

Primary Care Management of Respiratory Tract Infections

Prescribing antibiotics for self
limiting respiratory tract infections in
adults and children in primary care.

Aims of the afternoon

- To raise awareness of the NICE Clinical Guideline 69 (July 2008)
- To think about how you might implement this guidance during a consultation
- Avoid role play

Plan for the afternoon

- Review the Results of Systematic Reviews of antibiotic treatment for respiratory infections
- Read the NICE Guidelines
- Look in groups at some very simple common scenarios in General Practice
 - How would you carry out the consultation so as to elicit the information you need to apply the Guidance
 - Consultation Roadmap

Systematic Reviews of RCTs

- Acute Sore Throat
- Acute Otitis Media
- Acute Maxillary Sinusitis
- Acute Bronchitis

Acute Sore Throat and Antibiotics

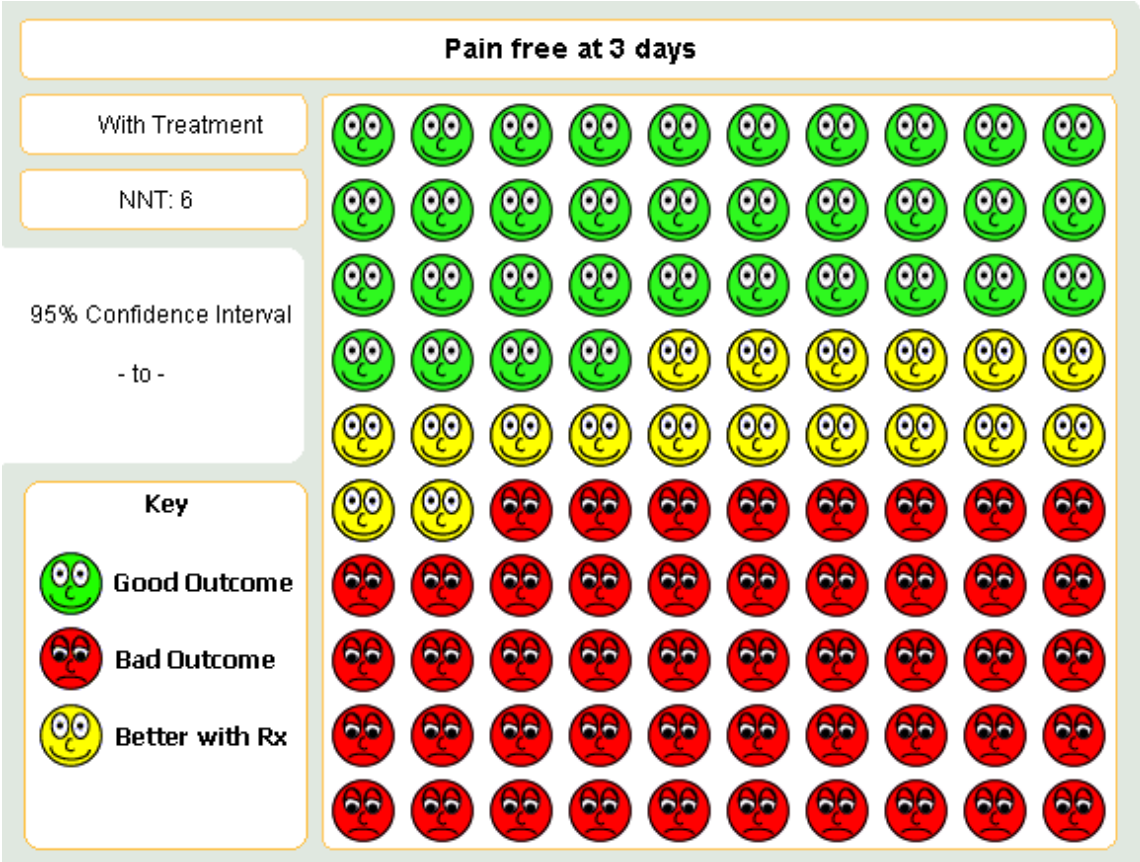
- Data from a Systematic Review of RCTs published in 2006
- Easily found in the Cochrane Database of Systematic Reviews (www.library.nhs.uk)
- 2835 cases of sore throat from 27 RCTs

