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Antimicrobial Stewardship: Molecular Lab Result

Powered by  open laboratory solutionsReport ID
DEMO-12Patient
Jane DoeDOB
8/08/1946Collected
8/26/2026, 9:15:00 AMSpecimen Type
Wound swabProvider
Dr. DemoResulted
8/26/2026, 6:05:00 PMReceived
8/26/2026, 1:40:00 PM

Infection Complexity



Organisms Detected

- Staphylococcus aureus

Resistance Detected

None Detected

Antimicrobial Resistance



Allergies

None reported

Interactions

MAJOR

2

Aminoglycosides
Tetracyclines
(representative - scan QR)

MODERATE

3



Full interactions list

Scan or click

Infection Control

Standard only - no added precautions: S. aureus

#1 RECOMMENDED TREATMENT PLAN

Dicloxacillin

No brand name available

Penicillin Moderate

Dose: 500 mg PO Q6H for 5-10 days for uncomplicated cellulitis or abscess, guided by clinical response; surgical-site, deep, necrotizing, diabetic-foot or bone infection needs source control and an individualized course

Skin/soft tissue · labeled for this site; guideline dose

Est. \$12.37/7d

Current Pricing

Drug Selection Basis

FDA

Selected per FDA-approved indications for this site

CLINICAL RATIONALE

Dicloxacillin was selected to cover Staphylococcus aureus as a first-line oral agent. Duration: complicated/deep wound infection — 7–14 days recommended; reassess at 48–72 hours.

WHEN SHOULD THIS BE TREATED? ‡

Interpret a positive wound molecular result carefully - all open wounds are colonized, so a positive molecular detection alone does not indicate infection. Signs of infection: purulent drainage, erythema, warmth, swelling, pain, and systemic signs (fever, leukocytosis). Superficial swabs may reflect colonizing flora; deep-tissue cultures or aspirates are more meaningful. For animal/human bite wounds, prophylactic amoxicillin-clavulanate is recommended for moderate-to-severe bites, cat bites, hand wounds, and immunocompromised patients.

DISCLAIMER — For clinical decision support only; not a diagnosis, and the patient was not examined. The reporting laboratory assumes no liability for the actions of physicians, facilities, or other users and is not responsible for injury, death, or damage from use, misuse, or interpretation; drug failure is possible, and independent assessment of indications, contraindications, and side effects is required.

Molecular (PCR) assay — detects nucleic acid and only the panel's validated organisms and resistance genes, not phenotypic susceptibility; off-panel organisms, genes, and variants are not detected. Gene detection does not always predict resistance and gene absence does not establish susceptibility, so a negative result does not preclude infection or resistance. Recommendations reflect typical genotype–phenotype relationships and published guidance, not this patient's measured MICs. Confirm the organism and susceptibility with reflex culture and phenotypic AST, correlate clinically, and do not use this report as the sole basis for diagnosis, treatment, or patient management. (IDSA AMR guidance 2026; CDC AR guidance.)

* Printed doses are standard adult regimens, or the weight-based pediatric/neonatal dose when a pediatric age and weight are provided (a per-kg guideline plus a computed absolute for the supplied weight where pediatric/neonatal dosing data exist). All doses assume normal renal and hepatic function — the report flags where renal or hepatic adjustment may be needed but does not calculate that adjustment; resistance varies, so confirm dosing for the individual patient. ‡ Guidance is limited to the detected panel targets for the reported specimen plus any clinical details supplied, and is not a substitute for full clinical assessment. "First-line" and "alternative" denote this report's ranked recommendation for the detected organism and specimen source, not an endorsement by an outside body; the Drug Selection Basis panel states the evidence class behind that ranking. § Pricing is an estimate based on national-average wholesale benchmarks and may differ from actual acquisition cost. Recommendations are derived from freely available, peer-reviewed literature and U.S. government and professional-society guidance. Interpretive recommendations are generated by decision-support software from Open Laboratory Solutions, LLC, validated for clinical use by this laboratory; not FDA cleared/approved; CLIA regulated.

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ALTERNATIVE TREATMENTS

#	Drug (Generic / Brand)	Class	Dose	
#2	Nafcillin / Nallpen	Penicillin Moderate	1-2 g IV Q4H for 7-14 days	~\$347/7d Ref.
#3	Cephalexin / Keflex	Cephalosporin Broad	500 mg PO Q6H for 5-7 days	~\$4.41/7d Current
#4	Cefazolin / Ancef	Cephalosporin Broad	1-2 g IV Q8H for 5-10 days total including oral step-down for uncomplicated cellulitis or abscess; surgical-site, deep, necrotizing, diabetic-foot or bone infection needs source control and an individualized course	~\$21.52/7d Current
			DOSE ADJ: RENAL	

INTERPRETIVE NOTES

DRUG-USE CAUTIONS

cefazolin, nafcillin, oxacillin: For IV bacteremia, use ONLY these 3 beta-lactams

Oral **dicloxacillin** is shown first-line for this methicillin-susceptible *S. aureus* skin/soft-tissue infection: oral anti-staphylococcal agents (dicloxacillin or cephalexin) are first-line for MILD-TO-MODERATE ABSSSI. Reserve the IV anti-staphylococcal agents (nafcillin/oxacillin/cefazolin) for SEVERE or systemic disease - bacteremia, deep/necrotizing infection, sepsis, or failure of oral therapy - which a molecular swab cannot establish; IV nafcillin remains available as an escalation option below.

SPECIAL CONSIDERATIONS ‡

Staphylococcus aureus

When treatment is indicated: for methicillin-susceptible *S. aureus* (MSSA - the presumptive phenotype when no *mecA/mecC* is detected), nafcillin/oxacillin or cefazolin is preferred over vancomycin (better outcomes); de-escalate to a beta-lactam once MSSA is confirmed. If *mecA/mecC* (MRSA) is present, *S. aureus* is resistant to all beta-lactams except ceftaroline - use vancomycin (IV for serious infection), TMP-SMX, doxycycline, clindamycin (D-test for inducible clindamycin resistance), linezolid, or daptomycin. Gene absence does not fully exclude resistance; correlate with culture susceptibilities.

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