

SPLIT IT FIRST *purulence determines whether you need MRSA cover*

NON-PURULENT

Diffuse spreading erythema, warmth, tenderness and edema with **no abscess or drainable pus**. Predominantly **beta-hemolytic streptococci**. **Routine MRSA coverage is not required** — a first-generation cephalosporin such as **cefazolin** or **cephalexin** is appropriate.

PURULENT

Abscess, furuncle, carbuncle, or purulent drainage. Predominantly **Staphylococcus aureus including MRSA**. **Incision and drainage is the treatment** — antibiotics are an adjunct, added for systemic features, extensive surrounding cellulitis, immunosuppression, or failure of drainage alone.

SEND WHAT IS USEFUL

Culture the pus from any drained abscess. **Blood cultures are low yield** in uncomplicated cellulitis — reserve them for systemic toxicity, immunosuppression, or unusual exposures. **Skin swabs of intact cellulitis are not useful**.

IS IT ACTUALLY CELLULITIS? *a large share of admitted "cellulitis" is something else*

Mimic	How to tell
Stasis dermatitis by far the commonest	Bilateral , chronic, itchy rather than painful, with hemosiderin staining and edema, and no fever or leukocytosis . True cellulitis is almost always unilateral — bilateral lower limb erythema should make you doubt the diagnosis before reaching for antibiotics.
Deep vein thrombosis	Swelling and tenderness with less well-demarcated erythema. Consider it in every unilateral swollen leg — the two can coexist.
Gout or septic arthritis	Erythema centered on a joint with pain on passive movement. Examine the joint rather than only the skin.
Contact or drug reaction	Itch dominates, sharply demarcated to the area of contact, often bilateral or symmetrical.
Necrotizing infection	The one you cannot miss — see below. Any of its red flags overrides all of the above.

EXCLUDE NECROTIZING INFECTION *a surgical emergency, and it can look like cellulitis early*

RED FLAGS

Pain out of proportion to the visible findings · **rapid progression** over hours, often with a marked pen line advance · systemic toxicity and hemodynamic instability · **skin necrosis, bullae, or dusky discoloration** · **crepitus** · **anesthesia** over the affected skin · failure to respond to appropriate antibiotics.

WHAT TO DO

Urgent surgical review — **do not wait for imaging**. Surgical exploration is both diagnostic and therapeutic, and **delay to debridement is the strongest predictor of death**. Start **broad-spectrum antibiotics with clindamycin** for its antitoxin effect, and resuscitate. Scoring systems such as LRINEC may support suspicion but **must never be used to rule it out**.

TREAT AND PREVENT RECURRENCE *the parts that shorten stay and stop readmission*

Element	Detail
Duration	5 days is sufficient for uncomplicated cellulitis that is improving. Extend only if the response is inadequate. Longer courses do not improve outcomes and drive resistance and C. difficile.
Elevation	Limb elevation is genuinely therapeutic and consistently under-prescribed — it speeds resolution of edema and erythema. Write it in the plan.
Treat the portal of entry	Tinea pedis and toe-web maceration are a common and treatable source — examine between the toes and treat the fungus. Also address eczema, ulcers and trauma.
Manage edema	Lymphedema and chronic venous insufficiency are the strongest risk factors for recurrence . Compression and skin care after the acute episode prevent repeat admissions.
Expect early worsening	Erythema can appear to advance in the first 24–48 hours despite effective treatment, from inflammation as organisms lyse. Do not escalate antibiotics on this alone if the patient is systemically improving.
Recurrent disease	After repeated episodes, consider prophylactic penicillin alongside edema and skin management.

WHO NEEDS ADMISSION, AND SPECIAL EXPOSURES *most cellulitis is an outpatient illness*

Consideration	Detail
Admit for	Systemic toxicity or sepsis · rapid progression · failure of appropriate oral therapy · immunosuppression or neutropenia · inability to take or tolerate orals · significant comorbidity or frailty · suspicion of a deeper infection. Otherwise treat orally at home with a marked border and clear return advice.
Water exposure	Fresh water → Aeromonas . Salt water or shellfish , especially with liver disease → Vibrio vulnificus , which causes fulminant infection with hemorrhagic bullae. Both need added gram-negative cover , typically a tetracycline plus a cephalosporin.
Animal or human bites	Pasteurella from cat and dog bites, Eikenella from human bites. Amoxicillin-clavulanate is the agent of choice. Assess for tendon, joint and bone involvement , and update tetanus and rabies risk.
Neutropenia or immunosuppression	Signs are blunted, so erythema may be minimal despite serious infection . Broaden cover, include Pseudomonas , and consider fungal causes. Have a much lower threshold for imaging and surgical review.

PEARLS & PITFALLS

- **Doses by phenotype: non-purulent** (streptococcal) — cephalexin **500 mg PO four times daily**, or cefazolin **1-2 g IV q8h**. **Purulent** (cover MRSA) — TMP-SMX **1 DS tablet twice daily** or doxycycline **100 mg twice daily**, or vancomycin **15-20 mg/kg IV** if unwell. **5 to 7 days is enough** in uncomplicated disease that is improving.
- **Bilateral lower limb "cellulitis"** is usually **stasis dermatitis**. Reconsider before committing to intravenous antibiotics and an admission.
- **Pain out of proportion means surgical review now**. Necrotizing infection is a clinical diagnosis and imaging delays kill.
- **Drainage is the treatment for an abscess**. Antibiotics without drainage will not resolve it.
- **Non-purulent cellulitis does not need routine MRSA cover** — it is mostly streptococcal.
- **Look between the toes**. Treating tinea pedis prevents the next episode more reliably than a longer antibiotic course.
- **Five days is enough** when improving, and elevation does more than most people credit.