Acute Sore throat

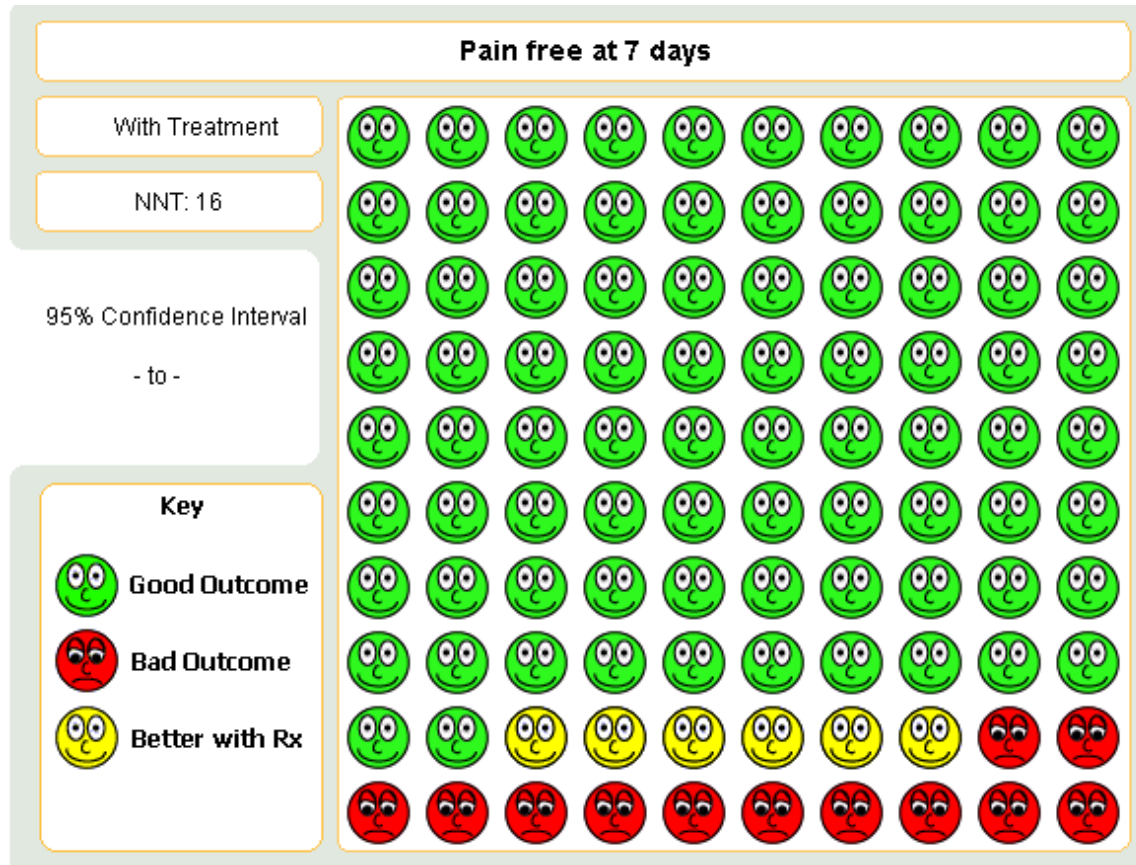
- 50% of patients are free from pain (POO) after 3 days with placebo (90% at 7 days)
- 90% of patients are free from pain after 7 days with placebo
- NNT for one extra patient to be pain free at 3 days is 6
- NNT for one extra patient to be pain free at 7 days is 21
- NNT for one extra patient to be pain free at 2 – 7 days is 14
- Antibiotics shorten the duration of the illness by 16 hours overall

How can you get these messages over to patients?

- www.nntonline.net
- Chris Cates ebm web site
 - Visual Rx (version 2)
 - Baseline risk of an event (e.g. 20% still ill at one week)
 - Relative risk of that event occurring after an intervention (e.g. 0.5)
 - Calculates NNT
 - But more importantly produces **visual decision aids** for patients called Cates Plots -‘Smiley diagrams’



100 patients with sore throat treated with antibiotics, numbers in pain or pain free at 3 days



100 patients treated with antibiotics pain free or in pain at 7 days

Acute Otitis Media and Antibiotics

- Data from a Systematic Review of RCTs published in 2004
- Easily found in the Cochrane Database of Systematic Reviews (www.library.nhs.uk)
- 2287 cases of acute otitis media from 8 RCTs
- Children only.

