

## Sleep Study and Oximetry Parameters for Predicting Postoperative Complications in Patients With OSA

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**e-Table 1 – Systematic search strategy of OSA and perioperative complications**

**2018-01-05 OSA and Sleep Assessment and Postoperative and Adverse Effects - Medline**

#	Searches	Results
1	exp Sleep Apnea Syndromes/ [ MeSH heading changed from exp sleep disordered breathing]	34033
2	exp obesity hypoventilation syndrome/	796
3	exp Cheyne Stokes Respiration/	775
4	apnea/ and sleep/ [historical]	281
5	apnea/ and (hypoventilation/ or sleep disorders/) [historical]	231
6	(apn?ea adj1 attack*).mp,kw.	38
7	(apn?ea adj1 index*).mp,kw.	1001
8	(apn?ea adj1 indices*).mp,kw.	68
9	(apn?ea adj1 monitor*).mp,kw.	293
10	(central adj2 apnea*).mp,kw.	2523
11	(central adj2 apnoea*).mp,kw.	403
12	(cheyne-stokes adj1 breath*).mp,kw.	135
13	(cheyne-stokes adj1 respirat*).mp,kw.	905
14	(haddad* adj1 syndrom*).mp,kw.	30
15	(high* altitud* adj2 (period* adj2 breath*)).mp,kw.	11
16	(hypersomni* adj2 periodic breath*).mp,kw.	12
17	(hypersomni* adj2 periodic respirat*).mp,kw.	8
18	(mixed adj2 apnea*).mp,kw.	199
19	(mixed adj2 apnoea*).mp,kw.	55
20	(nocturnal adj2 hypoventilation).mp,kw.	221
21	(nocturnal adj2 hypoxemia).mp,kw.	422
22	(obes* hypoventil* adj2 apne*?).mp,kw.	31
23	(obes* hypoventil* adj2 apnoe*?).mp,kw.	13
24	(obstruct* adj2 hypoapnea*).mp,kw.	0
25	(obstruct* adj2 hypo-apnea*).mp,kw.	0
26	(obstruct* adj2 hypoapnoea*).mp,kw.	0
27	(obstruct* adj2 hypo-apnoea*).mp,kw.	0
28	(obstruct* adj2 hypopnea*).mp,kw.	368
29	(obstruct* adj2 hypopnoea*).mp,kw.	65
30	(ondine* adj2 curse*).mp,kw.	236
31	(ondine* adj2 syndrome*).mp,kw.	87
32	(pickwick* adj1 syndrom*).mp,kw.	346
33	(primary adj2 alveolar adj2 hypoventil*).mp,kw.	70
34	(primary adj2 alveolar hypoventil*).mp,kw.	72
35	(sleep adj2 respirat* adj1 disorder*).mp,kw.	266

36	(sleep disorder* adj1 breathing).mp,kw.	5549
37	(sleep disorder* adj1 respirat*).mp,kw.	114
38	(sleep* adj2 hypopn?ea*).mp,kw.	2181
39	(upper airway resistan* adj2 syndrom*).mp,kw.	243
40	apnea-hypopnea*.mp,kw.	7382
41	apneic*.mp,kw.	2520
42	apnoea-hypopnoea*.mp,kw.	1246
43	apnoeic*.mp,kw.	775
44	cahs.tw. [central alveolar hypoventilation syndrome]	197
45	ccah.tw. [congenital central alveolar hypoventilation ]	9
46	ccahtw. [congenital central alveolar hypoventilation syndrome]	3
47	central alveolar hypoventilation syndrome*.mp,kw.	43
48	csas.tw. [Central Sleep Apnea Syndrome]	637
49	hypopneic*.mp,kw.	73
50	hypopnoeic*.mp,kw.	13
51	obes* hypoventil* syndrome?.mp,kw.	994
52	osa.tw,kw.	10105
53	osahs.tw,kw.	1206
54	osas.tw,kw.	3777
55	sleep apne*.mp,kw.	37625
56	sleep apnoe*.mp,kw.	5124
57	upper airway* resistan* syndrom*.mp,kw.	255
58	or/1-57 [ ~~ Obstructive Sleep Apnea & Related Terms ~~ ]	45403
59	exp sleep/ or dreams/ or sleep deprivation/ or sleep stages/ or sleep, rem/	76423
60	exp sleep wake disorders/ or dyssomnias/ or exp parasomnias/	84352
61	sleep*.mp,kw.	172470
62	slept.mp,kw.	2494
63	dysomni*.mp,kw.	491
64	insomni*.mp,kw.	16404
65	parasomni*.mp,kw.	1285
66	somnambul*.mp,kw.	733
67	somnolen*.mp,kw.	8476
68	sopor.mp,kw.	41
69	wakeful*.mp,kw.	23093
70	or/59-69 [ Sleep & related terms ]	196026
71	actigraphy/ or polysomnography/ or symptom assessment/	26303
72	exp Sleep/ and exp Monitoring, Physiologic/	10883
73	exp Sleep/ and exp Telemetry/	226
74	exp Sleep/ and Remote Sensing Technology/	4
75	exp sleep wake disorders/ and exp Monitoring, Physiologic/	18594

76	exp sleep wake disorders/ and exp Telemetry/	93
77	exp sleep wake disorders/ and Remote Sensing Technology/	9
78	Symptom Assessment/	3155
79	Algorithms/	242987
80	Data Collection/	92830
81	Focus Groups/	25942
82	Health Care Surveys/	31744
83	Health Impact Assessment/	492
84	Health Status Indicators/	24526
85	Health Surveys/	61628
86	Interviews As Topic/	58171
87	Narration/	7488
88	exp Oximetry/	15184
89	Patient Acuity/	844
90	Patient Reported Outcome Measures/	1369
91	Predictive Value of Tests/	198714
92	"Quality of Life"/	178433
93	"Severity Of Illness Index"/	237434
94	Sickness Impact Profile/	8075
95	"Surveys and Questionnaires"/	429683
96	algorithm*.mp,kw.	310484
97	assess*.mp,kw.	2678047
98	audit?.mp,kw.	44063
99	checklist?.mp,kw.	29231
100	check-list?.mp,kw.	2710
101	evaluat*.mp,kw.	3196932
102	focus_group*.mp,kw.	37123
103	(health_adj2_determinant*).mp.	6738
104	HRQoL.mp,kw.	12319
105	index*.mp,kw.	916798
106	indices.mp,kw.	142112
107	indicator?.mp.	311539
108	interview*.mp,kw.	316993
109	instrument?.mp,kw.	177882
110	inventories.mp,kw.	5337
111	inventory.mp,kw.	84340
112	measur*.mp,kw.	2996540
113	metric?.mp,kw.	35691
114	monitor*3.mp,kw.	812073
115	MOS-sleep.mp,kw.	92
116	narrati*.mp,kw.	31568

