

ETS AND HEART DISEASE META-ANALYSES

| Exposure | Estimates included | Number of estimates | Relative risk (95% confidence limits)* | |
|------------------------------------|-----------------------------------|---------------------|--|------------------------------|
| | | | Fixed-effects meta-analysis | Random-effects meta-analysis |
| Spouse ever smoked [†] | All | 48 | 1.10 (1.07-1.12) | 1.17 (1.10-1.24) |
| | (excluding Enstrom [‡]) | 46 | 1.12 (1.09-1.15) | 1.19 (1.12-1.27) |
| | Male | 17 | 1.03 (0.99-1.08) | 1.06 (0.99-1.14) |
| | (excluding Enstrom [‡]) | 16 | 1.06 (1.00-1.11) | 1.09 (1.01-1.17) |
| | Female | 26 | 1.08 (1.04-1.11) | 1.17 (1.09-1.26) |
| | (excluding Enstrom [‡]) | 25 | 1.09 (1.06-1.13) | 1.20 (1.11-1.31) |
| | Sexes combined | 5 | 1.37 (1.28-1.47) | 1.37 (1.28-1.47) |
| | North America | 21 | 1.05 (1.02-1.08) | 1.08 (1.02-1.13) |
| | (excluding Enstrom [‡]) | 19 | 1.07 (1.04-1.10) | 1.10 (1.04-1.17) |
| | Europe | 11 | 1.28 (1.12-1.47) | 1.28 (1.12-1.47) |
| | Asia | 7 | 1.24 (1.09-1.41) | 1.24 (1.08-1.42) |
| | Other | 9 | 1.37 (1.28-1.47) | 1.43 (1.11-1.85) |
| | 1984-88 | 7 | 1.22 (1.04-1.44) | 1.26 (1.02-1.55) |
| | 1989-92 | 11 | 1.29 (1.17-1.43) | 1.39 (1.18-1.64) |
| | 1993-96 | 9 | 1.03 (0.99-1.07) | 1.04 (0.99-1.08) |
| | 1997-2000 | 7 | 1.32 (1.09-1.61) | 1.37 (1.06-1.77) |
| | 2001 onwards | 14 | 1.14 (1.10-1.19) | 1.15 (1.04-1.28) |
| | (excluding Enstrom [‡]) | 12 | 1.25 (1.19-1.31) | 1.22 (1.13-1.33) |
| | 1-99 cases | 6 | 1.60 (1.24-2.06) | 1.61 (1.24-2.10) |
| | 100-199 | 10 | 1.37 (1.11-1.69) | 1.37 (1.11-1.69) |
| | 200-999 | 19 | 1.23 (1.13-1.35) | 1.26 (1.12-1.41) |
| | 1000+ | 13 | 1.08 (1.05-1.11) | 1.09 (1.01-1.16) |
| | Case control studies | 25 | 1.28 (1.21-1.36) | 1.27 (1.13-1.42) |
| Prospective studies | 18 | 1.03 (1.00-1.07) | 1.06 (1.01-1.12) | |
| Cross-sectional studies | 5 | 1.20 (1.12-1.28) | 1.21 (1.10-1.33) | |
| Spouse the index | 29 | 1.03 (1.00-1.06) | 1.05 (1.00-1.10) | |
| Not the index | 19 | 1.27 (1.21-1.33) | 1.28 (1.19-1.39) | |
| Spouse current smoker [§] | All | 47 | 1.11 (1.08-1.14) | 1.19 (1.12-1.27) |
| | (excluding Enstrom [‡]) | 45 | 1.13 (1.10-1.17) | 1.22 (1.14-1.30) |
| | Male | 16 | 1.05 (1.00-1.11) | 1.10 (1.00-1.20) |
| | (excluding Enstrom [‡]) | 15 | 1.08 (1.02-1.13) | 1.13 (1.03-1.23) |
| | Female | 25 | 1.09 (1.05-1.12) | 1.20 (1.11-1.31) |
| | (excluding Enstrom [‡]) | 24 | 1.11 (1.07-1.15) | 1.24 (1.14-1.35) |
| | Sexes combined | 6 | 1.37 (1.27-1.47) | 1.37 (1.27-1.47) |
| | North America | 21 | 1.06 (1.03-1.09) | 1.10 (1.03-1.16) |
| | (excluding Enstrom [‡]) | 19 | 1.08 (1.05-1.12) | 1.13 (1.06-1.19) |
| | Europe | 10 | 1.33 (1.15-1.54) | 1.33 (1.15-1.54) |
| | Asia | 7 | 1.28 (1.12-1.46) | 1.28 (1.12-1.46) |
| | Other | 9 | 1.37 (1.28-1.47) | 1.43 (1.11-1.85) |
| | 1984-88 | 7 | 1.24 (1.05-1.47) | 1.26 (1.04-1.52) |
| | 1989-92 | 10 | 1.30 (1.17-1.44) | 1.41 (1.18-1.68) |
| | 1993-96 | 9 | 1.05 (1.01-1.08) | 1.07 (1.00-1.14) |
| | 1997-2000 | 7 | 1.32 (1.09-1.61) | 1.37 (1.06-1.77) |
| | 2001 onwards | 14 | 1.16 (1.11-1.21) | 1.17 (1.05-1.31) |
| | (excluding Enstrom [‡]) | 12 | 1.26 (1.20-1.32) | 1.25 (1.14-1.36) |