Antibiotics and Otitis Media

- 80% of children with otitis media had settled spontaneously by 3 days
- No reduction in pain at one day as a result of antibiotics
- NNT for reduction in pain at 3 days is 14
- Age < 2 NNT is 9 (Damoiseaux 2000)
- Age < 2 and bil OM NNT is 4
- OM + Otorrhoea NNT is 3
- Combined harm outcome (vomiting diarrhoea or rash NNT is 17)

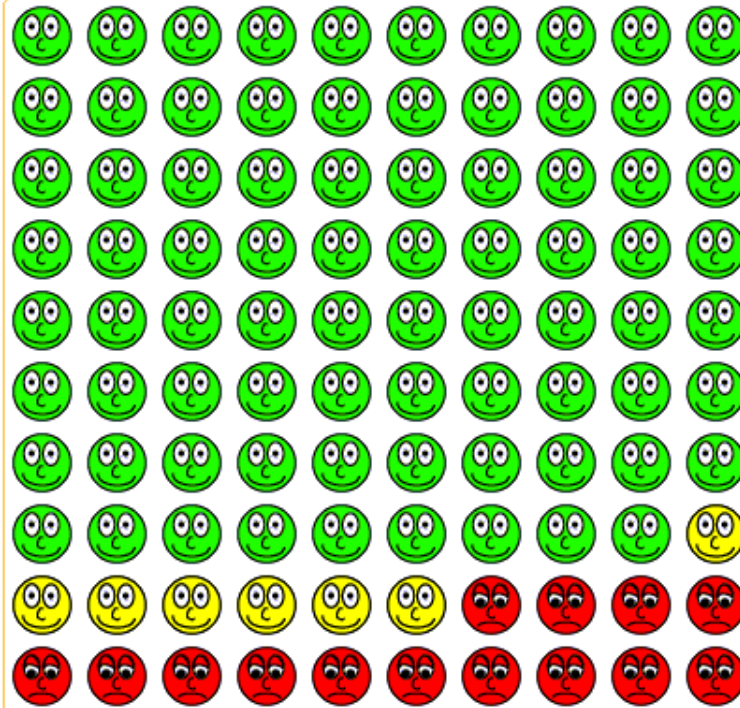
Pain in Acute Otitis Media at 2-7 days for all trials together

With Treatment

NNT: 14

Key

-  Good Outcome
-  Bad Outcome
-  Better with Rx



<< Previous

100 children (all trials) given antibiotics for otitis media pain at 2-7 days.




See www.nntonline.net

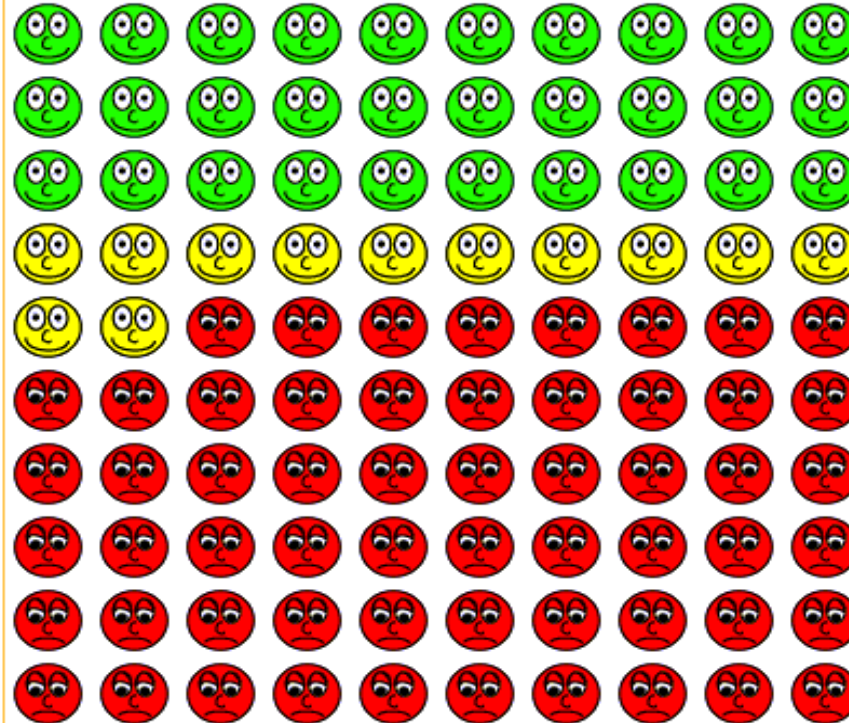
Pain in Acute Otitis Media at 2-7 days (Damoiseaux)