117	oximetr*.mp.	16714
118	oximeter*.mp.	3670
119	patient analys#s.mp,kw.	714
120	poll?.mp,kw.	2789
121	polysomnogra*.mp,kw.	25038
122	PSQI.mp,kw.	1740
123	QoL.mp,kw.	29343
124	questionnaire?.mp,kw.	613932
125	rating?.mp,kw.	191320
126	(scale or scales).mp,kw.	633133
127	screening?.mp,kw.	492140
128	(score or scores or scored or scoring?).mp,kw.	748577
129	(sleep* adj2 quality).mp,kw.	10943
130	(sleep* adj2 (study or studies)).mp,kw.	5804
131	(sleep* adj2 (test or tests or tested or testing)).mp,kw.	2179
132	somnogra*.mp,kw.	78
133	status exam*.mp,kw.	1690
134	survey*.mp,kw.	863193
135	(tool? or toolkit? or tool-kit?).mp,kw.	524967
136	videopolysomnogra*.mp,kw.	45
137	"SPO2".mp. [ TESTING ]	3430
138	"SP-O2".mp. [ TESTING ]	74
139	ODI.mp. [ O2 Desaturation Index - TESTING ]	2767
140	((oxygen* or O2) adj1 desatur* adj1 (index?? or indices)).mp. [TESTING]	751
141	(apn?ea adj2 duration*).mp. [ TESTING ]	559
142	("CT90" or "CT 90").mp. [ TESTING ]	107
143	(oxygen* adj2 saturat*).mp. [ TESTING ]	23764
144	or/71-143 [ Assessment or Measurement & related terms ]	9174954
145	70 and 144 [ Sleep + Assessment ]	117522
146	58 and 145 [ OSA + Sleep + Assessment ]	29700
147	exp Pain, Postoperative/	38874
148	exp Postoperative Care/	60858
149	exp Postoperative Period/	53012
150	exp Postoperative Complications/	537658
151	(postop* or post-op*).mp,kw.	805116
152	(postamput* or post-amput*).mp,kw.	491
153	(postincision* or post-incision*).mp,kw.	275
154	(postprocedur* or post-procedur*).mp,kw.	10191
155	(postsurg* or post-surg*).mp,kw.	28417
156	(postresect* or post-resect*).mp,kw.	1563

157	(postintervention* or post-intervention*).mp,kw.	15465
158	(postlapar* or post-lapar*).mp,kw.	431
159	(postmastectom* or post-mastectom*).mp,kw.	2352
160	(follow* adj2 surg*).mp,kw.	57646
161	(follow* adj2 intervention*).mp,kw.	9993
162	(follow* adj2 procedur*).mp,kw.	14848
163	(follow* adj2 resect*).mp,kw.	12929
164	(after adj3 incision?).mp,kw.	3526
165	(after adj3 laparo*).mp,kw.	16395
166	(after adj3 operati*).mp,kw.	81201
167	(after adj3 procedur*).mp.	46313
168	(after adj3 resect*).mp,kw.	47047
169	(after adj3 surger*).mp,kw.	209660
170	(after adj3 surgical*).mp,kw.	45676
171	or/147-170 [ Postoperative & related terms ]	1216237
172	146 and 171 [ (OSA + (Sleep + Assessment)) + Postoperative ]	3440
173	Complication?.mp,kw.	1256424
174	ae.fs. [Adverse Effects floating subheading]	1723054
175	ci.fs. [Chemically induced floating subheading]	596263
176	co.fs. [Complications floating subheading]	1989465
177	ct.fs. [Contraindications floating subheading]	23460
178	de.fs. [Drug Effects floating subheading]	2991609
179	pc.fs. [Prevention & Control floating subheading]	1277895
180	po.fs. [Poisoning floating subheading]	69041
181	to.fs. [Toxicity floating subheading]	417770
182	Dose-Response Relationship, Drug/	413892
183	exp "Drug-Related Side Effects And Adverse Reactions"/ [Nb: Drug Toxicity Was Changed To This Jan 2014]	112464
184	exp Abnormalities, Drug Induced/	15287
185	exp Adverse Drug Reaction Reporting Systems/	7632
186	exp Clinical Trial, Phase Iv/	1731
187	exp Drug Eruptions/	23176
188	exp Drug Hypersensitivity/	45683
189	exp Drug Monitoring/	20140
190	exp Poisoning/	158657
191	exp Product Surveillance, Postmarketing/	15087
192	exp Substance-Related Disorders/	273643
193	exp Toxic Actions/	1227783
194	Failure To Rescue, Health Care/ [New MeSH 2016]	58
195	Herb-Drug Interactions/	1513
196	Iatrogenic Disease/	16466

