

Table 8.2 Cross-reacting side chains between β -lactam antibiotics

	Amoxicillin	Ampicillin	Cefaclor	Cefadroxil	Cefepime	Cefoperazone	Cefotaxime	Cefoxitin	Cefpodoxime	Ceftazidime	Ceftibuten	Ceftriaxone	Cefuroxime	Cephalexin	Cephaloridine	Cephalothin	Cephadrine	Penicillin G
Amoxicillin		6	6/7	6/7										6/7			6/7	
Ampicillin	6		6/7	6/7										6/7			6/7	
Cefaclor	6/7	6/7		7										7			7	
Cefadroxil	6/7	6/7	7											3,7			3,7	
Cefepime							7		7			7						
Cefoperazone																		
Cefotaxime					7				7			7				3		
Cefoxitin													3		7	7		6/7
Cefpodoxime					7		7					7						
Ceftazidime																		
Ceftibuten																		
Ceftriaxone					7		7		7									
Cefuroxime								3										
Cephalexin	6/7	6/7	7	3,7														3,7
Cephaloridine								7									7	6/7
Cephalothin							3	7							7			6/7
Cephadrine	6/7	6/7	7	3,7										3,7				
Penicillin G								6/7							6/7	6/7		

Numbers denote position of side chains: **3**, similarity at the cephalosporin 3–position side chain; **7**, similarity at the cephalosporin 7–position side chain; **6/7**, similarity at the penicillin 6–position side chain and the cephalosporin 7–position side chain.

Each number in the matrix indicates side-chain similarity between two drugs. Cross-allergenicity is expected between each similar pair. For example, a patient allergic to amoxicillin would very likely manifest an allergic reaction to ampicillin, cefadroxil, cefaclor, cephalexin, and cephradine. However, the patient would not be expected to exhibit an allergic response to cefepime, cefoperazone, cefotaxime, etc., unless he/she was also allergic to another cephalosporin or penicillin with a similar side chain to the reference drug.

Reference: (514)