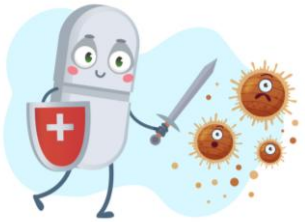


BUGS & DRUGS

Antimicrobial stewardship (AMS) can encompass any action that promotes the responsible use of antimicrobials

Which **healthcare workers** are responsible for promoting antimicrobial stewardship?

- ❑ Infectious disease physicians
- ❑ Microbiologists
- ❑ Antimicrobial pharmacists
- ❑ NCHDs
- ❑ Managers
- ❑ Nurses or midwives
- ❑ Clinical pharmacists







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ANSWER: ALL. Successful implementation of AMS programmes requires collaboration between all members of the healthcare team, managers, and service users.



- Overuse and misuse of antimicrobials is driving antimicrobial resistance (AMR)
- We all need to engage in AMS to slow, and hopefully, reverse the growing trends of AMR
- This is essential to ensure we have effective antimicrobials to provide adequate healthcare now and into the future

Learn more about your role in AMS by viewing the **Antimicrobial Stewardship Guidance for All Healthcare Settings** at Chapter 1: Roles & responsibilities of healthcare workers in AMS.

Did you know?
Antimicrobials are needed to treat and prevent infections but they are also essential to many other modern medical practices e.g. chemotherapy, organ transplant

Check out the eLearning module on Antimicrobial Stewardship @ hseland.ie

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BUGS & DRUGS



Certain antimicrobials have near complete bioavailability when given by mouth in people with normal gastrointestinal function.

Which of the following are antimicrobial agents with excellent oral bioavailability?

ciprofloxacin	clindamycin	metronidazole
levofloxacin	linezolid	co-trimoxazole

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ANSWER: All six listed antimicrobials have excellent oral bioavailability



For almost all patients receiving these therapies, the oral route should be used from the outset

OR

If the intravenous route is used, consider early intravenous-to-oral switch.

Refer to local antimicrobial prescribing guideline and view **IVOS information sheet**.

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BUGS & DRUGS

The **oral route** is preferential for many reasons when managing hospital patients with infections.

The consumables required to administer one day (3 doses) of IV co-amoxiclav is equivalent to:

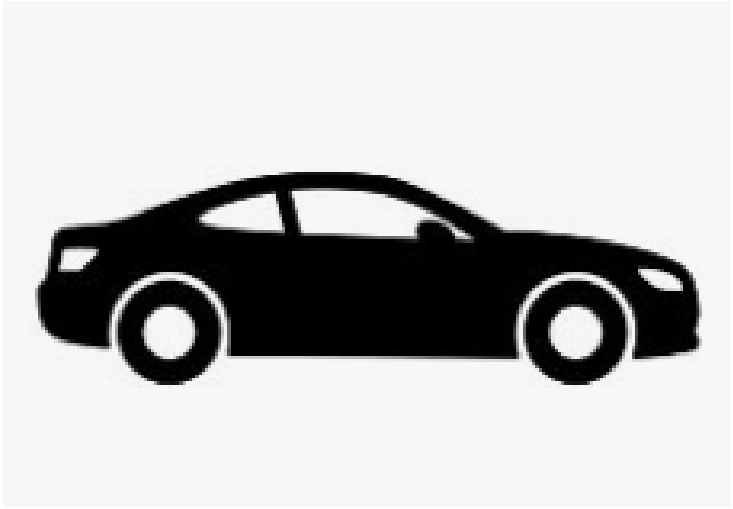
A	Driving a petrol car 5km
B	Driving a petrol car 1km
C	An average household not recycling for one week



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Answer: A - 3 doses of IV co-amoxiclav and the consumables required to administer the doses is equivalent to **1.05 kg of CO2 emissions** which is equivalent to **driving a petrol car 5km**



Stop, or go PO?

In the national tPPS in 2025 **1 in 5 IV antimicrobials** could have been stopped. IV antimicrobials increase the risk of line infection, require more clinical staff time, reduce patient mobility and increase plastic waste. Refer to local antimicrobial prescribing IVOS guideline and view AMRIC **IVOS information sheet**.

BUGS & DRUGS

Surgical antibiotic prophylaxis is a critical step in preventing surgical site infection. The maximum benefit with the least harm is gained by administering an appropriate agent at the right time and for the right duration.

What is the maximum duration of antibiotic prophylaxis for the majority of surgical procedures?



