Verdonschot N, Creugers NH (2006). A comparison of fatigue resistance of three materials for cusp-replacing adhesive restorations. *J Dent*. 2006 Jan;34(1):19-25.

The B, Mol L, Diercks RL, van Ooijen PM, Verdonschot N. (2006). Correction of error in two-dimensional wear measurements of cemented hip arthroplasties. *Clin Orthop Relat Res*. 2006 Jan;442:180-6

2007

Aquarius, R., Kampen, A. van & Verdonschot, N. (2007). Rapid pre-tension loss in the Ilizarov external fixator: an in vitro study. *Acta Orthop*, 78(5), 654-660.

Arts, J.J.C., Walschot, L.H.B., Verdonschot, N., Schreurs, B.W. & Buma, P. (2007). Biological activity of tri-calciumphosphate/hydroxyl-apatite granules mixed with impacted morsellized bone graft. A study in rabbits. *JBMR Part B: Applied Biomaterials*, 81(2), 476-485.

Barink, M., Meijerink, H., Verdonschot, N., Kampen, A. van & Waal Malefijt, M.C. de (2007). Asymmetrical total knee arthroplasty does not improve patella tracking: a study without patella resurfacing. *Knee Surg Sport Traum Arthr*, 15(2), 184-191.

Bolder, S.B., Verdonschot, N. & Schreurs, B.W. (2007). Technical factors affecting cup stability in bone impaction grafting. *Proc Inst Mech Eng [H]*, 221(1), 81-86.

Boonstra, M.C., Jenniskens, A.T., Barink, M., Uden, C.J.T. van, Kooloos, J., Verdonschot, N. & Waal Malefijt, M.C. de (2007). Functional evaluation of the TKA patient using the coordination and variability of rising. *J Electromyogr Kinesiol*, 17(1), 49-56.

Gaasbeek, R.D.A., Welsing, R., Barink, M., Verdonschot, N. & Kampen, A. van (2007). The influence of open and closed high tibial osteotomy on dynamic patellar tracking: a biomechanical study. *Knee Surg Sport Traum Arthr*, 15(8), 978-984.

Meijerink, H., Barink, M., Loon, C.J.M. van, Schwering, P.J., Donk, R.D., Verdonschot, N. & Waal Malefijt, M.C. de (2007). The trochlea is medialized by total knee arthroplasty: an intraoperative assessment in 61 patients. *Acta Orthop*, 78(1), 123-127.

Steens, J., Verdonschot, N., Aalsma, A.M.M. & Hosman, A.J. (2007). The influence of endplate-to-endplate cement augmentation on vertebral strength and stiffness in vertebroplasty. *Spine*, 32(15), E419-422.

Stolk, J., Janssen, D.W., Huiskes, R. & Verdonschot, N. (2007). Finite element-based preclinical testing of cemented total hip implants. *Clin Orthop Relat Res*, 456, 138-147.

The, B., Kootstra, J., Hosman, A.J., Verdonschot, N., Gerritsma, C.L. & Diercks, R.L. (2007). Comparison of techniques for correction of magnification of pelvic X-rays for hip surgery planning. *J Digit Imaging*, 20(4), 329-335.

The, B., Verdonschot, N., Horn, J.R. van, Ooijen, P.M.A. van & Diercks, R.L. (2007). Digital versus analogue preoperative planning of total hip arthroplasties: a randomized clinical trial of 210 total hip arthroplasties. *J Arthroplasty*, 22(6), 866-870.

Zelle, J.G., Loeffen, R., Waal Malefijt, M.C. de & Verdonschot, N. (2007). Thigh-calf contact force measurements in deep knee flexion. *Clin Biomech*, 22(7), 821-826.

2008

Barink, M., Waal Malefijt, M.C. de, Celada, P., Vena, P., Kampen, A. van & Verdonschot, N. (2008). A mechanical comparison of high-flexion and conventional total knee arthroplasty. *Proc Inst Mech Eng [H]*, 222(3), 297-307.

Binkowski, M., Tanck, E., Barink, M., Oyen, W.J.G. van, Wrobel, Z. & Verdonschot, N. (2008). Densitometry test of bone tissue: validation of computer simulation studies. *Comput Biol Med*, 38(7), 755-764.

Boonstra, M.C., Waal Malefijt, M.C. de & Verdonschot, N. (2008). How to quantify knee function after total knee arthroplasty?. *Knee*, 15(5), 390-395.

Buma, P., Arts, J.J., Gardeniers, J.W., Verdonschot, N., Schreurs, B.W. (2008). No effect of bone morphogenetic protein-7 (OP-1) on the incorporation of impacted bone grafts in a realistic acetabular model. *J Biomed Mater Res B Appl Biomater*. 84(1), 231-9.

Heesterbeek, P.J., Verdonschot, N. & Wymenga, A.B. (2008). In vivo knee laxity in flexion and extension: a radiographic study in 30 older healthy subjects. *Knee*, 15(1), 45-49.

Janssen, D.W., Mann, K.A. & Verdonschot, N. (2008). Micro-mechanical modeling of the cement-bone interface: the effect of friction, morphology and material properties on the micro-mechanical respons. *J Biomech*, 41(15), 3158-3163.

Kock, N.B., Smolders, J.M., Susante, J.L.C. van, Buma, P., Kampen, A. van & Verdonschot, N. (2008). A cadaveric analysis of contact stress restoration after osteochondral transplantation of a cylindrical cartilage defect. *Knee Surg Sport Traum Arthr*, 16(5), 461-468.

Mann, K.A., Race, A. & Verdonschot, N. (2008). Shear fatigue micromechanics of the cement-bone interface: an in vitro study using digital image correlation techniques. *J Orthop Res*, .

Mann, K.A., Miller, M.A., Cleary, R.J., Janssen, D.W. & Verdonschot, N. (2008). Experimental micromechanics of the cement-bone interface. *J Orthopaed Res*, 26(6), 872-879.

Pol, G.J. van de, Arnold, M.P., Verdonschot, N. & Kampen, A. van (2008). Varus alignment leads to increased forces in the anterior cruciate ligament. *Am J Sports Med*,

Scheerlinck, T., Janssen, D.W. & Verdonschot, N. (2008). Thin cement mantles surrounding femoral hip implants might not be deleterious in all cases. *Clin Biomech*, 23(4), 500-501.
Author reply 501-503.

Scheerlinck, T., Broos, J., Janssen, D.W. & Verdonschot, N. (2008). Mechanical implications of interfacial defects between femoral hip implants and cement: a finite element analysis of interfacial gaps and interfacial porosity. *Proc Inst Mech Eng [H]*, 222(7), 1037-1047.

The, B., Flivik, G., Diercks, R.L. & Verdonschot, N. (2008). A new method to make 2-D wear measurements less sensitive to projection differences of cemented THAs. *Clin Orthop Relat Res*, 466(3), 684-690.

The, B., Hosman, A.J., Kootstra, J., Kralj-Iglic, V., Flivik, G., Verdonschot, N. & Diercks, R.L. (2008). Association between contact hip stress and RSA-measured wear rates in total hip arthroplasties of 31 patients. *J Biomech*, 41(1), 100-105.

Zuurmond, R.G., Pilot, P., Verburg, A.D., Os, J.J. van & Verdonschot, N. (2008). Retrograde bridging nail in periprosthetic femoral fracture treatment which allows direct weight bearing. *Proc Inst Mech Eng [H]*, 222(5), 629-635.

2009

Aquarius, R., Walschot, L.H.B., Buma, P., Schreurs, B.W. & Verdonschot, N. (2009). In vitro testing of femoral impaction grafting with porous titanium particles: a pilot study. *Clin Orthop Relat Res*, 467(6), 1538-1545.

Bullens, P.H., Schreuder, H.W.B., Waal Malefijt, M.C. de, Veth, R.P.H., Buma, P. & Verdonschot, N. (2009). The stability of impacted morsellized bone grafts in a metal cage under dynamic loaded conditions: an in vitro reconstruction of a segmental diaphyseal bone defect. *Arch Orthop Trauma Surg*, 129(5), 575-581.

Bullens, P.H., Schreuder, H.W.B., Waal Malefijt, M.C. de, Verdonschot, N. & Buma, P. (2009). Is an impacted morsellized graft in a cage an alternative for reconstructing segmental diaphyseal defects?. *Clin Orthop Relat Res*, 467(3), 783-791.

Caruana, J., Janssen, D.W., Verdonschot, N. & Blunn, G.W. (2009). The importance of a thick cement mantle depends on stem geometry and stem-cement interfacial bonding. *Proc Inst Mech Eng [H]*, 223(3), 315-327.

Mann, K.A., Miller, M., Race, A. & Verdonschot, N. (2009). Shear fatigue micromechanics of the cement-bone interface: an in vitro study using digital image correlation techniques. *J Orthop Res*, 27(3), 340-346.

Pol, G.J. van de, Arnold, M.P., Verdonschot, N. & Kampen, A. van (2009). Varus alignment leads to increased forces in the anterior cruciate ligament. *Am J Sports Med*, 37(3), 481-487.

Zelle, J.G., Barink, M., Waal Malefijt, M.C. de & Verdonschot, N. (2009). Thigh-calf contact: does it affect the loading of the knee in the high-flexion range?. *J Biomech*, 42(5), 587-593.

Zelle J, Van der Zanden AC, De Waal Malefijt M, Verdonschot N. (2009). Biomechanical analysis of posterior cruciate ligament retaining high-flexion total knee arthroplasty.

Clin Biomech, 24(10):842-849.

Schreurs BW, Keurentjes JC, Gardeniers JW, Verdonschot N, Slooff TJ, Veth RP (2009). Acetabular revision with impacted morsellised cancellous bone grafting and a cemented acetabular component: a 20- to 25-year follow-up. *J Bone Joint Surg Br*, 91(9):1148-1153

Waanders D, Janssen D, Miller MA, Mann KA, Verdonschot N. (2009). Fatigue creep damage at the cement-bone interface: an experimental and a micro-mechanical finite element study. *J Biomech* 13;42(15):2513-2519

Sietsma MS, Hosman AJ, Verdonschot NJ, Aalsma AM, Veldhuizen AG. (2009). Biomechanical evaluation of the vertebral jack tool and the inflatable bone tamp for reduction of osteoporotic spine fractures. *Spine* 15;34(18):E640-644

Tanck E, van Aken JB, van der Linden YM, Schreuder HW, Binkowski M, Huizenga H, Verdonschot N. (2009). Pathological fracture prediction in patients with metastatic lesions can be improved with quantitative computed tomography based computer models. *Bone* 45(4):777-783

Janssen D, Mann KA, Verdonschot N. (2009). Finite element simulation of cement-bone interface micromechanics: a comparison to experimental results. *J Orthop Res* 27(10):1312-1318

Janssen D, van Aken J, Scheerlinck T, Verdonschot N. (2009). Finite element analysis of the effect of cementing concepts on implant stability and cement fatigue failure. *Acta Orthop* 80(3):319-324

2010

Boonstra MC, Schwering PJ, De Waal Malefijt MC, Verdonschot N.
Sit-to-stand movement as a performance-based measure for patients with total knee arthroplasty. *Phys Ther*. 2010; 90(2):149-56.