ETS AND HEART DISEASE META-ANALYSES (Continued)

| Exposure | Estimates included | Number of estimates | Relative risk (95% confidence limits)* | | |
|--|--------------------------|---------------------|--|------------------------------|------------------|
| | | | Fixed-effects meta-analysis | Random-effects meta-analysis | |
| Spouse a current smoker (continued) [§] | 1-99 cases | 6 | 1.78 (1.34-2.36) | 1.78 (1.34-2.36) | |
| | 100-199 | 9 | 1.38 (1.11-1.71) | 1.38 (1.11-1.71) | |
| | 200-999 | 19 | 1.26 (1.16-1.39) | 1.30 (1.15-1.46) | |
| | 1000+ | 13 | 1.09 (1.06-1.12) | 1.10 (1.02-1.18) | |
| | Case control studies | 24 | 1.29 (1.22-1.37) | 1.30 (1.15-1.47) | |
| | Prospective studies | 18 | 1.05 (1.02-1.08) | 1.10 (1.03-1.17) | |
| | Cross-sectional studies | 5 | 1.20 (1.12-1.28) | 1.21 (1.10-1.33) | |
| | Spouse the index | 28 | 1.04 (1.01-1.07) | 1.09 (1.02-1.16) | |
| | Not the index | 19 | 1.27 (1.21-1.33) | 1.28 (1.19-1.39) | |
| | Workplace ETS exposure** | All | 18 | 1.12 (1.01-1.23) | 1.12 (1.01-1.23) |
| Male | | 7 | 1.07 (0.95-1.21) | 1.07 (0.95-1.21) | |
| Female | | 9 | 1.10 (0.93-1.31) | 1.10 (0.93-1.31) | |
| Sexes combined | | 2 | 1.85 (1.24-2.78) | 1.85 (1.24-2.78) | |
| North America | | 6 | 1.07 (0.95-1.20) | 1.07 (0.95-1.20) | |
| Europe | | 6 | 1.19 (0.95-1.50) | 1.18 (0.86-1.61) | |
| Asia | | 2 | 1.37 (0.90-2.09) | 1.37 (0.90-2.09) | |
| Other | | 4 | 1.24 (0.83-1.86) | 1.24 (0.83-1.86) | |
| Total ETS exposure | | All | 21 | 1.22 (1.17-1.28) | 1.26 (1.13-1.40) |
| ETS assessed by cotinine | | All | 3 | 1.09 (0.93-1.28) | 1.12 (0.83-1.50) |

* Relative risk estimates and 95% confidence limits used in these meta-analyses are adjusted for covariates if adjusted data are available, and otherwise are unadjusted. If the source publication provides more than one adjusted estimate, the data that are normally presented are those adjusted for most covariates.

† Index of exposure based on smoking by the spouse or, if not available, the nearest equivalent. Relative risk for spouse ever smoked versus never smoked where available, otherwise data for spouse a current smoker are used.

‡ The study by Enstrom and Kabat¹ has been widely criticised, though for reasons which bear little or no relationship to the data presented.² The effect of excluding this study from some meta-analysis results is shown for illustrative purposes.

§ Index of exposure based on smoking by the spouse or, if not available, the nearest equivalent. Relative risk for spouse a current smoker versus never or non smoker where available, otherwise data for spouse ever smoked are used.

** Results are based on analyses limited to the working population, if available. Otherwise, the unexposed group includes those who do not work.

A document³ and a full computer output⁴ provide more information on the relative risks combined, significance tests of heterogeneity and other detail.

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References

1. Enstrom JE, Kabat GC. Environmental tobacco smoke and tobacco related mortality in a prospective study of Californians, 1960-98. *BMJ* 2003;**326**:1057-61. Full version available at <http://bmj.com/cgi/content/full/326/7398/1057>
2. Enstrom JE, Kabat GC. *The Lancet's* call to ban smoking in the UK [Letter]. *Lancet* 2004;**363**:398-9.
3. Lee PN, Forey BA, Hamling JS. *Epidemiological evidence on environmental tobacco smoke and heart disease*. Sutton, Surrey: P N Lee Statistics and Computing Ltd; 2006. www.pnlee.co.uk/reflist.htm [Download LEE2006H]
4. Lee PN, Forey BA, Hamling JS. *Detailed meta-analysis on ETS and heart disease*. Sutton, Surrey: P N Lee Statistics and Computing Ltd; 2006. www.pnlee.co.uk/reflist.htm [Download LEE2006F]