

## Erythromycin Suspension

All Erythromycin suspensions are currently unavailable with indeterminate dates.<sup>1</sup> Liquid formulations of erythromycin are in the form of the estolate or ethylsuccinate salts. These salts were formulated in order to overcome the otherwise poor bioavailability of the erythromycin base.<sup>2</sup>

### Implications for Patient Care

- Erythromycin is an anti-infective medication used to treat a variety of bacterial infections e.g. *S. pneumoniae*, *M.pneumoniae*, *C.pneumoniae*, *C. trachomatis*, *B. pertussis*, *legionella spp.* and other infections; also used as a prokinetic agent.
- No single agent may be substituted for erythromycin for all patients. Base choice of therapy on specific patient characteristics.
- Erythromycin content is listed as the equivalent of the base thus erythromycin ethylsuccinate 400 mg is equivalent to erythromycin base 400mg. Erythromycin estolate 250mg is equivalent to 250 mg of erythromycin base. The bioavailability of erythromycin is variable and depends on several factors including the particular derivative, the formulation of the dosage form administered, acid stability of the derivative (which varies), presence of food in the GI tract and gastric emptying time.<sup>2</sup>
- Note that neither azithromycin nor clarithromycin have official indication for dosing in patients less than 6 months of age.<sup>3</sup>
- Note the estolate salt is contraindicated in pregnancy due to concerns over cholestatic hepatitis.

### TREATMENT ALTERNATIVES<sup>4</sup>

**These tables outline some common indications which recommend the use of erythromycin in their treatment guidelines. It is NOT comprehensive. For complete guidelines, please refer to the Anti-infective review panel guidelines.**

**Bacterial Pharyngitis (children): erythromycin estolate considered 2<sup>nd</sup> line treatment**

First line:	Penicillin V:	≤ 27kg 40mg/kg/day divided BID-TID (max 750mg/day)  >27kg use adult dose
	Amoxicillin:	40mg/kg/day divided BID-TID
Third line:	Cephalexin	25-50mg/kg/day divided QID
	Cefprozil	15mg/kg/day divided BID
	Cefuroxime AX	20mg/kg/day divided BID
	Cefixime	8mg/kg/day once daily
	Clarithromycin*	15mg/kg/day divided BID
	Azithromycin*	12mg/kg/daily for 5 days (max. 500mg/day)
	*safety/efficacy not established in less than 6 months of age	

**Pneumonia – Children: Outpatients**

1-3 months of age	Consult specialist	
3 months to 5 years of age	No antibiotic indicated for RSV/other respiratory viruses	
First line:  3 months to 5 years of age	Amoxicillin	80mg/kg/day divided TID for 7-10 days
	Erythromycin estolate	40mg/kg/day divided QID for 7-10 days
	Clarithromycin*	15mg/kg/day divided BID for 7-10 days
	Azithromycin* *safety/efficacy not established less than 6 months of age	10mg/kg/on day 1 then 5mg/kg/daily on days 2-5
First line:  3 months to 5 years of age	Amoxicillin	80mg/kg/day divided TID for 7-10 days
	Erythromycin estolate	40mg/kg/day divided QID for 7-10 days
	Clarithromycin*	15mg/kg/day divided BID for 7-10 days

	Azithromycin* *safety/efficacy not established less than 6 months of age	10mg/kg/on day 1 then 5mg/kg/daily on days 2-5
First line: 5-18 years of age	Erythromycin estolate  Erythromycin base  Clarithromycin  Azithromycin	40mg/kg/day divided QID for 7-10 days (max. 2g/day)  1-2g/day divided BID TID or QID for 7-10 days  15mg/kg/day divided BID for 7-10 days (max. 1g/day)  10mg/kg/on day 1 then 5mg/kg/once daily on days 2-5 (max. 1.5g/5 days)

### Pneumonia – Children: Hospitalized

1-3 months of age	No antibiotic indicated for RSV or other viruses	
1- 3 months of age  First line:	When treating for <i>C.trachomatis</i> and <i>B.pertussis</i> :  Erythromycin estolate  Erythromycin IV	40mg/kg/day divided QID  40mg/kg/day divided Q6H
3 months to 5 years of age  First line:	No antibiotic indicated for RSV and other viruses  <i>S.pneumoniae</i>  <i>S.aureus</i>  <i>GroupA strep</i>  <i>H.flu</i>  <i>M.pneumoniae</i>  <i>C.pneumoniae</i>	Cefuroxime IV 150mg/kg/day divided Q8H ± ONE of the following:  Erythromycin estolate 40mg/kg/day divided QID  Erythromycin IV 40mg.kg.day divided Q6H  Clarithromycin 15mg/kg/day divided BID*  Azithromycin 10mg/kg/ on day 1 then 5mg/kg/once daily on days 2-5* *safety/efficacy not established in less than 6 months of age

5 to 18 years of age	<p><i>S.pneumoniae</i></p> <p><i>M.pneumoniae</i></p> <p><i>C.pneumoniae</i></p> <p>Influenza A or B</p> <p>Adenovirus</p> <p>Other respiratory viruses</p>	<p>Cefuroxime IV 150mg/kg/day divided Q8H (max. 1.5g/dose)</p> <p>PLUS ONE of the following:</p> <p>Erythromycin estolate 40mg/kg/day divided QID (max. 2g/day)</p> <p>Erythromycin IV 40mg/kg/day divided Q6H (max. 1g/dose)</p> <p>Clarithromycin 15mg/kg/day divided BID (max. 1g/day)</p> <p>Azithromycin 10mg/kg/on day 1 then 5mg/kg/daily on days 2-5 (max. 1.5g/5 day treatment)</p>
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### Pertussis

First line:	<p><b>Adult:</b></p> <p>Erythromycin</p> <p><b>Children:</b></p> <p>Erythromycin estolate</p>	<p>1-2g/day divided BID TID or QID</p> <p>30-40mg/kg/day divided Q6-8H for 7 days</p>
Second line:	<p>Clarithromycin</p> <p>Azithromycin</p>	<p>250-500mg BID</p> <p>Children: 15mg/kg/day divided BID</p> <p>500mg on day 1 then 250mg on days 2-4</p> <p>Children: 10mg/kg on day 1 then 5mg/kg on days 2-5</p>
Third line:	TMP/SMX	<p>2 tabs BID / 1 DS tab BID</p> <p>Children: 5-10mg/kg/day divided BID</p>

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