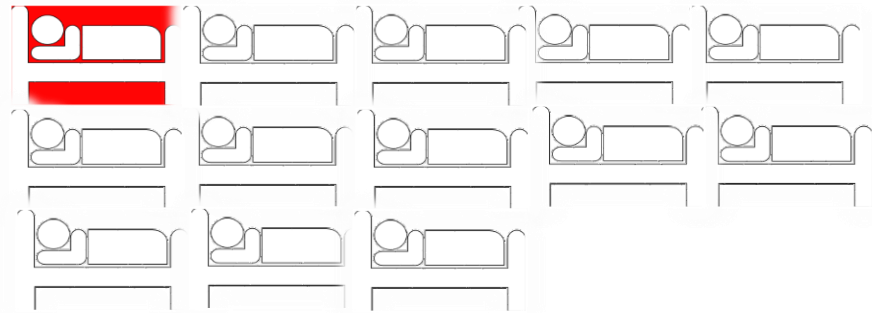




Prevention of admission for bronchiolitis: **BIPED (Bronchiolitis in Infants: Placebo vs. Epinephrine Dexamethasone) study**

Stuart Dalziel, Professor of Emergency Medicine & Paediatrics
University of Auckland and Starship Children's Hospital

Bronchiolitis: Burden of disease



x3 Maori



x4.3 Pacific



x4.7

How do we manage bronchiolitis?

Journal of Paediatrics and
Child Health



doi:10.1111/jpc.14104

ORIGINAL

Austral

Sharon O'Brien,
Paul Bauert,¹
Jocelyn Neutze,
Michael Zhang,
Emergency De

8,9

Thomas,²²
in

**No treatment
changes
rate of admission
or length of stay**

D... (GRADE strong)

D... antibiotics (GRADE conditional)

High flow **rescue only** (GRADE conditional)

How do we manage bronchiolitis?



How do we manage bronchiolitis?

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Epinephrine and Dexamethasone in Children with Bronchiolitis

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Primary outcome

Admission to hospital within 7 days

Secondary outcomes

HR, RR, RDAI score & S_pO_2 at 30, 60, 120 and 240 min

Length & severity of symptoms

Length of stay

Health care utilization to 21 days

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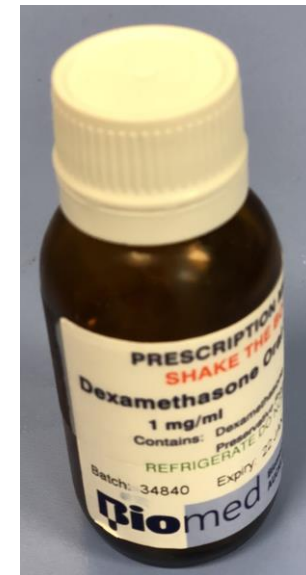
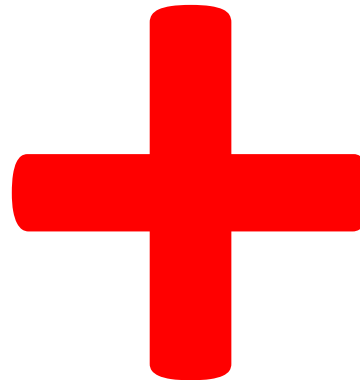