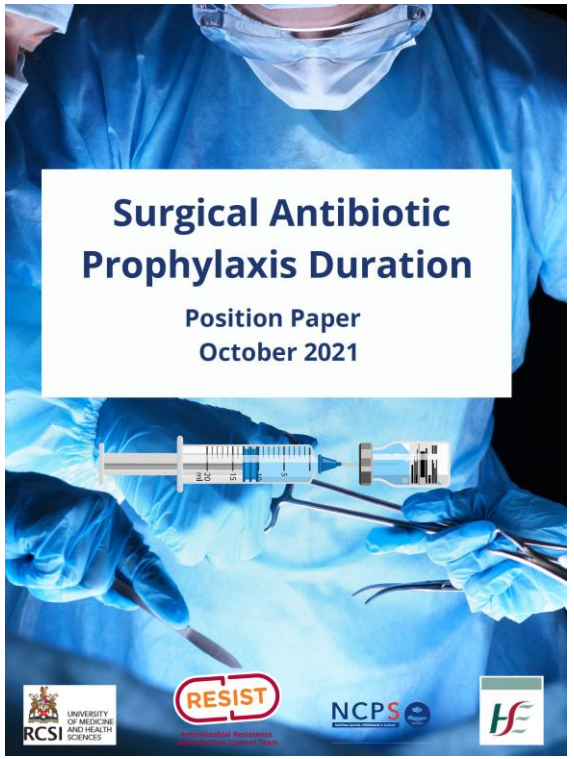
A. A single dose within 60 min prior to incision
B. 24 hours
C. 48 hours
D. Surgical antibiotic prophylaxis should be continued as long as drains remain in place

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ANSWER: A single dose within 60 min prior to incision

- **Most procedures do not require post-operative antibiotics**
- No evidence to support prophylaxis longer than 48 hours for any surgical procedure
- Should not be continued on the basis that drains remain in place
- **Extended duration** of surgical antibiotic prophylaxis:
  - Does not further reduce surgical site infection
  - Is associated with an increase in acute kidney injury
  - Increases risk of *Clostridioides difficile* infection



Further information, including a HSE joint position statement on duration of surgical antibiotic prophylaxis and an audit tool, visit www.antibioticprescribing.ie

eLearning module on Surgical Antibiotic Prophylaxis now available on HSeLanD.ie

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BUGS & DRUGS

Mary has been on **azithromycin prophylaxis for severe COPD** for 2 years. She is admitted to your hospital for treatment of an acute infective exacerbation of COPD. She has had multiple exacerbations in the last year and also reports ongoing nausea.

Which of the following is true?

A. Azithromycin prophylaxis should be reviewed with a view to de-prescribing
B. Azithromycin prophylaxis should be stopped during the treatment of the acute infective exacerbation
C. Mary's ongoing nausea should be investigated further as it could be a side effect of the azithromycin



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A & C are true



A. Azithromycin prophylaxis should be **reviewed every 6-12 months**. If there is no evidence of clinical benefit, it should be discontinued, with discussion with the original prescriber.

B. It is not necessary to stop azithromycin prophylaxis during an acute infective exacerbation unless **another antibiotic with potential to affect the QT interval** (e.g. quinolone, macrolide, azole antifungal or co-trimoxazole) has also been prescribed.

C. Review should include assessment of any potential adverse effects. Consideration must be given to the risk of **adverse effects (gastrointestinal upset, hearing and balance disturbance, liver and cardiac effects)** and the **development of antimicrobial resistance** with long term use of azithromycin.

View Azithromycin Prophylaxis in Adult Patients with Respiratory Disease on antibioticprescibing.ie

Patient Information Azithromycin Prophylaxis & Audit Tool for Azithromycin Prophylaxis are also available on antibioticprescribing.ie

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BUGS & DRUGS

Dolly, 73, has been admitted from a local nursing home with a 3 day history of cough, shortness of breath and malaise. She is not confused and her blood pressure is normal. She has had 2 doses of amoxicillin orally in the nursing home. Her chest X-ray shows signs of consolidation indicating she has a pneumonia. Her CRB-65 score is 2.

Which of the following would be next steps?

A. Dolly should be started on piperacillin-tazobactam
B. Dolly should be started on co-amoxiclav and clarithromycin
C. Dolly should continue treatment with amoxicillin and a seasonal respiratory viral screen should be done.



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Answer: C



A. Piperacillin-tazobactam is NOT indicated for treatment of community acquired pneumonia (CAP). Pneumonia in residents of residential care facilities should be treated as CAP in accordance with HSE AMRIC pneumonia in residential care facilities guideline.

B. Co-amoxiclav and clarithromycin are not first line treatment for a patient presenting with pneumonia from a residential care facility with a CRB-65 score of 2.

C. Amoxicillin is first line treatment for a pneumonia in a patient from a residential care facility with a CRB-65 score of 2. Dolly has only had 2 doses of amoxicillin so this course should be continued in hospital. Viral respiratory illness should be considered, including RSV, COVID-19 and influenza, in the differential diagnosis in a patient presenting with a cough. If the infection is viral, antibiotics should be stopped as they provide no benefit and increase her risk of *C. difficile* infection and other adverse effects.

View **Piperacillin-tazobactam NOT for community acquired pneumonia Position Statement** on antibioticprescribing.ie

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