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Fasting or nonfasting lipid measurements

The joint American College of Cardiology and American Heart Association "2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults" replaces low-density lipoprotein cholesterol treatment thresholds with a more global measurement of risk. In the laboratory, it is customary to perform fasting lipid measurements to help assess risk in these patients. With this more personalized approach to treatment recommendations for atherosclerotic cardiovascular disease (ASCVD), the authors re-examined the need for fasting lipid and lipoprotein measurements in various clinical scenarios to help clarify when fasting lipids are required and when nonfasting levels may be adequate. They initially reviewed the case of a man who was concerned about the inconvenience of prolonged fasting for a late afternoon office visit. A nurse asked the clinician if it is necessary for the patient to fast. Instead of focusing on the one best answer, the authors recommend that clinicians carefully consider six clinical scenarios before responding: (1) estimating initial risk for ASCVD in the typical primary prevention patient (nonfasting acceptable); (2) screening for familial hypercholesterolemia in a patient with a strong family history of premature ASCVD or other genetic dyslipidemia (fasting required); (3) attempting to clarify a diagnosis of metabolic syndrome (nonfasting acceptable); (4) assessing residual risk in a treated patient (fasting preferred); (5) diagnosing and treating patients with suspected hypertriglyceridemia pancreatitis (fasting preferred); and (6) diagnosing hypertriglyceridemia (fasting preferred). The authors concluded that there are a number of clinical scenarios where it would be appropriate to obtain nonfasting lipid levels. For example, a fasting or nonfasting total cholesterol and high-density lipoprotein cholesterol level will provide information to assess the initial risk of ASCVD in an untreated patient. However, there are certain situations, such as when the patient has a family history of premature ASCVD or features suggestive of familial hyperlipidemia, in which screening and follow-up should involve fasting lipid panels.

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An initiative to reduce unnecessary repeat CBCs and BMPs in a children's hospital

epeat laboratory testing within a certain time period may offer no additional value or clinical information and may hinder the overarching goal in health care to increase quality and decrease cost. In addition, unnecessary tests increase laboratory workload and may result in delays in reporting other critical laboratory tests. Furthermore, the patient is impacted by excessive phlebotomy, which may result in iatrogenic anemia, patient discomfort, and sleep disruption. The authors conducted a study in which they sought to decrease the number of CBCs and basic metabolic panels (BMPs) on two pediatric hospital medicine teams using rapid cycle plan-do-study-act (PDSA) quality improvement tools. A secondary outcome of the study was a reduction in the percentage of tests repeated within one calendar day. The authors targeted provider behavior in a multifaceted approach to reduce unnecessary laboratory testing. Their interventions focused on the key drivers of effective communication among the primary team, knowledge of laboratory charges, and providers' understanding of the magnitude of the problem. Prior to the intervention, there was no standard practice of incorporating laboratory plans or interpretation into the notes. In

the study, interns were asked to document testing plans and interpretation in the notes and discuss plans with the attending/resident during admission. In addition, charges for laboratory tests were posted on computers used by the interns and in their workroom. Lastly, feedback was given to the teams regarding data on unnecessary tests, and control charts were posted in work areas to show progress. After these changes, the primary outcome measure of unnecessary BMPs and CBCs ordered was reduced from 13.5 percent at baseline to 4.5 percent. The two most significant interventions involved recording the laboratory plan and sharing data with the teams. Also noted was an improvement in the secondary outcome of consecutive-day testing, which showed a decrease from 20.9 percent to 8.5 percent. The authors concluded that this multiple-intervention approach showed that it was possible to reduce and sustain unnecessary laboratory test ordering, with a key driver being the presence of a laboratory plan. The authors noted that almost all of the sustainability plans for this project were done manually and that the level of reliability could be increased greatly by implementing information technology interventions. These tools may include a mechanism that allows lab charges to appear automatically in the physician order-entry system, progress note templates that include laboratory plans, and automated methods for data extraction and feedback.

Johnson DP, Lind C, Parker SES, et al. Toward high-value care: a quality improvement initiative to reduce unnecessary repeat complete blood counts and basic metabolic panels on a pediatric hospitalist service. *Hosp Pediatr.* 2016;6. doi:10.1542/hpeds.2015-0099.

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