

Appendix e-1. AAN GDDI mission

The mission of the GDDI is to develop, disseminate, and implement evidence-based systematic reviews and clinical practice guidelines related to the causation, diagnosis, treatment, and prognosis of neurologic disorders.

The GDDI is committed to using the most rigorous methods available within its budget, in collaboration with other available AAN resources, to most efficiently accomplish this mission.

Appendix e-2. AAN GDDI members 2015–2017

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Appendix e-3. Complete search strategy

Original & Updated Searches

Executed: May 2010; February 2015

Databases: EMBASE

fMRI Brain Surgery - EMBASE 1980 to 2010 Week 18; January 2010 to February 2015

#	Searches	Results	Search Type
	fMRI Component		
1	nuclear magnetic resonance imaging/	244105	Advanced
2	functional magnetic resonance imaging/	13127	Advanced
3	echo planar imaging/	823	Advanced
4	diffusion weighted imaging/	7286	Advanced
5	interventional magnetic resonance imaging/	295	Advanced
6	nuclear magnetic resonance spectroscopy/	34569	Advanced
7	(function* adj2 MRI).mp.	4043	Advanced
8	f-MRI.mp.	47	Advanced
9	fMRI.mp.	12159	Advanced
10	(function* adj2 MR imag*).mp.	574	Advanced
11	(magnetic resonance adj2 imag*).mp.	269276	Advanced
12	(diffusion adj2 magnetic resonance adj2 imag*).mp.	1478	Advanced
13	(echo planar adj2 imag*).mp.	2007	Advanced
14	or/1-13	303698	Advanced
	Brain Mapping Component		
15	brain mapping/	10606	Advanced
16	((brain or cortical) adj2 mapping).mp.	11058	Advanced

17 or/15-16	11058	Advanced
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Combined Results (fMRI & Brain Mapping)

18 14 and 17	4484	Advanced
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Brain Tumour Component

19 brain tumor/	23857	Advanced
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20 brain ventricle tumor/	576	Advanced
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21 choroid plexus tumor/	504	Advanced
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22 choroid plexus papilloma/	500	Advanced
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23 cerebellum tumor/	1210	Advanced
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24 brain stem tumor/	904	Advanced
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25 neuroepithelioma/	1420	Advanced
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26 pineal body tumor/	1191	Advanced
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27 hypothalamus tumor/ or pallister hall syndrome/	524	Advanced
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28 hypophysis tumor/	4715	Advanced
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29 glioma/	15553	Advanced
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30 choroid plexus/	3272	Advanced
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31 neuroblastoma/	13161	Advanced
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32 (brain adj2 (neoplasm? or tumo?r?)).mp.	33054	Advanced
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33 (brain ventricle adj2 (neoplasm? or tumo?r?)).mp.	638	Advanced
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34 (choroid plexus adj2 (neoplasm? or tumo?r?)).mp.	622	Advanced
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35 (choroid plexus adj2 papilloma).mp.	598	Advanced
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36 ((cerebellum or infratentorial) adj2 (neoplasm? or tumo?r?)).mp.	1352	Advanced
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37 (brain stem adj2 (neoplasm? or tumo?r?)).mp.	1009	Advanced
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38	(cerebellar adj2 (neoplasm? or umo?r?)).mp.	28	Advanced
39	((neurocystoma or neuroepithelioma) adj2 (neoplasm? or tumo?r?)).mp.	26	Advanced
40	((pinealoma or pineal body) adj2 (neoplasm? or tumo?r?)).mp.	1209	Advanced
41	(supratentorial adj2 (neoplasm? or tumo?r?)).mp.	521	Advanced
42	(hypothalam* adj2 (neoplasm? or tumo?r?)).mp.	605	Advanced
43	(pallister hall adj2 syndrome?).mp.	131	Advanced
44	((hypophysis or pituitary) adj2 (neoplasm? or tumo?r?)).mp.	7396	Advanced
45	((brain or cortical) adj2 malformation?).mp.	8161	Advanced
46	or/19-45	76983	Advanced

