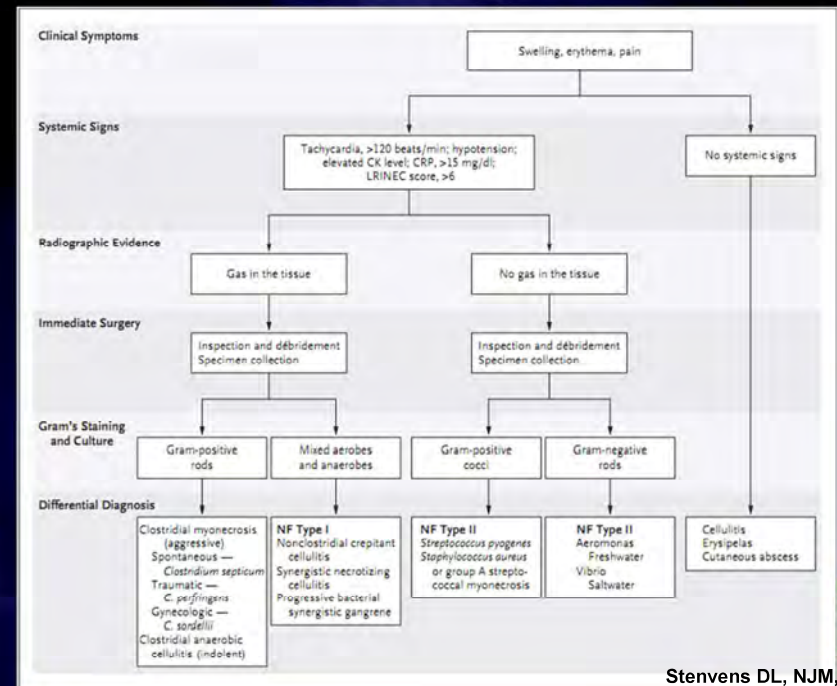


Table 1. Factors Conferring a Predisposition to Specific Necrotizing Soft-Tissue Infections.*

Predisposing Factor	Clinical Syndrome	Etiologic Agent
Major penetrating trauma: crush or deeply penetrating wound	Gas gangrene	<i>Clostridium perfringens</i> , <i>C. histolyticum</i> , or <i>C. novyi</i>
Minor penetrating trauma	NF type II	
Freshwater laceration		<i>Aeromonas hydrophila</i>
Saltwater laceration		<i>Vibrio vulnificus</i>
Minor nonpenetrating trauma: muscle strain, sprain, or contusion	NF type II or streptococcal myonecrosis	<i>Streptococcus pyogenes</i>
Mucosal breach: mucosal tear (rectal, vaginal, urethral); gastrointestinal, genitourinary or gynecologic surgery	NF type I	Mixed aerobic and anaerobic organisms
Skin breach		
Varicella lesions	NF type II or streptococcal myonecrosis	<i>S. pyogenes</i>
Insect bites	NF type II or streptococcal myonecrosis	<i>S. pyogenes</i>
Injection drugs	Gas gangrene	<i>C. perfringens</i> , <i>C. histolyticum</i> , <i>C. novyi</i> , or <i>C. sordellii</i>
Immunocompromised state		
Diabetes with peripheral vascular disease	NF type I	Mixed aerobic and anaerobic organisms
Cirrhosis and ingestion of raw oysters	NF type II	<i>V. vulnificus</i>
Neutropenia	Gas gangrene	<i>C. septicum</i>
In women: pregnancy, childbirth, abortion (spontaneous or medically induced), gynecologic procedures or surgery	NF type II, streptococcal myonecrosis, or clostridial myonecrosis	<i>S. pyogenes</i> , <i>C. perfringens</i> , or <i>C. sordellii</i>
Occult factors: colonic lesions, including carcinoma	Spontaneous gas gangrene	<i>C. septicum</i>

Now and Next
Stevens DL, NJM, 2017

Algorithm for the Diagnosis of Necrotizing Infections



Stevens DL, NJM, 2017

Treatment

Prompt and aggressive surgical debridement of all infected tissue

Appropriate antibiotics

Eliminate infecting microorganisms

Shorten the time course of infection

Intensive supportive care

Intubation, hemodialysis

Hyperbaric Oxygen Therapy data is inconsistent

Surgical debridement

Risk of death was 7.5 times greater in cases that not initially debrided adequately

Boundaries of the excision should be at least as wide as the rim of cellulitis

Perineal, perianal, or scrotal infections require special consideration. diverting colostomy should be considered

Prognostic factor

Table 6. Variables Associated with Mortality in Necrotizing Soft Tissue Infection^{2,4,13,31,41}

Timing to operative intervention*

Age older than 60 years

Number of comorbidities

Diabetes mellitus

Shock on admission

Acute renal failure

Coagulopathy or acidosis on admission

Clostridial or group A streptococcal infection

Vibrio vulnificus infection

Admission white blood cell count > 30 cells/mm³

Admission serum creatinine > 2 mg/dL.

