

Antibiotic Prescribing Resource Pack



Prescribing Support Team

June 2005

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Introduction

This pack has been developed in response to concerns and queries from GP practices regarding prescribing of antibiotics. The importance of appropriate prescribing of antibiotics has been highlighted in various national and local government publications: Path of least resistance, AMRAP, Priorities for Action. The theory is all very well, but translating theory into practice is often difficult. This is especially true in the area of antibiotics where there is high patient demand and expectation.

The aim of the pack is to provide guidance on:

- How to choose an appropriate antibiotic when treatment is indicated
- How to reduce inappropriate prescribing and options for managing patient-led prescribing

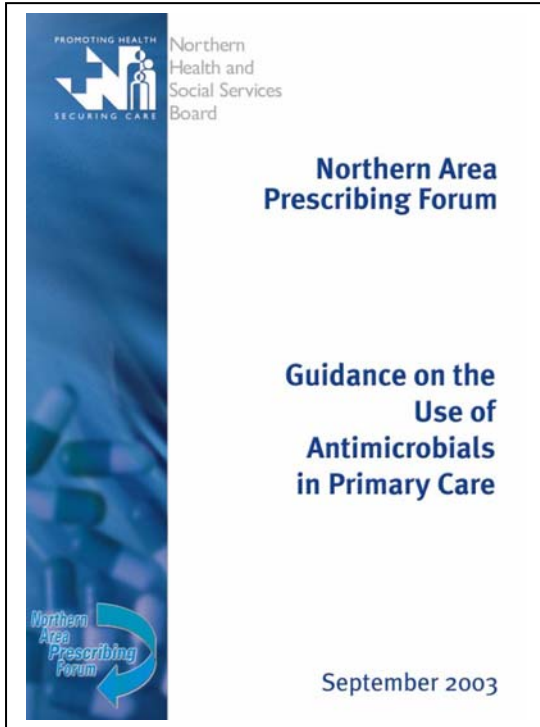
All of the ideas mentioned in the pack have been successfully used in local practices and we hope you find them useful. We would welcome any of your ideas in managing this difficult area which you would be willing to share with others.

The pack comprises of information sheets and a CD which contains useful resources including NHSSB guidance on use of antimicrobials, Patient Information Leaflets and audit documentation.

If you require any further assistance or information please fill in the enclosed sheet or contact one of the Prescribing Advisers.

Prescribing Support Team
June 2005

Local Guidelines



'NAPF Guidance on use of Antimicrobials in Primary Care' was launched in September 2003. The document aims to inform the choice of drug once the decision to prescribe antimicrobial therapy has been made. The recommendations in this guidance remain current.

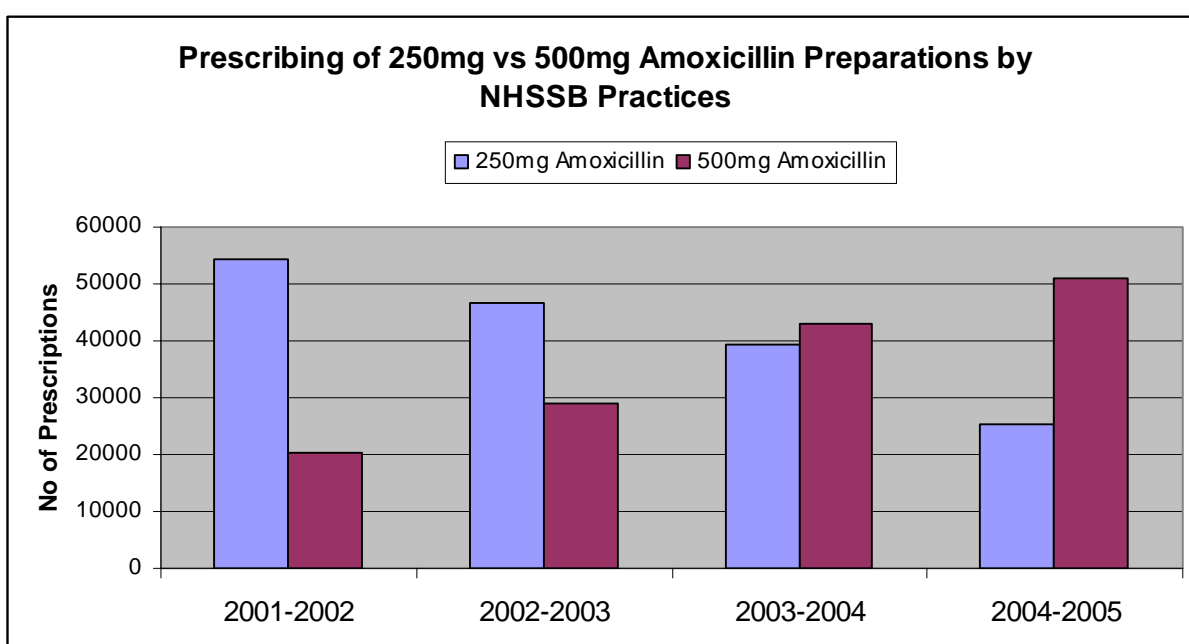
Guidance on antimicrobial prescribing for out of hours emergency services was developed in 2001. This guidance has been adopted by local A&E Departments and Dalriada Urgent Care. The recommendations in this guidance remain current.