Language Component

47	language/	18104	Advanced
48	language*.tw.	46427	Advanced
49	speech/	11298	Advanced
50	speech intelligibility/	2127	Advanced
51	speech*.tw.	31306	Advanced
52	speech disorder/	7867	Advanced
53	aphasia/ or ataxic aphasia/ or conduction aphasia/ or cortical sensory aphasia/ or landau kleffner syndrome/ or primary progressive aphasia/	9144	Advanced
54	dysarthria/	4608	Advanced
55	echolalia/	202	Advanced
56	mutism/	921	Advanced

57	stuttering/	1773	Advanced
58	(aphasia* or (articulat* adj2 disorder?)).tw.	6909	Advanced
59	dysarthria?.tw.	2796	Advanced
60	echolalia?.tw.	124	Advanced
61	mutism.tw.	984	Advanced
62	stutter*.ti.	1454	Advanced
63	stutter*.tw.	1886	Advanced
64	language disability/ or agraphia/ or alexia/ or dysgraphia/ or dyslexia/ or dysphasia/	11941	Advanced
65	anomia/	601	Advanced
66	agraphia?.tw.	456	Advanced
67	alexia*.tw.	511	Advanced
68	dyslexia*.tw.	2153	Advanced
69	dysgraphia?.tw.	211	Advanced
70	dyslexia*.tw.	2153	Advanced
71	dysphasia?.tw.	759	Advanced
72	(landau kleffner adj2 syndrome?).tw.	319	Advanced
73	or/47-72	100352	Advanced

Brain Surgery Component

74	exp neurosurgery/	104069	Advanced
75	exp brain surgery/	23228	Advanced
76	(neurosurg* adj2 procedure?).mp.	1669	Advanced
77	(brain adj2 surger*).tw.	976	Advanced
78	or/74-77	104961	Advanced

Combined Results (fMRI & Brain Tumour & Language & Brain Surgery)

79 14 and 46 and 73 and 78 207 Advanced

Combined Results (fMRI & Brain Mapping & Language & Brain Surgery)

80 18 and 73 and 78 107 Advanced

Memory Component

81 exp memory/ 82529 Advanced

82 deja vu/ 109 Advanced

83 (memory or memories).mp. 115430 Advanced

84 deja vu.mp. 335 Advanced

85 (mental adj2 recall).mp. 28 Advanced

86 (recognition or retention).mp. 246732 Advanced

87 or/81-86 348017 Advanced

Combined Results (fMRI & Brain Mapping & Brain Surgery & Memory)

88 18 and 78 and 87 22 Advanced

Combined results (fMRI & Brain Tumour & Brain Surgery & Memory)

89 14 and 46 and 78 and 87 136 Advanced

Combined all combined results limited to 1990- Current, human, and removed editorial, letter, note and reviews

90 79 or 80 or 88 or 89 374 Advanced

91 exp animals/ not (exp animals/ and exp humans/) 31153 Advanced

92 90 not 91 374 Advanced

93 limit 92 to yr="1990 -Current" 374 Advanced

94 limit 93 to (editorial or letter or note or "review") 64 Advanced

95 93 not 94 310 Advanced

Original & Updated Searches

Executed: July 2010; February 2015

Databases: EMBASE

fMRI Epilepsy - EMBASE 1980 to 2010 Week 26; January 2010 to February 2015

#	Searches	Results	Search Type
fMRI Component			
1	functional magnetic resonance imaging/	13621	Advanced
2	(function* adj2 imag*).mp.	11527	Advanced
3	(function* adj2 MR imag*).mp.	581	Advanced
4	(function* adj2 mri?).mp.	4133	Advanced
5	fmri.mp.	12459	Advanced
6	f-mri.mp.	49	Advanced
7	or/1-6	28178	Advanced
Epilepsy Component			
8	epilepsy/	46005	Advanced
9	focal epilepsy/	8183	Advanced
10	temporal lobe epilepsy/	6729	Advanced
11	frontal lobe epilepsy/	1008	Advanced
12	rolandic epilepsy/	287	Advanced
13	traumatic epilepsy/	375	Advanced
14	epilep*.mp.	85734	Advanced
15	seizure/	50063	Advanced
16	seizur*.mp.	87588	Advanced

17	convulsion/	13924	Advanced
18	convuls*.mp.	26420	Advanced
19	"seizure, epilepsy and convulsion"/	68	Advanced
20	or/8-19	144760	Advanced

