

## PERSONAL INFORMATION

Tuomo Lapveteläinen

## WORK EXPERIENCE

January 1990–December 1997

**Senior lecturer / research associate**

University of Kuopio (Finland)

Teaching medicine, investigation of osteoarthritis (animal models).

January 1997–August 2003

**Clinical research physician / medical writer**

Orion Pharma (Finland)

Principal investigator in phase I PK-studies, clinical regulatory MA activities.

October 1989–Present

**Physician**

Municipalities in Eastern Finland (Finland)

General practice medicine (part time).

September 2003–Present

**Senior medical officer**

Finnish Medicines Agency, FIMEA (Finland)

Clinical assessor, FI CMDh alternate member Jan 2012 - Oct 2016, FI CHMP alternate member since March 2015

## EDUCATION AND TRAINING

January 2000–December 2004

**Ph.D.**

University of Kuopio (Finland)

Ph.D. Thesis: Effects of Aging, Training, and Collagen Gene Defects on Murine Osteoarthritis. Thesis, Academic Dissertation on 26. Nov. 2004. Department of Anatomy, University of Kuopio. Kuopio. Finland.

August 1984–October 1990

**M.D.**

University of Kuopio (Finland)

Lisenced physician in Finland.

## ADDITIONAL INFORMATION

**Expertise**

Pharmacokinetics, clinical pharmacology, general practice clinical medicine.

**Publications**

1. T. Lapveteläinen: Effects of Aging, Training, and Collagen Gene Defects on Murine Osteoarthritis. Thesis, Academic Dissertation on 26. Nov. 2004. Department of Anatomy, University of Kuopio. Kuopio. Finland.
2. T. Lapveteläinen, M.M. Hyttinen, A.-M. Säämänen, T.K. Långsjö, J. Sahlman, E. Vuorio, and H.J. Helminen: Lifelong Voluntary Joint Loading Increases Osteoarthritis in Mice Housing a Mutation of Type II Procollagen Gene, and Slightly Also in Mice with Normal Genotype. *Ann Rheum Dis* 2002; 61(9); 810-817
3. T. Lapveteläinen, M.M. Hyttinen, J. Lindblom, T.K. Långsjö, R. Sironen, S.-W. Li, M. Arita, D.J. Prockop, K. Puustjärvi, H.J. Helminen: More knee joint osteoarthritis (OA) in mice after inactivation of one allele of type II procollagen gene but less OA after lifelong voluntary wheel running exercise. *Osteoarthritis Cartilage* 2001; 9(2); 152-160
4. T. Lapveteläinen, A. Tiihonen, P. Koskela, T. Nevalainen, J. Lindblom, K. Király, P. Halonen, and H.J. Helminen: Training a Large Number of Laboratory Mice with Running Wheels and Analyzing Their

