Table 1. Evidentiary Table 1977-1997

Author(s)	Year	Title/Reference	Class	Antibiotics/ Placebo	# PTS	Duration	PNA (%)	Empyema (%)	Synopsis	Comments
Grover et al.[2]	1977	Prophylactic antibiotics in the treatment of penetrating chest wounds: A prospective double-blind study. *J Thorac Cardiovasc Surg*. 1977;74:528-536.	I	Clindamycin Placebo	38 37	1-5 days N/A	10.5% 35.1%	2.6% 16%		Trend toward decreasing pneumonia and empyema but not statistically significant.
Stone et al.[3]	1981	Cefamandole for prophylaxis against infection in closed tube thoracostomy. *J Trauma*. 1981;21:975-977.	I	Placebo Cefamandole	60 60	48 hours after CT removed	5% 0%	8.3% 1.7%		Reported reduced rates but combined empyema and pneumonia. Nearly 30% from each group had non-traumatic spontaneous pneumothoraces.
LeBlanc et al.[4]	1985	Prophylactic antibiotics and closed tube thoracostomy. *Surg Gynecol Obstet*. 1985;160:259-263.	II	Cephapirin Placebo	26 26	24 hours after CT removed	3.8% 3.8%	0% 3.8%		This article is in patients requiring tube thoracostomy for spontaneous pneumothorax and is not included in the analysis.
Mandal et al.[5]	1985	Prophylactic antibiotics and no antibiotics compared in penetrating chest trauma. *J Trauma*. 1985;25:639-643.	II	Doxycycline Placebo	40 40	Until CT removed	0% 2.5%	0% 0%		
LoCurto et al.[6]	1986	Tube thoracostomy and trauma—Antibiotics or not? *J Trauma*. 1986;26:1067-1072.	II	Placebo Cefoxitin	28 30	12 hours after CT removed	14% 3%	18% 0%		Reported reduced rates but combined empyema and pneumonia.
Brunner et al.[7]	1990	The role of antibiotic therapy in the prevention of empyema in patients with an isolated chest injury (ISS 9-10): A prospective study. *J Trauma*. 1990;30:1148-	II	No abx Cefazolin	46 44	Until CT removed	6.5% 2.3%	13% 0%		Reported reduced rates but combined empyema and pneumonia.

		1153.								
Demetriades et al.[8]	1991	Antibiotic prophylaxis in penetrating injuries of the chest. *Ann R Coll Surg Engl*. 1991;73:348-351.	II	Ampicillin IV prior to tube insertion	95 93	Pre-tube insertion, oral until CT removed	3.1% 2.1%	0% 1.1%		
Fallon et al.[9]	1992	Prophylactic antibiotics for the prevention of infectious complications including empyema following tube thoracostomy for trauma: results of meta-analysis. *J Trauma*. 1992;33:110-116.	III						Meta-analysis of six studies. Only evaluated four studies which used first or second generation cephalosporins. Determined impact on early empyema and other infectious complications. Concluded that antibiotic prophylaxis with broad-spectrum first generation cephalosporins may reduce the potential infectious complications including empyema that are associated with tube thoracostomy.	
Cant et al.[10]	1993	Antibiotic prophylaxis is indicated for chest stab wounds requiring closed tube thoracostomy. *Br J Surg*. 1993;80:464-466.	I	Cefazolin Placebo	57 56	24 hours	12% 34%	0% 9%		Statistically significant but used sub-therapeutic doses of cefazolin.
Nichols et al.[11]	1994	Preventive antibiotic usage in traumatic thoracic injuries requiring closed tube thoracostomy. *Chest*. 1994;106:1493-1498.	I	Cefonicid Placebo	63 56	Until CT removed	0% 5%	0% 7%		Decreased rates of empyema in penetrating population.
Evans et al.[12]	1995	Meta-analysis of antibiotics in tube thoracostomy. *Am Surg*. 1995;61:215-219.	III						Meta-analysis performed of same six randomized studies as above. Outcomes evaluated included: empyema, effusion, pneumonia, wound infection, tracheitis. Concluded that antibiotics should be used and maximize therapy for *Staphylococcus aureus.*	