Wada Test Component

21	wada test/	309	Advanced
22	wada*.mp.	866	Advanced
23	amobarbital/	2080	Advanced
24	amobarbital*.mp.	2232	Advanced
25	amytal*.mp.	490	Advanced
26	neurologic examination/	24010	Advanced
27	(neurologic* adj2 examination*).mp.	28577	Advanced
28	neuropsychological test/	18026	Advanced
29	(neuropsychologic* adj2 test?).mp.	20320	Advanced
30	or/21-29	50718	Advanced

Language Component

31	language/	18434	Advanced
32	language disability/	6658	Advanced
33	agraphia/	462	Advanced
34	anomia/	608	Advanced
35	dyslexia/	3875	Advanced
36	alexia/	679	Advanced
37	language test/	1008	Advanced

38	(vocabulary adj2 test?).mp.	375	Advanced
39	language*.mp.	61430	Advanced
40	agraphia*.mp.	587	Advanced
41	anomia*.mp.	729	Advanced
42	dyslexia*.mp.	4057	Advanced
43	alexia*.mp.	805	Advanced
44	speech/	11461	Advanced
45	speech disorder/	8003	Advanced
46	speech analysis/	2606	Advanced
47	"speech and language assessment"/	216	Advanced
48	"speech and language"/	161	Advanced
49	speech*.mp.	47096	Advanced
50	aphasia/	7807	Advanced
51	ataxic aphasia/	867	Advanced
52	conduction aphasia/	154	Advanced
53	cortical sensory aphasia/	461	Advanced
54	primary progressive aphasia/	295	Advanced
55	progressive nonfluent aphasia/	67	Advanced
56	dysarthria/	4703	Advanced
57	echolalia/	206	Advanced
58	mutism/	925	Advanced
59	stuttering/	1782	Advanced
60	cluttering/	43	Advanced

61	dysphasia/	1077	Advanced
62	dysphonia/	3465	Advanced
63	fluency disorder/	290	Advanced
64	logorrhea/	73	Advanced
65	slurred speech/	995	Advanced
66	aphasia*.mp.	10249	Advanced
67	dysarthria*.mp.	5554	Advanced
68	echolalia*.mp.	258	Advanced
69	mutis*.mp.	1604	Advanced
70	stutter*.mp.	2138	Advanced
71	clutter*.mp.	481	Advanced
72	dysphasia*.mp.	1383	Advanced
73	dysphonia*.mp.	3920	Advanced
74	(fluency adj2 disorder?).mp.	331	Advanced
75	(articulat* adj2 disorder?).mp.	159	Advanced
76	(verbal adj2 disorder?).mp.	96	Advanced
77	logorrhea*.mp.	83	Advanced
78	slurred*.mp.	1172	Advanced
79	verbal behavior/	3977	Advanced
80	(verbal adj2 behavio?r?).mp.	4276	Advanced
81	or/31-80	117559	Advanced

Memory Component

82	memory/	40225	Advanced
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83	short term memory/	4693	Advanced
84	recall/	9801	Advanced
85	recognition/	9518	Advanced
86	deja vu/	113	Advanced
87	(memory or memories).mp.	117635	Advanced
88	recall?.mp.	25605	Advanced
89	recognition?.mp.	164603	Advanced
90	or/82-89	283962	Advanced
91	30 or 81 or 90	420855	Advanced

Combined Results limited to humans, 1990-Current, excluded

Editorial, letter, and review

92	7 and 20 and 91	534	Advanced
93	exp animals/ not (exp animals/ and exp humans/)	38451	Advanced
94	92 not 93	534	Advanced
95	limit 94 to (editorial or letter or "review")	134	Advanced
96	94 not 95	400	Advanced
97	limit 96 to yr="1990 -Current"	400	Advanced

Original & Updated Searches

Executed: April 2010; February 2015

Databases: Medline

fMRI Brain Surgery - 1950 to April Week 3 2010; January 2010 to February 2015

1 (function\$ adj2 MRI).mp. (3928)

2 f-MRI.mp. (73)

3 fMRI.mp. (11948)