GUIDANCE FOR ANTIMICROBIAL PRESCRIBING EMERGENCY SERVICE - PRIMARY AND SECONDARY CARE	
<p>ADULTS</p> <p>URINARY TRACT INFECTIONS</p> <p>Simple Cystitis</p> <p>Trimethoprim 400mg stat then 200mg tid for 3 days or Trimethoprim 200mg bid for 3 days</p> <p>Pyelonephritis</p> <p>Cefalexin 500mg qid for 7 days</p> <p>Prostatis</p> <p>Cefalexin 500mg qid for 10-14 days</p> <p>RESPIRATORY TRACT INFECTIONS</p> <p>Bacterial (Penicillin / Pharyngitis) (NB 70% viral)</p> <p>Penicillin 500mg qid for 10 days Cefalexin 500mg qid for 7 days (for failed therapy)</p> <p>Pneumonia (Allergy)</p> <p>Erythromycin 500mg qid for 10 days CAP* (NB 40% atypical pneumonia) Amoxicillin 500mg bid for 7 days Penicillin (Allergy) Erythromycin 500mg qid for 7 days Atypical Pneumonia Erythromycin 500mg qid for 10 days</p> <p>COVID</p> <p>Co-amoxiclav 625mg tid for 7 days Penicillin (Allergy) Erythromycin 500mg qid for 7 days</p> <p>Acute Sinusitis</p> <p>Amoxicillin 500mg tid for 7 days Penicillin (Allergy) Erythromycin 500mg qid for 7 days</p> <p>Otitis Media (OM) (Recommended analgesia / Acetaminophen)</p> <p>Amoxicillin 500mg tid for 3 - 7 days (repeated / complicated for 10 days)</p> <p>Penicillin (Allergy)</p> <p>Erythromycin 500mg qid for 7 days</p> <p>SOFT TISSUE INFECTIONS</p> <p>Minor Injuries</p> <p>Flucloxacillin 500mg qid prophylactic 48 hrs. infected 5 - 7 days Penicillin (Allergy) Erythromycin 500mg qid for 7 days</p> <p>Contaminated / Human or Animal Bites / Compound Fractures (including fractures made compound by A&E treatment (consider tetanus immune status))</p> <p>Co-amoxiclav 625mg tid for 7 days Penicillin (Allergy) Erythromycin 500mg qid plus Ciprofloxacin 500-750mg bid and Metronidazole 400mg tid for 7 days</p>	<p>CHILDREN</p> <p>URINARY TRACT INFECTIONS</p> <p>Simple Cystitis</p> <p>Cefalexin 125mg-250mg/5ml Susp tid for 7 days</p> <p>RESPIRATORY TRACT INFECTIONS</p> <p>Bacterial (Penicillin / Pharyngitis) (NB 70% viral)</p> <p>Penicillin V 125-250mg/5ml Susp qid for 10 days Cefalexin 125-250mg/5ml Susp tid for 7 days (for failed therapy)</p> <p>Pneumonia (Allergy)</p> <p>Erythromycin 125-250mg/5ml Susp qid for 10 days LEJ† (NB 80-90% viral) Amoxicillin 125-250mg/5ml Susp tid for 7 days Penicillin (Allergy) / Atypical Pneumonia Erythromycin 125-250mg/5ml Susp qid for 7 days</p> <p>Acute Sinusitis</p> <p>Amoxicillin 125-250mg/5ml Susp tid for 7 days Penicillin (Allergy) Erythromycin 125-250mg/5ml Susp qid for 7 days</p> <p>Otitis Media (OM) (Recommended analgesia / Acetaminophen)</p> <p>Amoxicillin 125-250mg/5ml Susp tid for 3-7 days * 2 years / repeated / complicated for 10 days Penicillin (Allergy) Erythromycin 125-250mg/5ml Susp qid for 7 days</p> <p>SOFT TISSUE INFECTIONS</p> <p>Minor Injuries</p> <p>Flucloxacillin 250mg/5ml Susp qid or Co-amoxiclav 400mg 57mg/5ml bid prophylactic 48 hrs; infected 5 - 7 days Penicillin (Allergy) Erythromycin 125-250mg/5ml Susp qid for 7 days</p> <p>Contaminated / Human or Animal Bites / Compound Fractures (including fractures made compound by A&E treatment (consider tetanus immune status))</p> <p>Co-amoxiclav 400mg 57mg/5ml bid for 7 days Penicillin (Allergy) Azithromycin 200mg/5ml daily for 3 days plus Metronidazole 200mg/5ml tid for 7 days</p>

