Combining two antibiotics may result in synergism, indifference or antagonism. In the case of synergism, microbial inhibition is achieved at concentrations below that for each agent alone [11], hence synergy is defined as significantly greater activity provided by two agents combined than that provided by the sum of each agent alone [12] [13]. The clinical use of combination of antibiotic therapy for bacterial infections in general can be divided into two categories [13]. In the first category, such therapy is used to improve clinical outcomes of infections with strains that are susceptible. An immunocompromised host is a patient with defects in host defenses that predispose to infection. Risk factors include: 1. Neutropenia. 2. Immune system defects (from disease or immunosuppressive drug therapy). 3. Compromise of natural host defenses. 4. Environmental contamination. 5. Changes in the normal flora of the host. 2.

The optimal antibiotic regimen for empirical therapy in febrile neutropenic patients remains controversial, but it is clear that no single regimen can be recommended for all patients. 21. Management of Febrile Episodes in Neutropenic Patients. Because of their frequency and relative pathogenicity, P. aeruginosa and other gram-negative bacilli and staphylococci are the primary targets of empirical antimicrobial therapy. The applications of bacteriocins in antimicrobial therapy, as well as methods for their industrial manufacturing, are discussed. Unlike antibiotics, bacteriocins are completely metabolized in the human body, which determines their low toxicity. All this makes the use of these peptides more preferable than antibiotics in some cases [55, 56]. The advantages of bacteriocins also include their protein nature, which allows obtaining these peptides through bioengineering [57]. Bioengineering products are likely to have increased biological activity against. When selecting an effective combination of bacteriocin and antibiotic, it should be understood that the mechanism of antimicrobial action can be changed and clinical outcomes may appear difficult to predict when combining two antimicrobials. 2.

Long versus short duration of antibiotic therapy (definitions of short and long duration as reported by the primary authors in the included studies); O: Clinical and microbiological outcomes as defined by the authors of the studies. Inclusion criteria for the CPG comprise that the guideline was (1) issued by a country, region, or scientific society; and (2) based on a systematic, evidence-based approach. and to use combination of ampicillin and gentamicin in children with severe pneumonia. Â

Factors affecting dosing in the critically ill include: Increase in volume of distribution (Vd) of hydrophilic antibiotics Vd of hydrophilic antibiotics (e.g. aminoglycosides, beta-lactams, vancomycin, linezolid, polymyxins) is. 2. increased in patients with sepsis and burns.