4 Magnetic Resonance Spectroscopy/ (109471)
5 limit 4 to yr="1966 - 1987" (25626)
6 (function\$ adj2 MR imag\$).mp. (581)
7 magnetic resonance imaging/ or diffusion magnetic resonance imaging/ or echo-planar
imaging/ (212392)
8 ((magnetic resonance adj2 imag\$) or (diffusion adj2 magnetic resonance adj2 imag\$) or
(echo-planar adj2 imag\$)).mp. (238822)
9 1 or 2 or 3 or 5 or 6 or 7 or 8 (262730)
10 Brain Mapping/ (50362)
11 ((brain or cortical) adj2 mapping).mp. (50868)
12 10 or 11 (50868)
13 9 and 12 (15771)
14 brain neoplasms/ or cerebral ventricle neoplasms/ or choroid plexus neoplasms/ or
papilloma, choroid plexus/ or infratentorial neoplasms/ or brain stem neoplasms/ or cerebellar
neoplasms/ or neurocytoma/ or pinealoma/ or supratentorial neoplasms/ or hypothalamic
neoplasms/ or pallister-hall syndrome/ or pituitary neoplasms/ (99357)
15 Glioma/ (23243)
16 limit 15 to yr="1994 - 1999" (4202)
17 choroid plexus/ (4065)
18 limit 17 to yr="1990 - 1991" (226)
19 neuroblastoma/ (20867)
20 limit 19 to yr="1990 - 1993" (2574)
21 ((brain adj2 neoplasm?) or (cerebral ventricle adj2 neoplasm?) or (choroid plexus adj2
neoplasm?) or (papilloma adj2 choroid plexus) or (infratentorial adj2 neoplasm?) or (brain stem
adj2 neoplasm?) or (cerebellar adj2 neoplasm?) or neurocytoma? or pinealoma? or
(supratentorial adj2 neoplasm?) or (hypothalamic adj2 neoplasm?) or (pallister hall adj2
syndrome?) or (pituitary adj2 neoplasm?)).tw. (2040)
22 ((brain adj2 tumour?) or (brain adj2 tumor?) or ((brain or cortical) adj2
malformation?)).mp. (23963)
23 14 or 16 or 18 or 20 or 21 or 22 (109952)
24 Language/ (20253)
25 language\$.tw. (57226)
26 speech/ or speech acoustics/ or speech intelligibility/ (19173)
27 speech\$.tw. (40130)
28 speech disorders/ or aphasia/ or aphasia, broca/ or aphasia, conduction/ or aphasia, primary
progressive/ or primary progressive nonfluent aphasia/ or aphasia, wernicke/ or articulation
disorders/ or dysarthria/ or echolalia/ or mutism/ or stuttering/ (22387)
29 (aphasia\$ or (articulation adj2 disorder?) or dysarthria? or echolalia? or mutism or
stuttering).tw. (13327)
30 language disorders/ or agraphia/ or anomia/ or dyslexia/ or dyslexia, acquired/ or alexia,
pure/ or language development disorders/ (14725)
31 (agraphia? or anomia? or dyslexia? or (dyslexia adj2 acquired) or (alexia adj2 pure)).tw.
(3680)

32 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 (129301)
33 exp Neurosurgical Procedures/ (122933)
34 (brain adj2 surger\$.tw. (1256)
35 (neurosurgical adj2 procedure?).mp. (11803)
36 9 and 23 and 32 and 35 (70)
37 33 or 34 or 35 (124760)
38 9 and 23 and 32 and 37 (135)
39 13 and 32 and 37 (114)
40 memory/ or deja vu/ or memory, short-term/ or mental recall/ or "recognition
(psychology)"/ or "retention (psychology)"/ (75451)
41 (memory or memories or deja vu or (short-term adj2 memory) or (short-term adj2
memories) or (mental adj2 recall) or recognition or retention).mp. (397726)
42 40 or 41 (397726)
43 13 and 37 and 42 (56)
44 9 and 23 and 37 and 42 (89)
45 38 or 39 or 43 or 44 (300)
46 limit 45 to (humans and yr="1990 -Current") (293)
47 limit 46 to (comment or editorial or letter or "review") (49)
48 46 not 47 (244)

