



**Safe Patient Care
"Bugs and Drugs"
The ongoing challenge of
MDROs and AMR**

2017
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#bugsndrugs

MDROs –
Medical Management and the
Role of Antimicrobial
Stewardship

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**MDROs – Medical Management and
the Role of Antimicrobial Stewardship**

- Talk outline
- Antimicrobial resistance (AMR)
 - Multidrug resistant organisms (MDROs)
 - Medical management
 - Antimicrobial guidelines and prescribing
 - Antimicrobial stewardship (AMS)

Antibiotic Prescribing


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Welcome to Antibiotic Prescribing
*Keeping antibiotics effective for future generations
 is everyone's responsibility.*
 List of conditions and preferred antimicrobial prescribing in Primary Care

<http://www.hse.ie/eng/services/list/2/gp/Antibiotic-Prescribing/> 

Community Acquired Pneumonia

Treatment in the Community (Adults)

Comments

Start antibiotics immediately.^B

Assess using the CRB-65 score (Confusion, Respiratory rate \geq 30/min, BP \leq 90/60, Age \geq 65)

Score 0: suitable for home treatment;

Score 1-2: consider hospital referral;

Score 3-4: urgent hospital admission.


Add macrolide if CRB-65=1 and suitable for home treatment (HPA guidance).

If no response in 48 hours consider admission or add a macrolide first line or a tetracycline C to cover Mycoplasma infection (rare in over 65s).

In severely ill patients, give parenteral benzylpenicillin before admission^C and seek risk factors for Legionella and Staph. aureus infection.^D

Treatment

Treatment	Dose	TX Duration
amoxicillin	500 mg - 1g TDS	Up to 10 days
clarithromycin	500 mg BD	Up to 10 days
OR doxycycline	200 mg stat/100 mg OD	Up to 10 days

<http://www.hse.ie/eng/services/list/2/gp/Antibiotic-Prescribing/> 

Antimicrobial guideline formulation

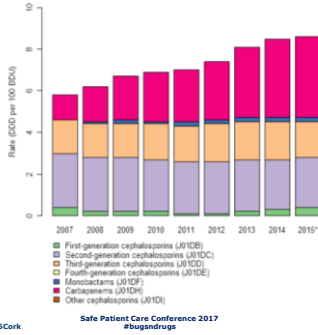


NATIONAL CLINICAL GUIDELINE
Prevention and Control Methicillin-Resistant Staphylococcus aureus (MRSA)
 National Clinical Guideline No. 2
 December 2013

Public Health England
 The British Society for Antimicrobial Chemotherapy (BSAC)
 ESCMID - EUROPEAN SOCIETY OF CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES
 CDC - CENTERS FOR DISEASE CONTROL AND PREVENTION
 IDSA - Infectious Diseases Society of America
 UCC

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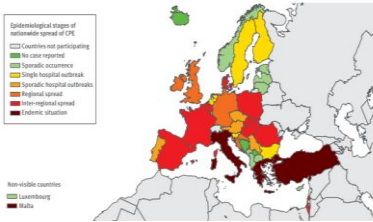
Figure 4: Consumption of selected broad-spectrum antibiotics in acute hospitals, 2007 – Q2 2015* (data source: HPSC)



Antimicrobial guideline formulation

Last-line antibiotics are being options to address the urgent threat to patients and healthcare systems. ECDC POLICY BRIEFING

Figure 2. Occurrence of carbapenemase-producing Enterobacteriaceae in 38 European countries, using an epidemiological scale indicating the level of national spread, 2015



<https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/antibiotic-resistance-policy-briefing.pdf>

Infection with MDRO

Carbapenems:
Broad spectrum antimicrobials
Often used as the **last line of treatment** for **hard to treat human infections** caused by (resistant) gram negative bacteria e.g., infection with ESBL producing gram negative bacteria



Antimicrobial Stewardship (AMS)

Antimicrobial stewardship embodies an organisational or healthcare-system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness. It has three major goals:¹⁷

- Optimise therapy for individual patients
- Prevent overuse, misuse and abuse
- Minimise development of resistance at patient and community levels.

<https://www.gov.uk/government/publications/chief-medical-officer-annual-report-volume-2>

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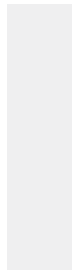
Key AMS concepts at a prescriber level....

- Reflect on your prescribing practices
- Audit cycle
- Quality improvement initiatives

Box 1
Effective antibiotic prescribing – top ten tips
 Antibiotics are essential to modern medicine and may be life-saving, but abuse leads to resistance. All physicians who prescribe antibiotics have a responsibility to their patients (and public health) to prescribe optimally.

- Institute antibiotic treatment immediately in patients with life-threatening infection.
- Prescribe in accordance with local policies and guidelines, avoiding broad-spectrum agents.
- Document in the clinical notes the indication(s) for antibiotic prescription.
- Send appropriate specimens to the microbiology lab; drain pus and remove foreign bodies if indicated.
- Use antimicrobial susceptibility data to de-escalate/ substitute/add agents and to switch from intravenous to oral therapy.
- Prescribe the shortest antibiotic course likely to be effective.
- Always select agents that minimise collateral damage (i.e. selection of multi-resistant bacteria; C. difficile).
- Monitor antibiotic levels when needed (e.g. vancomycin).
- Use single-dose antibiotic prophylaxis wherever possible.
- Consult your local infection experts.

<https://www.gov.uk/government/publications/chief-medical-officer-annual-report-volume-2>



Take home points

- AMR and MDROs of grave concern nationally and internationally
- Running out of treatment options
- Combination of strict infection prevention control measures and AMS practices required
- Promote awareness, education, engagement



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