197	Malpractice/	28098
198	Medical Errors/	16171
199	Medication Errors/	12952
200	Morbidity/	29462
201	Mortality/	42347
202	Patient Harm/ [New MeSH 2014]	108
203	((allergic or idiosyncratic*) adj2 react*).mp,kw.	18570
204	((allergic or idiosyncratic*) adj2 respons*).mp,kw.	5978
205	((drug? or medication?) adj2 (hypersensitiv* or hypersensitiv*).mp,kw.	24906
206	((incorrect* or incomplete) adj2 knowledge).mp,kw.	855
207	((phase iv or phase four) adj2 trial?).mp,kw.	2170
208	((undesirable or harm* or serious* or toxic) adj3 (effect* or reaction* or event* or outcome*).mp,kw.	110761
209	(adverse* adj2 affect*).mp,kw.	29575
210	(adverse* adj2 drug*).mp,kw.	26076
211	(adverse* adj2 effect*).mp,kw.	180075
212	(adverse* adj2 event*).mp,kw.	135972
213	(adverse* adj2 outcome*).mp,kw.	39370
214	(adverse* adj2 react*).mp,kw.	70940
215	(inaccura* adj2 (information or record*).mp,kw.	520
216	(incomplete adj2 (information or record*).mp,kw.	1759
217	(near adj2 miss*).mp,kw.	1845
218	(omission? adj2 (dose? or drug? or medication?)).mp,kw.	280
219	(omit* adj2 (dose? or drug? or medication?)).mp,kw.	218
220	(patient? adj1 report* adj1 incident?).mp,kw.	25
221	(prevent* adj2 accident*).mp,kw.	11335
222	(prevent* adj2 inciden*).mp,kw.	1719
223	(safe or safety or side effect* or undesirable effect* or treatment emergent or tolerability or toxicity or adrs or (adverse adj2 (effect or effects or reaction or reactions or event or events or outcome or outcomes))).ti,ab.	1289051
224	(undesir* adj2 event?).mp,kw.	448
225	adr.mp,kw. [adverse drug reaction]	7336
226	adrs.mp,kw. [adverse drug reactions]	3018
227	adverse drug?.mp,kw.	21564
228	contraindicat*.mp,kw.	41592
229	dae.mp,kw. [drug related adverse event]	371
230	daes.mp,kw. [drug related adverse events]	43
231	dose-response relation*.mp,kw.	473585
232	drug erupt*.mp,kw.	13858
233	drug induced.mp,kw.	83723

234	drug toxic*.mp,kw.	5250
235	drug-related.mp,kw.	43105
236	error?.mp,kw.	301660
237	harm*5.mp,kw.	116355
238	iatrogenic*.mp,kw.	34667
239	intolerab*.mp,kw.	3528
240	malfunction*.mp,kw.	12845
241	mistak*.mp,kw.	18373
242	noxious.mp,kw.	14657
243	pharmacovigilan*.mp,kw.	4066
244	pharmaco-vigilan*.mp,kw.	53
245	poison*.mp,kw.	119292
246	sequelae.mp,kw.	56272
247	side effect*.mp,kw.	247312
248	tolerability.mp,kw.	43096
249	unanticipat*.mp,kw.	5627
250	undesired.mp,kw.	5773
251	unintended.mp,kw.	9630
252	risk*3.mp.	2188335
253	or/173-252 [~~ Adverse Effects / Adverse Drug Events -- BROADER ~~]	10450949
254	172 and 253 [ (OSA + (Sleep + Assessment)) + Postoperative + Adverse Effects ]	2536
255	limit 254 to english language	2278
256	exp animals/ not (exp animals/ and humans/)	4810582
257	255 not 256	2264
258	limit 255 to human	2263
259	257 or 258	2264
260	limit 259 to ("all infant (birth to 23 months)" or "all child (0 to 18 years)" or "newborn infant (birth to 1 month)" or "infant (1 to 23 months)" or "preschool child (2 to 5 years)" or "child (6 to 12 years)" or "adolescent (13 to 18 years)")	863
261	259 not 260	1401
262	limit 259 to ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)")	1340
263	261 or 262	1628
264	remove duplicates from 263	1366
265	sleep apnea.mp. or exp Sleep Apnea Syndromes/ [CS Search Strategy]	38151
266	postoperative complications.mp. or exp Postoperative Complications/	558458
267	exp Polysomnography/	20430



268	exp Oximetry/	15184
269	267 or 268	35006
270	265 and 266 and 269	321
271	apnea-hypopnea index.mp.	5939
272	oxygen desaturation index.mp.	708
273	respiratory disturbance index.mp.	1025
274	postoperative adverse events.mp.	448
275	267 or 268 or 271 or 272 or 273	37391
276	266 or 274	558624
277	265 and 275 and 276 [ End of CS Search Strategy ]	396
278	264 not 277 [ Removal of citations from CS search already reviewed ]	1154
279	limit 278 to yr="2008 -Current"	720

**e-Table 2**  
**Medline In-Process / ePubs ahead of Print**

**Ovid MEDLINE(R) Epub Ahead of Print and In-Process & Other Non-Indexed Citations January 05, 2018**

#	Searches	Results
1	exp Sleep Apnea Syndromes/ [ MeSH heading changed from exp sleep disordered breathing]	4
2	exp obesity hypoventilation syndrome/	0
3	exp Cheyne Stokes Respiration/	0
4	apnea/ and sleep/ [historical]	0
5	apnea/ and (hypoventilation/ or sleep disorders/) [historical]	0
6	(apn?ea adj1 attack*).mp,kw.	3
7	(apn?ea adj1 index*).mp,kw.	62
8	(apn?ea adj1 indices*).mp,kw.	7
9	(apn?ea adj1 monitor*).mp,kw.	13
10	(central adj2 apnea*).mp,kw.	193
11	(central adj2 apnoea*).mp,kw.	42
12	(cheyne-stokes adj1 breath*).mp,kw.	15
13	(cheyne-stokes adj1 respirat*).mp,kw.	59
14	(haddad* adj1 syndrom*).mp,kw.	2
15	(high* altitud* adj2 (period* adj2 breath*)).mp,kw.	1
16	(hypersomni* adj2 periodic breath*).mp,kw.	0
17	(hypersomni* adj2 periodic respirat*).mp,kw.	0
18	(mixed adj2 apnea*).mp,kw.	12
19	(mixed adj2 apnoea*).mp,kw.	1
20	(nocturnal adj2 hypoventilation).mp,kw.	20
21	(nocturnal adj2 hypoxemia).mp,kw.	35
22	(obes* hypoventil* adj2 apne*?).mp,kw.	12
23	(obes* hypoventil* adj2 apnoe*?).mp,kw.	2
24	(obstruct* adj2 hypoapnea*).mp,kw.	0
25	(obstruct* adj2 hypo-apnea*).mp,kw.	0
26	(obstruct* adj2 hypoapnoea*).mp,kw.	0
27	(obstruct* adj2 hypo-apnoea*).mp,kw.	0
28	(obstruct* adj2 hypopnea*).mp,kw.	57
29	(obstruct* adj2 hypopnoea*).mp,kw.	6
30	(ondine* adj2 curse*).mp,kw.	9
31	(ondine* adj2 syndrome*).mp,kw.	3
32	(pickwick* adj1 syndrom*).mp,kw.	10
33	(primary adj2 alveolar adj2 hypoventil*).mp,kw.	0
34	(primary adj2 alveolar hypoventil*).mp,kw.	0