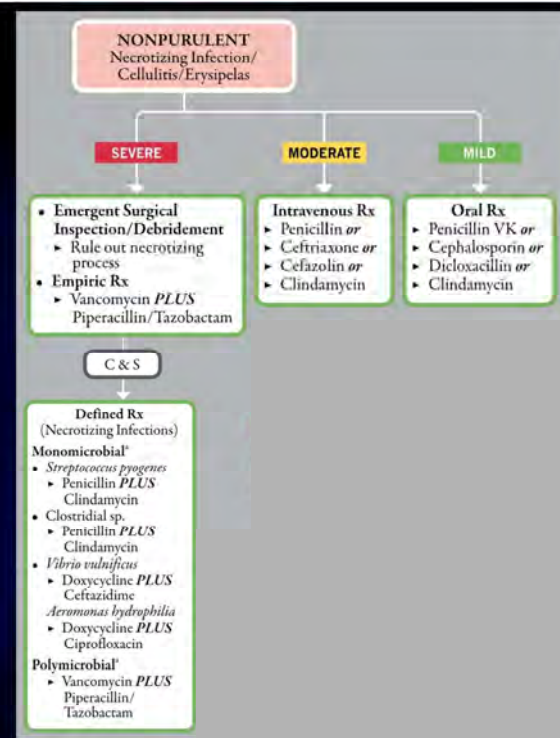
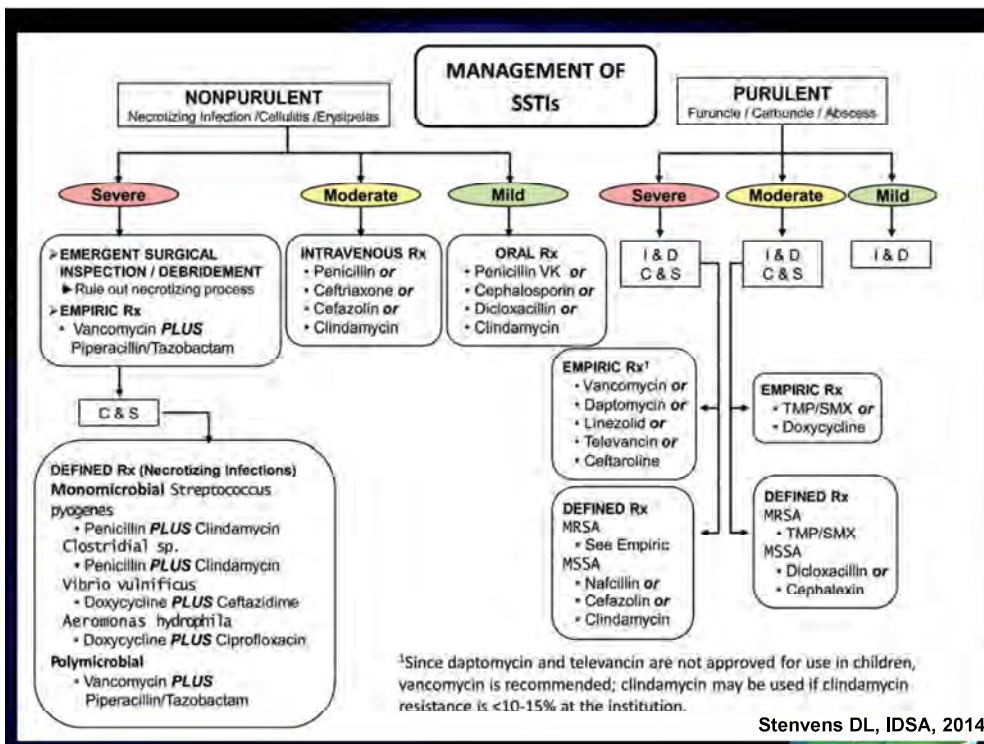
*Only variable that has been shown to be predictive of survival in all studies.