250mg vs 500mg?

“Adequate dosing is required to ensure treatment success and prevent development of bacterial resistance”

NHSSB guidelines, September 2003



- Replace commonly prescribed 250mg doses of flucloxacillin, amoxicillin and erythromycin with 500mg in adults
- Modify doses to compensate for renal or liver impairment and for those of elevated body mass.
- Tailor children’s doses to their weight and height.
- See Page 10 of your COMPASS report to find out what doses are being prescribed in your practice.

To Prescribe or not to Prescribe?

Did you know?

- GPs report prescribing an antibiotic is the most uncomfortable prescribing decision they make
- When patients request an antibiotic they are more likely to be prescribed
- When physicians perceive that patients expect an antibiotic they are TEN times more likely to be prescribed

Refuse to prescribe??	Prescribe??
Risk complications	Risk of side effects
Further appointment/OOH consultation	Patient consults next time
Damage to relationship with patient	Contribute to increased resistance

What do you do in these cases?

What's the Solution?

What about trying these ideas?

- Patient education
 - Target first time parents and children
 - Verbal discussions – address concerns rather than just talking about viruses. Don't make assumptions – some information causes anxiety, highlights complications etc
 - Explain natural history of condition
 - Written information – this does impact on number of patients who take antibiotics and/or attend surgery
 - Discuss/share information outside of acute episode
- Non-antibiotic management – over the counter alternatives.
- Self management leaflets for minor illness
- Enlist support – get all members of the team to sing from the same hymn sheet ie nurses, health visitors, reception staff, community pharmacists, local dentists
- Non-Rx pad
- Delayed prescribing

Delayed prescriptions

The delayed prescription strategy has been tried in various conditions, such as sore throat and otitis media. For patients with sore throat, providing a prescription which can be dispensed in 3 days if no improvement, has been a successful strategy with no decrease in complications and a 69% decrease in number of prescriptions dispensed. The authors of one study concluded “To avoid medicalising a self-limiting illness doctors should avoid antibiotics or offer a delayed prescription for most patients with a sore throat”.

For AOM in children who are not particularly unwell, one practice has shown that a ‘delayed prescription’ for use in a day or two is a useful strategy. Use of antibiotics fell by around 30%.

Patient Information Leaflets

Studies show that doctors often overestimate the expectation for antibiotics and that many patients are simply seeking reassurance or to legitimise illness. Use of PIL’s can help with this reassurance and are more acceptable to patients than advice alone.

