

Supplementary materials

Table S1. GRADE for the quality of evidence of aircraft noise associated with pre-term delivery.

Domains	Criterion	Assessment	Downgrading
Start Level		Cross-sectional and survey	Low quality
1. Study Limitations	Majority of studies low quality	few studies of low quality	Downgrade one level
2. Inconsistency	Conflicting results; high I ²	Difficult to judge	Downgrade one level
3. Directness	Direct comparison; same PECCO	Good	No downgrade
4. Precision	Confidence interval contains 25% harm or benefit	Difficult to judge	No downgrade
5. Publication Bias	Funnel plot indicates	No information available	No downgrade
6. Dose-response	Significant trend	Difficult to judge	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	Unclear	No upgrade
Overall Judgment			Very low

Table S2. GRADE for the quality of evidence of aircraft noise associated with low birth weight.

Domains	Criterion	Assessment	Downgrading
Start Level		Case-control studies	Low quality
1. Study Limitations	Majority of studies low quality	Yes	Downgrade one level
2. Inconsistency	Conflicting results; high I ²	Similar direction but overall unclear	Downgrade one level
3. Directness	Direct comparison; same PECCO	Yes direct evidence	No downgrade
4. Precision	Confidence interval contains 25% harm or benefit	Only for one study clearly	Downgrade one level
5. Publication Bias	Funnel plot indicates	Not able to assess	No downgrade
6. Dose-response	Significant trend	Only for one study clearly	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	Not fully adjusted	No upgrade
Overall Judgment			Very low

Table S3. GRADE for the quality of evidence of aircraft noise associated with congenital malformations.

Domains	Criterion	Assessment	Downgrading
Start Level		Ecological study and survey	Low quality
1. Study Limitations	Majority of studies low quality	Yes	Downgrade one level
2. Inconsistency	Conflicting results; high I ²	yes	Downgrade one level
3. Directness	Direct comparison; same PECCO	Yes	No downgrade
4. Precision	Confidence interval contains 25% harm	No	Downgrade one level

	or benefit		
5. Publication Bias	Funnel plot indicates	No	No downgrade
6. Dose-response	Significant trend	No	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	No	No upgrade
Overall Judgement			Very low

Table S4. GRADE for the quality of evidence of road traffic noise associated with pre-term delivery

Domains	Criterion	Assessment	Downgrading
Start Level		Cohort study	High quality
1. Study Limitations	Majority of studies low quality	Only one study of good quality	No downgrade
2. Inconsistency	Conflicting results; high I ²	Only one study	Downgrade one level
3. Directness	Direct comparison; same PECCO	Yes	No downgrade
4. Precision	Confidence interval contains 25% harm or benefit	No	Downgrade one level
5. Publication Bias	Funnel plot indicates	Not able to assess	No downgrade
6. Dose-response	Significant trend	No	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	No	No upgrade
Overall Judgment			Low Quality

Table S5. GRADE for the quality of evidence of road traffic noise associated with low birth weight.

Domains	Criterion	Assessment	Downgrading
Start Level		Cohort studies	High quality
1. Study Limitations	Majority of studies low quality	No, all low risk of bias	No downgrade
2. Inconsistency	Conflicting results; high I ²	Inconsistent results	Downgrade one level
3. Directness	Direct comparison; same PECCO	yes	No downgrade
4. Precision	Confidence interval contains 25% harm or benefit	Not precise	Downgrade one level
5. Publication Bias	Funnel plot indicates	Not able to assess	No downgrade
6. Dose-response	Significant trend	Not in all studies	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	Most confounders are connected to noise levels and outcomes would increase the risk	No upgrade
Overall Judgment			Low Quality

Table S6. GRADE for the quality of evidence of road traffic noise associated with small for gestational age.

Domains	Criterion	Assessment	Downgrading
Start Level		Cohort study	High quality
1. Study Limitations	Majority of studies low quality	No	No downgrade
2. Inconsistency	Conflicting results; high I ²	Two studies based on the same subjects and exposure assessment	Downgrade one level
3. Directness	Direct comparison; same PECCO	yes	No downgrade
4. Precision	Confidence interval contains 25% harm or benefit	No	Downgrade one level
5. Publication Bias	Funnel plot indicates	Not able to assess	No downgrade
6. Dose-response	Significant trend	Not able to assess	No upgrade
7. Magnitude of effect	RR > 2	No	No upgrade
8. Confounding adjusted	Effect in spite of confounding working towards the nil	Yes	No upgrade
Overall Judgment			Low

Table S7 Assessment of the risk of bias in the individual studies for Table S1

Ref.	year	Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Schell [11]	1981	high	low	high	high	low	2	high
Matsui et al [13]	2007	low	high	low	high	high	2	high

Table S8 Assessment of the risk of bias in the individual studies for Table S2

Ref.	year	Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Ando and Hattori [10]	1973	high	low	high	high	high	1	high
Schell [11]	1981	high	low	high	high	low	2	high
Knipschild et al [12]	1981	low	low	high	high	high	2	high
Matsui et al [13]	2007	low	high	low	high	high	1	high

Table S9 Assessment of the risk of bias in the individual studies for Table S3

Ref.	year	Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Jones and Tauscher [14]	1978	low	high	low	high	high	2	high

Edmonds et al [15]	1979	low	high	low	high	high	2	high
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Table S10 Assessment of the risk of bias in the individual studies for Table S4

		Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Gehring et al [17]	2014	low	high	low	low	low	4	low
Hystadt et al [19]	2014	low	high	low	low	low	4	low
Arroyo et al [22]	2016a	low	low	high	high	high	2	high
Arroyo et al [21]	2016b	low	low	high	high	high	2	high

Table S11 Assessment of the risk of bias in the individual studies for Table S5

		Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Wu et al [16]	1996	low	low	low	low	high	4	low
Gehring et al [17]	2014	low	high	low	low	low	4	low
Dadvand et al [18]	2014	low	high	low	low	low	4	low
Hjortebjerg et al [20]	2016	low	low	low	high	low	4	low
Arroyo et al [21]	2016b	low	low	high	high	high	2	high

Diaz et al [23]	2016	low	low	high	high	high	2	high
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Table S12 Assessment of the risk of bias in the individual studies for Table S6

		Bias due to selection of participants	Information bias due to exposure assessment	Outcome bias I	Outcome bias II	Bias due to confounding	Count of columns with low risk of bias	Total risk of bias
Gehring et al [17]	2014	low	high	low	low	low	4	low
Hystadt et al [19]	2014	low	high	low	low	low	4	low