Bullens PH, Schreuder HW, de Waal Malefijt MC, Verdonschot N, Buma P.
The presence of periosteum is essential for the healing of large diaphyseal segmental bone defects reconstructed with trabecular metal: a study in the femur of goats. *J Biomed Mater Res B Appl Biomater*. 2010; 92(1):24-31.

Bullens, P.H.J., Hannink, G., Verdonschot, N.J.J. & Buma, P.
No effect of dynamic loading on bone graft healing in femoral segmental defect reconstructions in the goat. *Injury* 2010, 41(12), 1284-1291.

Heesterbeek P, Keijsers N, Jacobs W, Verdonschot N, Wymenga A.
Posterior cruciate ligament recruitment affects antero-posterior translation during flexion gap distraction in total knee replacement. An intraoperative study involving 50 patients. *Acta Orthop*. 2010; 81(4):471-477.

Janssen D, Zwartelé RE, Doets HC, Verdonschot N.
Computational assessment of press-fit acetabular implant fixation: the effect of implant design, interference fit, bone quality, and frictional properties. *Proc Inst Mech Eng H*. 2010; 224(1):67-75.

Mann KA, Miller MA, Verdonschot N, Izant TH, Race A.
Functional interface micromechanics of 11 en-bloc retrieved cemented femoral hip replacements. *Acta Orthop*. 2010; 81(3):308-17.

Meijerink HJ, van Loon CJ, de Waal Malefijt MC, van Kampen A, Verdonschot N.
A sliding stem in revision total knee arthroplasty provides stability and reduces stress shielding. *Acta Orthop*. 2010; 81(3):337-43.

Miller MA, Eberhardt AW, Cleary RJ, Verdonschot N, Mann KA.
Micromechanics of postmortem-retrieved cement-bone interfaces.
J Orthop Res. 2010; 28(2):170-7.

Ploegmakers MJ, Ginsel B, Meijerink HJ, de Rooy JW, de Waal Malefijt MC, Verdonschot N, Banks SA.
Physical examination and in vivo kinematics in two posterior cruciate ligament retaining total knee arthroplasty designs.
Knee. 2010; 17(3):204-9.

Tanck E, Deenen JC, Huisman HJ, Kooloos JG, Huizenga H, Verdonschot N.
An anatomically shaped lower body model for CT scanning of cadaver femurs.
Phys Med Biol. 2010; 55(2):N57-62.

Tomaszewski PK, Verdonschot N, Bulstra SK, Verkerke GJ.
A comparative finite-element analysis of bone failure and load transfer of osseointegrated prostheses fixations.
Ann Biomed Eng. 2010; 38(7):2418-27.

Waanders D, Janssen D, Mann KA, Verdonschot N.
The mechanical effects of different levels of cement penetration at the cement-bone interface.
J Biomech. 2010; 43(6):1167-75.

Waanders D, Janssen D, Mann KA, Verdonschot N.
The mechanical effects of different levels of cement penetration at the cement-bone interface.
J Biomech. 2010; 43(6):1167-1175.

Walschot LH, Schreurs BW, Buma P, Verdonschot N.
Impactability and time-dependent mechanical properties of porous titanium particles for application in impaction grafting.
J Biomed Mater Res B Appl Biomater. 2010; 95(1):131-140

Zelle J, Heesterbeek PJ, De Waal Malefijt M, Verdonschot N.
Numerical analysis of variations in posterior cruciate ligament properties and balancing techniques on total knee arthroplasty loading.
Med Eng Phys. 2010; 32(7):700-707.

2011

Aquarius R, Homminga J, Verdonschot N, Tanck E.
The fracture risk of adjacent vertebrae is increased by the changed loading direction after a wedge fracture.
Spine (Phila Pa 1976). 2011; 36(6):E408-12.

Biamond JE, Eufrásio TS, Hannink G, Verdonschot N, Buma P.
Assessment of bone ingrowth potential of biomimetic hydroxyapatite and brushite coated porous E-beam structures.
J Mater Sci Mater Med. 2011; 22(4):917-25.

Biamond JE, Aquarius R, Verdonschot N, Buma P.
Frictional and bone ingrowth properties of engineered surface topographies produced by electron beam technology.
Arch Orthop Trauma Surg. 2011; 131(5):711-8.

Boonstra MC, Schreurs BW, Verdonschot N.
The sit-to-stand movement: differences in performance between patients after primary total hip arthroplasty and revision total hip arthroplasty with acetabular bone impaction grafting.

Phys Ther. 2011; 91(4):547-54.

Brandt E, Verdonschot N., van Vugt A, van kampen A.
Biomechanical analysis of the sliding hip screw, cannulated screws and Targon1 FN in intracapsular hip fractures in cadaver femora.

Injury. 2011; 42(2):183-7.

Erratum in: *Injury.* 2011 Jul;42(7):726.

Busch VJ, Gardeniers JW, Verdonschot N, Slooff TJ, Schreurs BW.

Acetabular reconstruction with impaction bone-grafting and a cemented cup in patients younger than fifty years old: a concise follow-up, at twenty to twenty-eight years, of a previous report.

J Bone Joint Surg Am. 2011; 93(4):367-71.

Chong DY, Hansen UN, van der Venne R, Verdonschot N, Amis AA.

The influence of tibial component fixation techniques on resorption of supporting bone stock after total knee replacement.

J Biomech. 2011; 44(5):948-54.

Derikx LC, Vis R, Meinders T, Verdonschot N, Tanck E.

Implementation of asymmetric yielding in case-specific finite element models improves the prediction of femoral fractures.

Comput Methods Biomech Biomed Engin. 2011; 14(2):183-93.

Kock NB, Hannink G, van Kampen A, Verdonschot N, van Susante JL, Buma P.

Evaluation of subsidence, chondrocyte survival and graft incorporation following autologous osteochondral transplantation.

Knee Surg Sports Traumatol Arthrosc. 2011; 19(11):1962-70.

Luites JW, Wymenga AB, Blankevoort L, Kooloos JM, Verdonschot N.

Development of a femoral template for computer-assisted tunnel placement in anatomical double-bundle ACL reconstruction.

Comput Aided Surg. 2011;16(1):11-21.

Meijerink HJ, Verdonschot N, van Loon CJ, Hannink G, de Waalmalefijt MC.

Similar TKA designs with differences in clinical outcome.

Acta Orthop. 2011; 82(6):685-91.

Miller MA, Race A, Waanders D, Cleary R, Janssen D, Verdonschot N, Mann KA.

Multi-axial loading micromechanics of the cement-bone interface in postmortem retrievals and lab-prepared specimens.

J Mech Behav Biomed Mater. 2011; 4(3):366-74.

Tarala M, Waanders D, Biemond JE, Hannink G, Janssen D, Buma P, Verdonschot N.

The effect of bone ingrowth depth on the tensile and shear strength of the implant-bone e-beam produced interface.

J Mater Sci Mater Med. 2011; 22(10):2339-46.

Tarala M, Janssen D, Telka A, Waanders D, Verdonschot N.

Experimental versus computational analysis of micromotions at the implant-bone interface.

Proc Inst Mech Eng H. 2011; 225(1):8-15.

Tarala M, Janssen D, Verdonschot N.

Balancing incompatible endoprosthetic design goals: a combined ingrowth and bone remodeling simulation.

Med Eng Phys. 2011; 33(3):374-80.

Waanders D, Janssen D, Mann KA, Verdonschot N.
Morphology based cohesive zone modeling of the cement-bone interface from postmortem retrievals.
J Mech Behav Biomed Mater. 2011; 4(7):1492-503.

Waanders D, Janssen D, Bertoldi K, Mann KA, Verdonschot N.
Mixed-mode loading of the cement-bone interface: a finite element study.
Comput Methods Biomech Biomed Engin. 2011; 14(2):145-55.

Waanders D, Janssen D, Mann KA, Verdonschot N.
The behavior of the micro-mechanical cement-bone interface affects the cement failure in total hip replacement.
J Biomech. 2011; 44(2):228-34.

Walschot LH, Schreurs BW, Verdonschot N, Buma P.
The effect of impaction and a bioceramic coating on bone ingrowth in porous titanium particles.
Acta Orthop. 2011; 82(3):372-7.

Zelle J, Janssen D, Peeters S, Brouwer C, Verdonschot N.
Mixed-mode failure strength of implant-cement interface specimens with varying surface roughness.
J Biomech. 2011; 44(4):780-3.

Zelle J, Janssen D, Van Eijden J, De Waal Malefijt M, Verdonschot N.
Does high-flexion total knee arthroplasty promote early loosening of the femoral component?
J Orthop Res. 2011; 29(7):976-83.

2012

Biamond JE, Hannink G, Jurrius AM, Verdonschot N, Buma P.
In vivo assessment of bone ingrowth potential of three-dimensional e-beam produced implant surfaces and the effect of additional treatment by acid etching and hydroxyapatite coating.
J Biomater Appl. 2012; 26(7):861-75.

Blokhuis TJ, Buma P, Verdonschot N, Gotthardt M, Hendriks T.
BMP-7 stimulates early diaphyseal fracture healing in estrogen deficient rats.
J Orthop Res. 2012; 30(5):720-5.

Derikx LC, van Aken JB, Janssen D, Snyers A, van der Linden YM, Verdonschot N, Tanck E.
The assessment of the risk of fracture in femora with metastatic lesions: Comparing case-specific finite element analyses with predictions by clinical experts.
J Bone Joint Surg Br. 2012; 94(8):1135-42.

Homminga J, Aquarius R, Bultmann VE, Jansen CT, Verdonschot N.
Can vertebral density changes be explained by intervertebral disc degeneration?
Med Eng Phys. 2012; 34(4):453-8.

Janssen D, Srinivasan P, Scheerlinck T, Verdonschot N.
Effect of cementing technique and cement type on thermal necrosis in hip resurfacing arthroplasty--a numerical study.
J Orthop Res. 2012; 30(3):364-70.

Mann KA, Miller MA, Pray CL, Verdonschot N, Janssen D.
A new approach to quantify trabecular resorption adjacent to cemented knee arthroplasty.
J Biomech. 2012; 45(4):711-5.

Tomaszewski PK, van Diest M, Bulstra SK, Verdonschot N, Verkerke GJ.
Numerical analysis of an osseointegrated prosthesis fixation with reduced bone failure risk and

periprosthetic bone loss.
J Biomech. 2012; 45(11):1875-80.

Van der Ploeg B, Tarala M, Homminga J, Janssen D, Buma P, Verdonschot N.
Toward a more realistic prediction of peri-prosthetic micromotions.
J Orthop Res. 2012; 30(7):1147-54.

Waanders D, Janssen D, Berahmani S, Miller MA, Mann KA, Verdonschot N.
Interface micromechanics of transverse sections from retrieved cemented hip reconstructions: an experimental and finite element comparison.
J Mater Sci Mater Med. 2012; 23(8):2023-35.

Walschot LH, Aquarius R, Schreurs BW, Verdonschot N, Buma P.
Osteoconduction of impacted porous titanium particles with a calcium-phosphate coating is comparable to osteoconduction of impacted allograft bone particles: In vivo study in a nonloaded goat model.
J Biomed Mater Res B Appl Biomater. 2012; 100B(6):1483-1489.

