Preferred Antibiotics in Primary Care

In many cases in Primary Care the ***Preferred Antibiotic*** is ***No Antibiotic***

See www.antibioticprescribing.ie/ Below are the **preferred first line** treatment choices when antibiotics are indicated and which antibiotics we should reduce the use of, to minimise resistance.

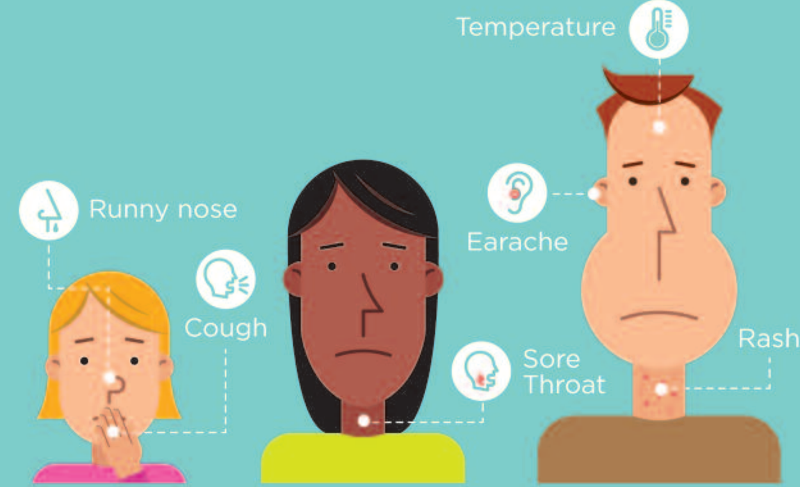
Respiratory Infections (upper and lower)	Urinary Tract Infections	Soft tissue infections – cellulitis, acne
Penicillin V (phenoxymethylpenicillin) Calvapen®	Trimethoprim	Flucloxacillin
Amoxicillin	Nitrofurantoin	Doxycycline
Doxycycline	Fosfomycin	Lymecycline (Tetralysal®)
Amoxicillin and Clarithromycin if Community Acquired Pneumonia (CAP)	Cephalexin	Trimethoprim
Clarithromycin if <u>true</u> penicillin allergy or specific clinical indication		

Antibiotics to be avoided First Line in Primary Care

Co- amoxiclav (unless animal or human bite, facial cellulitis, post partum endometritis, caesarean wound infections, pyelonephritis)	Azithromycin – only on advice of consultant or if treating STI
Ciprofloxacin (only in proven resistant UTI or acute prostatitis)	Moxifloxacin – only on consultant advice
Most third generation cephalosporins	Macrolides (unless TRUE PENICILLIN ALLERGY or specific indication e.g. mycoplasma, helicobacter eradication)
Clindamycin	

Out of Hours Antibiotic Stewardship Improvement Project
DDoc North Dublin and Southdoc Cork
November 2016 – April 2017

Keeping antibiotics effective for future generations – it's everyone's responsibility



Preferred Drugs

How will you know if you are making improvements?

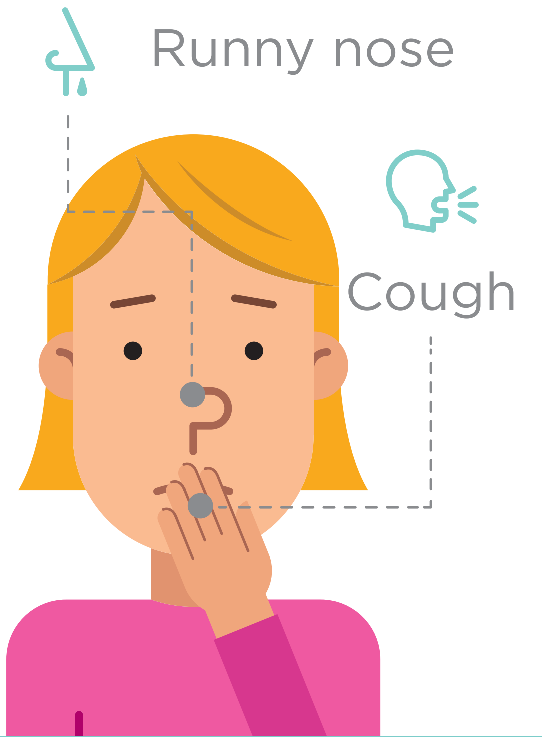
We are working with IT staff to extract pre-project data (numbers of antibiotics prescribed and types) from patient records.

We will be extracting data off the patient record system on a weekly (monthly) basis and hopefully tracking improvements! This data is anonymised and doctor's personal prescribing is not being analysed. It is a group audit.

This information will be fed back to you at intervals during the project.

Optional personal audit tool

You will be provided with the preferred antibiotic list and using the simple audit tool will help you to record personal improvements. This data will not be collected nor analysed.



