CELLULITIS

Definition = bacterial infection of deep dermis & subcutaneous tissue

Classic Features
- ❑ Erythematous
- ❑ Edematous
- ❑ Warm
- ❑ Poorly demarcated flat boarders
- ❑ +/- fever
- ❑ +/- lymphadenopathy

Classification by IDSA

Severity	Clinical Description	Likely Pathogens	Treatment Setting
Mild	Localized cellulitis **without systemic signs**	Streptococcus > MSSA	Oral outpatient 5 days
Moderate	Local infection + **systemic signs** (fever, tachycardia, abnormal WBC)	Streptococcus ± MSSA/MRSA	IV outpatient or inpatient 5-10 days
Severe	Systemic toxicity, immunocompromised, bullae, skin sloughing, necrosis Systemic signs = T >38°C, HR >90, RR >24, WBC >12K or <4K.	MRSA, Gram-negatives, anaerobes	Broad IV inpatient 10-14 days

NON-PURULENT

Group A Strep

Mild (Oral)	**Cephalexin**	**500 mg PO q6h × 5 days**
	Penicillin VK	500 mg PO q6h × 5 days
	Clindamycin	300–450 mg PO q6–8h × 5 days
Moderate (IV)	**Cefazolin**	**1–2 g IV q8h × 5–10 days**
	Ceftriaxone	1 g IV daily × 5–10 days
Severe (IV)	Vancomycin + Piperacillin-Tazobactam	Vanco (weight-based) + Pip-Tazo 3.375 g IV q6h × 10–14 days
	Vancomycin + Carbapenem	Vanco + Meropenem 1 g IV q8h × 10–14 days

ALT-70 Score for Cellulitis
Predicts likelihood of lower extremity cellulitis over other diagnoses.
- ❑ Asymmetric (3+)
- ❑ Age >70 (2+)
- ❑ WBC in ED >10,000 (1+)
- ❑ HR in ED > 90 (1+)

1-2 points → reassess (83% chance of pseudocellulitis)
3-4 points → consult derm and/or ID
5 points → treat (>82.2% chance of true cellulitis)

PURULENT

MSSA/MRSA

Mild–Moderate (Oral)	**TMP-SMX (Bactrim DS)**	**1–2 tabs PO BID × 5–7 days**
	Doxycycline	100 mg PO BID × 5–7 days
	Clindamycin	300–450 mg PO q6–8h × 5–7 days
Moderate–Severe (IV)	**Vancomycin**	**15–20 mg/kg IV q8–12h × 7–14 days**
	Daptomycin	4 mg/kg IV daily × 7–14 days
	Linezolid	600 mg IV/PO q12h × 7–14 days

Risk factors for MRSA: IV drug use, prior MRSA infection, abscess formation, close contact with MRSA carriers, recent hospitalization, or failure of β-lactam therapy.

Supportive Measures
- ❑ Elevation of affected limb
- ❑ Mark area of erythema to monitor spread
- ❑ Analgesia
- ❑ Treat predisposing conditions (tinea pedis, ulcers)
  - ❑ Tinea pedis → antifungal cream
  - ❑ Lymphedema → compression therapy
  - ❑ Obesity/DM → weight & glycemic control
  - ❑ Chronic stasis dermatitis → skin hygiene & emollients

- If no systemic symptoms → PO cephalexin (1st gen cephalosporin) or amoxicillin is good enough
- If it looks like "just cellulitis" BUT the pain, swelling, or course feels worse than it looks — **suspect hidden pus → ultrasound for abscess**
  - SEVERELY painful, fails to improve in 48-72 hour, or in a high-risk location (groin, buttock, thigh, perirectal)
- **CT or MRI** reserved for deep, necrotizing, or complicated infections
- Abscess → I&D, continue abx for 5-7 days post drainage
- **Fluctuance** → suggests abscess
- **Crepitus** → necrotizing fasciitis
- **Pustules or papules** → suggests purulent infection (e.g., MRSA)
- **Cellulitis is a clinical diagnosis** — labs (WBC, CRP) are supportive but **not diagnostic**.
- **Blood cultures are NOT recommended** in uncomplicated cases.
  - Indicated only with **immunocompromised**, **sepsis**, **animal/human bites**, or **water exposure**.
- Leg elevation **reduces edema** and infection spread.
  - Especially critical in venous stasis and lymphedema patients.
- **Hold NSAIDs in Severe Infection**
  - NSAIDs may **mask progression** and delay nec fasciitis diagnosis.
  - Acetaminophen preferred until necrotizing infection ruled out.

Special Scenarios

Red Flags for Necrotizing Fasciitis

Severe pain out of proportion to appearance

Bullae, ecchymosis, skin sloughing

Systemic toxicity (fever, hypotension)

"Wooden-hard" subcutaneous tissue

Never wait on imaging if clinical suspicious high → surgical consult immediately

LRINEC Score for Necrotizing Soft Tissue Infection
Need: CRP, WBC, Hgb, Sodium, Creatinine, Glucose

Animal Bite (Dog/Cat/Human)	Cover Pasteurella & anaerobes	Amoxicillin-Clavulanate	875/125 mg PO BID
Diabetic Foot / Immunocompromised	Broaden to gram-negative & anaerobe coverage	Ampicillin-Sulbactam	3 g IV q6h
Freshwater exposure	Cover for Aeromonas	Ciprofloxacin	500 mg PO BID
Saltwater exposure	Cover for Vibrio	Doxycycline + Ceftriaxone	100 mg BID + 1 g IV daily