Van der Zijden AM, Groen BE, Tanck E, Nienhuis B, Verdonschot N, Weerdesteyn V.
Can martial arts techniques reduce fall severity? An in vivo study of femoral loading configurations in sideways falls.
J Biomech. 2012; 45(9):1650-5.

Marcin Witkowski; Janusz Lenar; Robert Sitnik, Nico Verdonschot
A virtual reality interface for pre-planning of surgical operations based on a customized model of the patient.
Proc. SPIE 8289, The Engineering Reality of Virtual Reality 2012, 82890M (February 9, 2012);
doi:10.1117/12.909857;

2013

Aquarius R, van der Zijden AM, Homminga J, Verdonschot N, Tanck E. Does bone cement in percutaneous vertebroplasty act as a stress riser? *Spine (Phila Pa 1976).* 2013 Nov 15;38(24):2092-7.

Biemond JE, Hannink G, Verdonschot N, Buma P. Bone ingrowth potential of electron beam and selective laser melting produced trabecular-like implant surfaces with and without a biomimetic coating. *J Mater Sci Mater Med.* 2013 Mar;24(3):745-53.

De Mulder EL, Hannink G, Giele M, Verdonschot N, Buma P. Proliferation of meniscal fibrochondrocytes cultured on a new polyurethane scaffold is stimulated by TGF-beta. *J Biomater Appl.* 2013 Jan;27(5):617-26.

De Mulder EL, Hannink G, Koens MJ, Lowik DW, Verdonschot N, Buma P. Characterization of polyurethane scaffold surface functionalization with diamines and heparin. *J Biomed Mater Res A.* 2013 Apr;101(4):919-22.

De Mulder EL, Hannink G, Verdonschot N, Buma P. Effect of polyurethane scaffold architecture on ingrowth speed and collagen orientation in a subcutaneous rat pocket model. *Biomed Mater.* 2013 Apr;8(2):025004.

De Vos MJ, Wagener ML, Hendriks JC, Eygendaal D, Verdonschot N. Linking of total elbow prosthesis during surgery; a biomechanical analysis. *J Shoulder Elbow Surg.* 2013 May 7.

Lenar J, Witkowski M, Carbone V, Kolk S, Adamczyk M, Sitnik R, van der Krogt M, Verdonschot N. Lower body kinematics evaluation based on a multidirectional four-dimensional structured light measurement. *J Biomed Opt.* 2013 May;18(5):56014.

Martinez-Ramirez A, Weenk D, Lecumberri P, Verdonschot N, Pakvis D, Veltink P. Pre-Operative Ambulatory Measurement of Asymmetric Leg Loading During Sit to Stand in Hip Arthroplasty Patients. *IEEE Trans Neural Syst Rehabil Eng.* 2013 May 31.

Martinez-Ramirez A, Weenk D, Lecumberri P, Verdonschot N, Pakvis D, Veltink PH. Pre-operative ambulatory measurement of asymmetric lower limb loading during walking in total hip arthroplasty patients. *J Neuroeng Rehabil.* 2013;10:41.

Smolders JM, Pakvis DF, Hendrickx BW, Verdonschot N, van Susante JL. Periacetabular bone mineral density changes after resurfacing hip arthroplasty versus conventional total hip arthroplasty. A randomized controlled DEXA study. *J Arthroplasty.* 2013 Aug;28(7):1177-84.

Tarala M, Janssen D, Verdonschot N. Toward a method to simulate the process of bone ingrowth in cementless THA using finite element method. *Med Eng Phys.* 2013 Apr;35(4):543-8.

Tomaszewski PK, Lasnier B, Hannink G, Verkerke GJ, Verdonschot N. Experimental assessment of a new direct fixation implant for artificial limbs. *J Mech Behav Biomed Mater.* 2013 May;21:77-85.

Van de Groes S, de Waal-Malefijt M, Verdonschot N. Probability of mechanical loosening of the femoral component in high flexion total knee arthroplasty can be reduced by rather simple surgical techniques. *Knee.* 2013 May 31.

Van de Groes SA, de Waal Malefijt MC, Verdonschot N. Influence of preparation techniques to the strength of the bone-cement interface behind the flange in total knee arthroplasty. *Knee.* 2013 Jun;20(3):186-90.

Verkerke GJ, van der Houwen EB, Broekhuis AA, Bursa J, Catapano G, McCullagh P, Mottaghy K, Niederer P, Reilly R, Rogalewicz V, Segers P, Verdonschot N. Science versus design; comparable, contrastive or conducive? *J Mech Behav Biomed Mater.* 2013 May;21:195-201.

Wagener ML, De Vos MJ, Hendriks JC, Eygendaal D, Verdonschot N. Stability of the unlinked Latitude total elbow prosthesis: A biomechanical in vitro analysis. *Clin Biomech (Bristol, Avon).* 2013 Jun;28(5):502-8.

Wagener ML, Driesprong M, Heesterbeek PJ, Verdonschot N, Eygendaal D. Biomechanical evaluation of three different fixation methods of the Chevron osteotomy of the olecranon: an analysis with Roentgen Stereophotogrammatic Analysis. *Clin Biomech (Bristol, Avon).* 2013 Aug;28(7):752-6.

Walschot LH, Aquarius R, Schreurs BW, Buma P, Verdonschot N. Better primary stability with porous titanium particles than with bone particles in cemented impaction grafting: An in vitro study in synthetic acetabula. *J Biomed Mater Res B Appl Biomater.* 2013 May 7.

3. Book Chapters

Verdonschot, N., Dalstra, M. & Huiskes, R. (1990) The relevance of implant telemetry for mechanical analyses of total hip arthroplasties. In: G. Bergmann, F. Graichen & A. Rohlmann (Eds.), *Implantable Telemetry in Orthopaedics*, 249-257. Publ.: Freie Universität Berlin. Berlin, Germany

Weinans, H., Huiskes, R., Verdonschot, N., & Rietbergen, van B., (1991) The effect of adaptive bone remodeling threshold levels on resorption around noncemented hip stems. In: R. Vanderby jr. (Ed.), 1991 *Advances in Bioengineering.*, 303-306. Uitg. The American Society of Mechanical Engineers. New York. BED-vol. 20

Verdonschot, N. & Huiskes, R. (1992) The application of continuum damage mechanics to pre-clinical testing of cemented hip prostheses: the effects of cement/stem debonding. In: J. Middleton, G.N. Pande & K.R. Williams (Eds.). *Computer Methods in Biomechanics & Biomedical Engineering*, 50-57, Uitg.: Books & Journals International LTD. Swansea SA6 5EY, United Kingdom. ISBN 1-874149-01-1

Verdonschot, N. & Huiskes, R. (1993) Mechanical failure in total hip arthroplasty with cement. In: A. Unsworth, W. Bonfield, D., Hamblen, J.P.F. Eng, S. Sengenberger & D.F. Williams (Eds.) *Failure of Joint*

Prostheses, 75-78. Uitg.: Inst. Mechanical Engineers. Bury Dt. Edmunds, Suffolk, UK

Verdonschot N., Huiskes, R. (1995) Mechanical failure of cemented femoral total hip replacement. In: R Kossowsky and N. Kossowsky (Eds.), *Advances in Materials Science and Implant Orthopedic Surgery*. 135-148: Kluwer Academic Publishers, The Netherlands.

Verdonschot N., Huiskes, R. (1996) A combination of continuum damage mechanics and the finite element method to analyze acrylic bone cement cracking around implants. In: J Middleton, G.N Pande, & K.R Williams (Eds.), *Computer Methods in Biomechanics & Biomedical Engineering*, 25-33. Publ.: Gordon & Breach Science Publishers SA, Amsterdam, The Netherlands.

Huiskes, R. Verdonschot N. (1997) Biomechanics of Artificial Joints - The Hip. In: V.C. Mow, W.C. Hayes (Eds.) *Orthopaedic Biomechanics*. Raven Press, New York

Huiskes, R. Verdonschot N. (1997) Failure scenarios, design evaluation and the innovation cycle. in: Callaghan J, Rosenberg A, Rubash H, Eds. *The Adult Hip*. Lippincott-Raven, New York

Verdonschot, N. & Huiskes, R. (1999). Femoral stem design and cement mantle stress. In Learmonth, I.D. (Ed.), *Interfaces in Total Hip Arthroplasty*. (pp. 21-29). London, UK: Springer-Verlag.

Verdonschot, N., Groes, S. de (2001). The effect of mixing techniques (manual, closed system, vacuum) upon bone cement. In: F. Pipino (Editor), Orthopaedic Clinic, Genoa University, Italy. *Bone cement and cemented fixation of implants: 40 years of clinical practice and prospective for the future*, 99-107.

Stolk, J., Verdonschot, N. & Huiskes, R. (2001). Management of stress fields around singular points in a finite element analysis. Eds.: J. Middleton, M.L. Jones, N.G. Shrive, G.N. Pande, Gordon and Breach Science Publishers, Amsterdam, The Netherlands. *Computer methods in Biomechanics & Bioengineering* - 3. pp. 57-62.

Stolk, J., Verdonschot, N., Maher, S.A., Prendergast, P.J. & Huiskes, R. (2001). FE simulation of damage accumulation and creep in the cement around hip replacement implants. Eds.: M. Guagliano and M.H. Aliabadi, Hoggar Press, Geneva, Switzerland. *Advances in fracture mechanics and damage mechanics II*. pp. 415-422.

Verdonschot, N., Bolder, S.B., Buma, P., Schreurs, B.W. (2004). Mechanical considerations in impaction bone grafting: the Nijmegen experience. Eds.: C. Delloye and G. Bannister, Marcel Dekker Inc., New York, U.S.A. *Impaction bone grafting in revision arthroplasty*: pp. 41-53.

Verdonschot, N., Buma, P., Gardeniers, J.W. & Schreurs, B.W. (2004). Basics of the impaction bone grafting technique in the acetabulum. In: *Modulare Revisionsendoprothetikdes Huftgelenks*. 50-59. Eds.: P. Thümler, R. Forst, G. Zeiler. Uitg.: Springer Medizin Verlag Heidelberg, Heidelberg, Germany

Verdonschot, N. (2005). Stem design philosophies. The well-cemented total hip arthroplasty. Theory and practice. 168-179. ISBN 3-540-24197-3
Eds.: Steffen J. Breusch and Henrik Malchau. Uitg.: Springer Medizin Verlag, Heidelberg, Germany

Schreurs, B.W., Bolder, S.B., Gardeniers, J.W., Verdonschot, N., Slooff, T.J.J.H. & Veth, R.P.H. (2005). Acetabular revision with impacted morsellized cancellous bone grafting and a cemented cup. A 15- to 20-year follow-up. Year Book of Orthopedics 2005. ISBN 032302114X
Eds.: Bernard F. Morrey. Uitg.: C.V. Mosby / Elsevier Health Sciences

Verdonschot, N. (2005). Stem design philosophies. The well-cemented total hip arthroplasty. Theory and practice. 168-179. ISBN 3-540-24197-3
Eds.: Steffen J. Breusch and Henrik Malchau. Uitg.: Springer Medizin Verlag, Heidelberg, Germany

Fennis, W.M., Kreulen, C.M., Barink, M., Kuijs, R.H. & Verdonschot, N. (2007). Computersimulaties met de eindige-elementen-methode. *Het tandheelkundig jaar 2007*. 62-72.
Eds.: C. de Baat et al. Uitg.: Bohn, Stafleu van Loghum, Houten

Slooff, T.J.J.H., Schreurs, B.W., Buma, P., Verdonschot, N. & Gardeniers, J.W. (2007). Revision of the acetabular component; impaction grafting. *The adult hip*. 1409-1420.
Eds.: Callaghan J.J., Rosenberg, A.G. & Rubash, H.E.

