Staphylococcus aureus treatment

a) if methicillin susceptible

- oxacillin or nafcillin
- PCN allergy: vancomycin

b) if methicillin resistant

- vancomycin ± rifampin
- alternative: linezolid ± rifampin

Most strains of Staphylococcus aureus are now resistant to penicillin, and methicillin-resistant strains of S. aureus (MRSA) are common in hospitals and are emerging in the community. Penicillinase-resistant penicillins (flucloxacillin, dicloxacillin) remain the antibiotics of choice for the management of serious methicillin-susceptible S. aureus (MSSA) infections, but first generation cephalosporins (cefazolin, cephalothin and cephalexin), clindamycin, lincomycin and erythromycin have important therapeutic roles in less serious MSSA infections such as skin and soft tissue infections or in patients with penicillin hypersensitivity, although cephalosporins are contra-indicated in patients with immediate penicillin hypersensitivity (urticaria, angioedema, bronchospasm or anaphylaxis). All serious MRSA infections should be treated with parenteral vancomycin or, if the patient is vancomycin allergic, teicoplanin. Nosocomial strains of MRSA are typically multi-resistant (mrMRSA), and mrMRSA strains must always be treated with a combination of two oral antimicrobials, typically rifampicin and fusidic acid, because resistance develops rapidly if they are used as single agents. Most community-acquired strains of MRSA in Australia and New Zealand are non multiresistant (nmMRSA), and lincosamides (clindamycin, lincomycin) or cotrimoxazole are the antibiotics of choice for less serious nmMRSA infections such as skin and soft tissue infections. New antibiotics such as linezolid and quinupristin/dalfopristin have good antistaphylococcal activity but are very expensive and should be reserved for patients who fail on or are intolerant of conventional therapy or who have highly resistant strains such as hVISA (heterogenous vancomycin-intermediate S aureus) [1].

1)
Rayner C, Munckhof WJ. Antibiotics currently used in the treatment of infections caused by Staphylococcus aureus. Intern Med J. 2005 Dec;35 Suppl 2:S3-16. Review. Erratum in: Intern Med J. 2006 Feb;36(2):142-3. PubMed PMID: 16271060.