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All materials are also available on www.antibioticprescribing.ie

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Antibiotic background and fast facts - why we should all be worried

- 1 in 5 patients get side effects from antibiotics.
- Antibiotics can cause both serious, adverse reactions and drug interactions, which can be sometimes fatal. You need to be sure that you can justify your prescription choice.
- In Europe 25,000 patients die every year from resistant infections and if current trends continue 10 million deaths will be attributable to Antimicrobial Resistance worldwide by 2050.
- In 2015 a patient died in Europe every 10 minutes because antibiotics were no longer effective against the responsible bacteria.
- Ireland has one of the highest antibiotic prescribing rates in Europe.
- Antibiotic consumption is falling in most European countries but not in Ireland although there has been some improvement in hospitals and certain age groups.
- In Ireland, antibiotics prescribed to those aged over 65 is increasing while figures for children and younger adults are decreasing.
- Ireland is showing a reduction in our use of broad spectrum antibiotics especially ciprofloxacin, co-amoxiclav and clarithromycin but we still prescribe more macrolides that our European counter parts even though there is no evidence to show that the Irish population is more penicillin allergic.
- Co-amoxiclav is the most frequently prescribed antibiotic even though it is not the first line recommended treatment for most common infections in the community.
- 80% of antibiotics are prescribed in the community setting.
- Residents in Irish nursing homes are more than twice as likely to be on an antibiotic than those in any other European country.

GPs know that antibiotics are very specific medicines designed to kill bacteria. We know they can have toxic side-effects and serious drug interactions. However, many patients think they will help them get better faster from coughs, colds, flu, sore throats, earaches, vomiting and diarrhoea. They do not realise the harm caused by inappropriate antibiotic use.

Winter antibiotic public awareness campaigns and promoting self care for self-limiting viral infections such as www.underthweather.ie are helping to address this problem but we must support this by stopping to prescribe antibiotics unless there is a reasonable clinical certainty that the patient has a bacterial infection.

In particular we want to reduce prescriptions for co-amoxiclav, clarithromycin azithromycin and ciprofloxacin which are NOT first line recommended treatments for most conditions we treat in the community.

Antibiotic prescription rates in the community during 2015

- **Ireland** - 1,486 community antibiotic prescriptions / 1,000 GMS *patients per year.
- **Scotland** - 781 community antibiotic prescriptions / 1,000 all patients per year.
- **Sweden** - 320 community antibiotic prescriptions / 1,000 all patient per year.
- Irish patients are prescribed twice as many antibiotics as Scottish patients.
- Irish patients are prescribed 5 times more antibiotics than Swedish patients.

*GMS population may over-represent young and elderly.

What does Antimicrobial Stewardship (AMS) mean in a GP setting?

AMS refers to co-ordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regime, dose, duration of therapy and route of administration.

Key elements/core principles of AMS are to ensure the following:

- You prescribe the right antibiotic, antiviral, antifungal for your patient considering their age, other medical conditions, if they are pregnant or long term care residents.
- Choose the right dose, duration and route for the condition you are treating.
- You cause the least amount of harm to that patient - consider drug interactions, allergy and toxicity.
- You cause the least amount of harm to future patients by increasing antimicrobial drug resistance.
- Do not prescribe for obvious self-limiting viral infections.
- Only use antibiotics for suspected bacterial infections.
- Promote use of immunisation to minimise infections.
- Practice good infection control to minimise the spread of infections.

How to participate and complete your audit during your next OOH shift

The objective of this project is to achieve an overall reduction in the number of antibiotics prescribed per OOH consultation and improved quality of prescribing with more first line preferred antibiotics being prescribed.

We have tried to make it easy for you by developing the preferred antibiotics for use in primary care with the Medicines Management programme.
Use antibiotics from the green section mainly and only use the red where you can justify your choice e.g. penicillin allergic or specific bacterial condition not capable of being treated by a "green" antibiotic.

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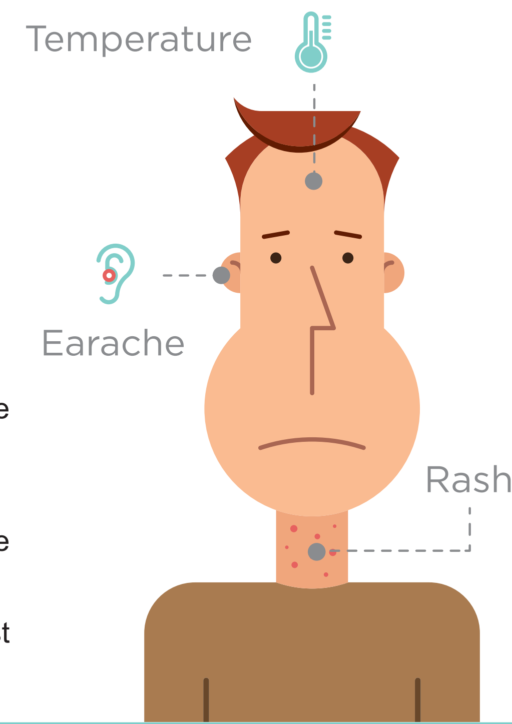
The patient will have received a leaflet on arrival outlining why they may not get an antibiotic during the consultation and that if they do get one it may not be their ‘usual’ antibiotic.