Verdonschot, N. (2009). Biomechanische implicaties totale heupprothese. *Heupprothesiologie*, pp. 13-14.
Uitg.: Bureau PAOG-Heyendaal, Nijmegen, the Netherlands

4. Conference contributions from 2008

2008

Aken, J. van, Verdonschot, N., Huizenga, H., Kooloos, J. & Tanck, E. (2008). Case specific finite element models better predict femoral failure risk than experienced physicians. *J Biomech*, 41(S1), O-100.
16th Congress of the European Society of Biomechanics (ESB), 6 - 9 July 2008, Lucerne, Switzerland

Aken, J. van, Verdonschot, N., Huizenga, H., Kooloos, J. & Tanck, E. (2008). Case specific finite element models predict femoral failure risk better than experienced physicians. *Abstractbook*, O-001.
17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Aken, J. van, Verdonschot, N., Huizenga, H., Kooloos, J. & Tanck, E. (2008). Het voorspellen van faalkracht en faallocatie bij femora met botmetastase met behulp van een specifiek eindige elementenmodel.
Annual Congress of the Nederlands Orthopedische Vereniging (NOV), 10 - 11 January, Maastricht, the Netherlands

Aquarius, R., Walschot, L.H.B., Buma, P., Schreurs, B.W. & Verdonschot, N. (2008). In vitro testing of a revision hip reconstruction with impacted Titanium particles. *Abstractbook*, O-129.
17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Aquarius, R., Buma, P., Schreurs, B.W., Verdonschot, N. & Walschot, L.H.B. (2008). Porous titanium particles for application in impaction grafting: mechanical stability and cement penetration in cavitary acetabular reconstructions. P1671.
54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Boonstra, M.C., Waal Malefijt, M.C. de, Keijsers, N.L.W. & Verdonschot, N. (2008). A detailed analysis of the tka rehabilitation process: the confounding effect of comorbidities. P2008.
54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Boonstra, M.C., Waal Malefijt, M.C. de, Schreurs, B.W., Keijsers, N.L.W. & Verdonschot, N. (2008). Functional compensation of the osteoarthritic leg: differences between hip and knee patients. *Abstractbook*.
17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Bullens, P.H., Buma, P., Waal Malefijt, M.C. de, Schreuder, H.W.B., Verdonschot, N. & Veth, R.P.H. (2008). Reconstruction of large critical sized segmental diaphyseal bone defects with degradable and non-degradable materials. P1103.
54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Buma, P., Schreuder, H.W.B., Waal Malefijt, M.C. de, Veth, R.P.H. & Verdonschot, N. (2008). Reconstruction of large critical sized segmental diaphyseal bone defects with degradable and non-degradable materials.

CD-rom, P-A223.

8th World Biomaterials Congress, 28 May - 1 June 2008, Amsterdam, the Netherlands

Buma, P., Kock, N.B., Smolders, J.M., Kampen, A. van, Susante, J.L.C. van & Verdonschot, N. (2008). A mechanical analysis of the effect of plug length on contact stresses in human cadaver knees after osteochondral mosaicplasty. P728.

54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Cleary, R.J., Janssen, D.W., Mann, K.A., Miller, M. & Verdonschot, N. (2008). Experimental micro-mechanics of the cement-bone interface. P1880.

54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Deenen, J.C.W., Huizenga, H., Keyak, J.H., Knippels, I., Tanck, E. & Verdonschot, N. (2008). The quest for a validated protocol: from computed tomography to finite element modeling. P1660.

54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Heesterbeek, P.J., Keijsers, N.L.W., Jacobs, W., Verdonschot, N. & Wymenga, A.B. (2008). Quantitative flexion gap dynamics during computer navigated ligament-guided total knee replacement.

54th Nordic Orthopaedic Federation (NOF) Congress, 11 - 13 June 2008, Amsterdam, the Netherlands

Heesterbeek, P.J., Jacobs, W., Verdonschot, N. & Wymenga, A.B. (2008). Quantitative flexion gap dynamics during computer navigated ligament-guided total knee arthroplasty. P1822.

54th Annual Meeting of the Orthopaedic Research Society (ORS), 2 - 5 March 2008, San Francisco, U.S.A.

Janssen, D.W., Mann, K.A. & Verdonschot, N. (2008). Finite element simulation of cement-bone interface micromechanics. *J Biomech*, 41(S1), O-87.

16th Congress of the European Society of Biomechanics (ESB), 6 - 9 July 2008, Lucerne, Switzerland

Janssen, D.W., Mann, K.A. & Verdonschot, N. (2008). Experimentele en numerieke analyse van de mechanische eigenschappen van de cement-bot interface.

Annual Congress of the Nederlands Orthopedische Vereniging (NOV), 10 - 11 January, Maastricht, the Netherlands

Miller, M., Race, A., Verdonschot, N. & Mann, K.A. (2008). On the fatigue behavior of the cement-bone interface loaded in shear. *J Biomech*, 41(S1), ST-10.

16th Congress of the European Society of Biomechanics (ESB), 6 - 9 July 2008, Lucerne, Switzerland

Scheerlinck, T., Broos, J., Janssen, D.W. & Verdonschot, N. (2008). Mechanical consequences of interfacial defects between femoral hip implants and cement: A finite element analysis of interfacial gaps and interfacial porosity. *Proceedings*, P367.

9th Congress of the European Federation of National Associations of Orthopaedics and Traumatology (EFORT), 29 May to 1 June 2008, Nice, France

Tanck, E., Knippels, I., Deenen, J.C.W., Aken, J. van, Keyak, J.H., Huizenga, H. & Verdonschot, N. (2008). Effect of calibration and scanning protocols for case specific finite element analysis.

J Biomech, 41(S1), O-271.

16th Congress of the European Society of Biomechanics (ESB), 6 - 9 July 2008, Lucerne, Switzerland

Zelle, J.G., Barink, M. & Verdonschot, N. (2008). Finite element analysis of the Birmingham knee replacement during deep knee flexion.

21st Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 1 - 4 October 2008, Seoul, South Korea

Zelle, J.G., Barink, M., Waal Malefijt, M.C. de & Verdonschot, N. (2008). Thigh-calf contact: the effect on the prosthetic knee loading during high-flexion.

54th Nordic Orthopaedic Federation (NOF) Congress, 11 - 13 June 2008, Amsterdam, the Netherlands

Zelle, J.G., Barink, M., Waal Malefijt, M.C. de & Verdonschot, N. (2008). Thigh calf contact: the effect on the prosthetic knee loading during high-flexion. *Abstractbook*, O-087.

17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Zuurmond, R.G., Pilot, P., Verburg, A.D. & Verdonschot, N. (2008). Periprosthetic femoral fracture treatment with full weight bearing possibility: the Bridging nail.

54th Nordic Orthopaedic Federation (NOF) Congress, 11 - 13 June 2008, Amsterdam, the Netherlands

2009

Biemond, J.E., Aquarius, R., Verdonschot, N. & Buma, P. (2009). In vivo analyse van nieuwe geavanceerde prothesecoatingen geproduceerd met E-beam technologie. *Abstractbook*

22ste Symposium Experimenteel Onderzoek Heelkundige Specialisten (SEOHS), 6 November 2009, Nijmegen, the Netherlands

Biemond, J.E., Aquarius, R., Verdonschot, N. & Buma, P. (2009). In-vivo assessment of the ingrowth potential of engineered surface topographies produced by E-beam technology.

22nd European Conference on Biomaterials (ESB), 9 September 2009, Lausanne, Switzerland.

Biemond, J.E., Hannink, G.J., Verdonschot, N. & Buma, P. (2009). The effect of E-beam engineered surface structures on proliferation and differentiation of hMSCs. *Abstractbook*, P-0219.

22nd European Conference on Biomaterials (ESB), 9 September 2009, Lausanne, Switzerland

Boons, H.W., Waal Malefijt, M.C. de & Verdonschot, N. (2009). The recovery after total knee arthroplasty can be hampered by contralateral osteoarthritis. *Abstractbook*, P101.

19th Conference of the International Society for Posture & Gait Research (ISPGR), 21 - 25 June 2009, Bologna, Italy

Boonstra, M.C., Keijsers, N.L.W., Schreurs, B.W. & Verdonschot, N. (2009). Differences in functional recovery of patients with total knee or total hip arthroplasty: one year postoperatively. *Abstractbook*, P100.

19th Conference of the International Society for Posture & Gait Research, 21 - 25 June 2009, Bologna, Italy

Boonstra, M.C., Waal Malefijt, M.C. de, Schreurs, B.W. & Verdonschot, N. (2009). Functional differences between total hip and total knee patients before and after surgery. *Transactions*, P-2457.

55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Heesterbeek, P.J., Keijsers, N.L.W., Verdonschot, N. & Wymenga, A.B. (2009). Posterior cruciate ligament recruitment affects flexion gap dynamics during gap distraction in total knee replacement. *Proceedings*, A-804.

22nd Annual symposium of the International Society for Technology in Arthroplasty (ISTA), 22 - 24 October 2009, Hawaii, U.S.A.

Heesterbeek, P.J., Keijsers, N.L.W., Verdonschot, N. & Wymenga, A.B. (2009). Ligament releases during total knee replacement do not increase postoperative varus-valgus laxity. *Proceedings*, A-805.

22nd Annual symposium of the International Society for Technology in Arthroplasty (ISTA), 22 - 24 October 2009, Hawaii, U.S.A.

Jansen, C.T.J., Homminga, J., Verdonschot, N. & Verkerke, G.J. (2009). Development of a validated spine model to assess the mechanics of the degenerated spine. *Abstractbook*, 3.

2nd Dutch Conference on Bio-Medical Engineering, 22 - 23 January 2009, Egmond aan Zee, the Netherlands

Janssen, D.W., Waanders, D., Mann, K.A. & Verdonschot, N. (2009). Finite element analysis of cement-bone

interface micromechanics: the effect of cement penetration depth. *Proceedings*, A-693.
22nd Annual symposium of the International Society for Technology in Arthroplasty (ISTA), 22 - 24 October 2009, Hawaii, U.S.A.

Mann, K.A., Miller, M., Eberhardt, A.W. & Verdonschot, N. (2009). Micro-mechanics of post-mortem retrieved cement-bone interfaces. *Transactions*, P-2236.

55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Mulder, E.L. de, Löwik, D.W.P.M., Koens, M.J.W., Janssen, D.W., Hannink, G.J., Verdonschot, N. & Buma, P. (2009). Activation of polyurethane scaffolds by surface treatment with diamines and heparin. *Abstractbook*, O17.