Some PIL’s are included on the CD and can be printed off as necessary.

Name: _____ Address: _____

Coughs and Sneezes

There is no prescription for you today because a virus usually causes symptoms like yours. What infections get better on their own in a few days. Unfortunately, antibiotics will NOT cure this kind of infection or make it go away faster. They only kill infections caused by bacteria. Taking antibiotics when they are not really necessary causes resistance to them. This means if some time in the future you do have a condition that should be treated with antibiotics, the antibiotics may not work.

Q: What should I take for my cold?

A: We've all suffered from colds and sneezes and know exactly how miserable you feel.

- Take plenty of drinks (water and fruit juices).
- Paracetamol in tablet form for adults or in liquid for children relieves temperature, aches/pains. Follow the instructions on the packet.
- Rest well.

Q: What can I do to relieve my sore throat?

A: Most sore throats are caused by viruses.

- Take paracetamol as per instructions on the packet and plenty of fluid.
- Gargling with soluble aspirin may help (soluble for adults only – ask your Pharmacist).
- Suck lozenges or antiseptic lozenges to relieve dryness.

Q: What is flu?


A: Flu is caused by the influenza virus. Symptoms are high temperature, sweating, aching muscles, dry cough, tiredness and headache. **Antibiotics will not help!**

- Drink lots of fluids.
- Take regular paracetamol according to the instructions on the packet.
- Go to bed and keep warm.

Q: Will the flu vaccine help?


A: Patients over 65 years and those with certain problems eg Diabetes, Chest conditions and kidney disease should have an anti-flu injection in October/November each year in preparation for the flu season.

Your pharmacist will be happy to give you advice. Always remember to check if any medicine you can be taken along with your usual medication.



Flu Like Illness

Influenza (flu) is caused by the influenza virus. However, many other viruses can cause an illness similar to flu. A diagnosis of flu-like illness is very common.



What are the symptoms of flu and similar illnesses?

Fever (high temperature), sweats, muscle aches, cough, sore throat, headache and tiredness are typical. Some people also feel sick. Symptoms develop quickly. Even if you are young and fit, flu can make you ill enough to need to go to bed. Symptoms usually peak after 1-2 days and then gradually wear off over several days. A feeling of tiredness may persist for a few more days. Most people recover completely in 1-2 weeks.

(Malaria causes similar symptoms to flu but can develop into a serious illness. Tell a doctor if you have flu symptoms but have been to a malaria country within the last year.)

What is the treatment for flu and flu like illnesses?

The body's immune system usually fights off viruses that cause flu or flu-like illnesses. Antibiotics do not kill viruses. Treatment aims to ease symptoms.

- Take paracetamol or aspirin regularly. Take the maximum dose 4 times a day. This helps to lower fever and ease aching muscles and headaches. (Children under 12 should not take aspirin – paracetamol liquid is best for children.) Don't wrap up, instead try and cool down.
- Have lots to drink to prevent mild dehydration (low body fluid).

Are there any complications of flu and flu like illnesses?

Complications are unusual if you are normally well. A bacterial infection sometimes develops on top of the original virus infection. If you have an ongoing chest problem (such as asthma, chronic bronchitis etc) or were previously ill or frail you are more prone to secondary chest infections. Consult a doctor if symptoms change or become worse.

Epidemics, immunisation and prevention of flu

Flu like illnesses are due to a variety of viruses and occur at any time. The 'classical' influenza virus tends to cause a more severe illness and an outbreak occurs in the UK most winters. People at most risk of complications if they have influenza should be immunised each autumn (the 'flu jab'). This includes those with asthma or other lung disease, heart disease, kidney disease, diabetes, a poor immune system (such as in spleen or HIV positive), people aged 65 or over and people living in nursing or residential homes.

Anti-viral medication is controversial. It does not cure flu but may reduce the severity and duration of symptoms. Its use is not yet established. Medication may be prescribed to certain unimmunised people at higher risk of complications who develop flu or during a flu epidemic.

Name: _____ Address: _____

Why no Antibiotic?

