



**SASM CONSENSUS GROUP:**  
**DOES OBSTRUCTIVE SLEEP APNEA INFLUENCE PERIOPERATIVE OUTCOME?**

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**DISCLOSURE**

NON-PAID CONSULTANT B. BRAUN

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**OBJECTIVES**

- BACKGROUND – OSA AS A RISK FACTOR
- SASM LITERATURE REVIEW AND CONSENSUS-METHODS
- RESULTS
- CONCLUSION

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## BACKGROUND

- ARE PERIOP INTERVENTIONS FOR OSA PATIENTS JUSTIFIED?
- 2 META-ANALYSIS AVAILABLE SUGGESTING INCREASED RISK
- INCLUSION OF A LIMITED AMOUNT OF STUDIES
- ADDITIONAL LITERATURE AVAILABLE TO INFORM CLINICIANS



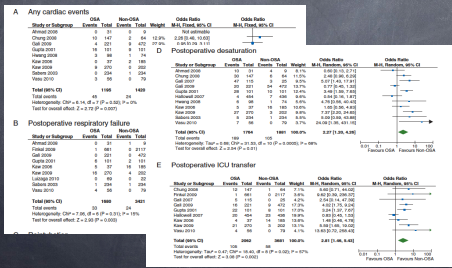
British Journal of Anaesthesia 2013; 91: 937-946 (2013)  
 Advance Access publication 6 September 2012 | doi:10.1093/bja/aes308

BJA

## Meta-analysis of the association between obstructive sleep apnoea and postoperative outcome

R. Kowal<sup>1,2\*</sup>, F. Chung<sup>3</sup>, V. Posupletti<sup>4</sup>, J. Mehta<sup>3</sup>, P. C. Goy<sup>6,7</sup> and A. V. Hernandez<sup>2</sup>

• 13 STUDIES, N=3942 PATIENTS, UP TO 2010



Journal of Clinical Anesthesia (2013) 26, 937-946



Original Contribution

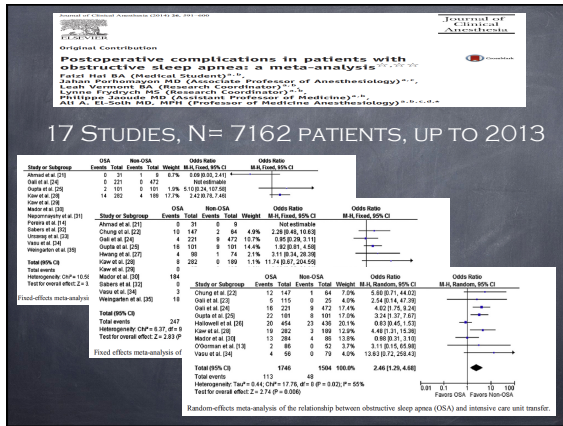
## Postoperative complications in patients with obstructive sleep apnea: a meta-analysis

Faisal Hai BA (Medical Student)<sup>1,2</sup>,  
 Jahan Porhomayon MD (Associate Professor of Anesthesiology)<sup>3,4</sup>,  
 Leah Vermont BA (Research Coordinator)<sup>3,5</sup>,  
 Lynne Frydrych MS (Research Coordinator)<sup>3,5</sup>,  
 Philippe Jansone MD (Assistant Professor of Medicine)<sup>6,7</sup>,  
 Ali A. El-Seth MD, MPH (Professor of Medicine Anesthesiology)<sup>2,3,4,6,7</sup>



