Supplementary File 3: Characteristics of 12 studies focussing on surgical outcomes

Study Author	Year	Outcome methodology	Age Group (identified/ included)	Subgroup relevant to ETS effects*	Location	ETS Measure (Number exposed)	ETS Priority	Relevant Outcomes	Quality Score
Atef[30]	2008	Prospective Cohort	4yrs – 17yrs (n = 38/38)		Egypt	Questionnaire on household smokers + Urinary cotinine (24 ETS+)	1^o	Ciliary regeneration measured via electron microscopy of tissue sample	6
Chen[29]	1998	Cohort Subgroup	Under 18 yrs (n = ?/176)	Residents with previous tonsil/ adenoidectomy	Canada	Household questionnaire (61 ETS+)	1^o	Prevalence of current cough	4
Gov-Ari[38]	2012	Case Control Subgroup	Under 12 yrs (n = 93/91) 31 cases	Patients with previous adenoidectomy	US	Medical chart review on recorded parent smoking status (30 ETS+)	1^o	Requirement to undergo tonsillectomy following previous adenoidectomy.	4
Hammarén-Malmi[28]	2007	Prospective Cohort	1yr – 4yrs (n = 296/198)		Finland	Direct Parental questioning (106 ETS+)	1^o	Frequency of otitis media (OM) episodes	7
Ilicali[39]	1999	Prospective Case Control	3yrs – 7yrs (n = 332/332) 166 cases		Turkey	Part of risk factor questionnaire (82 ETS Mother+)	1^o	Early extrusion of ventilation tube and persistent otorrhea	4
Ilicali[32]	2001	Cohort Subgroup	3yrs – 8 yrs (n = ?/114)	Postoperative cases follow up	Turkey	Urinary Cotinine (84 ETS+)	1^o	Early extrusion of ventilation tube and persistent otorrhea	7
Kim[40]	2005	Retrospective Case Control	5yrs – 15yrs (n = ?/97) 29 cases		South Korea	Not stated	1^o	Endoscope findings >6 months post-surgery	6
Maw[31]	1993	Cohort Subgroup	2yrs – 9yrs (n = 228/188)	Surgical ear data only (exclude non-operated ear analysis)	UK	Not stated	2^o	Probability of fluid resolution assessed via otoscopy, tympanometry and audiometry	5
Praveen[35]	2005	Prospective Cohort	1yr – 14yrs (n = 606/551)		UK	Parental questioning (301 ETS+ Mother, 263 ETS+ Father)	1^o	Time to extrusion of ventilation tube Infection rates, Myringosclerosis	6
Ramadan[33]	2001	Cohort Subgroup	2yrs – 12 yrs (n = ?/48)	Pooled surgical cohort	US	Not stated (11 ETS+)	2^o	Abnormal findings on second look procedure 2-3 weeks after surgery	6
Ramadan[34]	2002	Prospective Cohort	2yrs – 13yrs (n = 160/118)		US	Parental questioning (38 ETS+)	1^o	Symptom improvement based on CT score	5
Ramadan[36]	2004	Prospective Cohort	2yrs – 13yrs (n = 202/183)		US	Not stated (49 ETS+)	2^o	Symptom improvement	6

* Some studies considered a range of pre- and post-surgical outcomes, or measured ETS exposure across control and intervention groups. In these cases, the PICO question required only those subgroups that had undergone surgical intervention to be included