

MIC) can be comfortably exceeded by doses tolerated by the patient. Most agents are bound to some extent to serum albumin, and the protein-bound form is usually unavailable for antimicrobial action. Because the influence of antimicrobials on the natural history of different categories of infection (eg, pneumonia, meningitis, diarrhea) varies, clinical trials may include both a range of bacterial species and different infected sites (eg, lung, bone, CSF). Other characteristics include whether the agents are absorbed from the upper gastrointestinal tract, whether they are excreted and concentrated in active form in the urine, whether they can pass into cells, whether and how rapidly they are metabolized, and the duration of effective antimicrobial levels in blood and tissues. Furthermore, in urinary infections, urine levels of some antimicrobial agents may be very high (eg, fluoroquinolones), and organisms that are resistant in vitro may be eliminated in the patient. With regard to organisms, use of the term susceptible (sensitive) implies that their MIC is at a concentration attainable in the blood or other appropriate body fluid (eg, urine) using recommended doses. For example, less toxic antibiotics such as the penicillins and cephalosporins can be administered in massive amounts and may thereby inhibit some pathogens that would normally be considered resistant in vitro.