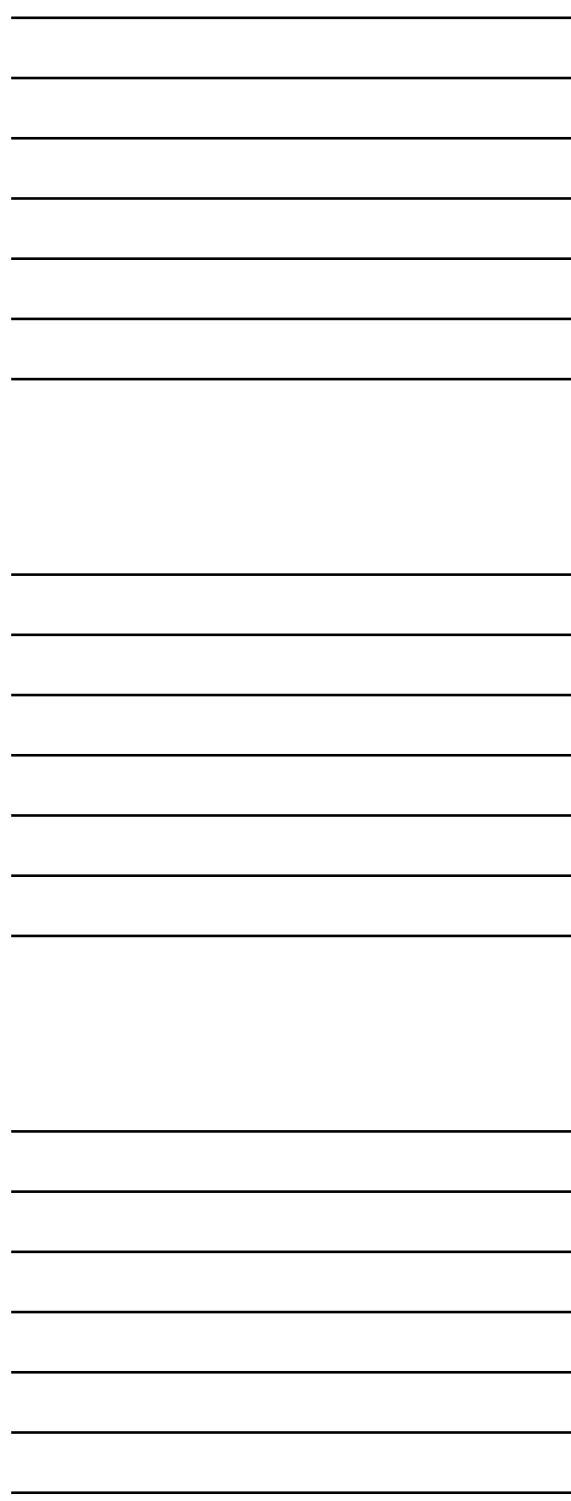
• 17 STUDIES, N= 7162 PATIENTS, UP TO 2013

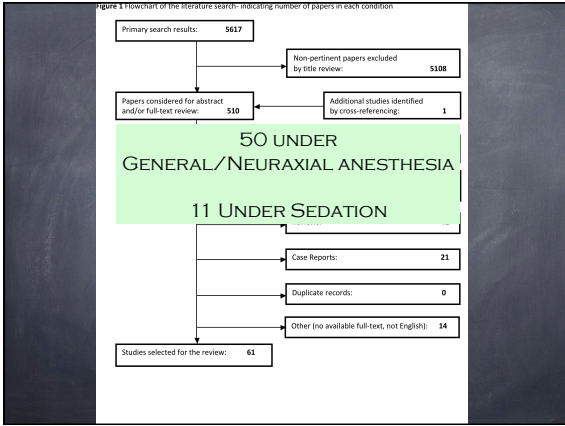




- ## METHODS AND SEARCH STRATEGY
- UNDER INSTRUCTION OF SASM GROUP LIBRARIAN PERFORMED SEARCH
  - PRISMA (PREFERRED REPORTING ITEMS FOR SYSTEMATIC REVIEWS AND META-ANALYSIS)
    - PUBMED-MEDLINE (1946- NOVEMBER 16, 2014),
    - MEDLINE IN-PROCESS AND OTHER NON-INDEXED CITATIONS (TO NOVEMBER 16, 2014)
    - EMBASE (1947- NOVEMBER 16, 2014),
    - COCHRANE CENTRAL REGISTER OF CONTROLLED TRIALS ( NOVEMBER 16, 2014),
    - COCHRANE DATABASE OF SYSTEMATIC REVIEWS (FROM 2005- NOVEMBER 16, 2014)
    - HEALTH TECHNOLOGY ASSESSMENT (TO 4TH QUARTER 2013).
  - MESH KEY WORDS "SLEEP APNEA, OBSTRUCTIVE", "POSTOPERATIVE PERIOD", "COMPLICATIONS OR OUTCOME", "POSTOPERATIVE CARE", "INTRAOPERATIVE MONITORING", "POSTOPERATIVE MONITORING", "PERIOPERATIVE COMPLICATIONS", "INTRAOPERATIVE COMPLICATIONS", "POSTOPERATIVE COMPLICATIONS", "OUTCOME", "RISK", "MORBIDITY", "MORTALITY AND DEATH AND ALSO "OBSTRUCTIVE SLEEP APNEA", "OBSTRUCTIVE SLEEP APNEA SYNDROME", "SLEEP DISORDERED BREATHING", "OBESITY HYPOVENTILATION SYNDROME", "APNEA OR APNOEA", "HYPOPNEA OR HYPOPNOEA".