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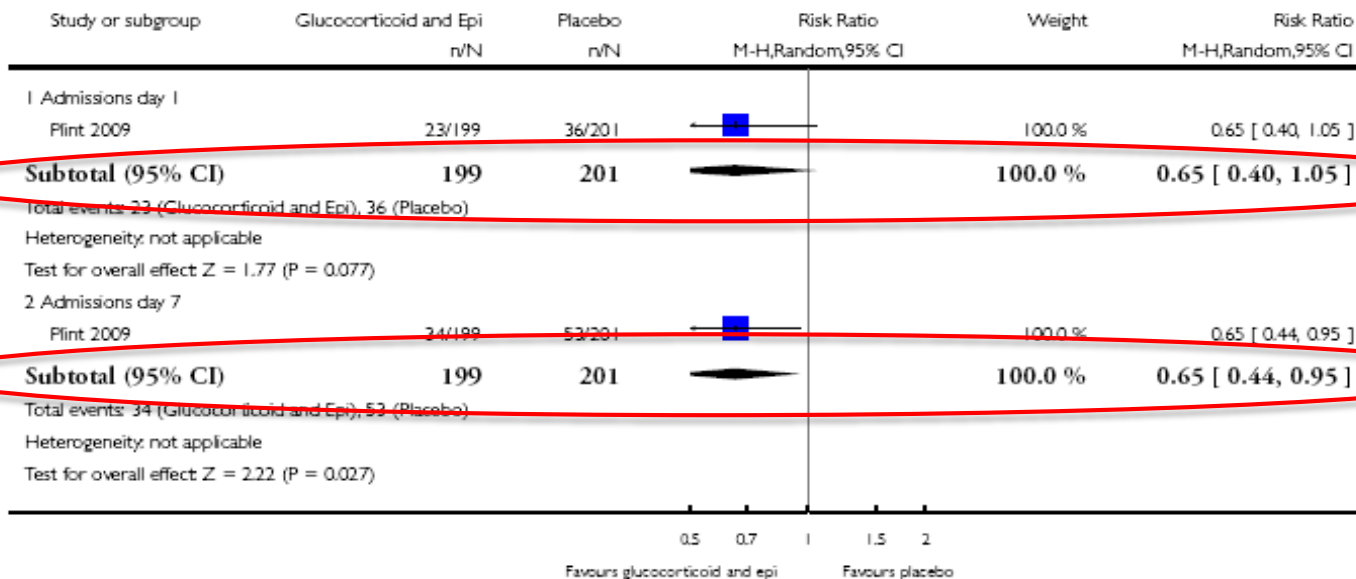
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Admission
reduced by
1/3 with both



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Why didn't practice change

Exploratory finding

Large dose of dexamethasone

Both medications not routine in Au/NZ or UK/Eu

Definition of bronchiolitis not generalizable

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study

Question

Does the combination of nebulised epinephrine and dexamethasone reduce admission to hospital in children presenting with bronchiolitis?

Method

DB RCT of nebulised epinephrine x2 (3 mL 1:1000) + 2 day dexamethasone (0.6 mg/kg, max 10mg) vs. placebo in 1,616 children <1 year presenting to 12 EDs in Canada/Au/NZ

When

3 years starting in Canada in December 2018, Au/NZ 2019

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study

Primary outcome

Admission into hospital with bronchiolitis by 7 days

Secondary outcomes

Admission into hospital at initial ED visit

Admission into hospital by 21 days

Health care utilization by 21 days

Cost

Safety (infection, death, Varicella, GI bleed)

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study

Inclusion criteria

Presenting to ED with bronchiolitis during peak bronchiolitis season

Between ≥ 60 days of age and < 12 months

RDAI > 3

Exclusion criteria

Preterm < 60 days corrected

CLD, CHD

Immunodeficiency, recent varicella

Severely unwell

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study

Power

90% power to detect 8% absolute difference in admission rates (NNT 12.5) based on Au bronchiolitis definition

80% power to detect 8% absolute difference in admission rates based on North American bronchiolitis definition

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study

Largest trial ever in bronchiolitis

If these two treatments work

We will change care internationally

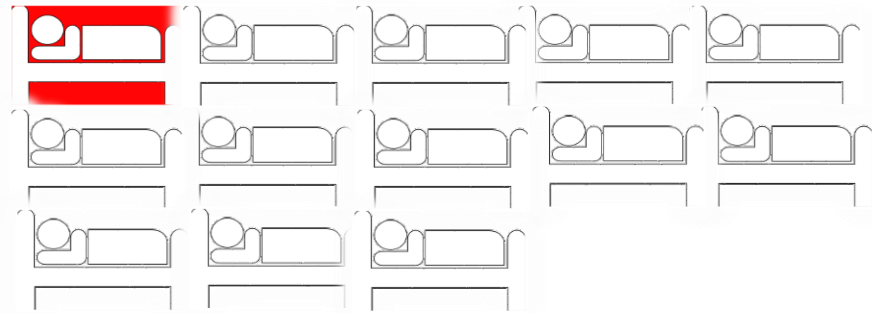
1,500 fewer infants admitted in NZ

If these two treatments don't work

We will close the line of inquiry

Avoid unnecessary exposure to treatment

Bronchiolitis in Infants: P_{lacebo} vs. E_{pinephrine} D_{examethasone} study



x3 Maori



x4.3 Pacific



x4.7

BIPED - Team

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Questions