Tigecycline

**Antibiotic Class:**
Glycylcycline

**Antimicrobial Spectrum:**
*Streptococcus spp., Staphylococcus spp.*, (including MRSA and VRSA) *H. influenzae, E. coli, K. pneumoniae, Enterococcus spp., M. catarrhalis, N. meningitidis, M. pneumoniae, C. pneumoniae*

**Mechanism of Action:**
Binds to the 30S ribosomal subunit of rRNA and inhibits the binding of amino acyl-tRNA

**Pharmacodynamics:**
Time-dependent killing

**Pharmacokinetics:**
Cmax (300mg IV): 2.8mcg/ml; AUC (300mg IV): 17.9mcg/ml; Half-life: May be dose dependent

**Adverse Effects:**
GI: nausea, vomiting, abdominal pain

**Dosage:**
IV: 50mg vial

Adults: 100mg IV x 1, then 50mg IV q 12 hours
Children: Safety and efficacy have not been determined in patients < 18 years old

Disease state based dosing:
Renal failure: Dosing adjustments not necessary (including hemodialysis)
Hepatic failure: In severe hepatic impairment (Childs-Pugh class C) patients should be given the normal loading dose with the maintenance dose administered as 25mg IV q 12 hours

**Contraindications/Warnings/Precautions:**
Warning: Tigecycline may cause fetal harm in pregnant women (Pregnancy class D)
Precautions: Tigecycline is a similar to the tetracyclines and may chelate calcium ions and discolor teeth if administered to patients during tooth development (< 8 years old).

**Drug Interactions:**
Tigecycline does not inhibit metabolism of agents via CYP pathways 1A2, 2C8, 2C9, 2C19, 2D6, and 3A4.
Warfarin – Tigecycline decreases clearance of R-warfarin and S-warfarin. Monitoring of PT times and INR may be warranted

**Pregnancy:** Category D: Risk established, but benefits may outweigh risk.

**Monitoring Requirements:**
Therapeutic: Culture and sensitivities, signs and symptoms of infection
Toxic:

**Brand names/Manufacturer:** Tygacil/Wyeth Pharmaceuticals