Sarani B, J Am Coll Surg. 2009 Feb;208(2):279-88

Table 4. RELATIONSHIP BETWEEN CLINICAL CHARACTERISTICS AND MORTALITY IN PATIENTS WITH NECROTIZING SOFT-TISSUE INFECTIONS

Variable	Survived (n = 46)	Died (n = 19)	p Value
Time from admission to operation (hrs)	25 ± 39	90 ± 95	0.0002
Percent body surface area involvement	4.7 ± 3.0	6.4 ± 3.4	0.054
Acidosis (n = 11)	5	6	0.057
Peripheral vascular disease (n = 17)	9	8	0.071
No. of comorbid illnesses	1.5 ± 1.2	2.2 ± 1.6	0.073
Age (yrs)	48 ± 14	56 ± 21	0.076

Christopher R. McHenry, Annals of Surgery. 1995;No. 5,558-565



	First-Line Antimicrobial Agent	Adult Dosage	Pediatric Dosage beyond the Neonatal Period*	Antimicrobial Agent for Patients with Severe Penicillin Hypersensitivity
Mixed Infections	Piperacillin-tazobactam plus vancomycin	3.37 g q6-8h IV 30 mg/kg/d in 2 divided doses	60-75 mg/kg/dose of the piperacillin component q6h IV 10-13 mg/kg/dose q6h IV	Clindamycin or metronidazole ^b with an aminoglycoside or fluoroquinolone.
	Imipenem/cilastatin	1 g q6-8h IV	N/A	N/A
	Meropenem	1 g q6h IV	20 mg/kg/dose q6h IV	N/A
	Ertapenem	1 g daily IV	15 mg/kg/dose q12h IV for children 5 months to 12 years	N/A
	Cefotaxime plus metronidazole or clindamycin	2 g q6h IV 500 mg q6h IV 600-900 mg q6h IV	50 mg/kg/dose q6h IV 7.5 mg/kg/dose q6h IV 10-13 mg/kg/dose q6h IV	N/A
	Penicillin plus clindamycin	2-4 mu q4-6h IV ^c 600-900 mg q6h IV	60,000-100,000 u/kg/dose q6h IV 10-13 mg/kg/dose q6h IV	Vancomycin, linezolid, quinupristin/dalfopristin, daptomycin
<i>Staphylococcus aureus</i>	Nafcillin	1-2 g q4h IV	50 mg/kg/dose q6h IV	Vancomycin, linezolid, quinupristin/dalfopristin, daptomycin
	Oxacillin	1-2 g q4h IV	50 mg/kg/dose q6h IV	
	Cefazolin	1 g q6h IV	33 mg/kg/dose q6h IV	
	Vancomycin (for resistant strains)	30 mg/kg/d in 2 divided doses IV	15 mg/kg/dose q6h IV	N/A
	Clindamycin	600-900 mg q6h IV	10-13 mg/kg/dose q6h IV	Factorialistic: potential cross-resistance and emergence of resistance to erythromycin (resistant strains inducible resistance in MRSA).
<i>Clostridium</i> species	Clindamycin plus penicillin	600-900 mg q6h IV 2-4 mu q4-6h IV	10-13 mg/kg/dose q6h IV 60,000-100,000 u/kg/dose q6h IV	N/A
<i>Aeromonas hydrophila</i>	Doxycycline plus ciprofloxacin or ceftriaxone	100 mg q12h IV 500 mg q12h IV 1-2 g q2-6h IV	N/A	N/A
<i>Vibrio vulnificus</i>	Doxycycline plus ceftriaxone or cefotaxime	100 mg q12h IV 1 g q6h IV 2 g bid IV	N/A	N/A

Infectious disease 2018:
Now and Next
Stevens DL, IDSA, 2014

Table 3. Antibiotic therapy for necrotizing fasciitis

Disease classification	Antibiotic	Adult dose
Empirical therapy	Teicoplanin or vancomycin or linezolid plus piperacillin/tazobactam or ertapenem or meropenem or imipenem or ceftazidime plus metronidazole	6-12 mg/kg q24 h IV 15 mg/kg q12 h IV 600 mg q12 h IV 3.375-4.5 g q8 h IV 1 g q24 h IV 1 g q8 h IV 500 mg q6 h IV 2 g q8 h IV 500 mg q8 h IV
	Penicillin plus clindamycin	2-4 million units q4-6 h IV 600-900 mg q8 h IV
	Methicillin-susceptible <i>Staphylococcus aureus</i>	Nafcillin or cefazolin 1-2 g q4 h IV 1-2 g q8 h IV
	Methicillin-resistant <i>Staphylococcus aureus</i>	Vancomycin or teicoplanin or linezolid 15 mg/kg q12 hr IV 6-12 mg/kg q24 h IV 600 mg q12 h IV
<i>Aeromonas hydrophila</i>	Ciprofloxacin or cefotaxime or ceftriaxone plus doxycycline	400 mg q12 h IV 2 g q8 h IV 2 g q24 h IV 100 mg bid PO
<i>Vibrio vulnificus</i>	Cefotaxime or ceftriaxone plus doxycycline	2 g q8 h IV 2 g q24 h IV 100 mg bid PO