18th Annual Meeting of the Netherlands Society for Biomaterials and Tissue Engineering, 14 - 15 December 2009, Lunteren, the Netherlands

Scheerlinck, T., Janssen, D.W., Aken, J. van & Verdonschot, N. (2009). Investigating the "French Paradox": a finite element analysis of stem stability and accumulated cement damage. *Abstractbook*, 153.

Abstracts from the 8th Domestic Meeting of the European Hip Society (EHS), 11 - 14 June 2009, Madrid, Spain

Scheerlinck, T., Broos, J., Janssen, D.W. & Verdonschot, N. (2009). Investigating interfacial defects between stem and cement: a finite element analysis of stem stability and accumulated cement damage.

Abstractbook, 153.

Abstracts from the 8th Domestic Meeting of the European Hip Society (EHS), 11 - 14 June 2009, Madrid, Spain

Tanck, E., Aken, J. van, Janssen, D.W., Huizenga, H. & Verdonschot, N. (2009). Case Specific Finite Element Models improve the Prediction of femoral fracture risk compared to experienced physicians. *Transactions*, P-321.

55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Tarala, M., Janssen, D.W. & Verdonschot, N. (2009). Typical experimental methods do not capture micromotion at the implant-bone interface. *Transactions*, P-2250.

55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Tomaszewski, P.K., Verdonschot, N. & Verkerke, G.J. (2009). Comparative finite element analysis of osseointegrated fixations for upper leg prosthesis. *Abstractbook*, 144.

2nd Dutch Conference on Bio-Medical Engineering, 22 - 23 January 2009, Egmond aan Zee, the Netherlands

Waanders, D., Janssen, D.W., Miller, M., Mann, K.A. & Verdonschot, N. (2009). Kruip-schade-gedrag door een trek-vermoeiing-belasting van de cement-bot-interface: een experimentele en eindige-elementenstudie.

325th Annual General Meeting of the Dutch Orthopaedic Society (NOV), 15 - 16 January 2009, 's Hertogenbosch, the Netherlands

Waanders, D., Janssen, D.W., Miller, M., Mann, K.A. & Verdonschot, N. (2009). Simulating fatigue creep damage at the cement-bone interface using a micro-mechanical finite element model. *Transactions*, P-2421.

55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Waanders, D., Janssen, D.W., Miller, M., Mann, K.A. & Verdonschot, N. (2009). Fatigue creep damage at the cement-bone interface: an experimental and a micro-mechanical finite element study. *Abstractbook*, 142.

2nd Dutch Conference on Bio-Medical Engineering, 22 - 23 January 2009, Egmond aan Zee, the Netherlands

Walschot, L.H.B., Schreurs, B.W., Aquarius, R., Verdonschot, N. & Buma, P. (2009). Porous Titanium particles in cemented impaction grafting hip revision arthroplasty: pre-clinical results. *Transactions*, P-2020. 55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Walschot, L.H.B., Aquarius, R., Schreurs, B.W., Verdonschot, N. & Buma, P. (2009). Pre-clinical results of porous Titanium particles in cemented impaction grafting hip revision arthroplasty. *Proceedings*, A-767. 22nd Annual symposium of the International Society for Technology in Arthroplasty (ISTA), 22 - 24 October 2009, Hawaii, U.S.A.

Zelle, J.G., Waal Malefijt, M.C. de & Verdonschot, N. (2009). The effect of posterior cruciate ligament laxity on prosthetic knee kinematics and load transfer. *Transactions*, P-2393. 55th Annual Meeting of the Orthopaedic Research Society (ORS), 22 - 25 February 2009, Las Vegas, NV, U.S.A.

Zelle, J.G., Waal Malefijt, M.C. de & Verdonschot, N. (2009). Biomechanical analysis of posterior cruciate ligament retaining high-flexion total knee arthroplasty. *Proceedings*, A-828. 22nd Annual symposium of the International Society for Technology in Arthroplasty (ISTA), 22 - 24 October 2009, Hawaii, U.S.A.

Zelle, J.G., Waal Malefijt, M.C. de & Verdonschot, N. (2009). Eindige-elementenanalyse van een hoge-flexie kruisbandsparende totale knieprothese. 325th Annual General Meeting of the Dutch Orthopaedic Society (NOV), 15 - 16 January 2009, 's Hertogenbosch, the Netherlands

2010

Aquarius, R., Homminga, J., Verdonschot, N. & Tanck, E. (2010). Veranderde belastingsrichting na wervelfractuur verhoogt de kans op nieuwe fracturen in naburige wervels. *Abstractbook* Annual Congress of the Dutch Orthopaedic Foundation (NOV), 21 - 22 January 2010, Utrecht, the Netherlands

Aquarius, R., Homminga, J., Verdonschot, N. & Tanck, E. (2010). Changed loading direction after spinal wedge fracture increases fracture risk in adjacent vertebrae. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom

Aquarius, R., Homminga, J., Verdonschot, N. & Tanck, E. (2010). Changed loading direction after spinal wedge fracture increases fracture risk in adjacent vertebrae. *Transactions*, P-1516. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.

Biemond, J.E., Verdonschot, N. & Buma, P. (2010). In-vivo assessment of the ingrowth potential of engineered surface topographies produced by E-beam technology. *Transactions*, P-2077. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.

Biemond, J.E., Hannink, G.J., Giele, M., Verdonschot, N. & Buma, P. (2010). The effect of E-beam engineered surface structures on proliferation and differentiation of hMSCs. *Transactions*, Paper 263. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.

Boonstra, M.C., Schreurs, B.W. & Verdonschot, N. (2010). Revision THA patients with large acetabular impaction bone grafting perform the sit-to-stand as good as primary THA patients. *Transactions*, P-2350. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.

Derikx, L.C.E., Vis, R., Meinders, T., Verdonschot, N. & Tanck, E. (2010). Implementation of asymmetric yielding in case specific finite element models improves the prediction of femoral fracture risk. *Transactions*, P-699. 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom

- Homminga, J., Aquarius, R., Bultink, V.E., Jansen, C.T.J. & Verdonschot, N. (2010). Intervertebral disc degeneration can induce degenerative bone adaptation in adjacent vertebrae. *Transactions*, P-662. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.
- Janssen, D.W., Srinivasan, P., Scheerlinck, T. & Verdonschot, N. (2010). The effect of cementing technique on polymerization heat generation and thermal necrosis in hip resurfacing arthroplasty. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom
- Mann, K.A., Miller, M., Verdonschot, N., Izant, T.H. & Race, A. (2010). En bloc retrieved cemented femoral hip replacements: how fixed is well fixed?. *Transactions*, P-360. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.
- Miller, M., Mann, C.P., Verdonschot, N. & Mann, K.A. (2010). Damage evolution in cemented joint replacements: evidence from en bloc retrievals. *Transactions*, P2096. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.
- Pakvis, D.F., Janssen, D.W. & Verdonschot, N. (2010). Acetabular stress shielding. A finite element analysis of a cemented rigid and a cementless elastic socket. *Abstractbook* Annual Congress of the Dutch Orthopaedic Foundation (NOV), 21 - 22 January 2010, Utrecht, the Netherlands
- Schreurs, B.W., Keurentjes, J.C., Gardeniers, J.W., Verdonschot, N., Slooff, T.J.J.H. & Veth, R.P.H. (2010). Long-term outcome of cup revisions with bone impaction and outcome of failures after re-revision. *Proceedings*, Paper 364. Annual Meeting of the American Academy of Orthopaedic Surgeons, 9 - 13 March 2010, New Orleans, U.S.A.
- Tarala, M., Janssen, D.W. & Verdonschot, N. (2010). Towards FE optimization of a cementless implant design using porous tantalum. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom
- Tomaszewski, P.K., Verdonschot, N., Bulstra, S.K. & Verkerke, G.J. (2010). Finite element assessment of bone failure risk and remodeling around osseointegrated trans-femoral prostheses. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom
- Tomaszewski, P.K., Verdonschot, N., Bulstra, S.K. & Verkerke, G.J. (2010). Mechanical failure risks and bone remodeling after implantation of osseointegrated trans-femoral prostheses. *Abstractbook*, p.1205. 13th World Congress of ISPO (International Society for Prosthetics and Orthotics), 12 - 15 May 2010, Leipzig, Germany.
- Tomaszewski, P.K., Bulstra, S.K., Sharma, P.K., Raghoobar, G.M., Geertzen, J.H.B., Rietman, J.S., Verdonschot, N. & Verkerke, G.J. (2010). New osseointegrated fixation for upper leg prosthesis. *Proceedings*, p.21. W.J. Kolff days, 25- 27 April 2010, Schiermonnikoog, The Netherlands
- Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2010). Strength of the cement-bone interface relies more on interface contact than cement penetration depth. *Transactions*, P-2131. 56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.
- Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2010). Mixed-mode behavior of the cement-bone interface: a finite element study. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom
- Zelle, J.G., Waal Malefijt, M.C. de & Verdonschot, N. (2010). Posterior cruciate ligament retaining and substituting high-flexion total knee replacements are loaded differently, but at a similar stress level during deep knee flexion. *Transactions*, P-2116.

56th Annual Meeting of the Orthopaedic Research Society, 6 - 9 March 2010, New Orleans, U.S.A.

Zelle, J.G., Waal Malefijt, M.C. de & Verdonchot, N. (2010). Biomechanical analysis of posterior cruciate ligament balancing strategies on total knee arthroplasty. *Transactions* 17th Congress of the European Society of Biomechanics (ESB), 5 - 8 July 2010, Edinburgh, United Kingdom

2011

Aquarius, R., Homminga, J., Hosman, A.J., Verdonchot, N. & Tanck, E. (2011). Prophylactic vertebroplasty decreases the fracture risk of adjacent vertebrae. *Abstractbook*, 69.
3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Aquarius, R., Homminga, J., Hosman, A.J., Verdonchot, N. & Tanck, E. (2011). Prophylactic vertebroplasty decreases the fracture risk of adjacent vertebrae. *CD-rom Transactions*, P-667. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

Biemond, J.E., Hannink, G.J., Verdonchot, N. & Buma, P. (2011). Assessment of bone ingrowth potential of E-beam produced surface topographies with a biomimetic coating. *CD-rom Transactions*, P-1041. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

Biemond, J.E., Hannink, G.J., Verdonchot, N. & Buma, P. (2011). Assessment of bone ingrowth potential of E-beam produced surface topographies with a biomimetic coating. *CD-rom*, 686.
24th Annual Congress of the International Society for Technology in Arthroplasty, (ISTA), 20 - 23 September, Bruges, Belgium

Carbone, V., Krogt, M.M. van der, Verdonchot, N. & Koopman, H.F.J.M. (2011). Sensitivity of musculoskeletal models to functional and image-based subject-specific scaling. *Abstractbook*, 90.
3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Derikx, L.C.E., Groenen, K., Bon, G.A. van, Linden, Y.M. van der, Snyers, A., Verdonchot, N. & Tanck, E. (2011). Patient-specific finite element models discriminate between patients with and without a pathological fracture in metastatic bone disease. *CD-rom Transactions*, P-1430. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

Fluit, R., Krogt, M.M. van der, Verdonchot, N. & Koopman, H.F.J.M. (2011). Prediction of the effect of altered muscle configuration based on forward simulation of bipedal walking. *Abstractbook*, 177.
3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Groes, S. van de, Ypma, J., Spierings, P. & Verdonchot, N. (2011). Expectations and outcome of a scientifically developed hip prosthesis. *CD-rom*, 724.
24th Annual Congress of the International Society for Technology in Arthroplasty, (ISTA), 20 - 23 September, Bruges, Belgium

Miller, M., Race, A., Waanders, D., Janssen, D.W., Verdonchot, N. & Mann, K.A. (2011). Multi-axial loading micromechanics of the cement-bone interface. *CD-rom Transactions*, P-1077. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

Rachmat, H.H., Diercks, R.L., Verdonchot, N. & Verkerke, G.J. (2011). Development of patient-specific 3D knee joint finite element model to optimise anterior cruciate ligament (ACL) reconstruction. *Abstractbook*, 126.
3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Tarala, M., Waanders, D., Biemond, J.E., Janssen, D.W. & Verdonschot, N. (2011). The effect of bone ingrowth depth on the shear and tensile strength of the implant-bone interface. *Abstractbook*, 7. 19th Annual Symposium on Computational Methods in Orthopaedic Biomechanics, 12 January 2011, Long Beach, California, U.S.A.