Many common infections are caused by viruses. Antibiotics do not kill viruses. Also, many bacterial infections do not need antibiotics. This is why antibiotics are not prescribed for many infections.



Virus infections

Many common infections of the nose, throat, sinuses, ears and chest are caused by viruses. Flu like illnesses are also caused by viruses. (Diarrhoea and/or vomiting are often due to a virus infection of the gut. The immune (defence) system is good at fighting off many types of virus infection in people who are normally well. An antibiotic is not needed if a virus is causing an infection. This is because of the following:

- Antibiotics do not kill viruses. Antibiotics only kill bacteria.
- Antibiotics may cause side effects such as diarrhoea, rashes, feeling sick etc.
- Overuse of antibiotics when they have not been necessary has led to some bacteria becoming resistant to them. This means that they might not be as effective when they are really needed.

You may feel unwell for several days or more until the infection clears. Treatment aims to ease symptoms. The treatment that are commonly advised for virus infections include the following:

- Take paracetamol or aspirin to reduce fever and ease any aches, pains and headaches. Children under 12 should not take aspirin. Paracetamol liquid is best for children.
- Have lots to drink to prevent mild dehydration. This may develop if there is a fever and can make a headache and feeling of tiredness (common with virus infections) much worse.
- Do not wrap up too hot to try to cool down if you have a fever. This is particularly important in young children. Take the clothes off young children, if they have a fever and give paracetamol medicine.
- Other advice may be given for specific symptoms. For example, gargles for sore throats or decongestants for a blocked nose etc. Ask a pharmacist for advice.

What about bacterial infections?

The immune system can clear most bacterial infections. For example, antibiotics usually do little to speed up recovery of bronchitis or most ear, nose and throat infections caused by bacteria. However, serious infections caused by bacteria such as meningitis or pneumonia do need antibiotics. Doctors are advised at checking you over to see our serious illness and to advise if an antibiotic is needed.

What if symptoms change?

Occasionally a virus or minor bacterial infection develops into a more serious infection. See a doctor to review the situation if the illness appears to change, becomes worse, does not go away after a few days or if you are worried about any new symptoms that develop.

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Phone Requests - Ringing the Changes

Patients often ring the surgery with requests for acute conditions for which they believe need an antibiotic. Various methods have been used successfully to ensure rational prescribing in these circumstances.

Use of pro forma

This prompts reception staff to ask the following key questions:

- *What are the symptoms?*
- *How long have you had them?*
- *Have you tried anything already?*
- *Any allergies?*

This gives the GP appropriate information to allow a decision to be made as to what (if anything) to prescribe. This can be incorporated into Practice Acute Prescribing Protocol.

Examples of pro formas are on the enclosed CD Rom.

Use of GP or Nurse triage

This system allows a slot of time eg in the morning, where a GP or nurse rings the patient back. This allows more information to be gathered and advice or script given. If the practitioner feels the patient does need to be seen, they can be given an urgent appointment at end of surgery.

Use of Patient Information Leaflets

If the decision is made not to prescribe eg for a viral condition, a personalised patient leaflet can be left for the patient to reinforce why an antibiotic was not necessary. This has even more weight if signed by a GP.

An example of a Coughs and Cold leaflet is on the enclosed CD.

Example of Acute Prescription Pro forma

Name: _____
Address: _____
Telephone No: _____
Items (include strength)
(1) _____
(2) _____
(3) _____
(4) _____
(5) _____
(6) _____

Acute script

Symptoms: _____

How long? _____

Tried anything? _____

Any allergies? _____

GP prescribes _____

Name: _____
Address: _____
Telephone No: _____
Items (include strength)
(1) _____
(2) _____
(3) _____
(4) _____
(5) _____
(6) _____

Acute script

Symptoms: _____

How long? _____

Tried anything? _____

Any allergies? _____

GP prescribes _____

Name: _____
Address: _____
Telephone No: _____
Items (include strength)
(1) _____
(2) _____
(3) _____
(4) _____
(5) _____
(6) _____