Infect Chemother. 2017 Dec;49(4):301-325
Now and Next

Clindamycin in treatment of GAS Infections

Author	Time period	Setting	Sample size and clinical profile	Main results
Kaul <i>et al.</i>	1991-1995	Ontario Canada	77 patients with GAS NF Cellulitis	Clindamycin did not protect against mortality multivariate analysis
Zimbelman <i>et al.</i>	1983-1997	Colorado USA	56 patients with invasive GAS disease, 19 of whom had deep infections	Among patients with deep infection, initial treatment with a protein-synthesis-inhibiting antibiotic, such as clindamycin, was associated with favourable outcome (P=0.006)
Mulla <i>et al.</i>	1996-2000	Florida USA	195 patients with invasive GAS disease, 33 of whom had NF	Clindamycin reduced the odds of hospital mortality by 89% among patients with NF (adjusted odds ratio = 0.11, P=0.005)

Mulla ZD, Expert Opin Pharmacother; 2004, 5(8): 1695-1700





LAB REPORT

UN : 44952343 AN : 7295/57 HEMOCULTURE (35105) (7.4, 14) HH 55970/53

Comment

HEMOCULTURE (35105) (7.4, 14)

SPECIMEN: HEMO BacT/Alert 300- * Time To Positive: 28h 57m *

* Aerobic Culture *

1. Coag.Neg. Staphylococci (Constitutive Clindamycin Resistance)

1-2-3--		1-2-3--		1-2-3--	
AMPICILLIN.....	-	GENTAMICIN.....	R	FUSIDIC ACID.....	R
PENICILLIN.....	-	AMIKACIN.....	-	POSFORYCIN.....	R
OXACILLIN.....	R	NETILMICIN.....	-	LINEZOLID.....	S
CEPHALOTHIN.....	-	NALIDIXIC ACID.....	-	TEICoplanin.....	-
CEFUROXIME.....	-	CIPROFLOXACIN.....	R	VANCOMYCIN.....	S
LEVOFLOXACIN.....	-	NORFLOXACIN.....	R	COLISTIN.....	-
CEFTAZIDIME.....	-	SITAFLOXACIN.....	-	TIGECYCLINE.....	-
CEFTAZIDIME.....	-	ERTAPENEM.....	-	MINOCYCLINE.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	DORIPENEM.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	AMPHOTERIC B.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	FLUCONAZOLE.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	FLUCYTOSINE.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	VORICONAZOLE.....	-
CEFTAZIDIME.....	-	IMIPENEM.....	-	ERYTHROMYCIN.....	P
CEFTAZIDIME.....	-	IMIPENEM.....	-		

LAB NO.: 1-1720

Infectious disease 2018: Now and Next



**Infectious disease 2018:
Now and Next**



 **กระทรวงสาธารณสุขไทย**
การประชุมเชิงปฏิบัติการ
การประยุกต์ใช้กฎบัตรการ
ป้องกันโรค ครั้งที่ 44

**Infectious disease 2018:
Now and Next**

12 - 15 ตุลาคม 2561
ณ โรงแรมรอยัล โกลด์เพลส กรุงเทพมหานคร



RE (Inv) & MIC
A.14.7.4.18)

SPECIMEN: HEMO BACTEC 440

* Time To Positive: 8h 12m *

* Aerobic Culture *

I. Beta-hemolytic Streptococci

1-2-3 1-2-3 1-2-3

PENICILLIN... S PIPERACILIAZOB. - CHLORAMPHENICOL S
AMPCICILLIN... - ERTAPENEM... - TRIMETHO.SULFA. -
OXACILLIN... - IMPENEM... - TETRACYCLINE... -
CEFAZOLIN... - MEROPENEM... - TIGECYCLINE... -
CEFUROXIME... - NALIDIXIC ACID. - ERYTHROMYCIN... S
CEFOXITIN... - OFLOXACIN... - CLINDAMYCIN... -
CEFOTAXIME... - NORFLOXACIN... - FUSIDIC ACID... -
CEFTRIAXONE... S CIPROFLOXACIN... - FOSFOMYCIN... -
CEFTAZIDIME... - LEVOFLOXACIN... S VANCOMYCIN... S
CEFTPIROME... - MOXIFLOXACIN... - TEICOPLANIN... -

**Infectious disease 2018:
Now and Next**
12-15 April 2018
at The University of Edinburgh



 **สมาคมโรคติดเชื้อแห่งประเทศไทย**
การประชุมวิชาการประจำปี ครั้งที่ 44
Infectious disease 2018:
Now and Next
12 - 15 ตุลาคม 2561
ณ โรงแรมดุสิตธานี (Dusit Thani Hotel) กรุงเทพมหานคร