

Summary of findings:




26. Short course (3-5 days) compared to longer course (7-10 days) antibiotics for acute otitis media

Patient or population: Children aged 1 month to 14.3 years with acute otitis media

Setting: Primary health care.

Intervention: Short course (3-5 days) antibiotics (Studies used: Amoxicillin/clavulanate 80-90mg / 6.4-10mg/kg/day, Cefixime 8mg/kg/day, Cefpodoxime 8mg/kg/day, Ceflacor 40mg/kg/day, Cefuroxime 30mg/kg/day, Cefprozil 30mg/kg/day, Penicillin V 25mg/kg/day).

Comparison: longer course (7-10 days) antibiotics (Studies used: Amoxicillin/clavulanate 80-90mg / 6.4-10mg/kg/day, Cefixime 8mg/kg/day, Cefpodoxime 8mg/kg/day, Ceflacor 40mg/kg/day, Cefuroxime 30mg/kg/day, Cefprozil 30mg/kg/day, Penicillin V 25mg/kg/day).

Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Short course (3-5 days)	With Short course (3-5 days)	Difference		
Treatment failure - Sensitivity Analysis: same antibiotic in treatment arms assessed by: clinical assessment and otoscopy follow up: median 1 months № of participants: 3788 (10 RCTs) ^{1,2,a}	RR 1.57 (1.36 to 1.82)	14.3%	22.4% (19.4 to 25.9)	8.1% more (5.1 more to 11.7 more)	 MODERATE ^b	In children with AOM treated with a shorter antibiotic course (3-5 days) compared to longer antibiotic course (7-10 days) there is probably more treatment failures at 1 month follow-up. NNH ~13
Treatment failure - Amoxicillin-clavulanate - 5 versus 10 days assessed by: clinical assessment and otoscopy follow up: median 1 months № of participants: 1409 (3 RCTs) ^{1,2,c}	RR 1.82 (1.49 to 2.23)	16.6%	30.1% (24.7 to 36.9)	13.6% more (8.1 more to 20.4 more)	 LOW ^{d,e}	In children with AOM treated with a shorter 5 day course of amoxicillin-clavulanate compared to a longer 10 day course there is possibly more treatment failures at 1 month follow-up. NNH ~8
Adverse effects (gastrointestinal) assessed by: parental report follow up: median 1 months № of participants: 5433 (14 RCTs) ^{1,2,f}	RR 0.79 (0.69 to 0.91)	15.1%	12.0% (10.4 to 13.8)	3.2% fewer (4.7 fewer to 1.4 fewer)	 LOW ^{b,g}	In children with AOM treated with a shorter course (3-5 days) compared to longer course (7-10 days) of antibiotics there are possibly fewer adverse effects at 1 month follow-up. NNT ~32

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; NS: Not significant; NNT: Number needed to treat; NNH: Number needed to harm;

Summary of findings:

26. Short course (3-5 days) compared to longer course (7-10 days) antibiotics for acute otitis media

Patient or population: Children aged 1 month to 14.3 years with acute otitis media

Setting: Primary health care.

Intervention: Short course (3-5 days) antibiotics (Studies used: Amoxicillin/clavulanate 80-90mg / 6.4-10mg/kg/day, Cefixime 8mg/kg/day, Cefpodoxime 8mg/kg/day, Ceflacor 40mg/kg/day, Cefuroxime 30mg/kg/day, Cefprozil 30mg/kg/day, Penicillin V 25mg/kg/day).

Comparison: longer course (7-10 days) antibiotics (Studies used: Amoxicillin/clavulanate 80-90mg / 6.4-10mg/kg/day, Cefixime 8mg/kg/day, Cefpodoxime 8mg/kg/day, Ceflacor 40mg/kg/day, Cefuroxime 30mg/kg/day, Cefprozil 30mg/kg/day, Penicillin V 25mg/kg/day).

Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Short course (3-5 days)	With Short course (3-5 days)	Difference		

GRADE Working Group grades of evidence

High quality: We are very confident that the true effect lies close to that of the estimate of the effect

Moderate quality: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

Explanations

- Studies taken from: (1) Cochrane Review, Kozyrskyj 2010 (Adam 2000, Catania 2004, Cohen 1998, 2000, Gooch 1996, Hendrickse 1988, Hoberman 1997, Ingvarsson 1982, Kafetzis 1997), (2) Hoberman 2016
- Risk of bias: Selection bias (many studies), reporting bias, attrition bias
- Studies taken from: (1) Cochrane Review, Kozyrskyj 2010 (Cohen 1998, Hoberman 1997), (2) Hoberman 2016
- Risk of bias: Reporting bias (Cohen, Hoberman), industry funding (Hoberman 1997)
- Imprecision: Optimal information size not met
- Studies taken from: (1) Cochrane Review, Kozyrskyj 2010 (Adam 1996, 2000, Block 2000, 2004, Boulesteix 1995, Catania 2004, Cohen 1997, 1998, Gooch 1996, Hendrickse 1988, Hoberman 1997, Kafetzis 1997, Ploussard 1984), (2) Hoberman 2016
- Inconsistency: High heterogeneity

References

- Hoberman A, Paradise JL, Rockette HE, Kearney DH, Bhatnagar S, Shope TR, et al. Shortened Antimicrobial Treatment for Acute Otitis Media in Young Children. *The New England journal of medicine*. 2016;375(25):2446-56. Epub 2016/12/22. doi: 10.1056/NEJMoa1606043. PubMed PMID: 28002709; PubMed Central PMCID: PMC5319589.
- Kozyrskyj A, Klassen TP, Moffatt M, Harvey K. Short-course antibiotics for acute otitis media. *The Cochrane database of systematic reviews*. 2010(9):Cd001095. Epub 2010/09/09. doi: 10.1002/14651858.CD001095.pub2. PubMed PMID: 20824827.