35	(sleep adj2 respirat* adj1 disorder*).mp,kw.	26
36	(sleep disorder* adj1 breathing).mp,kw.	772
37	(sleep disorder* adj1 respirat*).mp,kw.	20
38	(sleep* adj2 hypopn?ea*).mp,kw.	194
39	(upper airway resistan* adj2 syndrom*).mp,kw.	26
40	apnea-hypopnea*.mp,kw.	893
41	apneic*.mp,kw.	150
42	apnoea-hypopnoea*.mp,kw.	126
43	apnoeic*.mp,kw.	55
44	cahs.tw. [central alveolar hypoventilation syndrome]	10
45	ccah.tw. [congenital central alveolar hypoventilation ]	0
46	ccahs.tw. [congenital central alveolar hypoventilation syndrome]	2
47	central alveolar hypoventilation syndrome*.mp,kw.	2
48	csas.tw. [Central Sleep Apnea Syndrome]	108
49	hypopneic*.mp,kw.	5
50	hypopnoeic*.mp,kw.	2
51	obes* hypoventil* syndrome?.mp,kw.	79
52	osa.tw,kw.	1863
53	osahs.tw,kw.	110
54	osas.tw,kw.	416
55	sleep apne*.mp,kw.	3412
56	sleep apnoe*.mp,kw.	677
57	upper airway* resistan* syndrom*.mp,kw.	27
58	or/1-57 [ ~~ Obstructive Sleep Apnea & Related Terms ~~ ]	5120
59	exp sleep/ or dreams/ or sleep deprivation/ or sleep stages/ or sleep, rem/	22
60	exp sleep wake disorders/ or dyssomnias/ or exp parasomnias/	25
61	sleep*.mp,kw.	18389
62	slept.mp,kw.	295
63	dyssomni*.mp,kw.	14
64	insomni*.mp,kw.	2612
65	parasomni*.mp,kw.	175
66	somnambul*.mp,kw.	34
67	somnolen*.mp,kw.	573
68	sopor.mp,kw.	4
69	wakeful*.mp,kw.	924
70	or/59-69 [ Sleep & related terms ]	20183
71	actigraphy/ or polysomnography/ or symptom assessment/	0
72	exp Sleep/ and exp Monitoring, Physiologic/	0
73	exp Sleep/ and exp Telemetry/	0
74	exp Sleep/ and Remote Sensing Technology/	0

75	exp sleep wake disorders/ and exp Monitoring, Physiologic/	0
76	exp sleep wake disorders/ and exp Telemetry/	0
77	exp sleep wake disorders/ and Remote Sensing Technology/	0
78	Symptom Assessment/	0
79	Algorithms/	6
80	Data Collection/	5
81	Focus Groups/	0
82	Health Care Surveys/	0
83	Health Impact Assessment/	0
84	Health Status Indicators/	1
85	Health Surveys/	0
86	Interviews As Topic/	0
87	Narration/	0
88	exp Oximetry/	0
89	Patient Acuity/	0
90	Patient Reported Outcome Measures/	0
91	Predictive Value of Tests/	0
92	"Quality of Life"/	11
93	"Severity Of Illness Index"/	1
94	Sickness Impact Profile/	4
95	"Surveys and Questionnaires"/	9
96	algorithm*.mp,kw.	49998
97	assess*.mp,kw.	317246
98	audit?.mp,kw.	4233
99	checklist?.mp,kw.	5129
100	check-list?.mp,kw.	347
101	evaluat*.mp,kw.	376743
102	focus group*.mp,kw.	6519
103	(health adj2 determinant*).mp.	1465
104	HRQoL.mp,kw.	2039
105	index*.mp,kw.	100099
106	indices.mp,kw.	16067
107	indicator?.mp.	29156
108	interview*.mp,kw.	38452
109	instrument?.mp,kw.	26256
110	inventories.mp,kw.	749
111	inventory.mp,kw.	9649
112	measur*.mp,kw.	428112
113	metric?.mp,kw.	10841
114	monitor*3.mp,kw.	88762
115	MOS-sleep.mp,kw.	14

116	narrati*.mp,kw.	6729
117	oximetr*.mp.	941
118	oximeter*.mp.	347
119	patient analys#s.mp,kw.	69
120	poll?.mp,kw.	292
121	polysomnogra*.mp,kw.	1794
122	PSQI.mp,kw.	531
123	QoL.mp,kw.	5045
124	questionnaire?.mp,kw.	59021
125	rating?.mp,kw.	17352
126	(scale or scales).mp,kw.	131715
127	screening?.mp,kw.	56603
128	(score or scores or scored or scoring?).mp,kw.	111730
129	(sleep* adj2 quality).mp,kw.	2434
130	(sleep* adj2 (study or studies)).mp,kw.	727
131	(sleep* adj2 (test or tests or tested or testing)).mp,kw.	264
132	somnogra*.mp,kw.	4
133	status exam*.mp,kw.	266
134	survey*.mp,kw.	70051
135	(tool? or toolkit? or tool-kit?).mp,kw.	97721
136	videopolysomnogra*.mp,kw.	6
137	"SPO2".mp. [ TESTING ]	672
138	"SP-O2".mp. [ TESTING ]	1
139	ODI.mp. [ O2 Desaturation Index - TESTING ]	927
140	((oxygen* or O2) adj1 desatur* adj1 (index?? or indices)).mp. [ TESTING ]	137
141	(apn?ea adj2 duration*).mp. [ TESTING ]	43
142	("CT90" or "CT 90").mp. [ TESTING ]	12
143	(oxygen* adj2 saturat*).mp. [ TESTING ]	2611
144	or/71-143 [ Assessment or Measurement & related terms ]	1201864
145	70 and 144 [ Sleep + Assessment ]	13767
146	58 and 145 [ OSA + Sleep + Assessment ]	3163
147	exp Pain, Postoperative/	0
148	exp Postoperative Care/	1
149	exp Postoperative Period/	1
150	exp Postoperative Complications/	13
151	(postop* or post-op*).mp,kw.	58218
152	(postamput* or post-amput*).mp,kw.	78
153	(postincision* or post-incision*).mp,kw.	37
154	(postprocedur* or post-procedur*).mp,kw.	1784
155	(postsurg* or post-surg*).mp,kw.	4510

