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## **Supplemental material**

**Resting state functional MRI connectivity impact on epilepsy surgery plan and surgical candidacy: prospective clinical work**

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**Supplementary Table A.** Subject level demographics, test results, and surgery team decisions

Subject No./Age (year)/Sex/Handed/ Diagnosis	Semiology	MRI	EEG	PET   MEG	RS SOZ & Lg	Surgical decision prior to RS	Surgical decision post RS	Surgery Recommendation	Family Decision
1/3.1/M/R/1	/M.F.	Ed. rFr. Hy.WM.	rAnHm.iEp.	Normal   0	rFr.Opc.>rT.SO Z	No	Op. rFr.T.	4	4
2/0.4/F/N/1	/Vr. AsM.	/Fr.Ht.GM.	/Fr.iEp.	/Hm   0	/PFC.SOZ; bLg	Op. Ls.	Op. Ls.	4	4
3/18/M/R/1	AC. bM.	L.MT.Atr	bT.iEp.	/T-   0	/T.SOZ; /Lg	dp. bFr.T.	/RNS eval, Gr. /T, dp./>rT.	2	2
4/9.4/M/R/1	gF. rVr.	rVn.Ht.	giEp.	/P-   0	/PFC.SOZ; /Lg	dp rLz.	ict. vEEG (result g.ictE.)	1	1
5/6.4/F/R/6	gM.	rT.P.CD.	Mf.iEp.	/>rHm+   0	rFr.Opc.SOZ; /Lg	No	dp CD, rFr (result ndi.)	0	0
6/17.8/F/R/6	AC. Aut.	/Hp.Ed.	/T.iEp.	0   0	/T.SOZ; /Lg	No	Lsr. /Hp.	3	3
7/11.4/F/R/6	/Vr. AC.	/O.P.CD.	/O.iEp.; gictEp.	/O-   0	/P.O.SOZ; /DS.; /Lg	Lsr. Ls.	Lsr Ls. +broaderPO	3	3
8/15/F/R/6	rTC.	/Hp.E.Atr.	/Fr.P.O.iEp.	/T.-   0	/>rMT.SOZ; rLg.	Op. /T.	Op. /T.	4	4
9/10.3/F/R/1	Vr.Aut.	rT.CD.	Normal	rT-   0	rMT.SOZ; /Lg	Op. Ls	Lsr.Ls.	3	3
10/3.7/M/R/1	r>/Vr. F. TC	/Ins.WM.H y. CD.	/Hm.iEp.	RC-   0	/T.>/Ins.SOZ; /Rec.Lg; rExp.Lg.	dp. bHm.	Op. /T. (Wernicke sparing)	4	4
11/7.2/M/L/1	AC. M.	/>rHm.E.	rHm.iEp.	g-   0	bMT.Fr.SOZ; bLg	VNS vs. dp.Gr.	VNS; No dp.Gr	1	1
12/6.8/F/R/5	/M.TC. AC.	/T. and Mf.Tb.	/T.iEp.	/T-   0	/MT.SOZ; /Lg	Op. /T.	dp. AnPt/MT. led to Lsr. /T.Tb	3	3
13/11.9/F/2/1	rVr. AC	rP.Atr.	g→rP.O. ictEp.	0   bP.Di.	r>/P.SOZ; DS- SM,Lg,V; /Lg	No	dp. bP.(led to rec Op.rP)	3	0
14/13.3/F/R/1	V. rM. AC.	rT.Ed.Atr.	b.r>/iEp.	rT-   0	rPFC.rT.SOZ; /Lg	Op. rT.	Op. rT.	4	4
15/16.4/M/1/1	V. AC.	/T.Enc.	/Hm.iEp.	/T-   0	/>rMT.; /Lg.	Lsr. Enc.	Lsr. Enc.	3	3

