

## Beta-Lactam Cross Allergy Matrix (based on similar core and/or side chain structures)

(Health PEI Provincial Drugs & Therapeutics Antimicrobial Stewardship Subcommittee)

		penicillin*	amoxicillin/ampicillin	cloxacillin	piperacillin (pip/tazo)	cefADROxil	cephALEXin	ceFAZolin	cefPROZil	cefUROXime	cefOXitin	ceFIXime	cefoTAXime	cefTAZidime	cefTRIAxone	meropenem	ertapenem
PENICILLINS*	penicillin*		×	×	×	*	*		*		×						
	amoxicillin/ampicillin	×		×	×	×	×		×								
	cloxacillin	×	×		×												
	piperacillin (pip/tazo)	×	×	×													
1ST GENERATION CEPHALOSPORIN	cefADROxil	*	×				×		×								
	cephALEXin	*	×				×		×								
	ceFAZolin																
2ND GENERATION CEPHALOSPORIN	cefPROZil	*	×			×	×										
	cefUROXime										×						
	cefOXitin	×								×							
3RD GENERATION CEPHALOSPORIN	ceFIXime																
	cefoTAXime															×	
	cefTAZidime																
	cefTRIAxone												×				
CARBAPENEMS	meropenem																×
	ertapenem															×	

✗ - Each '✗' in the matrix indicates side-chain and/or major/minor antigenic similarity between two antibiotics. For type-1 immediate hypersensitivity including anaphylaxis there is a risk of cross-allergenicity between pairs marked with '✗'. This is due to similar side-chains and/or major/minor antigenic determinants, use NOT recommended without desensitization.

\* Caution! Before using cephALEXin, cefADROxil, or cefPROZil in a patient with an allergy to "penicillins" as a group, clarify or confirm the patient is NOT allergic to amoxicillin or ampicillin.

Avoid ALL beta-lactams including beta-lactam skin testing, re-challenge or desensitization in patients with reported Stevens-Johnson syndrome or toxic epidermal necrolysis secondary to beta-lactam use.

Consult Medical Microbiologist / Infectious Diseases Consultant in patients with reported immune hepatitis, drug reaction with eosinophilia and systemic symptoms (DRESS), serum sickness, hemolytic anemia or interstitial nephritis secondary to beta-lactam use.

Carbapenems may be considered with close monitoring in patients with reported allergy to penicillins or cephalosporins since there is little potential for cross-reactivity.