Tarala, M., Janssen, D.W. & Verdonschot, N. (2011). Effect of bone quality and intra-operative impaction force on the primary stability of composite cementless prostheses and probability for bone cracks. *CD-rom Transactions*, O-18. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A.

Tarala, M., Waanders, D., Biemond, J.E., Janssen, D.W. & Verdonschot, N. (2011). The effect of bone ingrowth depth on the shear and tensile strength of the implant-bone interface. *Abstractbook*, 21. 3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Tomaszewski, P.K., Verdonschot, N., Bulstra, S.K., Geertzen, J.H.B., Rietman, J.S. & Verkerke, G.J. (2011). Bone remodeling after implantation of osseointegrated transfemoral prostheses. *Abstractbook*, 25. 3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2011). Micromechanics of the cement-bone interface and its consequences on failure of the complete cemented hip reconstruction. *Abstractbook*, 1045. 24th Annual Congress of the International Society for Technology in Arthroplasty, (ISTA), 20 - 23 September, Bruges, Belgium

Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2011). Is realistic modeling of the compliant cement-bone interface in cemented total hip arthroplasty important?. *CD-rom Transactions*, P-1017. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2011). Influence of cement-bone interface behavior on the fatigue failure of the cement mantle. *Abstractbook*, 130. 3rd Dutch Conference on Bio-Medical Engineering, 20 - 21 January 2011, Egmond aan Zee, the Netherlands

Zelle, J.G., Janssen, D.W., Eijden, J. van, Waal Malefijt, M.C. de & Verdonschot, N. (2011). Does high-flexion total knee arthroplasty promote early loosening of the femoral component?. *CD-rom Transactions*, P-1025. ISSN: 0149-6433
Annual Meeting of the Orthopaedic Research Society (ORS), 13 - 16 January 2011, Long Beach, California, U.S.A. **Poster**

2012

Anez-Bustillos, L., Nazarian, A., Verdonschot, N., Derikx, L.C.E., Snyder, B. & Tanck, E. (2012). CT-based finite-element analysis and structural rigidity analysis to assess failure load in bones with simulated lytic defects. *CD-rom Transactions*, P-0363. 58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.

Aquarius, R., Homminga, J., Willems, B., Verdonschot, N. & Tanck, E. (2012). Does vertebroplasty cause stress peaks in adjacent vertebrae?. *CD-rom Proceedings*, . 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal

Biemond, J.E., Hannink, G.J., Verdonschot, N. & Buma, P. (2012). Assessment of bone ingrowth potential of E-beam produced surface topographies with a biomimetic coating. *CD-rom*, No 12-2400. 13th EFORT Congress, 23 - 25 May 2012, Berlin, Germany

- Carbone, V., Krogt, M.M. van der, Koopman, H.F.J.M. & Verdonschot, N. (2012). Functional scaling of subject-specific musculotendon parameters in the lower extremity. *CD-rom Proceedings*, S492-1593. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Derikx, L.C.E., Linden, J.C. van der, Snyers, A., Verdonschot, N. & Tanck, E. (2012). Patient-specific finite element models differentiate between patients with and without a pathological fracture in metastatic bone disease. *CD-rom Transactions*, 1266. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Dijkstra, E., Verdonschot, N., Rachmat, H.H. & Koopman, H.F.J.M. (2012). Force dependent six DOF model of the intact knee for the anybody modeling system. *CD-rom Proceedings*, S371-1146. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Fluit, R., Krogt, M.M. van der, Verdonschot, N. & Koopman, H.F.J.M. (2012). A novel approach to estimate muscle forces in predictive gait models: forward-inverse dynamics. *CD-rom Proceedings*, S301-1621. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Mann, K.A., Miller, M., Pray, C., Verdonschot, N. & Janssen, D.W. (2012). A new approach to quantify trabecular resorption adjacent to cemented knee arthroplasty. *CD-rom Transactions*, P-0987. 58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.
- Mulder, E.L. de, Löwik, D.W.P.M., Koens, M.J.W., Hannink, G.J., Verdonschot, N. & Buma, P. (2012). Activation of polyurethane scaffolds by surface treatment with diamines and heparin. *CD-rom Transactions*, P-0620. 58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.
- Pellikaan, P., Krogt, M.M. van der, Carbone, V., Verdonschot, N. & Koopman, H.F.J.M. (2012). Are muscle volumes linearly scalable in musculoskeletal models?. *CD-rom Proceedings*, S534-1693. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Rachmat, H.H., Janssen, D.W., Tienen, T.G. van, Diercks, R.L., Verkerke, G.J. & Verdonschot, N. (2012). Material properties of the human posterior knee capsule. *CD-rom Proceedings*, S380-1473. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Tomaszewski, P.K., Verdonschot, N., Diest, M. van, Lasnier, B., Bulstra, S.K. & Verkerke, G.J. (2012). Pre-clinical development of a new osseointegrated fixation implant for amputated patients designed to reduce bone failure risk and periprosthetic bone loss. *CD-rom Transactions*, P-1974. 58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.
- Tomaszewski, P.K., Verdonschot, N., Bulstra, S.K. & Verkerke, G.J. (2012). A new osseointegrated fixation implant for amputated patients. *CD-rom Proceedings*, S322-1238. 18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal
- Verdonschot, N., Ploeg, B. van der, Tarala, M., Homminga, J. & Janssen, D.W. (2012). Towards a more realistic prediction of peri-prosthetic micro-motions. *CD-rom Transactions*, P-0974. 58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.
- Verdonschot, N., Koopman, H.F.J.M., Weerdesteyn, V., Wirix-Speetjens, R., Tørholm, S., Sitnik, R., Feilkas, T. & Krogt, M.M. van der (2012). TLEMsafe: A European project to improve predictability of functional recovery of patients requiring severe musculoskeletal surgery. *CD-rom Proceedings*, S485-1473.

18th Congress of the European Society of Biomechanics (ESB), 1 - 4 July 2012, Lisbon, Portugal

Vrancken, A.C.T., Hannink, G.J., Tienen, T.G. van, Ploegmakers, M.J., Verdonschot, N. & Buma, P. (2012). Variation in medial meniscus geometry: size or shape based?. *CD-rom Transactions*, P-0190.
58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.

Vrancken, A.C.T., Tienen, T.G. van, Fransen, B.L., Janssen, D.W., Verdonschot, N. & Buma, P. (2012). Releasing the circumferential fixation of the medial meniscus does not influence its kinematics. *CD-rom Proceedings*, S370-1095.
18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal

Vrancken, A.C.T., Tienen, T.G. van, Fransen, B.L., Janssen, D.W., Verdonschot, N. & Buma, P. (2012). Releasing the circumferential fixation of the medial meniscus does not influence its kinematics. Workshop "Meniscus Transplantation" at the Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.

Waanders, D., Janssen, D.W., Mann, K.A. & Verdonschot, N. (2012). Cohesive modeling of the cement-bone interface: when models don't match experiments. *CD-rom Proceedings*, S324-1259.
18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal

Wagener, M., Verdonschot, N., Eygendaal, D., Driesprong, M. & Heesterbeek, P.J. (2012). Biomechanical evaluation of three different fixation methods of the Chevron osteotomy of the olecranon: An analysis with RSA. *CD-rom Transactions*, P-2238.
58th Annual Meeting of the Orthopaedic Research Society (ORS), 7 February 2012, San Francisco, California, U.S.A.

Wibawa, A.D., Verdonschot, N., Halbertsma, J.P.K., Andersen, M.S., Diercks, R.L. & Verkerke, G.J. (2012). Validating numerical simulation of lower limb muscle activity during normal walking and side jumping. *CD-rom Proceedings*, S486-1387.
18th Congress of the European Society of Biomechanics, 1 - 4 July 2012, Lisbon, Portugal

2013

Fluit, R., Krogt, M.M. van der, Verdonschot, N. & Koopman, H.F.J.M. (2013). Inverse-inverse dynamics of human gait based on gait features. Abstractbook, 18.
4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands

Berahmani, S., Janssen, D.W., Wolfson, D., Waal Malefijt, M.C. de & Verdonschot, N. (2013). Bone mineral density has direct effect on the fixation strength of cementless femoral knee component. Abstractbook, 183.
4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands

Berahmani, S., Janssen, D.W., Wolfson, D., Waal Malefijt, M.C. de & Verdonschot, N. (2013). Bone mineral density has direct effect on the fixation strength of cementless femoral knee component. Orthopaedische Vereniging (NOV) Jaarvergadering, 7-8 February 2013, Amsterdam. Netherlands.

Berahmani S, Janssen D, Wolfson D, de Waal Malefijt M, Verdonschot N. (2013). Improvement of primary stability of uncemented femoral knee prosthesis by an advanced rough CoCrMo porous surface coating: a cadaveric study. 3rd NCEBP PhD Council Retreat 2013, 26-27 September 2013, Wageningen, Netherlands.

Berahmani S, Janssen D, Wolfson D, de Waal Malefijt M, Verdonschot N. (2013). Bone mineral density has direct effect on the fixation strength of cementless femoral knee component. Abstract book 39. 26th Annual congress of International society of arthroplasty (ISTA), 16-19 October 2013. Florida, USA. E-poster

Berahmani S, Janssen D, Wolfson D, de Waal Malefijt M, Verdonschot N. (2013). Improvement of primary stability of uncemented femoral knee prosthesis by an advanced rough CoCrMo porous surface coating: a

cadaveric study. Abstract book 23. 26th Annual congress of International society of arthroplasty (ISTA), 16-19 October 2013. Florida, USA.

Berahmani S, Janssen D, Wolfson D, de Waal Malefijt M, Verdonschot N. (2013). The effect of interference fit, surface treatment and bone material properties on the primary stability of press-fit pegs
Abstract book 45. 26th Annual congress of International society of arthroplasty (ISTA), 16-19 October 2013. Florida, USA. E-poster

Berahmani S, Janssen D, Wolfson D, de Waal Malefijt M, Verdonschot N. (2013). Bone mineral density has direct effect on the fixation strength of cementless femoral knee component. Knee Surgery And Rehabilitation In 2013- Institution of mechanical engineers (ImechE), 11-12 November 2013, London, UK.