156	(postresect* or post-resect*).mp,kw.	200
157	(postintervention* or post-intervention*).mp,kw.	3589
158	(postlapar* or post-lapar*).mp,kw.	107
159	(postmastectom* or post-mastectom*).mp,kw.	361
160	(follow* adj2 surg*).mp,kw.	8004
161	(follow* adj2 intervention*).mp,kw.	1837
162	(follow* adj2 procedur*).mp,kw.	1775
163	(follow* adj2 resect*).mp,kw.	1800
164	(after adj3 incision?).mp,kw.	389
165	(after adj3 laparo*).mp,kw.	1870
166	(after adj3 operati*).mp,kw.	5706
167	(after adj3 procedur*).mp.	5427
168	(after adj3 resect*).mp,kw.	4721
169	(after adj3 surger*).mp,kw.	25085
170	(after adj3 surgical*).mp,kw.	5026
171	or/147-170 [ Postoperative & related terms ]	100092
172	146 and 171 [ (OSA + (Sleep + Assessment)) + Postoperative ]	321
173	Complication?.mp,kw.	94475
174	ae.fs. [Adverse Effects floating subheading]	23
175	ci.fs. [Chemically induced floating subheading]	7
176	co.fs. [Complications floating subheading]	27
177	ct.fs. [Contraindications floating subheading]	0
178	de.fs. [Drug Effects floating subheading]	50
179	pc.fs. [Prevention & Control floating subheading]	105
180	po.fs. [Poisoning floating subheading]	0
181	to.fs. [Toxicity floating subheading]	7
182	Dose-Response Relationship, Drug/	0
183	exp "Drug-Related Side Effects And Adverse Reactions"/ [Nb: Drug Toxicity Was Changed To This Jan 2014]	16
184	exp Abnormalities, Drug Induced/	3
185	exp Adverse Drug Reaction Reporting Systems/	0
186	exp Clinical Trial, Phase Iv/	0
187	exp Drug Eruptions/	0
188	exp Drug Hypersensitivity/	1
189	exp Drug Monitoring/	2
190	exp Poisoning/	10
191	exp Product Surveillance, Postmarketing/	1
192	exp Substance-Related Disorders/	51
193	exp Toxic Actions/	67
194	Failure To Rescue, Health Care/ [New MeSH 2016]	0
195	Herb-Drug Interactions/	0

196	Iatrogenic Disease/	0
197	Malpractice/	1
198	Medical Errors/	0
199	Medication Errors/	0
200	Morbidity/	0
201	Mortality/	0
202	Patient Harm/ [New MeSH 2014]	0
203	((allergic or idiosyncratic*) adj2 react*).mp,kw.	1417
204	((allergic or idiosyncratic*) adj2 respons*).mp,kw.	486
205	((drug? or medication?) adj2 (hypersensitiv* or hypersensitiv*)).mp,kw.	305
206	((incorrect* or incomplete) adj2 knowledge).mp,kw.	164
207	((phase iv or phase four) adj2 trial?).mp,kw.	55
208	((undesirable or harm* or serious* or toxic) adj3 (effect* or reaction* or event* or outcome*)).mp,kw.	12380
209	(adverse* adj2 affect*).mp,kw.	3341
210	(adverse* adj2 drug*).mp,kw.	3488
211	(adverse* adj2 effect*).mp,kw.	18599
212	(adverse* adj2 event*).mp,kw.	21787
213	(adverse* adj2 outcome*).mp,kw.	6107
214	(adverse* adj2 react*).mp,kw.	5106
215	(inaccura* adj2 (information or record*)).mp,kw.	104
216	(incomplete adj2 (information or record*)).mp,kw.	296
217	(near adj2 miss*).mp,kw.	295
218	(omission? adj2 (dose? or drug? or medication?)).mp,kw.	46
219	(omit* adj2 (dose? or drug? or medication?)).mp,kw.	34
220	(patient? adj1 report* adj1 incident?).mp,kw.	1
221	(prevent* adj2 accident*).mp,kw.	290
222	(prevent* adj2 inciden*).mp,kw.	242
223	(safe or safety or side effect* or undesirable effect* or treatment emergent or tolerability or toxicity or adrs or (adverse adj2 (effect or effects or reaction or reactions or event or events or outcome or outcomes))).ti,ab.	166296
224	(undesir* adj2 event?).mp,kw.	59
225	adr.mp,kw. [adverse drug reaction]	979
226	adrs.mp,kw. [adverse drug reactions]	694
227	adverse drug?.mp,kw.	2900
228	contraindicat*.mp,kw.	4209
229	dae.mp,kw. [drug related adverse event]	124
230	daes.mp,kw. [drug related adverse events]	21
231	dose-response relation*.mp,kw.	1196
232	drug erupt*.mp,kw.	295

233	drug induced.mp,kw.	3335
234	drug toxic*.mp,kw.	663
235	drug-related.mp,kw.	1787
236	error?.mp,kw.	49410
237	harm*5.mp,kw.	29031
238	iatrogenic*.mp,kw.	3447
239	intolerab*.mp,kw.	486
240	malfunction*.mp,kw.	1419
241	mistak*.mp,kw.	2739
242	noxious.mp,kw.	1101
243	pharmacovigilan*.mp,kw.	833
244	pharmaco-vigilan*.mp,kw.	7
245	poison*.mp,kw.	6631
246	sequelae.mp,kw.	4907
247	side effect*.mp,kw.	24084
248	tolerability.mp,kw.	5700
249	unanticipat*.mp,kw.	908
250	undesired.mp,kw.	1436
251	unintended.mp,kw.	1591
252	risk*3.mp.	232883
253	or/173-252 [~~ Adverse Effects / Adverse Drug Events -- BROADER ~~]	513792
254	172 and 253 [ (OSA + (Sleep + Assessment)) + Postoperative + Adverse Effects ]	184
255	limit 254 to english language	180
256	remove duplicates from 255	179