Original & Updated Searches

Executed: April 2010; February 2015
Databases: Medline

fMRI Epilepsy - 1950 to April Week 3 2010; January 2010 to February 2015

1 (function\$ adj2 MRI).mp. (3928)
2 f-MRI.mp. (73)
3 fMRI.mp. (11948)
4 Magnetic Resonance Spectroscopy/ (109471)
5 limit 4 to yr="1966 - 1987" (25626)
6 (function\$ adj2 MR imag\$).mp. (581)
7 magnetic resonance imaging/ or diffusion magnetic resonance imaging/ or echo-planar
imaging/ (212392)
8 ((magnetic resonance adj2 imag\$) or (diffusion adj2 magnetic resonance adj2 imag\$) or
(echo-planar adj2 imag\$)).mp. (238822)
9 1 or 2 or 3 or 5 or 6 or 7 or 8 (262730)
10 eeg.mp. (42284)
11 electroencephalography/ (101558)
12 electroencephalogra\$.mp. (106887)
13 or/10-12 (113028)
14 9 and 13 (8251)
15 epilepsy/ or epilepsies, partial/ or epilepsy, complex partial/ or epilepsy, frontal lobe/ or
epilepsy, partial, motor/ or epilepsy, partial, sensory/ or epilepsy, rolandic/ or epilepsy, temporal

lobe/ or epilepsy, post-traumatic/ or seizures/ (95830)
 16 EPILEPSY, TRAUMATIC/ (936)
 17 limit 16 to yr="1990 - 1991" (46)
 18 (epileps\$ or seizure\$).mp. [mp=title, original title, abstract, name of substance word,
 subject heading word, unique identifier] (131025)
 19 exp neurosurgical procedures/ (122933)
 20 (neurosurgical adj2 procedure?).mp. (11803)
 21 15 or 17 or 18 (131025)
 22 (WADA adj2 test\$).mp. (331)
 23 (intracarotid adj2 amobarbital adj2 procedure?).mp. (152)
 24 (intra-carotid adj2 amytal adj2 procedure?).mp. (1)
 25 language/ (20253)
 26 language\$.tw. (57226)
 27 speech/ or speech acoustics/ or speech intelligibility/ (19173)
 28 speech\$.tw. (40130)
 29 speech disorders/ or aphasia/ or aphasia, broca/ or aphasia, conduction/ or aphasia, primary
 progressive/ or primary progressive nonfluent aphasia/ or aphasia, wernicke/ or articulation
 disorders/ or dysarthria/ or echolalia/ or mutism/ or stuttering/ (22387)
 30 (aphasia\$ or (articulation adj2 disorder?) or dysarthria? or echolalia? or mutism or
 stuttering).tw. (13327)
 31 language disorders/ or agraphia/ or anomia/ or dyslexia/ or dyslexia, acquired/ or alexia,
 pure/ or language development disorders/ (14725)
 32 (agraphia? or anomia? or dyslexia? or (dyslexia adj2 acquired) or (alexia adj2 pure)).tw.
 (3680)
 33 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 (129301)
 34 22 or 23 or 24 (456)
 35 9 and 21 and 33 and 34 (101)
 36 memory/ or deja vu/ or memory, short-term/ or mental recall/ or "recognition
 (psychology)"/ or "retention (psychology)"/ (75451)
 37 (memory or memories or deja vu or (short-term adj2 memory) or (short-term adj2
 memories) or (mental adj2 recall) or recognition or retention).mp. (397726)
 38 36 or 37 (397726)
 39 9 and 21 and 34 and 38 (64)
 40 14 and 21 and 33 (355)
 41 35 or 39 or 40 (452)
 42 limit 41 to (humans and yr="1990 -Current") (444)
 43 limit 42 to (comment or editorial or letter or "review") (66)
 44 42 not 43 (378)

Original & Updated Searches

Executed: April 2010; February 2015

Databases: Web of Science

fMRI Brain Surgery – 1990 to 2010; January 2010 to February 2015

Combined all combined results limited to Journal Articles, 1990-2010

12 33 #10 OR #9 OR #8 OR #7

Refined by: [excluding] Conference Titles=(3RD INTERNATIONAL WORKSHOP ON MEDICAL IMAGING AND AUGMENTED REALITY (MIAR 2006) OR 55TH CONGRESS OF THE SOCIETE-DE-NEUROCHIRURGIE-DE-LANGUE-FRANCAISE OR XIITH MEETING OF THE WORLD SOCIETY FOR STEREOTACTIC AND FUNCTIONAL NEUROSURGERY OR 44TH ANNUAL MEETING OF THE AMERICAN-SOCIETY-OF-NEURORADIOLOGY) AND [excluding] Document Type=(REVIEW)

