

UPDATE: Guidance on Repetitive Laboratory Testing: CMP and BMP

Laboratory testing is a critical tool used to determine patient diagnosis and to guide treatment. However, inappropriate testing, including repetitive testing, poses a major health care risk. Unnecessary repetitive testing utilizes resources (health care provider time for drawing samples, consumable reagents, testing capacity, etc) and clogs the testing system, slowing critical actionable testing. More importantly, however, unnecessary testing causes direct patient harm – such as iatrogenic anemia and treatment changes based on testing that should not have been performed (“chasing numbers”), ultimately increasing patients’ length of stay and incidence of complications.

In an attempt to curb unnecessary laboratory testing for our inpatients, the orders for comprehensive metabolic panel (CMP) and basic metabolic panel (BMP) were restricted to a maximum ordering frequency of 5 days with each order. The hope with this change was to encourage thoughtful ordering of these tests only when clinically indicated. Epic notifies providers on the patient’s care team of expiring laboratory test orders so that tests which ARE indicated may be ordered. Since institution of this change, there has been no difference in the ordering practices for these tests.

Reviewing similar changes implemented at other institutions, the lack of effect of this change is likely due to the time frame (5 days) being too long. Considering that our average inpatient stay is only 3 days, a 5 day limit will not affect many of our patients. Based on the feedback from the recent survey, the timeframe of 3 days is preferred to either 1 or 2 days. Therefore, starting **Wednesday, February 5th** the BMP and CMP orders will be restricted to a maximum ordering frequency of 3 days with each order on inpatients and ED patients. Just like now, the BMP or CMP order may be renewed if the clinical team deems that this testing is required.

Selected references:

Eaton KP, Levy K, Soong C, Pahwa AK, Petrilli C, Ziemba JB, Cho HJ, Alban R, Blanck JF, Parsons AS. Evidence-Based Guidelines to Eliminate Repetitive Laboratory Testing. *JAMA Intern Med.* 2017 Dec 1;177(12):1833-1839

Brady H, Piggott L, Dunne SS, O’Connell NH, Dunne CP. Clustered interventions to reduce inappropriate duplicate laboratory tests in an Irish tertiary hospital. *Clin Biochem.* 2018 Feb;52:26-32.

Thakkar RN¹, Kim D, Knight AM, Riedel S, Vaidya D, Wright SM. Impact of an educational intervention on the frequency of daily blood test orders for hospitalized patients. *Am J Clin Pathol.* 2015 Mar;143(3):393-7.

Attali M, Barel Y, Somin M, Beilinson N, Shankman M, Ackerman A, Malnick SD. A cost-effective method for reducing the volume of laboratory tests in a university-associated teaching hospital. *Mt Sinai J Med.* 2006 Sep;73(5):787-94.