

## **Supplementary material: Removal of interictal MEG-derived network hubs is associated with postoperative seizure freedom**

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# Supplementary Material

**Table S1: Patient information.** For binary variables 1 = true. Abbreviations: FCD; focal cortical dysplasia, HS; hippocampal sclerosis, EFS; end-folium sclerosis. N/A; data not available.

Patient ID	D <sub>RS</sub> segment 1	D <sub>RS</sub> segment 2	D <sub>RS</sub> segment 3	Epilepsy duration	Outcome good	Type	Side	Pathology	Is female	Surgery age
'998'	0.216	0.288	0.228	17	0	T Lx	L	OTHER	0	31
'965'	0.660	0.582	0.523	20.2	0	P Lesx	R	FCD	0	32
'940'	0.277	0.409	0.410	5.7	0	T Lx	R	OTHER	0	25
'934'	0.510	0.410	0.529	10	1	O P Lx	R	OTHER	1	29
'931'	0.196	0.274	0.149	10	0	T Lx	L	HS (EFS)	0	30
'910'	0.673	0.683	0.593	12.3	0	F Lx	L	FCD	0	23
'874'	0.741	0.761	0.747	31	0	F Lx	L	FCD	1	38
'851'	0.440	0.760	0.701	24	0	F Lx	L	OTHER	1	43
'815'	0.333	0.150	0.365	9	0	T Lx	L	OTHER	1	24
'805'	0.234	0.206	0.478	8	0	T Lx	L	OTHER	1	32
'803'	0.355	0.311	0.382	18.5	0	T Lx	R	NAD	0	34
'782'	0.218	0.178	0.414	22	1	T Lx	L	OTHER	0	29
'1302'	0.583	0.497	0.432	41.1	1	T Lx	R	OTHER	0	47
'1284'	0.761	0.574	0.592	16.4	0	F Lx	R	FCD	0	21
'1236'	0.216	N/A	N/A	9.6	1	T Lx	R	HS	0	21
'1220'	0.494	0.463	0.341	11.6	0	T Lx	L	OTHER	0	27
'1216'	0.575	0.628	0.666	21.3	0	O P Lx	L	FCD	0	22
'1211'	0.267	0.317	0.483	13.2	0	T Lx	R	OTHER	0	26
'1210'	0.546	0.484	0.451	52.89	1	T Lx	L	HS	0	53
'1200'	0.264	0.471	0.244	24.34	1	T Lx	R	HS	1	25
'1182'	0.315	0.478	0.581	21.4	0	P Lesx	R	FCD	0	28
'1178'	0.742	N/A	N/A	15.3	0	F Lx	L	OTHER	1	23
'1168'	0.590	N/A	N/A	35.3	0	F Lx	L	FCD	1	60
'1163'	0.522	0.526	0.570	24.6	1	F Lx	L	FCD	1	28
'1142'	0.160	0.292	0.269	5.1	1	T Lx	R	OTHER	1	27
'1106'	0.579	0.630	0.713	21.5	0	F Lx	R	FCD	0	27
'1085'	0.156	0.193	0.253	13.9	1	F Lx	L	FCD	0	28
'1068'	0.125	0.102	0.340	26	1	T Lx	R	HS	1	48
'1063'	0.218	0.247	0.103	17	1	T Lx	R	OTHER	0	35
'1055'	0.282	0.304	0.289	33.7	0	T Lx	R	OTHER	0	48
'1022'	0.073	0.167	0.111	31.9	1	T Lx	R	OTHER	1	42

**Table S2:** Confusion matrices for DRS measure at threshold optimal for maximum sensitivity and specificity.

		Expected outcome	
		Segment 1	ILAE1
Actual outcome	ILAE1	16	3
	ILAE2-5	4	8

		Expected outcome	
		Segment 2	ILAE1
Actual outcome	ILAE1	15	2
	ILAE2-5	6	5

		Expected outcome	
		Segment 3	ILAE1
Actual outcome	ILAE1	14	3
	ILAE2-5	5	6

**Table S3:** AUC and P values for all parcellations and segments.

	Num patients	68 ROIs		114 ROIs		219 ROIs		448 ROIs	
		AUC	P val	AUC	P val	AUC	P val	AUC	P val
Segment 1	31	0.61	0.16	0.76	0.01	0.75	0.01	0.73	0.02
Segment 2	28	0.6	0.19	0.7	0.04	0.65	0.09	0.61	0.17
Segment 3	28	0.68	0.05	0.74	0.02	0.68	0.06	0.61	0.16

**Table S4:** Association between mean functional connectivity and duration of epilepsy

	Num patients	R <sup>2</sup>	P value
Segment 1	31	0.098	0.030
Segment 2	28	0.002	0.098
Segment 3	28	0.170	<0.001

Table S5: Region volume and overlap information. (included as a separate attachment Microsoft excel file)