



Memorandum – Core #191

To: UNC Medical Center Attending Physicians, Faculty Practice Physicians, UNC Hospitals Children’s Specialty Services at Raleigh, Housestaff, Clinical Nursing Coordinators, Department Heads and Supervisors

From: Clare Mock, MD, CPSS, Medical Director *CM*
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Date: November 8, 2022

Subject: Lowering of the lactate critical value for non-sepsis orders

Effective November 13, 2022 the critical value for non-sepsis lactate orders will be lowered from 5.5 mmol/L to 4.0 mmol/L. The change will go into effect with the EPIC upgrade on Sunday.

Blood lactate concentrations have been used widely as a marker of altered tissue perfusion in critically ill patients and the degree of increase in lactate concentrations is directly related to the severity of the shock state and to mortality rates¹. Studies have shown better outcomes associated with decreasing blood lactate concentrations in response to therapeutic interventions². Based on recommendations from the Mortality Reduction Committee the critical value for lactate (non-sepsis orders) will be lowered from 5.5 mmol/L to 4.0 mmol/L. This recommendation is based on literature review and alignment with other health system practices. Critical value notification by the laboratory will only occur for the initial critically elevated lactate per patient admission or if the previous lactate was below 4.0 mmol/L. For lactate performed on a point of care

(POC) device, all critical lactate results above 4.0 mmol/L will require documentation of critical value notification of provider according to established policies.

	Current	New
Lactate Critical Value Threshold	>5.5 mmol/L	>4.0 mmol/L
Notification Frequency	All critical values	Lab: Only the first critical value POC: All critical values

For questions please contact:

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References

1. Nichol A, Bailey M, Egi M, Pettila V, French C, Stachowski E, et al. Dynamic lactate indices as predictors of outcome in critically ill patients. *Crit Care*. 2011;15:R242.
2. Vincent, JL., Quintairos e Silva, A., Couto, L. *et al*. The value of blood lactate kinetics in critically ill patients: a systematic review. *Crit Care* **20**, 257 (2016)