Databases=SCI-EXPANDED Timespan=1990-2010

Combined all combined results

11 43 #10 OR #9 OR #8 OR #7

Databases=SCI-EXPANDED Timespan=1990-2010

Combined results (fMRI & Brain Tumour & Brain Surgery & Memory)

10 3 #6 AND #5 AND #2 AND #1

Databases=SCI-EXPANDED Timespan=1990-2010

Combined Results (fMRI & Brain Mapping & Brain Surgery & Memory)

9 5 #6 AND #5 AND #3 AND #1

Databases=SCI-EXPANDED Timespan=1990-2010

Combined Results (fMRI & Brain Mapping & Language & Brain Surgery)

#8 34 #5 AND #4 AND #2 AND #1

Databases=SCI-EXPANDED Timespan=1990-2010

Combined Results (fMRI & Brain Tumour & Language & Brain Surgery)

7 23 #5 AND #4 AND #3 AND #1

Databases=SCI-EXPANDED Timespan=1990-2010

Memory Component

6 >100,000 Topic=((memory OR memories OR deja vu OR (short-term SAME memory) OR (short-term SAME memories) OR (mental SAME recall) OR recognition OR retention))

Databases=SCI-EXPANDED Timespan=1990-2010

Brain Surgery Component

5 4,4798 Topic=((brain SAME surger*) OR (neurosurgical SAME procedure?))

Databases=SCI-EXPANDED Timespan=1990-2010

Language Component

4 >100,000 Topic=((aphasia* OR (articulation SAME disorder?)) OR dysarthria? OR echolalia? OR mutism OR stuttering OR agraphia? OR anomia? OR dyslexia? OR (dyslexia SAME acquired) OR (alexia SAME pure) OR speech* OR language*)

Databases=SCI-EXPANDED Timespan=1990-2010

Brain Tumour Component

3 29,472 Topic=((brain SAME (neoplasm? OR tumo\$r?)) OR (cerebral ventricle SAME (neoplasm? OR tumo\$r?)) OR (choroid plexus SAME (neoplasm? OR tumo\$r?)) OR (papilloma SAME choroid plexus) OR (infratentORial SAME (neoplasm? OR tumo\$r?)) OR (brain stem SAME (neoplasm? OR tumo\$r?)) OR (cerebellar SAME (neoplasm? OR tumo\$r?)) OR neurocytoma? OR pinealoma? OR (supratentORial SAME (neoplasm? OR tumo\$r?)) OR (hypothalamic SAME (neoplasm? OR tumo\$r?)) OR (pallister hall SAME syndrome?) OR (pituitary SAME (neoplasm? OR tumo\$r?)) OR ((brain OR cortical) SAME malformation?))

Databases=SCI-EXPANDED Timespan=1990-2010

Brain Mapping Component

2 4,459 Topic=(((brain or cortical) SAME mapping))

Databases=SCI-EXPANDED Timespan=1990-2010

fMRI Component

1 >100,000 Topic=((function* SAME MRI) OR f-MRI OR fMRI OR (function* SAME MR imag*) OR (magnetic resonance SAME imag*) or (diffusion SAME magnetic resonance SAME imag*) OR (echo-planar SAME imag*))
 Databases=SCI-EXPANDED Timespan=1990-2010

Original & Updated Searches

Executed: April 2010; February 2015
 Databases: Web of Science

fMRI Epilepsy – 1990 to 2010; January 2010 to February 2015

Set Results

- | | | |
|------|----------|---|
| # 10 | 914 | #8 AND #4 AND #3

Refined by: [excluding] Document Type=(PROCEEDINGS PAPER OR NOTE OR REVIEW OR MEETING ABSTRACT OR EDITORIAL MATERIAL)

Databases=SCI-EXPANDED Timespan=1990-2010 |
| # 9 | 1,185 | #8 AND #4 AND #3

Databases=SCI-EXPANDED Timespan=1990-2010 |
| # 8 | >100,000 | #7 OR #6 OR #5

Databases=SCI-EXPANDED Timespan=1990-2010 |
| # 7 | >100,000 | Topic=(memory OR memories OR deja vu OR (mental SAME recall*) OR recognition? OR retention?)

