

Focal symptomatic epilepsy

Focal symptomatic epilepsy is the most common form of [epilepsy](#) that can often be cured with surgery. A small proportion of patients with focal symptomatic epilepsy do not have identifiable lesions on [magnetic resonance imaging](#) (MRI). The most common pathology in this group is type II [focal cortical dysplasia](#) (FCD).

In a patient with MRI-negative focal symptomatic epilepsy who underwent invasive electrode recordings. At the time of surgery, a novel ultrasound-based technique called ShearWave Elastography (SWE) was performed. A 0.5 cc lesion was demonstrated on SWE but was absent on B-mode ultrasound and 3-T MRI. Electroencephalography (EEG), positron emission tomography (PET), and magnetoencephalography (MEG) scans demonstrated an abnormality in the right frontal region. On the basis of this finding, a depth electrode was implanted into the lesion. Surgical resection and histology confirmed the lesion to be type IIb FCD ¹⁾.

¹⁾

Chan HW, Pressler R, Uff C, Gunny R, St Piers K, Cross H, Bamber J, Dorward N, Harkness W, Chakraborty A. A novel technique of detecting MRI-negative lesion in focal symptomatic epilepsy: Intraoperative ShearWave Elastography. *Epilepsia*. 2014 Mar 1. doi: 10.1111/epi.12562. [Epub ahead of print] PubMed PMID: 24588306.

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