**e-Table 3.**

**2018-01-05 FC CS -OSA and Sleep Assessment and Postoperative and Adverse Effects – Embase**

#	Searches	Results
1	exp sleep disordered breathing/	36017
2	exp obesity hypoventilation syndrome/	1647
3	exp Cheyne Stokes Respiration/	1559
4	(apn?ea adj1 attack*).mp,kw.	117
5	(apn?ea adj1 index*).mp,kw.	1665
6	(apn?ea adj1 indices*).mp,kw.	106
7	(apn?ea adj1 monitor*).mp,kw.	2733
8	(central adj2 apnea*).mp,kw.	4042
9	(central adj2 apnoea*).mp,kw.	686
10	(cheyne-stokes adj1 breath*).mp,kw.	1613
11	(cheyne-stokes adj1 respirat*).mp,kw.	980
12	(haddad* adj1 syndrom*).mp,kw.	39
13	(high* altitud* adj2 (period* adj2 breath*)).mp,kw.	20
14	(hypersomni* adj2 periodic breath*).mp,kw.	23
15	(hypersomni* adj2 periodic respirat*).mp,kw.	14
16	(mixed adj2 apnea*).mp,kw.	310
17	(mixed adj2 apnoea*).mp,kw.	72
18	(nocturnal adj2 hypoventilation).mp,kw.	400
19	(nocturnal adj2 hypoxemia).mp,kw.	686
20	(obes* hypoventil* adj2 apne*?).mp,kw.	66
21	(obes* hypoventil* adj2 apnoe*?).mp,kw.	18
22	(obstruct* adj2 hypoapnea*).mp,kw.	2
23	(obstruct* adj2 hypo-apnea*).mp,kw.	0
24	(obstruct* adj2 hypoapnoea*).mp,kw.	0
25	(obstruct* adj2 hypo-apnoea*).mp,kw.	0
26	(obstruct* adj2 hypopnea*).mp,kw.	642
27	(obstruct* adj2 hypopnoea*).mp,kw.	146
28	(ondine* adj2 curse*).mp,kw.	326
29	(ondine* adj2 syndrome*).mp,kw.	171
30	(pickwick* adj1 syndrom*).mp,kw.	499
31	(primary adj2 alveolar adj2 hypoventil*).mp,kw.	108
32	(primary adj2 alveolar hypoventil*).mp,kw.	111
33	(sleep adj2 respirat* adj1 disorder*).mp,kw.	441
34	(sleep disorder* adj1 breathing).mp,kw.	36415
35	(sleep disorder* adj1 respirat*).mp,kw.	158
36	(sleep* adj2 hypopn?ea*).mp,kw.	3022
37	(upper airway resistanc* adj2 syndrom*).mp,kw.	517

38	apnea-hypopnea*.mp,kw.	15832
39	apneic*.mp,kw.	3610
40	apnoea-hypopnoea*.mp,kw.	1978
41	apnoeic*.mp,kw.	1204
42	cahs.tw. [central alveolar hypoventilation syndrome]	233
43	ccah.tw. [congenital central alveolar hypoventilation ]	14
44	ccahs.tw. [congenital central alveolar hypoventilation syndrome]	5
45	central alveolar hypoventilation syndrome*.mp,kw.	59
46	csas.tw. [Central Sleep Apnea Syndrome]	881
47	hypopneic*.mp,kw.	110
48	hypopnoeic*.mp,kw.	29
49	obes* hypoventil* syndrome?.mp,kw.	1823
50	osa.tw,kw.	20986
51	osahs.tw,kw.	1738
52	osas.tw,kw.	6291
53	sleep apne*.mp,kw.	55765
54	sleep apnoe*.mp,kw.	9051
55	upper airway* resistan* syndrom*.mp,kw.	538
56	or/1-55 [ ~~ Obstructive Sleep Apnea & Related terms ~~ ]	80051
57	exp sleep/ or dreams/ or sleep deprivation/ or sleep stages/ or sleep, rem/	221872
58	exp sleep wake disorders/ or dyssomnias/ or exp parasomnias/	200977
59	sleep*.mp,kw.	284658
60	slept.mp,kw.	4238
61	dyssomni*.mp,kw.	215
62	insomni*.mp,kw.	65284
63	parasomni*.mp,kw.	5779
64	somnambul*.mp,kw.	531
65	somnolen*.mp,kw.	50226
66	sopor.mp,kw.	147
67	wakeful*.mp,kw.	35165
68	sleep/ or daytime somnolence/ or night sleep/ or nonrem sleep/ or rem sleep/ or sleep arousal disorder/ or sleep deprivation/ or sleep disorder/ or sleep hygiene/ or sleep induction/ or sleep medicine/ or sleep parameters/ or sleep pattern/ or sleep quality/ or sleep stage/ or sleep time/ or sleep waking cycle/ or sleep walking/ or sleep/ or slow wave sleep/ or somnolence/ or sopor/ [Embase]	224496
69	or/57-68 [ Sleep & related terms ]	387878
70	Data Collection/	198151
71	Focus Groups/	179429
72	Health Care Surveys/	8434
73	Health Impact Assessment/	3438
74	Health Status Indicators/	1523

75	Health Surveys/	166168
76	Interviews As Topic/	121382
77	Narration/	12962
78	Pain Measurement/	4628
79	"Surveys and Questionnaires"/	568562
80	assess*.mp,kw.	4282756
81	audit?.mp,kw.	75863
82	bank?.mp,kw.	57197
83	checklist?.mp,kw.	46835
84	check-list?.mp,kw.	4388
85	evaluat*.mp,kw.	4362396
86	focus_group*.mp,kw.	43526
87	(form or forms).mp,kw.	1565492
88	(health adj2 determinant*).mp.	9810
89	index*.mp,kw.	1041924
90	indices.mp,kw.	177019
91	indicator?.mp.	335957
92	interview*.mp,kw.	414761
93	instrument?.mp,kw.	269438
94	inventories.mp,kw.	20943
95	inventory.mp,kw.	111515
96	(measure or measures or measurement?).mp,kw.	2551732
97	metric?.mp,kw.	57992
98	narrati*.mp,kw.	33434
99	nomogram*.mp,kw.	11404
100	poll?.mp,kw.	3725
101	PSQI.mp,kw.	4793
102	QLQ.mp,kw.	7535
103	QoL.mp,kw.	56563
104	questionnaire?.mp,kw.	783170
105	rating?.mp,kw.	284183
106	(scale or scales).mp,kw.	1006938
107	screening?.mp,kw.	915978
108	(score or scores or scored or scoring?).mp,kw.	1268941
109	status_exam*.mp,kw.	3146
110	subscale?.mp,kw.	50485
111	sub-scale?.mp,kw.	2995
112	survey*.mp,kw.	1352157
113	(tool? or toolkit? or tool-kit?).mp,kw.	789422
114	questionnaire/ [Embase]	568562
115	health care survey/	13407