With Treatment

NNT: 9

Key

-  Good Outcome
-  Bad Outcome
-  Better with Rx



<< Previous

antibiotics

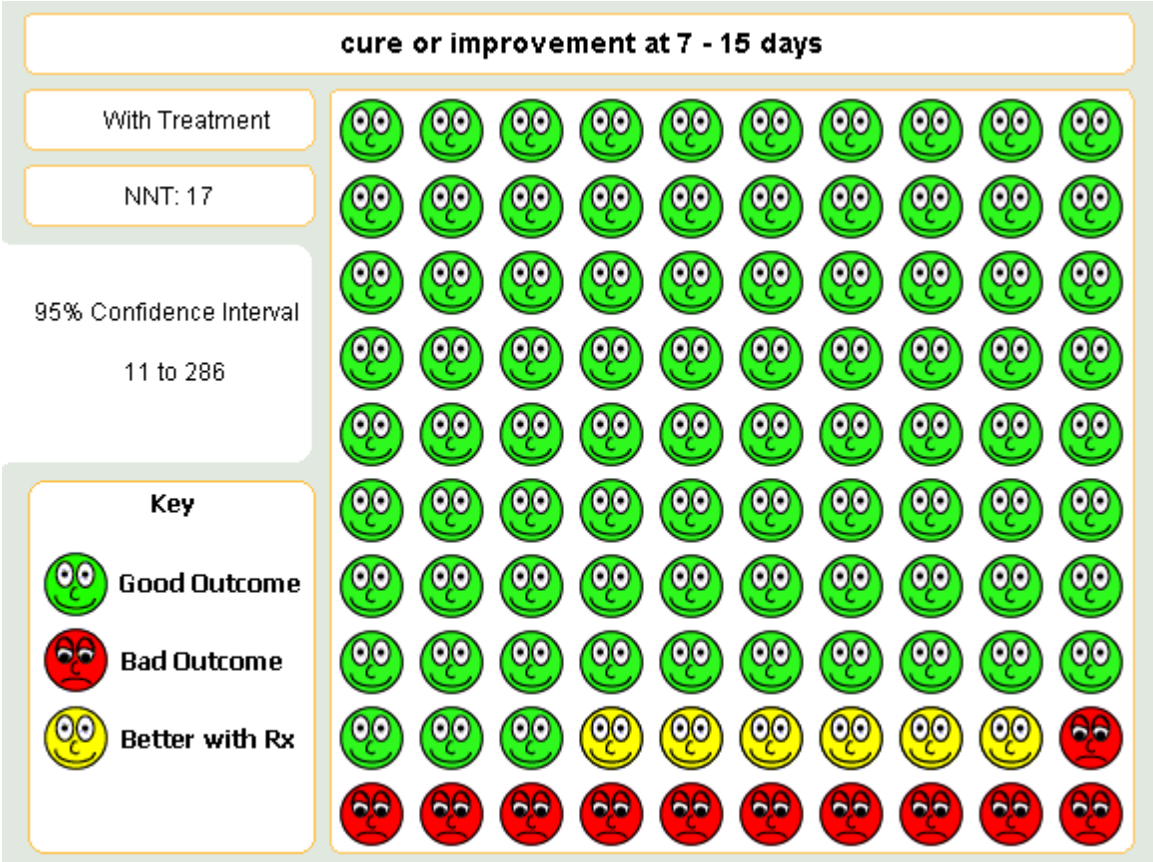
70% of children in this group on placebo were still in pain at 2-7 days compared to 14% in other trials. (Damoiseaux 2000)

Antibiotics and Acute Sinusitis

- Data from a Systematic Review of RCTs published in 2008
- Easily found in the Cochrane Database of Systematic Reviews (www.library.nhs.uk)
- 631 cases of acute maxillary sinusitis from 5 RCTs
 - The rest of the review looks at comparisons of different antibiotic strategies

Acute Sinusitis and Antibiotics

- 80% improvement or cure with placebo at 7-15 days
- 90% with antibiotics
- No antibiotic regime superior to any other
- This review found that antibiotics help some people a bit, but do not make a major difference to most people.



