



## PARKINSON'S DISEASE NEWS

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### THE EFFECT OF GAMMA KNIFE THALAMOTOMY ON TREMOR

Journal of Neurosurgery [2013] 118 (4) : 713-718 (A.Kooshkabi, L.D.Lunsford, D.Tonetti, J.C.Flickinger, D.Kondziolka)

The surgical management of disabling tremor has gained renewed vigour with the availability of deep brain stimulation. However, in the face of an aging population of patients with increasing surgical comorbidities, noninvasive approaches for tremor management have gained interest. Researchers evaluated outcomes in people who underwent a unilateral Gamma Knife thalamotomy (GKT) for tremor.

Gamma Knife radiosurgical thalamotomy is a technique in which a thalamotomy is performed with beams of radiation rather than a surgical incision or use of electrodes. The surgeon uses a Gamma Knife device to focus high-energy gamma rays precisely on an area in the brain that causes tremor. These rays result in the death of the brain cells that generate tremor. The procedure takes approximately one hour and the benefit may not be apparent until three to six weeks afterwards. For more information go to Gamma Knife Radiosurgery : [http://216.31.180.7/old\\_files/pages/practicegk.html](http://216.31.180.7/old_files/pages/practicegk.html)

The tremor was related to either essential tremor, Parkinson's Disease or multiple sclerosis. The Fahn-Tolosa-Marin clinical tremor rating scale was used to grade tremor, handwriting, and ability to drink. After Gamma Knife thalamotomy : the average tremor score reduced from 3.3 to 1.8, the average handwriting score reduced from 2.8 to 1.6, the average drinking score reduced from 3.1 to 1.8. After Gamma Knife thalamotomy : 66% of patients showed improvement in all 3 scores, 13% of patients showed improvement in 2 scores, 2% of patients showed improvement in just 1 score, and 19% of patients failed to improve in any of the three scores.

<http://www.viartis.net/parkinsons.disease/news/130818.pdf>

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