The consultation should proceed as normal but we ask you to do the following:

- Only prescribe an antibiotic if there is a reasonable certainty of a bacterial infection.
- Use the first line recommended preferred antibiotics for primary/community care as per www.antibioticprescribing.ie (available on all PCs in OOH centres).
- There is a reminder on the mouse pad and poster in the consultation rooms.
- Document the full name of the antibiotic and indication you prescribe in the patient’s notes.
- Southdoc only – before you finish the consultation you will be asked if you prescribed an antibiotic or not and if you have, choose which one from the drop down menu list.
- If you wish to complete a personal audit then print-outs of the audit tool will be available at the centre.
- Take one at start of your shift and fill in the details on the first 10 patients for whom you prescribed an antibiotic.



Why we find it hard to change our prescribing habits and tips to help

A. Fear of what might happen if we withhold the antibiotic

URTI – which includes rhinitis, rhinosinusitis, OM, tonsillitis, bronchitis

Several large studies confirm that approximately 45% of antibiotics prescribed for URTI are not necessary. A large UK cohort study of 45.5 million person years 2005-2014 showed that if a GP practice with 7,000 patients reduced their antibiotic prescribing for URTI by 10% they could expect:

- no increase in mastoiditis, empyema, meningitis, intracranial abscess and Lemierre's syndrome.
- one more case of peritonsillar abscess every 10 years.
- 1.5 more cases of LRTI each year.

These numbers provide reassurance of the safety of reducing antibiotic prescribing.

Otitis media – Many are viral. Otits media resolves over 3 days in 80% without antibiotics. Antibiotics do not reduce pain in first 24 hours, subsequent attacks or deafness. Children with otorrhoea, or <2 years with bilateral acute otitis media, have greater benefit but are still eligible for delayed prescribing.

If you choose to prescribe Amoxycillin is preferred choice unless the patient is penicillin allergic.

Tonsillitis /Pharyngitis - Majority are viral. Pain relief is patient's main problem. Antibiotics can reduce the proportion of people with symptoms associated with sore throat at 3 days. Reduction in symptoms seems greater for people with positive throat swabs for Streptococcus than for people with negative swabs. For antibiotics to be effective it is very important that we adhere to the correct guidance and dosing regimes.

Under-dosing is a common problem. Check age and weight based dosing tables on www.antibioticprescribing.ie

Do not use co-amoxiclav as it can cause serious skin reactions if prescribed for infectious mononucleosis.

If you choose to prescribe Penicillin V (Calvapen or Kopen) is the preferred drug even for suspected invasive group A strep.

LRTI - Community Acquired Pneumonia - Most coughs with sputum is URTI or Bronchitis
Need to asses if you are dealing with true community acquired Pneumonia CAP. If so, use CURB score to assess antibiotic treatment choice.

Under-dosing is a common problem. Check age and weight based dosing tables on www.antibioticprescribing.ie

Please be aware that there are rising resistance levels and in the UK a longitudinal study 1991 – 2012 showed a rise in the treatment failure rate for first line recommended monotherapy for LRTI to 12%. So patients need to be re-assessed if they are not improving.

Preferred first line is Amoxicillin 500mg tds but Clarithromycin should be added if CURB =1 and you decide to treat at home.

Perception that the patient will be dissatisfied

This is a very genuine and real fear especially in the OOH setting but 45% of Irish patients surveyed do not expect to get an antibiotic when they visit a GP with cough, cold or flu symptoms.

Patients will be given a leaflet when they arrive outlining why you will not prescribe an antibiotic unless there is reasonable certainty of a bacterial infection and that they may not get their "usual" antibiotic as we are using national guidelines to choose the best and safest antibiotic to treat their infection.

- You will also have a leaflet you can give them outlining:
  - what they can do themselves to recover from viral infections,
  - how to relieve their symptoms, and
  - how long to expect before they feel better.

- Open up www.antibioticprescribing.ie at the start of your OOH shift and demonstrate to that patient that you are following best practice.

- In any patient doctor interaction patients are dissatisfied due to poor communication, not examining the patient properly and not explaining your management plan to them.

- Remember you can always use a deferred script after you have taken the time to introduce key messages about inappropriate antibiotic use. Over time if we all do this it and promote self-care for self-limiting viral infections it should reduce your workload.