Bitter T, Janssen D, Schreurs BW, Khan I, Verdonschot N. Taper wear in large diameter Metal-on-Metal modular total hip replacements. NCEBP Science Day, 26 June 2013, Nijmegen, The Netherlands.

Bitter T, Janssen D, Schreurs BW, Khan I, Verdonschot N. Taper wear in large diameter Metal-on-Metal modular total hip replacements. 3rd NCEBP PhD Council Retreat 2013, 26-27 September 2013, Wageningen, Netherlands.

Bitter T, Janssen D, Schreurs BW, Khan I, Verdonschot N. The effect of head impaction on contact stress and micromotions at the head-taper connection. Abstract book p33. 26th Annual congress of International society of arthroplasty (ISTA), 16-19 October 2013. Florida, USA. E-poster

Carbone, V., Krogt, M.M. van der, Vigneron, L., Schepers, J., Kolk, S., Koopman, H.F.J.M. & Verdonschot, N. (2013). Subject-specific musculo-skeletal models of lower extremity based on medical imaging and functional scaling. Abstractbook, 20.
4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands

Derikx LC, Tanck E, van der Linden YM, Jonkers I & Verdonschot N. Prediction of fracture risk in femora with metastatic lesions. NCEBP Science Day, 26 June 2013, Nijmegen, The Netherlands.

Derikx, L.C.E., Janssen, D.W., Linden, Y.M. van der, Snyers, A., Verdonschot, N. & Tanck, E. (2013). Patient-specific finite element models differentiate between patients with and without a pathological fracture in metastatic bone disease. Abstractbook, 229. 4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands.

Janssen D, Rachmat HH, Zevenbergen L, Diercks RL, Verkerke B, Verdonschot N. (2013) Identification of knee ligament attachment sites on MRI scan images. 11th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE), April 3-7, Salt Lake City (UT), USA. Poster

Kolk, S., Schenk, O., Visser, E., Weerdesteyn, V. & Verdonschot, N. (2013). Determination of muscular activity in the lower limb during walking using FDG-PET. Abstractbook, 221.
4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands

Zijden, A. van der, Tanck, E., Janssen, D.W. & Verdonschot, N. (2013). Estimating the hip fracture risk in sideways falls. Abstractbook, 225.
4th Dutch Conference on Bio-Medical Engineering, 24 - 25 January 2013, Egmond aan Zee, the Netherlands

Koopman, H.F.J.M., Krogt, M.M. van der, Weerdesteyn, V., Wirix-Speetjens, R., Torholm, S., Sitnik, R., Feilkas, T. & Verdonschot, N. (2013). TLEMsafe: A European project to improve predictability of functional recovery of patients requiring severe musculoskeletal surgery. Abstractbook, 1828.
14th EFORT Congress, 5 - 8 June 2013, Istanbul, Turkey

De Ruitter L, Janssen D, Briscoe A, Verdonschot N. (2013). Interface stresses of a polyether-etherketone femoral component in cemented total knee arthroplasty. Abstract book 39. 26th Annual congress of

International society of arthroplasty (ISTA), 16-19 October 2013. Florida, USA. E-poster

De Ruiter L, Janssen D, Briscoe A, Verdonschot N. (2013). Implant Fixation of a Polymer Femoral Knee Component. 3rd NCEBP PhD Council Retreat 2013, 26-27 September 2013, Wageningen, Netherlands.

Stroet, M.A. te , Verdonschot, N., Gardeniers, J.W., Rijnen, W. & Schreurs, B.W. (2013). Femoral component revision with use of impaction bone-grafting and a cemented polished stem. CD-rom Proceedings, vol. 14, P059. Annual Meeting of the AAOS, 19 - 23 March 2013, Chicago, Illinois, U.S.A.

C. O’Kane, A. Vrancken, D. O’Rourke, D. Janssen, M. Ploegmakers, P. Buma, D. Fitzpatrick, N. Verdonschot (2013). Geometry analysis of the medial meniscus: a statistical shape modeling approach. 8th Combined Meeting of Orthopaedic Research Societies (CORS), 13 – 16 October 2013, Venice, Italy

Van Rijsbergen M, Barthelemy V, Vrancken A, Crijns S, Wilke H-J, Ito K (2013) Moderately degenerated lumbar motion segments: are they truly unstable? 5th International Conference on Computational Bioengineering (ICCB), September 11-13 2013, Leuven, Belgium.

V. Carbone, S. Schurink, R. Fluit, M. van der Krogt, I. van der Geest, B. Koopman, N. Verdonschot (2013). Prediction of functional outcome of lower limb salvage surgery using musculoskeletal modeling. 8th Combined Meeting of Orthopaedic Research Societies (CORS), 13 – 16 October 2013, Venice, Italy

Vrancken A, van Tienen T, Madej W, Janssen D, Verdonschot N, Buma P (2013) First results of a 3 month in vivo trial of the TRAMMPOLIN meniscus replacement in goats. BMM/TeRM/DCTI Annual Meeting, June 17-18 2013, Ermelo, The Netherlands. Oral presentation.

Wesseling M, Derikx LC, Meyer C, de Groote F, Desloovere K, Verdonschot N & Jonkers I. (2013) Variation in estimated contact and muscle forces. 5th International Conference on Computational Bioengineering, 11 – 13 September 2013, Leuven, Belgium.

Wesseling M, Derikx LC, de Groote F, Bartels W, Meyer C, Verdonschot N & Jonkers I. (2013) Hip joint contact forces calculated using different muscle optimization techniques. 14th Congress of the International Society of Biomechanics, 4 – 9 August 2013, Natal, Brazil.

Wolfson D, Berahmani S, Janssen D, de Waal Malefijt M, Verdonschot N. (2013). The effect of interference fit, surface treatment and bone material properties on the primary stability of press-fit pegs. Knee Surgery And Rehabilitation In 2013- Institution of mechanical engineers (ImechE), 11-12 November 2013, London, UK.

5. Invited/keynote lectures from 2005

“Modern bioengineering of hip joint replacements”.

John Scales Commemorative Meeting, 31 January - 1 February 2005, Stanmore, United Kingdom

Invited Lecture

“Biomechanische aspecten van de totale heupprothese”.

Cursus Heupprothesiologie, Nijmegen, The Netherlands, 28 January 2005

Invited Lecture

“Polished cemented stems: design and philosophy C-stem design”.

28 September - 3 October 2005: lectures in Kyoto, Nagoya (university) and Hamamatsu (Seibu Medical Center), Japan

Invited Lectures

“Pre-clinical testing of a novel cementless hip implant”.

18th Annual Symposium of the International Society for Technology in Arthroplasty (ISTA), 29 September - 2

October 2005, Kyoto, Japan

Invited Lecture

"Polished cement stem: design and philosophy".

18th Annual Symposium of the International Society for Technology in Arthroplasty (ISTA), 29 September - 2 October 2005, Kyoto, Japan.

Keynote Lecture

2006

Verdonschot, N. (2006). Biomechanische aspecten van de totale heupprothese.

Cursus heupprothesiologie, 27 January 2006, Nijmegen, the Netherlands

Verdonschot, N. (2006). Biomechanical aspects of hip resurfacing.

Symposium "Glamour and Rumour around Resurfacing Total Hip Replacement", 14 September 2006, Arnhem, the Netherlands.

Invited Lecture

Verdonschot, N. (2006). Botresorptie en inactiviteit.

24 maart 2006, Nijmegen, the Netherlands

Verdonschot, N. (2006). Implant precision and initial stability of the cementless Eurometric stem versus Euroform stem.

Symposium "40 Jahre St. Vinzenz-Krankenhaus", 15 September 2006, Düsseldorf, Germany

Invited Lecture

Verdonschot, N. (2006). Basics of impaction bone grafting.

Symposium "40 Jahre St. Vinzenz-Krankenhaus", 15 September 2006, Düsseldorf, Germany

Invited Lecture

Verdonschot, N. & (2006). Mechanical analyses of cemented total hip replacement components; the need for retrieval analyses?

COST Action 537 Meeting, 12 May 2006, Porto, Portugal.

Invited Lecture

Verdonschot, N. (2006). Biomechanica van dreigende pathologische fracturen.

PAOG-cursus "De dreigende pathologische fractuur", 15 december 2006, Nijmegen, the Netherlands

2007

Verdonschot, N. (2007). Biomechanische aspecten van de totale heupprothese.

Cursus heupprothesiologie, 26 January 2007, Nijmegen, the Netherlands.

Invited Lecture

Verdonschot, N. (2007). Biomechanical research in orthopedics.

Universiteit van Twente, 15 January 2007, Enschede, the Netherlands.

Invited Lecture

Verdonschot, N. (2007). Biomechanical analysis on THR.

Vrije Universiteit Brussel, 19 January 2007, Brussels Belgium.

Invited Lecture

"Biomechanical analysis on Total Hip Replacement (THR)".

Orthopaedic department from the University Medical Centre of the Free University of Brussels, 18 January 2007, Brussels, Belgium

Invited Lecture

Verdonschot, N. (2007). Impaction bone grafting in revision THR; basic research.
Engineers & Surgeons: Joined at the Hip, 19-21 April 2007, London, United Kingdom

Verdonschot, N. (2007). Mechanical analysis of cemented total hip systems.
Engineers & Surgeons: Joined at the Hip, 19-21 April 2007, London, United Kingdom

Verdonschot, N. (2007). Impaction allografting in acetabular reconstruction (basic science).
1st International Symposium on Acetabular Reconstruction, 15 June 2007, London, United Kingdom.
Invited Lecture

Verdonschot, N. (2007). Biomechanical analyses of cemented total hip replacement.
6th Baltic Bone and Cartilage Conference and 3rd Baltic Congress of Traumatology and Orthopaedics, 6 September 2007, Tartu, Estonia.
Invited Lecture

Verdonschot, N. (2007). Porous Titanium particles for application in impaction grafting: basic mechanical characteristics and in-vivo testing of osteoconductive potential.
20th Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 4-6 October 2007, Paris, France

2008

Verdonschot, N. (2008). Computer modeling of cemented total hip replacements.
Leeds Annual Day Conference, 4 January 2008, Leeds, United Kingdom.
Keynote Lecture

Verdonschot, N. (2008). Biomechanische aspecten van heup- en knieprothesen.
University of Twente, 3 April 2008, Enschede, the Netherlands.
Invited Lecture

Verdonschot, N. (2008). TBC (Thigh/Calf kinetics talk).
Advanced Sigma RPF Learning Centre, 29 April 2008, Annecy, Switzerland.
Invited Lecture

Verdonschot, N. & (2008). Biomechanical analysis of high flexion in total knee arthroplasty.
Advanced Sigma RPF Learning Centre, 21 October 2008, Annecy, France.
Invited Lecture

Verdonschot, N. (2008). "En na de prothese...?" Een biomechanisch perspectief.
Symposium VIA "Versleten, wat kun je ermee?", 17 November 2008, Utrecht, the Netherlands

Verdonschot, N. (2008). Finite element analysis of the Birmingham knee replacement during deep knee flexion.
21st Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 1 - 4 October 2008, Seoul, South Korea

Verdonschot, N. (2008). Biomechanische aspecten van de totale heupprothese.
Cursus Heupprothesiologie, 25 January 2008, Nijmegen, the Netherlands
Invited Lecture

Verdonschot, N. (2008). Functional compensation of the osteoarthritic leg: differences between hip and knee patients.
17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Verdonschot, N. (2008). Case specific finite element models predict femoral failure risk better than

experienced physicians.