- Running Behavior with a Computer Assisted System. *Lab Anim Sci* 1997: 47(2); 172-179
5. T. Lapveteläinen, T. Nevalainen, J.J. Parkkinen, J. Arokoski, K. Király, M. Hyttinen, P. Halonen, and H.J. Helminen: Lifelong Moderate Running Training Increases the Incidence and Severity of Osteoarthritis in the Knee Joint of C57BL Mice. *Anat Rec* 1995: 242; 159-165
6. J. Nieminen, J. Sahlman, T. Hirvonen, T. Lapveteläinen, M. Miettinen, I. Arnala, H.H. Malluche, H.J. Helminen. Disturbed synthesis of type II collagen interferes with rate of bone formation and growth and increases bone resorption in transgenic mice. *Calcif Tiss Int*. 2008; 83(3): 229-237
7. J. Nieminen, J.Sahlman J, T. Hirvonen, T.Jamsa, J.Tuukkanen, V.Kovanen, H. Kroger, J.Jurvelin, M.Arita, S.W.Li, D.J.Prockop, M.M.Hyttinen, H.J.Helminen, T.Lapveteläinen, K.Puustjärvi. Abnormal Response to Physical Activity in Femurs After Heterozygous Inactivation of One Allele of the Col2a1 Gene for Type II Collagen in Mice. *Calcif Tissue Int*. 2005: 77(2):104-112
8. M. M. Hyttinen, J. P. A. Arokoski, J. J. Parkkinen, M. J. Lammi, T. Lapveteläinen, K. Mauranen, K. Kiraly, M. I. Tammi, H. J. Helminen: Age matters: collagen birefringence of superficial articular cartilage is increased in young guinea-pigs but decreased in older animals after identical physiological type of joint loading. *Osteoarthritis Cartilage* 2001: 9; 694-701
9. M.M. Hyttinen, J. Töyräs, T. Lapveteläinen, J. Lindblom, D.J. Prockop, S.-W. Li, M. Arita, J. Jurvelin, H.J. Helminen: Inactivation of One Allele of the Type II Collagen Gene Alters the Collagen Network in Murine Articular Cartilage and Makes Cartilage Softer. *Ann Rheum Dis* 2001: 60(3); 262-268
10. M.M. Suominen, R.-M. Tulamo, M.O. Anttila, S.M. Sankari, K. Király, T. Lapveteläinen, H.J. Helminen: Effects of Intra-articular Injections of Bufenamac Suspension in Healthy Horses with Special Reference to Articular Cartilage. *Am J Vet Med* 2001: 62(10); 1629-1635
11. J. Sahlman, R. Inkinen, T. Hirvonen, P.E. Lammi, J. Nieminen, T. Lapveteläinen, D.J. Prockop, M. Arita, S.-W. Li, M. Hyttinen, M.J. Lammi, H.J. Helminen, K. Puustjärvi: Premature Vertebral Endplate Ossification and Mild Disc Degeneration in Mice After Inactivation of One Allele Belonging to the Col2a1 Gene for Type II Collagen. *Spine* 2001: 26(23): 2558-2565
12. H.J. Helminen, M.M. Hyttinen, M.J. Lammi, J. Arokoski, T. Lapveteläinen, J. Jurvelin, I. Kiviranta. M.I. Tammi: Regular Joint Loading In Youth Assists in the Establishment and Strengthening of the Collagen Network of Articular Cartilage and Contributes to the Prevention of Osteoarthrosis Later in Life. A Hypothesis. *J Bone Mineral Metab* 2000: 18; 245-257
13. M. Harri, J. Lindblom, H. Malinen, M. Hyttinen, T. Lapveteläinen, S. Eskola, and H. J. Helminen: Effect of Access to Running Wheel on Behavior of C57BL/6J Mice. *Lab Anim Sci* 1999: 49; 401-405
14. K. Király, M.M. Hyttinen, J. Parkkinen, J.P.A. Arokoski, T. Lapveteläinen, K. Törrönen, I. Kiviranta, and H.J. Helminen: Articular Cartilage Collagen Birefringence is Altered Concurrent with Changes in Proteoglycan Synthesis During Dynamic In Vitro Loading. *Anat Rec* 1998: 251; 28-36
15. K. Király, M.M. Hyttinen, T. Lapveteläinen, M. Elo, I. Kiviranta, J. Dobai, L. Modis, H.J. Helminen, and J.P.A. Arokoski: Specimen Preparation and Quantification of Collagen Birefringence in Unstained Sections of Articular Cartilage Using Image-analysis and Polarizing light Microscope. *Histochem J* 1997: 29; 317-327
16. K. Király, T. Lapveteläinen, J. Arokoski, K. Törrönen, L. Módis, I. Kiviranta, and H.J. Helminen: Application of Selected Cationic Dyes for the Semiquantitative Estimation of Glycosaminoglycans in Histological Section of Articular Cartilage by Microspectrophotometry. *Histochem J* 1996: 28; 577-590
17. K. Király, M. Lammi, J. Arokoski, T. Lapveteläinen, M. Tammi, H. Helminen, and I. Kiviranta: Safranin O Reduces Loss of Glycosaminoglycans from Bovine Articular Cartilage During Histological Specimen Preparation. *Histochem J* 1996: 28; 99-107
18. J.P.A. Arokoski, M.M. Hyttinen, T. Lapveteläinen, P. Takács, B. Kosztáczky, L. Módis, V. Kovanen, and H.J. Helminen: Birefringence of the Superficial Zone Collagen Network in the Canine Knee (Stifle) Articular Cartilage After Long Distance Running Training, Detected by Quantitative Polarized Light Microscopy, *Ann Rheum Dis* 1995: 55; 253-264
19. S.-W. Li, D.J. Prockop, H.J. Helminen, R. Fässler, T. Lapveteläinen, K. Király, A. Peltari, J. Arokoski, H. Lui, M. Arita, and J.S. Khillan: Transgenic Mice with Targeted Inactivation of the Col2a1 Gene for Collagen II Develop a Skeleton with Membranous and Periosteal Bone But No Endochondral Bone. *Genes Devel* 1995: 9: 2821-2830
20. M. Hyttinen, T. Lapveteläinen, K. Kiraly, J. Arokoski, I. Kiviranta, H.J. Helminen: Polarisaatiomikroskopia (Polarisation microscopy). In Book: Rantala I, Lounatmaa K, toim. Biologinen valomikroskopia (Light Microscopy in Biology), Yliopistopaino, Helsinki 1998: 126-132
21. I. Kiviranta, M. Hyttinen, T. Lapveteläinen, K. Kiraly, J. Arokoski, H.J. Helminen: Mikroskooppifotometria (Microspectrophotometry). In Book: Rantala I, Lounatmaa K, toim. Biologinen valomikroskopia (Light Microscopy in Biology), Yliopistopaino, Helsinki 1998: 220-224

22. H.J. Helminen, I. Kiviranta, A.-M. Säämänen, J. Jurvelin, K. Paukkonen, J. Parkkinen, M. Lammi, J. Arokoski, T. Lapveteläinen, M. Hyttinen, M. Tammi: Superficial Zone of Articular Cartilage after Immobilization and Running Training: Is Proteoglycan Depletion the Clue to the Pathogenesis of Osteoarthritis. In book: Regling G, ed., Wolff's Law and Connective Tissue Regulation. Berlin: Verlag Walter de Gruyter 1993: 279-282

#### Projects

#### Memberships

#### Other Relevant Information