16/10.2/F/R/1	AC. rM.	/T.CD.	/AnT.iEp.	/T-   0	/MT.SOZ; /Lg	Op. /AnT.	Lsr. /Hp.	3	3
17/19/F/R/6	gTC	Normal	r>bHm.iEp.	Normal   0	rPFC.Opc.SOZ; DS SM,P	O.L.T.	dp. rPFC.Opc > Brain	4	0
18/12.5/F/R/1	/Sn. /Vr.	rP.RC.	rFr.P.iEp.	Normal   0	rPt.P. SOZ; /Lg	dp. rP.	dp. rPt>AnP.	3	3
19/5.2/M/L/5	rVr. AC.	Mf.Tb.	/Fr.iEp.	/Fr.T-   0	rPsyl. SOZ; DS SM.P; /Lg	No	dp. rFr.Opc, /Psyl.; (Led to Lsr rPsyl)	3	3
20/8.9/F/R/6	rVr. bTC.	/P.Ed.	/Hm.and rO.iEp.	/P.T.O-   0	/MT.SOZ; /Lg	Gr. / P dp./OT.	(P. Ls less suspicious) dp /Hp./T.O.P. +cortical mapping	4	4
21/17.5/M/R/6	AC. F. /Vr. gTC.	Normal	rFr.ictEp.	0   0	rMFG.SOZ; DS r>/PFC; rLg	dp rFr.P.T	WADA. If rLg.-RNS, If /Lg.-Gr. rFr.	2vs 4	0
22/10.7/F/1/6	rTC.	Normal	/Fr.ictEp.	rIns-   0	/MT>/Fr. SOZ; /Lg	No	dp. /MT, Fr.(result ndi)	0	0
23/0.2/M/3/1	Spasms	rHg.	r>/Hm.iEp.	rHm-   0	rHm.SOZ; /Lg	Op. Hm.	Op. Hm.	4	4
24/11.3/F/R/1	AC. rM.	/T.CD.	/T.O.iEp.	/T.P-   0	/AnT.SOZ; /Lg	Op. /T.	Op. /T. + /Hp. (Wernicke sparing)	4	4
25/17/M/R/1	AC	rP.RC.	rP.iEp.	0   0	rAnRC.P.SOZ; /Lg	dp. rFrPO	dp. rAn>Pt Ls. (led to Op rAt.P.)	4	4
26/11.4/F/L/1	AC. /Vr.	rP.Atr.(mild vs normal)	Normal	rP-   0	rMT> PFC SOZ; DS /MT; rLg	No; MEG	RNS eval, dp. rMT.P.	2	2
27/18.7/F/R/6	/Vr. TC.	Normal	rFr.iEp.	Normal   rFr.Di.	rIFG. SOZ; DS /PFC; bLg	dp. rFr.	Gr. rIFG, dp. rFr.	2	2
28/14.7/M/R/6	Gagging . AC.	/T.Atr.	/AnHm.iEp.	/T.P.-   /T.Di.	/MT.SOZ; /Lg	dp /T.P.	dp IMT>/T.P. RNS /An.T.	2	2
29/13.7/M/L/1	AC	rFr.P.CD.	rPtO.iEp.	0   0	rPFC>rT.SOZ; /Lg	Op. rHm.	Op. rHm.	4	4
30/17.8/F/R/6	Gelastic. rM.	Normal	Normal	Normal   0	rMT.SOZ; /Lg	No	dp. rMT, T > /T (result ndi)	0	0