17th Annual Meeting of the European Orthopaedic Research Society (EORS), 24 - 26 April 2008, Madrid, Spain

Verdonschot, N. (2008). Development of a meniscus replacement.

21st Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 1 - 4 October 2008, Seoul, South Korea.

Keynote Lecture

2009

Verdonschot, N. (2009). Biomechanical analysis of high flexion knees

Advanced Sigma RPF Learning Centre, 18 March 2009, Annecy, France.

Invited Lecture

Verdonschot, N. (2009). Biomechanische implicaties totale heupprothese.

Cursus Heupprothesiologie, 23 January 2009, Nijmegen, the Netherlands

Invited Lecture

Verdonschot, N. (2009). Biomechanical analyses of cemented total joint arthroplasty.

22nd European Conference on Biomaterials (ESB), 9 September 2009, Lausanne, Switzerland

Verdonschot, N. (2009). Biomechanical and functional anatomy of the knee. Part one and two.

International Biomechanical Seminar, 20 - 25 April 2009, National University of Colombia, Bogotá, Colombia.

Invited Lectures 21 and 22 April 2009

Verdonschot, N. (2009). Impaction allografting in acetabular reconstruction.

3rd Symposium on Acetabular Reconstruction, 19 June 2009, London, United Kingdom.

Invited Lecture

Verdonschot, N. (2009). Biomechanical analysis of cemented total hip arthroplasty

22nd European Conference on Biomaterials (ESB), 7 – 11 September 2009, Lausanne, Switzerland.

Invited Lecture

Verdonschot, N. (2009). Biomechanical Analysis of Posterior Cruciate Ligament Retaining High-Flexion Total Knee Arthroplasty.

22nd Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 22 – 24 October 2009, Hawaii, U.S.A.

Verdonschot, N. (2009). How to choose a cemented femoral hip implant: The engineer's perspective.

Autumn Meeting Orthopaedica Belgica, 28 November 2009, Antwerpen, Belgium.

Invited Lecture

2010

Verdonschot, N. (2010). Hoe voorspel je het klinische gedrag van een nieuwe prothese voordat deze bij patiënten worden geplaatst?

CCOC Inflammatoire ziekten en prothesiologie onderste extremiteiten, 29 January, Utrecht, the Netherlands.

Invited Lecture

Verdonschot, N. (2010). The science of knee joint kinematics.

Knee Kinematics & Tribology Master Class, 11 February 2010, Manchester, United Kingdom.

Invited Lecture

Verdonschot, N. (2010). Ervaringen m.b.t. Reconstructieve Geneeskunde en Medical Devices.

Health Valley Event, 17 March 2010, Nijmegen, the Netherlands. *Invited Lecture*

Verdonschot, N. (2010). Bone-cement-implant biomechanics.
1st Workshop on Bone Tissue, 20-24 April 2010, Los Angeles, U.S.A. *Keynote Lecture*

Verdonschot, N. (2010). Today's high kinematic patients.
Lunch time WS Symposia during ESSKA 2010, 10 June 2010, Oslo, Norway. *Invited Lecture*

Verdonschot, N. (2010). The status of finite element analyses of orthopaedic implants.
18th Annual Meeting of the European Orthopaedic Research Society (EORS), 2 July 2010, Davos, Switzerland.
Keynote Lecture

Verdonschot, N. (2010). Does high-flexion total knee arthroplasty promote early loosening of the femoral component?
23rd Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 9 October 2010, Dubai, United Arab Emirates.

Verdonschot, N. (2010). The status of finite element analyses of orthopaedic implants.
23rd Annual Congress of the International Society for Technology in Arthroplasty (ISTA), 9 October 2010, Dubai, United Arab Emirates. *Invited Lecture*

Verdonschot, N. (2010). Biomechanical analyses of cemented total hip arthroplasty.
37th Annual Meeting of the Japanese Society for Clinical Biomechanics, 1 November 2010, Kyoto, Japan.
Invited Lecture

Verdonschot, N. (2010). The science of knee joint kinematics.
Raynham Sigma 25 Years Learning Center, Boston, USA, 11 November 2010. *Invited Lecture*

2011

Verdonschot, N. (2011). Biomechanical analysis of orthopaedic problems in the lower extremity.
Colloquium, 27 June 2011, Amsterdam, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Biomechanische aspecten totale heupprothese.
PAOG-Heyendaal Course "Heupprothesiologie", 5 July 2011, Nijmegen, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Prothesesurvival en voorspellen van falen.
Nerass Lustrumcongres, 9 September 2011, Scheveningen, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Orthopedische patiënten stimuleren.
Anna Fonds NOREF-Symposium, 7 October 2011, Noordwijkerhout, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Biomechanical analysis of high flexion TKA.
Symposium of the Dutch Knee Symposium at the NOV-Voorjaarsvergadering, 7 October 2011, Noordwijkerhout, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). High flex knee biomechanics and design.
12th EFORT Congress, 1 - 4 June 2011, Copenhagen, Denmark.
Invited Lecture

Verdonschot, N. (2011). Modelling PCL in TKA.
Symposium "Bridging the gap: knee kinematics from lab to clinical practice", 25 January 2011, Nijmegen, the Netherlands.

Invited Lecture

Verdonschot, N. (2011). Biomechanical analysis of high function knees.
High Performance Knee Learning Centre- Raynham, 5 May 2011, Annecy, Switzerland
Invited Lecture

Verdonschot, N. (2011). Metal-on-polyethylene, ceramic-on-polyethylene.
Symposium Dutch Hip Society "Bearing Surfaces", 14 November 2011, Utrecht, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Are new materials and articulating surfaces the solution?
First Open EKA Meeting entitled "The osteoarthritic knee - best current practice in Europe", 24 November 2011, Vienna, Austria.
Invited Lecture

Verdonschot, N. (2011). Chips size influences cup stability.
Advanced Exeter Symposium, 16 - 17 June 2011, Nijmegen, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Combining musculoskeletal modelling with finite element modelling in order to predict micro-motions of cementless hip stems.
Meeting of the Institution of Mechanical Engineers (IMechE), 3 November 2011, London, United Kingdom.
Invited Lecture

Verdonschot, N. (2011). Contact stresses and wear in fixed and mobile bearing knees.
EKA Closed Meeting, 10 June 2011, Marseille, France.
Invited Lecture

Verdonschot, N. (2011). Finite element models.
19th Annual Meeting of the European Orthopaedic Research Society (EORS), 2 September 2011, Vienna, Austria.
Keynote Lecture

Verdonschot, N. (2011). Mechanical aspects of impacted bone grafting.
Advanced Exeter Symposium, 16 - 17 June 2011, Nijmegen, the Netherlands.
Invited Lecture

Verdonschot, N. (2011). Combining musculoskeletal modelling with finite element modelling in order to predict micro-motions of cement-less hip stems.
ImechE Congress, 3 November 2011, London, United Kingdom
Invited Lecture

2012

Verdonschot, N. (2012). Biomechanische implicaties totale heupprothese.
Cursus Heupprothesiologie, 12 January 2012, Nijmegen, the Netherlands.
Invited Lecture

Verdonschot, N. (2012). Biomechanics / Kinematics.
IMUKA 2012 "Current concepts in orthopaedic pathology", 28 - 30 March 2012, Maastricht, the Netherlands.
Keynote Lecture

Verdonschot, N. (2012). Biomechanical analysis of high flexing total knee arthroplasty.
15th ESSKA Congress, 2 - 5 May 2012, Geneva, Switzerland.
Invited Lecture

Verdonschot, N. (2012). Biomechanical aspects of biomaterials.
Regenerative Medicine, Module 3: Materials and cell-matrix interactions, 8 May 2012, Nijmegen, the Netherlands.
Invited Lecture

Verdonschot, N. (2012). Assessment of bone ingrowth potential of E-beam produced surface topographies with a biomimetic coating.
13th EFORT Congress, 23 - 25 May 2012, Berlin, Germany.
Invited Lecture

Verdonschot, N. (2012). TLEMsafe: A European project to improve predictability of functional recovery of patients requiring severe musculoskeletal surgery.
18th Congress of the European Society of Biomechanics (ESB), 1 - 4 July 2012, Lisbon, Portugal.
Invited Lecture

Verdonschot, N. (2012). Failure of cemented implants: a comprehensive analysis of the cement-bone interface.
10th Congress of the European Hip Society (EHS), 21 September 2012, Milano, Italy.
Invited Lecture

2013

Verdonschot, N. (2013). Improving safety and predictability of complex musculo-skeletal surgery using a patient-specific navigation system. At: MUTARS Workshop, 8 - 10 March 2013, Palma de Mallorca, Spain
Invited Lecture

Verdonschot, N. (2013). How to improve patello-femoral tracking with current TKA design? "Trochlear orientation role". At: 2nd Open Meeting of the European Knee Associates (EKA), 3 - 5 April 2013, Florence, Italy. *Invited Lecture*

Verdonschot, N. (2013). Faalanalyse van heupprothesen. Symposium Landelijke Registratie van Orthopedische Implantaten (LROI). 25 June 2013, Amsterdam, the Netherlands. *Invited Lecture*

Verdonschot, N. (2013). Finite element simulations of bone fracture and periprosthetic bone remodeling. Precourse: ICCB, Bone Remodelling and Healing: on Experiments and Models, 10 September 2013, Leuven, Belgium. *Keynote Lecture*

Verdonschot, N. (2013). Status and future of the TLEMsafe project.
8th Combined Meeting of Orthopaedic Research Societies (CORS), 13 – 16 October 2013, Venice, Italy.
Invited Lecture

Verdonschot, N. (2013). Improvement of primary stability of an uncemented femoral knee prosthesis by an advanced rough CoCrMo porous surface coating: a cadaveric study.
EKA Closed Meeting, 1 November 2013, Berlin, Germany. *Invited Lecture*

Verdonschot, N. (2013). Improving safety and predictability of complex musculo skeletal surgery. Linkademy: International Symposium on revision hip and knee joint Arthroplasty "Hip & Knee Revision Surgery", 19 November 2013, Hamburg, Germany. *Invited Lecture*

Verdonschot, N. (2013). Kan de computer de kliniek voorspellen? ROOGOO refereermiddag on bone tumors, 25 October 2013, Nijmegen, the Netherlands. *Invited Lecture*

6. Patents N. Verdonschot

WO0110356: Method and apparatus for delivering cement to bones and/or positioning components.

WO0009044: Joint prosthesis and anchoring means.

CN101616643: Kit and method for fixating a prosthesis or part thereof and/or filling osseous defects.

WO0009038: Anchoring means for a joint prosthesis or other component.

US2009312741: Bioresorbable composition and a medical device comprising said composition.

WO 2011/037458 A1: Osseointegration system for a long bone