116	health status indicator/ or disease activity score/	5989
117	exp interview/ or delphi study/ or semi structured interview/ or structured interview/ or exp telephone interview/ or unstructured interview/	226228
118	"ferrans and powers quality of life index"/ or "gastrointestinal quality of life index"/ or "international classification of functioning, disability and health"/ or quality adjusted life year/ or "quality of life index"/ or short form 36/ or "quality of life assessment"/	51867
119	"SPO2".mp.	8824
120	"SP-O2".mp.	168
121	ODI.mp.	6181
122	((oxygen* or O2) adj1 desatur* adj1 (index?? or indices)).mp.	1628
123	(apn?ea adj2 duration*).mp.	765
124	("CT90" or "CT 90").mp.	195
125	(oxygen* adj2 saturat*).mp.	62914
126	or/70-125 [ Assessment / Measures ]	13066355
127	69 and 126 [ Sleep + Assessment ]	232502
128	exp Pain, Postoperative/	56791
129	exp Postoperative Care/	84158
130	exp Postoperative Period/	457604
131	exp Postoperative Complications/	619718
132	(postop* or post-op*).mp,kw.	1062132
133	(postamput* or post-amput*).mp,kw.	785
134	(postincision* or post-incision*).mp,kw.	381
135	(postprocedur* or post-procedur*).mp,kw.	23457
136	(postsurg* or post-surg*).mp,kw.	47012
137	(postresect* or post-resect*).mp,kw.	2672
138	(postintervention* or post-intervention*).mp,kw.	25146
139	(postlapar* or post-lapar*).mp,kw.	790
140	(postmastectom* or post-mastectom*).mp,kw.	3964
141	(follow* adj2 surg*).mp,kw.	88108
142	(follow* adj2 intervention*).mp,kw.	16115
143	(follow* adj2 procedur*).mp,kw.	24638
144	(follow* adj2 resect*).mp,kw.	20347
145	(after adj3 incision?).mp,kw.	5395
146	(after adj3 laparo*).mp,kw.	23463
147	(after adj3 operati*).mp,kw.	132120
148	(after adj3 procedur*).mp.	73995
149	(after adj3 resect*).mp,kw.	67953
150	(after adj3 surger*).mp,kw.	298062
151	(after adj3 surgical*).mp,kw.	65207
152	or/128-151 [ Postoperative & related terms ]	1855439

153	56 and 127 and 152 [ (OSA + (Sleep + Assessment)) + Postoperative ]	5829
154	anesthesia complication/	9750
155	ae.fs. [Adverse Drug Reaction floating subheading]	1234331
156	co.fs. [Complications floating subheading]	1748039
157	pc.fs. [Prevention floating subheading]	1097223
158	si.fs. [Side Effect floating subheading]	826827
159	to.fs. [Drug Toxicity floating subheading]	522598
160	exp dose response/	397726
161	exp adverse drug reaction/	479824
162	exp drug induced disease/	38913
163	exp drug surveillance program/	24345
164	phase 4 clinical trial/	2871
165	exp drug eruption/	29201
166	exp Drug Hypersensitivity/	58896
167	exp Drug Monitoring/	48838
168	exp drug intoxication/	20915
169	drug overdose/	21600
170	exp drug toxicity/	104870
171	exp drug surveillance program/	24345
172	postmarketing surveillance/	8917
173	exp toxicity/	641094
174	herb-drug interaction/	1398
175	Iatrogenic Disease/	25842
176	Malpractice/	32642
177	medical error/	17087
178	medication error/	16475
179	Morbidity/	310472
180	Mortality/	727072
181	Patient Harm/	1095
182	((allergic or idiosyncratic*) adj2 react*).mp,kw.	48595
183	((allergic or idiosyncratic*) adj2 respons*).mp,kw.	8705
184	((drug? or medication?) adj2 (hypersensitiv* or hypersensitiv*)).mp,kw.	54219
185	((incorrect* or incomplete) adj2 knowledge).mp,kw.	1185
186	((phase iv or phase four) adj2 trial?).mp,kw.	617
187	((undesirable or harm* or serious* or toxic) adj3 (effect* or reaction* or event* or outcome*)).mp,kw.	167578
188	(adverse* adj2 affect*).mp,kw.	40268
189	(adverse* adj2 drug*).mp,kw.	1444111
190	(adverse* adj2 effect*).mp,kw.	272910
191	(adverse* adj2 event*).mp,kw.	245706
192	(adverse* adj2 outcome*).mp,kw.	83965

193	(adverse* adj2 react*).mp,kw.	1455982
194	(inaccura* adj2 (information or record*)).mp,kw.	735
195	(incomplete adj2 (information or record*)).mp,kw.	3166
196	(near adj2 miss*).mp,kw.	3026
197	(omission? adj2 (dose? or drug? or medication?)).mp,kw.	657
198	(omit* adj2 (dose? or drug? or medication?)).mp,kw.	462
199	(patient? adj1 report* adj1 incident?).mp,kw.	33
200	(prevent* adj2 accident*).mp,kw.	18590
201	(prevent* adj2 inciden*).mp,kw.	2343
202	(safe or safety or side effect* or undesirable effect* or treatment emergent or tolerability or toxicity or adrs or (adverse adj2 (effect or effects or reaction or reactions or event or events or outcome or outcomes))).ti,ab.	1967148
203	(undesir* adj2 event?).mp,kw.	677
204	adr.mp,kw. [adverse drug reaction]	12530
205	adrs.mp,kw. [adverse drug reactions]	6599
206	adverse drug?.mp,kw.	1441345
207	complication?.mp,kw.	2796787
208	contraindicat*.mp,kw.	105062
209	dae.mp,kw. [drug related adverse event]	815
210	daes.mp,kw. [drug related adverse events]	75
211	dose-response relation*.mp,kw.	22055
212	drug erupt*.mp,kw.	27950
213	drug induced.mp,kw.	103431
214	drug toxic*.mp,kw.	584155
215	drug-related.mp,kw.	23200
216	error?.mp,kw.	570202
217	harm*5.mp,kw.	173135
218	iatrogenic*.mp,kw.	53763
219	intolerab*.mp,kw.	6209
220	malfunction*.mp,kw.	19234
221	mistak*.mp,kw.	30422
222	noxious.mp,kw.	20148
223	pharmacovigilan*.mp,kw.	9061
224	pharmaco-vigilan*.mp,kw.	106
225	poison*.mp,kw.	136109
226	sequelae.mp,kw.	80167
227	side effect*.mp,kw.	1112086
228	tolerability.mp,kw.	163202
229	unanticipat*.mp,kw.	7726
230	undesired.mp,kw.	8700
231	unintended.mp,kw.	13234