Acute script

Symptoms: _____

How long? _____

Tried anything? _____

Any allergies? _____

GP prescribes _____

Name: _____
Address: _____
Telephone No: _____
Items (include strength)
(1) _____
(2) _____
(3) _____
(4) _____
(5) _____
(6) _____

Acute script

Symptoms: _____

How long? _____

Tried anything? _____

Any allergies? _____

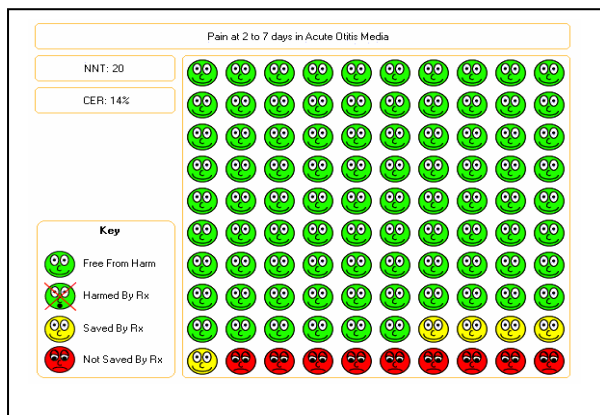
GP prescribes _____

EBM and Patients...

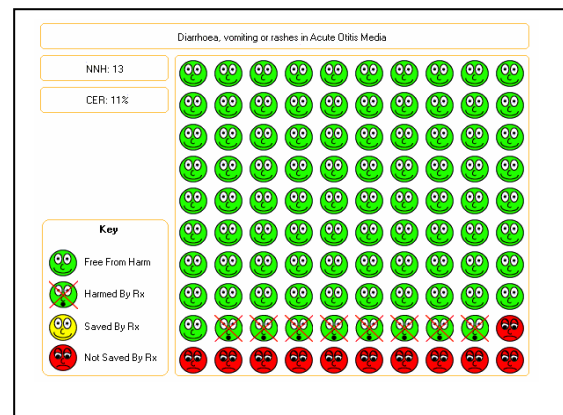
Dr Chris Cates, GP, Manor View Practice. Visit www.nntonline.net

This website has **Visual Rx** on display – a visual method of explaining the concept of number needed to treat to patients or other practitioners. It shows a hundred “smartie-like” faces, which can be used to visualise the impact of interventions.

This is an example of the output from a Cochrane Review of the use of antibiotics in Acute Otitis Media (middle ear infection) in children. The data is taken from the Cochrane Library 1999 issue 4.



The picture represents 100 children who are all given antibiotics for ear infections. The 86 green faces are children who would have been free from pain at 2 to 7 days even if they had not received an antibiotic. The 9 red faces are children who are still in pain even with antibiotics. The 5 yellow faces are the only children who show a benefit; they would have been in pain without the antibiotic but are not when they receive one.



In contrast this picture shows that when all 100 children are given antibiotics an extra 8 will suffer diarrhoea, vomiting or a rash. This means that the number needed to cause a harmful outcome in one child (NNH) is 12.

Dr Cates' practice used this method to educate parents on appropriate treatment of acute otitis media, along with an accompanying patient leaflet (see next page), which outlined the reasons for change of policy.

The practice found to their surprise, many parents were pleased that their child did not need an immediate antibiotic. Majority of those given deferred scripts, never had them dispensed at the chemist. Prescribing figures showed a 33% decrease in scripts for Amoxicillin suspension and a fall of a fifth overall in total antibiotic use in children (all causes).

Interestingly, a neighbouring practice, who had not adopted the policy, noticed a drop in prescribing due to mothers and carers chatting at playgroup, in the supermarket etc and discussing the policy. This promoted this second practice to actively promote a similar policy, with further decreases.

Antibiotics and Ear Infections

Ear infections in children will often get better without needing to use antibiotics; the collected evidence from trials performed in several different countries has shown that most children with ear infections given Paracetamol suspension (such as Calpol) were better in a few days. In fact 17 out of 20 children got better in this way without the use of an antibiotic. In comparison if all 20 children took antibiotics only one extra child got better over the same period, and at present there is no way of knowing which one of the 20 given antibiotics would benefit. Also if the 20 children were all given antibiotics, one was likely to suffer a side-effect as a consequence (such as a rash, diarrhoea or vomiting).

