

## **EUCAST definitions of clinical breakpoints and epidemiological cut-off values**

### **Clinical resistance and clinical breakpoints**

#### **Clinically Susceptible (S)**

- a micro-organism is defined as susceptible by a level of antimicrobial activity associated with a high likelihood of therapeutic success
- a micro-organism is categorized as susceptible (S) by applying the appropriate breakpoint in a defined phenotypic test system
- this breakpoint may be altered with legitimate changes in circumstances

#### **Clinically Intermediate (I)**

- a micro-organism is defined as intermediate by a level of antimicrobial agent activity associated with uncertain therapeutic effect. It implies that an infection due to the isolate may be appropriately treated in body sites where the drugs are physically concentrated or when a high dosage of drug can be used; it also indicates a buffer zone that should prevent small, uncontrolled, technical factors from causing major discrepancies in interpretations.
- a micro-organism is categorized as intermediate (I) by applying the appropriate breakpoints in a defined phenotypic test system
- these breakpoints may be altered with legitimate changes in circumstances

#### **Clinically Resistant (R)**

- a micro-organism is defined as resistant by a level of antimicrobial activity associated with a high likelihood of therapeutic failure.
- a micro-organism is categorized as resistant (R) by applying the appropriate breakpoint in a defined phenotypic test system
- this breakpoint may be altered with legitimate changes in circumstances

**Clinical breakpoints are presented as  $S \leq x$  mg/L;  $I > x, \leq y$  mg/L;  $R > y$  mg/L**

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## **Microbiological resistance and epidemiological cut-off values (ECOFF)**

#### **Wild type (WT)**

- a micro-organism is defined as wild type (WT) for a species by the absence of acquired and mutational resistance mechanisms to the drug in question
- a micro-organism is categorized as wild type (WT) for a species by applying the appropriate cut-off value in a defined phenotypic test system.
- this cut-off value will not be altered by changing circumstances
- wild type micro-organisms may or may not respond clinically to antimicrobial treatment

#### **Microbiological resistance - Non-Wild Type (NWT)**

- a micro-organism is defined as non-wild type (NWT) for a species by the presence of an acquired or mutational resistance mechanism to the drug in question.
- a micro-organism is categorized as non-wild type (NWT) for a species by applying the appropriate cut-off value in a defined phenotypic test system.
- this cut-off value will not be altered by changing circumstances
- non-wild type micro-organisms may or may not respond clinically to antimicrobial treatment.

**The wild type is presented as  $WT \leq z$  mg/L and non-wild type as  $NWT > z$  mg/L**