100 patients with sinusitis given antibiotics

Acute Bronchitis and Antibiotics

- Data from a Systematic Review of RCTs published in 2004
- Easily found in the Cochrane Database of Systematic Reviews (www.library.nhs.uk)
- 750 cases of acute bronchitis or acute productive cough from 9 RCTs
- Patients aged 8 to > 65
- Patients without pulmonary disease
- Included smokers and non smokers

Antibiotics and acute bronchitis

- Patients treated with antibiotics were less likely to
 - Have a cough at follow up (3-14 days) NNT is 5
 - To show no physician assessed improvement NNT is 14
 - To have abnormal lung findings NNT is 11

Antibiotics and acute bronchitis

- Symptom duration was shortened on average by
 - Cough 0.58 days
 - Productive cough 0.52 days
 - Feeling ill 0.58 days

Antibiotics and acute bronchitis

With Treatment

NNT: 6

95% Confidence Interval

4 to 13

Key



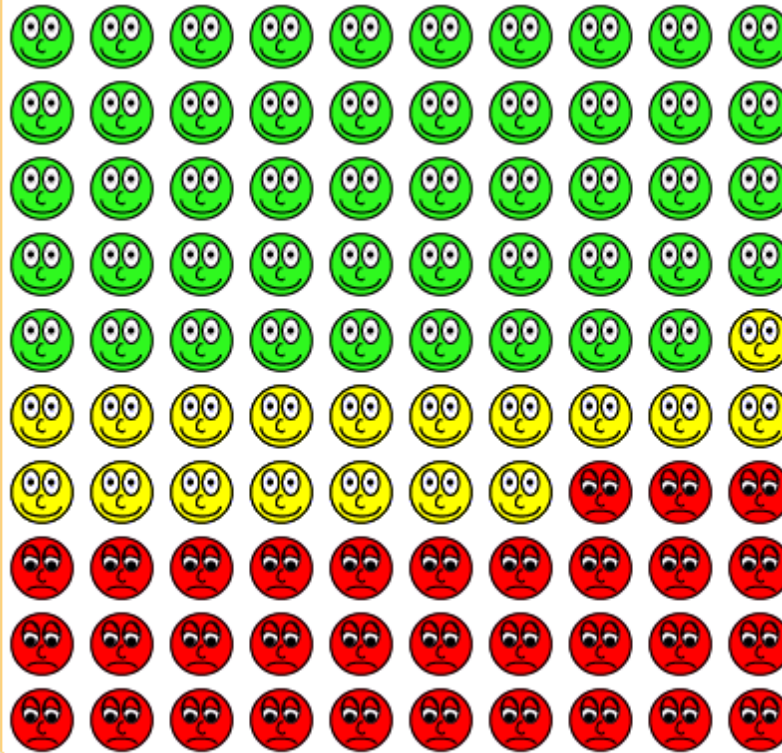
Good Outcome



Bad Outcome



Better with Rx



100 patients with acute bronchitis given antibiotics cough or no cough at follow up

Numbers with and without cough at follow up 3- 14 days

Scenarios

- Acute Sore Throat
- Acute Otitis Media
- Acute Rhino Sinusitis
- Acute Bronchitis

When to prescribe in sore throat

- Systemically very unwell
- Unwell with 3 or more Centor Criteria (tonsillar exudate, tender nodes, history of fever and absence of cough)
- Symptoms and signs suggestive of serious illness or complications peritonsillar abscess, peritonsillitis
- At risk of serious complications because of pre-existing comorbidity Heart, liver, renal, lung, neuromuscular disease, immunosuppression, young children born prematurely

When to prescribe in acute otitis media

- Systemically very unwell
- Symptoms and signs suggestive of complications pneumonia, mastoiditis, intracranial complications.
- At risk of serious complications because of pre existing co morbidity Heart, liver, renal, lung, neuromuscular disease, immunosuppression, young children born prematurely
- Less than 2 years and bilateral OM
- Otorrhoea and acute otitis media

When to prescribe in acute rhino sinusitis

- Systemically very unwell
- Symptoms and signs suggestive of serious illness or complications intraorbital or intracranial complications
- At risk of serious complications because of pre existing co morbidity Heart, liver, renal, lung, neuromuscular disease, immunosuppression, young children born prematurely

When to prescribe in acute bronchitis

- Over 65 and two or more of
 - Hospitalisation in previous year
 - Diabetes
 - CCF
 - Oral steroids
- Older than 80 and one or more of the following
 - Hospitalisation in previous year
 - Diabetes
 - CCF
 - Oral steroids
- Systemically very unwell
- Symptoms or signs of serious illness or complications pneumonia
- Pre existing co morbidity
 - Heart, liver, renal, lung, neuromuscular disease, immunosuppression, young children born prematurely