



# Navigating Antibiotic Resistance: Rational Antibiotic Prescribing Practices

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## DESCRIPTION

By successfully treating bacterial illnesses, antibiotics have revolutionised modern medicine. However, the misuse and overuse of antibiotics have led to the emergence of antibiotic resistance, a global health crisis that threatens our ability to combat infectious diseases. Rational antibiotic prescribing practices are essential to address this growing problem. In this article, we will explore the concept of antibiotic resistance, its causes, and the importance of rational antibiotic prescribing in mitigating this public health threat.

### Antibiotic resistance: Understanding the challenge

Antibiotic resistance occurs when bacteria evolve to withstand the effects of antibiotics, rendering these drugs less effective or entirely ineffective. This phenomenon is driven by several factors:

**Overuse and misuse:** Excessive and inappropriate use of antibiotics in both healthcare and agriculture contribute to the development of resistance.

**Incomplete treatment:** Patients who do not complete their prescribed antibiotic courses provide an opportunity for bacteria to survive and develop resistance.

**Transmission:** Resistant bacteria can be transmitted from person to person, further spreading resistance.

**Lack of new antibiotics:** There is a dearth of new antibiotics in development, making it increasingly challenging to combat resistant infections.

### The importance of rational antibiotic prescribing

Rational antibiotic prescribing practices are essential to combat antibiotic resistance. This approach emphasizes the following principles:

**Diagnosis based on clinical evidence:** Antibiotics should only be prescribed when there is clear clinical evidence of a bacterial

infection. Viral infections, such as the common cold, do not respond to antibiotics and should not be treated with them.

**Narrow-spectrum antibiotics:** Prescribe antibiotics that target the specific bacteria causing the infection. Narrow-spectrum antibiotics are preferable to broad-spectrum antibiotics, as they minimize collateral damage to the body's microbiome.

**Optimal dosage and duration:** Prescribe the correct dosage and duration of antibiotics based on the type and severity of the infection. Longer courses or higher doses do not necessarily equate to better outcomes.

**Review and de-escalation:** Regularly review antibiotic therapy and de-escalate or discontinue treatment when appropriate. Prolonged antibiotic use can lead to resistance.

### Strategies for rational antibiotic prescribing

Several strategies can promote rational antibiotic prescribing practices:

**Education and training:** Healthcare professionals should receive education and training on antibiotic resistance and appropriate prescribing practices.

**Clinical guidelines:** Healthcare organizations should develop and implement evidence-based clinical guidelines for antibiotic use.

**Antibiotic stewardship programs:** Hospitals and healthcare facilities can establish antibiotic stewardship programs that monitor and optimize antibiotic use.

**Point-of-care testing:** Rapid diagnostic tests can help identify the cause of an infection, allowing for more targeted antibiotic prescribing.

**Public awareness:** Public education campaigns can raise awareness about antibiotic resistance and the importance of using antibiotics responsibly.

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### The role of patients and the public

Patients also play a critical role in addressing antibiotic resistance:

**Education:** Patients should be educated about the appropriate use of antibiotics and the importance of completing prescribed courses.

**Communication:** Open communication with healthcare providers is essential. Patients should not pressure healthcare professionals to prescribe antibiotics for viral infections.

**Adherence:** Patients must adhere to prescribed antibiotics, taking them as directed and completing the entire course, even if symptoms improve.

**Proper disposal:** Unused antibiotics should be properly disposed of to prevent environmental contamination.

### CONCLUSION

Antibiotic resistance is a global crisis that endangering our ability to effectively treat bacterial infections. Rational antibiotic prescribing practices is a very significant component of addressing this issue. By adhering to evidence-based guidelines, healthcare professionals, patients, and the public can collectively combat antibiotic resistance and ensure that antibiotics remain effective tools in the fight against infectious diseases. It is imperative that we act now to preserve the efficacy of these lifesaving drugs for future generations.