Review Education

ALVERNO LABORATORIES

UTILIZATION GUIDES

Peripheral Blood Smear "Manual Differential" and "Pathology Review" - Rarely Indicated

The standard CBC includes an automated differential performed by modern analyzers that count thousands of cells, typically greater than 8,000 and up to 50,000 in certain scenarios, and are much more advanced than their predecessors. When established criteria are met, the blood smear is reviewed by a laboratory technologist. These criteria for reflex to manual review were derived from a large study using published guidelines for positive blood smear findings with participation by all Alverno sites in collaboration with the instrument manufacturer. False positive and false negative statistics were evaluated and optimized by Alverno's Standardization Committee consisting of leader representatives from all sites in consultation with site Medical Directors. A conservative approach was taken; false negatives were minimized at the expense of some false positives; more smears would be sent for review so as to capture all smears needing review (and a few that really don't).

Additional established criteria are used to determine if a manual differential needs to be performed by the reviewing technologist. Upon review of the peripheral smear, if the technologist finds any abnormal or immature cells, increased reactive lymphocytes or bands, a manual differential is performed. There is no additional charge for the manual review by a technologist. Further established criteria determine whether additional review by a pathologist is needed. There is a professional charge for the pathologist review.

The standard CBC process is a well-researched and established system that combines the strengths of automated analyzers and well-trained technologists. It ensures accurate and sensitive results as well as maximizes efficiency.

In contrast, the manual differential (CBCMN test code) requires a manual differential to be performed regardless of criteria. Manual differentials only count 100 cells and are therefore less sensitive than the combination of automation with technologist review. Manual differentials are more time consuming and have an increased cost.

The standard CBC is preferred because it reduces time the trained technologists spend on normal blood smears for which the automated differential is suited and allows technologists more time to devote to abnormal peripheral blood smears and other patient testing responsibilities.

Pathology Review (PREVW test code) requires a pathologist review to be performed regardless of criteria. Due to established criteria that automatically trigger pathologist review, ordering pathology review results in many normal peripheral smears being reviewed; those that are abnormal will be reflexed for a pathologist to review them, regardless of the PREVW order. Rare scenarios may be appropriate for ordering a pathology review prior to a CBC being performed such as a clinical suspicion of TTP with a documented thrombocytopenia.

In summary, the standard CBC process uses well-established criteria to ensure that a manual differential and pathology review are performed when needed, making the ordering of them unnecessary in most scenarios; a standard, automated CBC is routinely all that is needed.

July 2024

2434 Interstate Plaza Drive, Hammond, IN 46324 | www.AlvernoLabs.com | 800-937-5521