Antibiotics did not reduce pain in the first 24 hours and there was also no difference in the likelihood of a further ear infection or hearing difficulty. In the Netherlands antibiotics have not been used routinely for some years for ear infections; they have less of a problem with antibiotic resistance than in this country.

Change of Policy

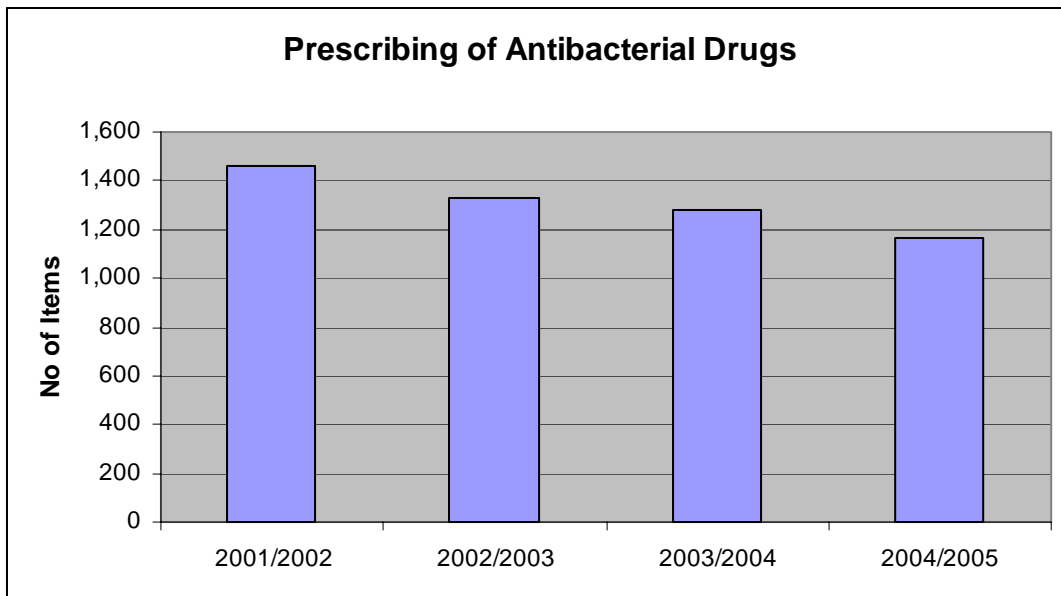
In view of the above evidence we have changed our policy and no longer give antibiotics routinely for ear infections in children. We would recommend treatment with Paracetamol suspension, which will reduce pain and fever. It should be given at full dose until the earache is gone. If the ear infection persists, or the child is particularly unwell, then antibiotics may be tried. This will be discussed on an individual basis with you during your consultation with the doctor.

It CAN be done!

NHSSB Success Stories

How have practices in the Northern Board dealt with this?

One practice achieved the following:



- Reduced number of prescriptions by >50%
- Increased scripts for antibiotics of choice from 42% to 89%

How?

- Writing and implementation of acute prescribing protocols
- Commitment to rationalise prescribing for acute requests
- Staff training re acute prescribing protocols
- Developed pro forma for telephone script requests
- Feedback provided on performance/improvement via prescribing analysis



When pat

Further Help

If you would like further help or information please tick the appropriate box(es) and fax back to the Prescribing Advisers' office (028) 9448 1201

Or contact your Locality Prescribing Adviser as below:

Antrim	Andrea Linton	(028) 9448 1260
Ballymena	Maura Corry	(028) 9448 1255
Causeway	Janet Magee	(028) 2766 0729
East Antrim	Bronagh White	(028) 9448 1227
Mid-Ulster	Fiona McConnell	(028) 9448 1259

I would like more information on (please outline)

- A visit from a Prescribing Adviser to discuss our practice's antibiotic prescribing
- Help from Prescribing Support Assistant to set up antibiotic formulary on clinical system (as per NAPF Guidance Sept 2003)

Practice Stamp

Name of contact person _____

Signature _____ Date _____

more I

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