

Leena Lauronen



Date of birth: 30.1.1972

Degree: MD, PhD
Docent, Clinical Neurophysiology

Current position: Head of Clinical Neurophysiology,
Children's Hospital, HUS Medical
Imaging Center, Helsinki
University

Special expertise: Pediatric neurophysiology
Intraoperative mapping
Magnetoencephalography
Pre-surgical neurophysiological
investigations

Research interests:

- The somatosensory system and its development during early childhood
- Effects of early brain lesions on sensorimotor system function and development
- Pediatric magnetoencephalography and electroencephalography
- Inherited childhood degenerative brain diseases
- Intracranial EEG
- Evoked responses and neuronal oscillations

Research group:

Päivi Nevalainen, MD, PhD; Dept of Clin Neurophysiology, Children's Hospital, Helsinki
Maria Peltola, MD, PhD; Dept of Clin Neurophysiology, Children's Hospital, Helsinki
Elina Pihko, Docent; Aalto University, Finland

Current collaboration:

Samps Vanhatalo, Docent; BABA-center and Dept of Clin Neurophysiology, Helsinki
Marjo Metsäranta, Docent and Sture Andersson, Prof; Dept of Neonatology, Helsinki
Tuula Lönnqvist, Prof, Aulikki Lano, MD, PhD, Helena Mäenpää, MD, PhD, Eija Gaily, Docent,
Liisa Metsähonkala, Docent; Dept of Child Neurology, Children's Hospital, Helsinki
Lauri Parkkonen, Prof; Dept. of Biomedical Engineering and Computational Science, Aalto
University, Finland

Leena Lauronen (former Sipilä) publications 4/2015

Original articles:

1. Markkola AT, Aronen HJ, Paavonen T, Hopsu E, Sipilä LM, Tanttu JI, Seponen RE. Spin lock and magnetization transfer imaging of head and neck tumors. *Radiology* 1996;200(2):369-75.
2. Aronen HJ, Peltonen TK, Tanttu JI, Sipilä LM, Ruhala MT, Jääskeläinen J, Seponen R. Spin-lock imaging in contrast-enhanced magnetic resonance imaging of human gliomas. *Acad Radiol* 1996;3 Suppl 2S170-2.
3. Lauronen L, Heikkilä E, Autti T, Sainio K, Huttunen J, Aronen HJ, Korvenoja A, Ilmoniemi RJ, Santavuori P. Somatosensory evoked magnetic fields from primary sensorimotor cortex in juvenile neuronal ceroid lipofuscinosis. *J Child Neurol* 1997;12(6):355-60.
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5. Autti T, Sipilä L, Autti H, Salonen O. Brain lesions in players of contact sports. *Lancet* 1997;349(9059):1144.
6. Markkola AT, Aronen HJ, Paavonen T, Hopsu E, Sipilä LM, Tanttu JI, Seponen RE. T1 rho dispersion imaging of head and neck tumors: a comparison to spin lock and magnetization transfer techniques. *J Magn Reson Imaging* 1997;7(5):873-9.
7. Lauferma K, Virtanen KS, Sipilä LM, Hekali P, Aronen HJ. Multislice MRI in assessment of myocardial perfusion in patients with single-vessel proximal left anterior descending coronary artery disease before and after revascularization. *Circulation* 1997;96(9):2859-67.
8. Autti T, Raininko R, Haltia M, Lauronen L, Vanhanen SL, Salonen O, Aronen HJ, Wirtavuori K, Santavuori P. Aspartylglucosaminuria: radiologic course of the disease with histopathologic correlation. *J Child Neurol* 1997;12(6):369-75.
9. Åberg L, Järvelä I, Rapola J, Autti T, Kirveskari E, Lappi M, Sipilä L, Santavuori P. Atypical juvenile neuronal ceroid lipofuscinosis with granular osmophilic deposit-like inclusions in the autonomic nerve cells of the gut wall. *Acta Neuropathol (Berl)* 1998;95(3):306-12.
10. Lauronen L, Munroe PB, Järvelä I, Autti T, Mitchison HM, O'Rawe AM, Gardiner RM, Mole SE, Puranen J, Häkkinen AM, Kirveskari E, Santavuori P. Delayed classic and protracted phenotypes of compound heterozygous juvenile neuronal ceroid lipofuscinosis. *Neurology* 1999;52(2):360-5.
11. Autti T, Rapola J, Santavuori P, Raininko R, Renlund M, Liukkonen E, Lauronen L, Wirtavuori K, Hietala M, Saarinen-Pihkala U. Bone marrow transplantation in aspartylglucosaminuria-histopathological and MRI study. *Neuropediatrics* 1999;30(6):283-8.
12. Korvenoja A, Huttunen J, Salli E, Pohjonen H, Martinkuppi S, Palva JM, Lauronen L, Virtanen J, Ilmoniemi RJ, Aronen HJ. Activation of multiple cortical areas in response to somatosensory stimulation: combined magnetoencephalographic and functional magnetic resonance imaging. *Hum Brain Mapp* 1999;8(1):13-27.
13. Holmberg V, Lauronen L, Autti T, Santavuori P, Savukoski M, Uvebrant P, Hofman I, Peltonen L, Järvelä I. Phenotype-genotype correlation in eight patients with Finnish variant late infantile NCL (CLN5). *Neurology* 2000;55(4):579-81.
14. Lauronen L. Neuromagnetic studies on somatosensory functions in CLN3, CLN5 and CLN8 forms of neuronal ceroid lipofuscinoses. Väitöskirja, Helsingin Yliopisto, 2001.
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16. Lauronen L, Huttunen J, Kirveskari E, Wikström H, Sainio K, Autti T, Santavuori P. Enlarged SI and SII somatosensory evoked responses in the CLN5 form of neuronal ceroid lipofuscinosis. *Clin Neurophysiol* 2002 ;113(9):1491-500.
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18. Pihko E, Sambeth A, Leppänen PH, Okada Y, Lauronen L. Auditory evoked magnetic fields to speech stimuli in newborns-effect of sleep stages. *Neurol clin neurophysiol* 2004: 6 (verkkojulkaisu)
19. Lauronen L, Jalkanen R, Huttunen J, Carlsson E, Tuupanen S, Lindh S, Forsius H, Sankila EM, Alitalo T. Abnormal crossing of the optic fibres shown by evoked magnetic fields in patients with ocular albinism with a novel mutation in the OA1 gene. *Br J Ophthalmol* 2005;89(7):820-4.
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22. Lauronen L, Nevalainen P, Wikström H, Parkkonen L, Okada Y, Pihko E. Immaturity of somatosensory cortical processing in human newborns. *Neuroimage* 2006;33(1):195-203.
23. Autti T, Hämäläinen J, Åberg L, Lauronen L, Tyynelä J, Van Leemput K. Thalamus and corona radiata in juvenile NCL (CLN3): a voxel-based morphometric study. *Eur J Neurol* 2007;14(4):447-50.
24. Nevalainen P, Lauronen L, Sambeth A, Wikström H, Okada Y, Pihko E. Somatosensory evoked magnetic fields from the primary and secondary somatosensory cortices in healthy newborns. *Neuroimage* 2008;40(2):738-45.
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26. Nevalainen P, Lauronen L, Haapanen ML, Isotalo E. Somatosensory-evoked magnetic fields in examining lip area in speech-disordered children. *J Craniofac Surg* 2008;19(5):1215-20.
27. Pihko E, Nevalainen P, Stephen J, Okada Y, Lauronen L. Maturation of somatosensory cortical processing from birth to adulthood revealed by magnetoencephalography. *Clin Neurophysiol* 2009;120(8):1552-61.
28. Åberg L, Lauronen L, Hämäläinen J, Mole SE, Autti T. A 30-year follow-up of a neuronal ceroid lipofuscinoses patient with mutations in CLN3 and protracted disease course. *Pediatr Neurol* 2009;40(2):134-7.
29. Pihko E, Lauronen L, Kivistö K, Nevalainen P. Increasing the efficiency of neonatal MEG measurements by alternating auditory and tactile stimulation. *Clin Neurophysiol* 2011;122(4):808-14.
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35. Nevalainen P, Rahkonen P, Pihko E, Lano A, Vanhatalo S, Andersson S, Autti T, Valanne L, Metsäranta M, Lauronen L. Evaluation of somatosensory cortical processing in extremely preterm infants at term with MEG and EEG. *Clin Neurophysiol*, 2015 Feb;126(2):275-83. doi: 10.1016/j.clinph.2014.05.036.
36. Kivistö K, Nevalainen P, Lauronen L, Tupola S, Pihko E, Kivitie-Kallio S. Somatosensory and auditory processing in opioid-exposed newborns with neonatal abstinence syndrome: a magnetoencephalographic approach. *Journal of Maternal-Fetal & Neonatal Medicine*, 2014 Nov 11:1-5. [Epub ahead of print].

Review-articles and book chapters:

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38. Santavuori P, Lauronen L, Kirveskari K, Åberg L, Sainio K. Neuronal ceroid lipofuscinoses in childhood. *Suppl Clin Neurophysiol* 2000;53443-51.
39. Pihko E, Lauronen L. Somatosensory processing in healthy newborns. *Exp Neurol* 2004;190 Suppl 1S2-7.
40. Vanhatalo S, Lauronen L. Neonatal SEP - back to bedside with basic science. *Semin Fetal Neonatal Med* 2006;11(6):464-70.
41. Lauronen L, Nevalainen P, Pihko E. Magnetoencephalography in neonatology. *Neurophysiol Clin* 2012;42(1-2):27-34.
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43. Lauronen Leena ja Vanhatalo Sampsia "Kliininen neurofysiologia", Kirjassa Lastenneurologia, Duodecim, 2014
44. Nevalainen P, Lauronen L, Pihko E. Development of human somatosensory cortical functions - lessons learned from magnetoencephalography: A review. *Front Hum Neurosci* 2014, Mar 17;8:158. eCollection 2014.