232	or/154-231 [~~ Adverse Effects / Adverse Drug Events -- BROADER ~~]	8143223
233	153 and 232 [ (OSA + (Sleep + Assessment)) + Postoperative + Adverse Effects ]	3617
234	limit 233 to english language	3374
235	(exp animals/ or exp animal experimentation/ or nonhuman/) not ((exp animals/ or exp animal experimentation/ or nonhuman/) and exp human/)	6757969
236	234 not 235	3365
237	limit 234 to human	3254
238	236 or 237	3365
239	remove duplicates from 238	3223
240	limit 239 to conference abstract status	860
241	limit 239 to (books or "book review" or conference abstract or "conference review")	860
242	240 or 241	860
243	239 not 242	2363
244	limit 243 to (embryo <first trimester> or infant <to one year> or child <unspecified age> or preschool child <1 to 6 years> or school child <7 to 12 years> or adolescent <13 to 17 years>)	576
245	243 not 244	1787
246	limit 243 to (adult <18 to 64 years> or aged <65+ years>)	1156
247	245 or 246	1929
248	limit 247 to yr="2008 -Current"	1422

**e-Table 4 – BMI for the included studies**

Reference	BMI
	<b>Upper airway surgery</b>
Asha'ari 2017 <sup>26</sup>	BMI 34.5 vs 31.1 kg/m <sup>2</sup> ; Cx vs no Cx, P = 0.02 BMI per 5 units, OR 1.11, P = 0.03
Kandasamy 2013 <sup>24</sup>	BMI 31.6 (9) vs 30.2 (6) kg/m <sup>2</sup> ; Cx vs no Cx, P = 0.26
Kezirian 2006 <sup>23</sup>	BMI 35.4 +/- 7.1 vs 33.1 +/- 5.9 kg/m <sup>2</sup> , P = 0.04 Bivariate analysis BMI per 5 units, OR 1.34, P = 0.04; unadjusted OR; 1.29, P = 0.08, adjusted OR for AHI, CCI: 1.19, P = 0.38
Kim 2015 <sup>40</sup>	BMI 28.8 +/- 3 vs 27.7 +/- 3 kg/m <sup>2</sup> , P = 0.226 Lowest SpO <sub>2</sub> in PACU vs BMI, r = -0.299, P = 0.004 Lowest SpO <sub>2</sub> during 1 <sup>st</sup> postoperative night vs BMI, r = -0.219, P = 0.05
Pang 2012 <sup>25</sup>	n/a
	<b>Cardiac surgery</b>
Foldvary-Schaefer 2015 <sup>38</sup>	BMI in AHI < 15 vs AHI ≥ 15, ns (26.3 vs 26.8 kg/m <sup>2</sup> ) CT90 correlated with greater BMI, P = 0.007, correlation coefficient not reported
Kaw 2017 <sup>31</sup>	BMI between AHI < 15 vs AHI ≥ 15, ns Effect modification with BMI > 32 kg/m <sup>2</sup> BMI (median) ≥ 32 kg/m <sup>2</sup> , a 15% increase in new onset atrial fibrillation per 5-unit increase in AHI. BMI < 32 kg/m <sup>2</sup> , association between AHI and new onset atrial fibrillation, ns. Similar findings observed with ODI and BMI (OR, 1.15; 95% CI, 1.04-1.28)
Kua 2016 <sup>33</sup>	Acute kidney injury; BMI, adj OR 1.18, P < 0.01
Roggenbach 2014 <sup>32</sup>	BMI 27.2 vs 27.1 kg/m <sup>2</sup> , post-operative delirium vs no post-operative delirium, ns
Unosawa 2012 <sup>61</sup>	BMI 25.5 vs 23.6 kg/m <sup>2</sup> in AHI ≥ 15 vs AHI < 15, ns BMI not included in multivariate analysis
	<b>Vascular surgery</b>
Ultrainen 2014 <sup>34</sup>	BMI 26 vs 25 kg/m <sup>2</sup> in AHI ≥ 20 vs AHI < 20, ns BMI not included in multivariate analysis
	<b>Bariatric surgery</b>
Turan 2015 <sup>39</sup>	Average BMI 46 kg/m <sup>2</sup> BMI not included in multivariate analysis
Weingarten 2011 <sup>29</sup>	BMI 46.3, 48.1, 50.7, 52.7 kg/m <sup>2</sup> in no OSA, mild, moderate, severe OSA group BMI per 5 kg/m <sup>2</sup> , any Cx, OR 1.19, P < 0.001; OR 1.35 for pulmonary Cx, P < 0.001
	<b>Other surgical populations</b>
Chung 2014 <sup>21</sup>	Average baseline BMI 31 kg/m <sup>2</sup> . BMI incorporated into statistical model
Devaraj 2017 <sup>62</sup>	BMI 27.2 vs 24.1 kg/m <sup>2</sup> ; OSA vs non-OSA, P < 0.001 BMI not included in multivariable logistic regression



Hwang 2008 <sup>36</sup>	BMI 36.5 vs 34.0 kg/m <sup>2</sup> ; ODI 4% ≥ 5 vs ODI 4% < 5, ns BMI included in logistic regression analysis
Kaw 2016 <sup>51</sup>	BMI 41.4 vs 38.1 kg/m <sup>2</sup> ; hypercapnic OSA vs OSA, P= 0.001
Mador 2013 <sup>41</sup>	BMI 34.6 vs 31.5 kg/m <sup>2</sup> ; OSA vs control, P < 0.01
Mason 2017 <sup>37</sup>	BMI 30.1 vs 28.0 kg/m <sup>2</sup> ; OSA vs control, P = 0.01
Mutter 2014 <sup>30</sup>	BMI not reported
Subramani, 2017 <sup>12</sup>	BMI > 35 kg/m <sup>2</sup> associated with death/near death and critical events; adj OR 2.7, P = 0.044

Cx: Complication; AHI: apnea hyponea index; CCI: charlson comorbidity index, ODI: oxygen desaturation index