31/6.2/F/N/1	AC. <i>bTC</i>	<i>bFr.CD.</i>	<i>giEp.</i>	<i>bF-   0</i>	<i>rvmPFC &gt; lMFG SOZ; lLg</i>	RSN eval, dp <i>bFr.</i>	dp. <i>rvmPFC &gt; bFr.</i> (led to Lsr. <i>rvmPFC</i> )	3	3
32/10.6/M/N/5	AC. F.	<i>Mf.Tb.</i>	<i>lT.O.iEp.</i>	Normal   0	<i>lFrT.SOZ; lLg</i>	No	dp <i>lFr.T.</i> (result MF)	0	0
33/8.4/F/R/6	<i>gTC.</i> <i>lVr.</i>	Normal	<i>r&gt;lFr.iEp.</i>	<i>lT-   0</i>	<i>lT&gt;rHm. SOZ; lLg</i>	dp. <i>bFr.T.</i>	MEG, then dp. <i>bFr.T.</i> (result MF)	1	1
34/11.8/M/R/6	<i>rM. TC.</i> AC.	Normal	<i>rFr.iEp.</i>	<i>bT-   0</i>	<i>rFr.T.SOZ; lLg</i>	dp. <i>rFr.</i>	Gr. <i>rFr.</i> , dp. <i>rMT.</i>	4	4
35/16.3/M/R/6	Aut. AC.	Normal	<i>lO.iEp.</i>	<i>bT-   0</i>	<i>rMT. SOZ; DS rT.O., lT.; lLg</i>	No	RNS eval dp. <i>bFr.T.O.</i> , <i>rMT</i>	2	2
36/14.2/F/R/1	V. AC.	<i>rP.RC.</i>	<i>rFr.P.iEp.</i>	Normal   Normal	<i>Pt&gt;An rP.RC SOZ</i>	dp.Gr. <i>rFr.P.</i>	Op. <i>rP.Ls.</i>	4	4
37/20.5/F/R/1	AC. <i>bTC.</i>	<i>lFr.RC., lT.CD.</i>	<i>giEp.</i>	Normal   Normal	<i>lPFC.SOZ; rLg.</i>	No	RNS <i>lFr.T.</i>	2	2
38/18/M/R/1	<i>lTC.</i> <i>gTC.</i>	<i>rP.CD.</i>	<i>rFr.T.iEp.</i>	<i>rP.O.-.   0</i>	<i>rP.&gt;MRI lz. SOZ, DS lP.</i>	dp.Gr. <i>rFrPT</i>	dp.Gr. <i>rFrPT</i> (led to Lsr. <i>rP</i> )	3	3
39/20.3/M/R/6	Aut. AC.	<i>lHp.Ed.</i>	<i>bT.iEp.</i>	0   0	<i>rPtP.T.jc SOZ; lLg</i>	No	RNS eval dp. <i>bFr.T.O.</i> , <i>rMT</i>	2	2
40/15.5/M/R/1	<i>bMyo.</i> <i>bAtn.</i>	<i>lHm.E.</i>	<i>bgictEp.</i>	0   0	<i>poor signal</i>	Op. CC.	Op. CC.	4	4
41/2.2/M/R/6	AC. F.	Normal	<i>l&gt;rHm.iEp.</i>	<i>l&gt;rT-   0</i>	<i>lMT.SOZ; DS rMT, lT.; lLg</i>	No	dp. <i>lMT</i> (led to rec Ls.An.T)	3	0
42/10.5/F/R/6	AC. <i>rTC.</i>	Normal	<i>lT., rO., and giEp.</i>	Normal   0	<i>lT.SOZ; lLg</i>	VNS vs. dp. <i>rOcc.</i>	dp. <i>lT, rO.</i> (result ndi)	1	1
43/10.3/M/R/6	AC. <i>lTC.</i>	Normal	<i>bHm.iEp.</i>	0   0	<i>r&gt;bMT.SOZ; lLg</i>	No	MEG (not done)	0	0
44/7.6/M/R/6	<i>bM.</i> <i>gTC.</i>	Normal	<i>r&gt;bFr.iEp.</i>	<i>l&gt;rFr-   0</i>	<i>rMT.AnT.SOZ; lLg</i>	dp. <i>bFr.T.</i>	dp <i>bFr.T.</i> (led to Op. R. AnT.)	4	4
45/10.4/M/R/6	<i>rTC.</i>	<i>rWM.Ed.</i>	<i>l&gt;rHm.iEp.</i>	Normal   0	<i>lAn&gt;PtHm.SOZ; lLg</i>	No	Brain Biopsy	4	4
46/8.7/M/L/1	<i>bM.</i>	<i>rT.RC., rFr CD</i>	<i>bT.iEp.</i>	<i>rT.P.-   0</i>	<i>rFr&gt;T&gt;P Hm.SOZ; rLg</i>	MEG	dp. <i>rFr.T.</i> (led to rec Op. <i>rFr</i> )	4	0