- ## INCLUSION/EXCLUSION
- ASSESSMENT BY TWO INDEPENDENT REVIEWERS
  - EVIDENCE QUALITY EXAMINED AS PER GRADE APPROACH
  - INCLUSION:
    - ALL STUDY DESIGNS IN ADULT (> 18 YEAR OLD) PATIENTS PUBLISHED IN THE ENGLISH LANGUAGE WERE INCLUDED.
    - MENTION OF THE PRESENCE OR HIGH RISK OF OSA BASED ON POLYSOMNOGRAPHY, QUESTIONNAIRES, CLINICAL ASSESSMENT, CHART DIAGNOSIS OR ICD-9 CODE IN PATIENTS UNDERGOING SURGERY OR PROCEDURES UNDER ANESTHESIA CARE AND REPORT AT LEAST ONE POSTOPERATIVE OUTCOME.
  - EXCLUSION:
    - NON-PERTINENT PAPERS AS JUDGED BY TWO INDEPENDENT REVIEWERS
    - STUDIES ON SURGICAL TREATMENT OF OSA, UPPER AIRWAY SURGERY OR CATHETER LAB PROCEDURES
    - STUDIES THAT DID NOT INCLUDE A NON-OSA OR LOW-RISK CONTROL GROUP
    - REVIEWS, CASE REPORTS OR PUBLICATIONS WITHOUT AVAILABLE FULL-TEXT.






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### GRADING QUALITY OF EVIDENCE

Impact of OSA on outcomes	Number of Studies	OSA (n)	Non-OSA (N)	GRADE Quality of Evidence
Pulmonary complications	15	274548	3764425	Moderate
Desaturation	13	1739	4396	Moderate
Difficult intubation	4	29779	30209	Moderate
Cardiac complications	19	68418	709420	Low
Atrial fibrillation	6	88636	1865145	Low
Combined complications	11	52414	568778	Low
Resource utilization	19	118897	954986	Moderate
Other outcomes	4	36239	192096	Low
Mortality	13	282447	2884951	Low

Impact of OSA on Outcomes	Number of Studies	OSA (n)	Non-OSA (N)	GRADE Quality of Evidence
Desaturation	7	610	713	Moderate
Airway maneuvers	3	263	297	Low
Combined complications	3	978	888	Low

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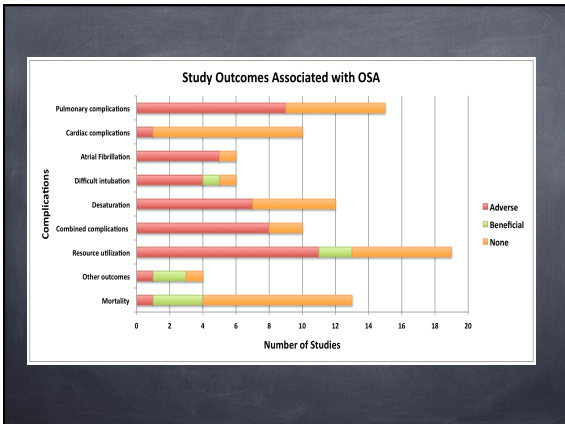
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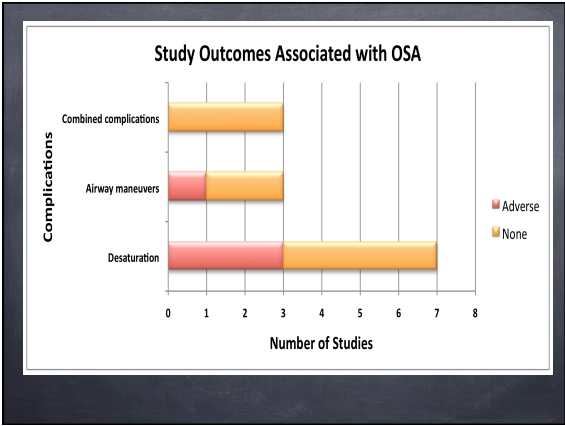
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## CONCLUSIONS

- WE IDENTIFIED 61 STUDIES WITH A GRADE SCORE FOR QUALITY OF EVIDENCE BETWEEN LOW AND MODERATE FOR A NUMBER OF OUTCOMES
- THE MAJORITY OF STUDIES SUGGEST THAT OSA IS ASSOCIATED WITH INCREASED RATES AND/OR RISK FOR MOST STUDIED PERIOPERATIVE COMPLICATIONS.

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