Databases=SCI-EXPANDED Timespan=1990-2010 |
| # 6 | >100,000 | Topic=(language* OR agraphia* OR anomia* OR dyslexia* OR alexia* OR (vocabulary SAME test?) OR speech* OR aphasia* OR (articulat* SAME disorder?) OR (verbal SAME disorder?) OR dysarthria* OR echolalia* OR mutis* OR stutter* OR (verbal SAME behavio*r?))

Databases=SCI-EXPANDED Timespan=1990-2010 |
| # 5 | 8,329 | Topic=(wada* OR amobarbital* OR amytal* OR (diagnost* SAME neurologic*) OR (neuropsychologic* SAME test?)) |

- Databases=SCI-EXPANDED Timespan=1990-2010
- # 4 >100,000 Topic=(epilep* OR seizur* OR convuls*)
Databases=SCI-EXPANDED Timespan=1990-2010
- # 3 >100,000 #2 OR #1
Databases=SCI-EXPANDED Timespan=1990-2010
- # 2 59,583 Topic=((echoplanar SAME imag*) OR (function* SAME imag*) OR (function* SAME MR imag*) OR (function* SAME mri?) OR fmri OR f-mri)
Databases=SCI-EXPANDED Timespan=1990-2010
- # 1 >100,000 Topic=((magnetic resonance SAME imag*) OR (diffusion SAME imag*) OR (diffusion SAME mri) OR (mr SAME tomograph*) OR (nmr SAME imag*) OR (echo planar SAME imag*))
Databases=SCI-EXPANDED Timespan=1990-2010

Appendix e-4. AAN rules for classification of evidence for risk of bias

Diagnostic accuracy scheme

Class I

A cohort study with prospective data collection of a broad spectrum of persons with the suspected condition, using an acceptable reference standard for case definition. The diagnostic test is objective or performed and interpreted without knowledge of the patient's clinical status. Study results allow calculation of measures of diagnostic accuracy.

Class II

A case-control study of a broad spectrum of persons with the condition established by an acceptable reference standard compared with a broad spectrum of controls, or a cohort study with a broad spectrum of persons with the suspected condition where the data were collected retrospectively. The diagnostic test is objective or performed and interpreted without knowledge of disease status. Study results allow calculation of measures of diagnostic accuracy.

Class III

A case-control study or cohort study where either persons with the condition or controls are of a narrow spectrum. The condition is established by an acceptable reference standard. The reference standard and diagnostic test are objective or performed and interpreted by different observers. Study results allow calculation of measures of diagnostic accuracy.

Class IV

Studies not meeting Class I, II, or III criteria, including consensus, expert opinion, or a case report.

Prognostic accuracy scheme

Class I

A cohort study of a broad spectrum of persons at risk for developing the outcome (e.g., target disease, work status). The outcome is defined by an acceptable reference standard for case definition. The outcome is objective or measured by an observer who is masked to the presence of the risk factor. Study results allow calculation of measures of prognostic accuracy.

Class II

A case-control study of a broad spectrum of persons with the condition compared with a broad spectrum of controls, or a cohort study of a broad spectrum of persons at risk for the outcome (e.g., target disease, work status) where the data were collected retrospectively. The outcome is defined by an acceptable reference standard for case definition. The outcome is objective or measured by an observer who is masked to the presence of the risk factor. Study results allow calculation of measures of prognostic accuracy.

Class III

A case-control study or a cohort study where either the persons with the condition or the controls are of a narrow spectrum where the data were collected retrospectively. The outcome is defined by an acceptable reference standard for case definition. The outcome is objective or measured by an observer who did not determine the presence of the risk factor. Study results allow calculation of measures of a prognostic accuracy.

Class IV

Studies not meeting Class I, II, or III criteria, including consensus, expert opinion, or a case report.

Appendix e-5. Classification of recommendations

A = Established as effective, ineffective, or harmful (or established as useful/predictive or not useful/predictive) for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.)*

B = Probably effective, ineffective, or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. (Level B rating requires at least one Class I study or two consistent Class II studies.)

C = Possibly effective, ineffective, or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.)

U = Data inadequate or conflicting; given current knowledge, treatment (test, predictor) is unproven.

*In exceptional cases, one convincing Class I study may suffice for an “A” recommendation if 1) all criteria are met, 2) the magnitude of effect is large (relative rate improved outcome > 5 and the lower limit of the confidence interval is > 2).