47/0.3/F/R/5	AC.	<i>Mf</i> .Tb.	<i>/T</i> .iEp.	0   0	<i>l&gt;r</i> T.Fr.SOZ; <i>/Lg</i>	No	dp. <i>bT</i> . (led to Op. <i>l</i> An.T.)	4	4
48/14.7/F/N/6	Aut. <i>/Sn</i> .	<i>/Hp</i> .Atr.	<i>/T</i> .iEp.	<i>/T</i> -   0	<i>/MT</i> .> <i>/T</i> .SOZ; <i>/Lg</i>	Lsr. <i>/MT</i> .	Lsr. <i>/MT</i> .	3	3
49/13.9/F/R/6	AC. <i>bM</i> . F.	Normal	<i>rT</i> .ictEp.	Normal   0	<i>r&gt;l</i> T.P.Opc.Jc. SOZ; <i>/Lg</i>	dp.Gr. <i>rT</i> .	MEG (not done)	0	0
50/11.2/F/R/1	AC. Aut. <i>bTC</i> .	<i>bHp</i> .Atr.	<i>rT</i> .ictEp.	Normal   0	<i>rMT</i> . <i>An</i> T.SOZ: DS <i>rFr</i> .P.; <i>/Lg</i>	dp. <i>bT</i>	Op. <i>rAnT</i> .	4	4
51/9.1/F/R/1	AC. <i>rTC</i> .	<i>l&gt;rHm</i> .E.	<i>rHm</i> , <i>/P</i> .T.iEp.	<i>/Hm</i> -   0	<i>/P</i> .F.	dp. <i>bHm</i> .	Op. <i>/P</i> .	4	0

**Sex:** M-Male, F-Female; **Handedness:** R-Right, L-Left, N-nonhanded; **Diagnosis:** 1-brain structure abnormalities, 2-metabolism changes, 3-immune system abnormalities, 4-infectious disease, 5-genetics/Tuberous Sclerosis Complex, 6-unknown; **Semiology:** AC-altered consciousness, As-Asymmetric, Aut-automatisms, F-falls to ground, M-motor stiffening/tonic posturing, Myo-myoclonic, Sn-sensory, Sx-symptoms, TC-tonic clonic, V-visual, Vr-version of eye/head/neck/body; **Location (direction):** *An*-anterior, *As*-asymmetric, *b*-bilateral, *g*-generalized, *l*-left, *Mf*-multifocal, *Pt*-posterior, *r*-right, *vm*-ventral medial; **Location (anatomical):** Fr-frontal, GM-grey matter, Hm-Hemispheric, Hp=hippocampus, Hy-hypothalamus, Ins-insula, Jc-junction, MFG-middle frontal gyrus, MT-mesial temporal, O-occipital, Opc-operculum, P-parietal, PFC-prefrontal cortex, Psyl-perisylvian, T-temporal, Vn-ventricular/periventricular, WM-white matter; **MRI:** Atr-atrophy, CD-cortical dysplasia, E-encephalomalacia, Ed-edema/flair-related T2 hyperintensity, Enc-encephalocoele, Hg-hemimegacephaly, Ht-heterotopia/heterotopic, lz-MRI lesion, RC-rescetion cavity, Tb-tubor; **EEG:** iEp-interictal epileptiform activity, ictEp-ictal epileptiform activity; **PET:** -=hypometabolism, +=hypermetabolism. All PET data are interictal unless specified ictal (ict); **MEG:** Di-dipoles; **RS fMRI:** DS-downstream connectivity atypical features, SOZ-seizure onset zone; **RS Language:** Lg-language, Exp-expressive (frontal), Rec-receptive (temporal), SM-primary sensorimotor, V-visual; **Surgical description:** CC-corpor callostomy, DC-disconnective surgery, dp-depth wires, Gr-grid, Ls-lesionectomy, Lsr-laser, No-no surgery planned, Op-cranicectomy, vs-versus; **Surgery Recommendation/Family Decision:** 0-No surgery, 1-VNS, 2-RNS, 3-laser, 4-cranicectomy