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FACTS ABOUT ANTIMICROBIALS AND RESISTANCE

Treatment with antimicrobials is intended to kill pathogenic bacteria in humans and animals alike. Unfortunately, antimicrobial use may—during the course of the treatment—also cause the bacteria to develop resistance towards the antimicrobials to which they are exposed. This enables the bacteria to survive the treatment.

Resistant bacteria can be transmitted between humans and animals, and bacteria can pass on resistance mechanisms to each other. Furthermore, resistant bacteria are provided with better conditions if antimicrobials are present. Therefore, it is important to have an overall focus on using as little as possible for the treatment of both animals and humans, while ensuring sick people and animals have access to the treatment they need.

Bacteria know no borders and antimicrobial resistance in a country can cause problems outside of its borders. As such, inappropriate use of antimicrobials in both animals and humans and subsequent development of resistance is a global problem.

Narrow and broad spectrum antimicrobials

Not all antimicrobials are alike. As with all other types of medication, they have different modes of action and side effects. Some have a narrow spectrum of action and inhibit only a single group of bacteria. They are used in targeted treatment when you know which bacteria are causing the disease.

Others are broad spectrum and affect numerous groups of bacteria at the same time. They are used to treat diseases, before it has been established, which bacteria are causing the disease. However, antimicrobials unfortunately also kill useful and harmless bacteria such as gut bacteria, which enhances the emergence of resistant bacteria.

Critically important antimicrobials

All antimicrobials are important in the treatment of humans. This is either because they need to be available for frequent treatment of common infections, or because they are among the few types of antimicrobials, that can be used to treat serious infections that have developed resistance towards the normal types of antimicrobials. The WHO has given special global status of “highest priority critically important” to certain types of antimicrobials.

Denmark has declared four types as ‘critically important’, namely carbapenems, third and fourth generation cephalosporins, fluoroquinolones and colistin. The use of critically important antimicrobials is either strongly restricted or they are to be used with great care to ensure they remain effective in the future.

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