The Laboratory Services Reform Programme

ADVICE NOTE

Measuring Erythrocyte Sedimentation Rate (ESR) Guidance

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Clinical Practice Guidance Document Cover Sheet

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The Laboratory Services Reform Programme offers the following advice:

1.1 Advice for Laboratory Users

1. ESR is influenced by many factors and is increased in many different conditions. Raised ESR is not specific to any condition therefore it is not a reliable basis for making a specific diagnosis. It lacks sensitivity for many conditions therefore it is not a basis for excluding a diagnosis.
2. It is difficult to ensure the consistency and quality of the ESR test. Other tests are preferred if a general measure for evidence of an inflammatory process is required.
3. ESR should be carried out only for specific clinical indications. It should not be performed as screening test or general assessment of wellness.
4. You should expect that laboratories will require clinical details on requests for testing for ESR
5. You should expect that laboratories will generally consider short (legible) statements similar to the following as valid clinical indications for testing for ESR:

    - ? temporal arteritis
    - ? polymyalgia rheumatica

    Other valid indications for testing may be stated briefly on the request.
6. You may expect that HSE laboratories will not process samples requesting measurement of ESR if no valid clinical indication for testing is provided.
7. ESR should generally not be performed as a near patient test as assuring the quality of ESR tests in a near patient setting is generally not practical.

1.2 Advice for Laboratories

1. Measurement of ESR should be performed when relevant and legible clinical details and requestor identification are provided on the request (electronic or paper) accompanying the sample and the sample received is suitable for analysis.
2. Laboratories should communicate to laboratory users the specific indications for performing ESR testing.
3. To the greatest extent practical, requests for testing for ESR that do not conform to the laboratory requirements for testing should not be processed.
4. There are significant practical challenges in implementing a process to manage requests in the absence of electronic ordering. Providing users with a specific list of terms, such as that indicated above in ‘Advice for Laboratory Users’ section has been used effectively in some laboratories. These must be legible on a request form for acceptance of the sample for testing.
5. If samples are not processed, a report should issue to the effect that testing for ESR was not performed because the criteria for testing were not met.

6. Unnecessary testing for ESR involves avoidable discomfort, risk of needle exposure and generates unnecessary clinical and laboratory waste.
7. Given the advice above regarding quality assurance of near patient testing, the supply of materials by laboratories to support the performance of ESR in near-patient settings is not recommended. It may be considered if the laboratory is satisfied that there is appropriate quality assurance of testing.

2. Background

The ESR has a long tradition of use. In some settings it remains a familiar and commonly used test in settings where an inflammatory, autoimmune, infectious or malignant condition is suspected. A raised ESR is a non-specific finding. The ESR can be raised in a wide variety of inflammatory or infectious or malignant conditions. Minor elevations of ESR can be present for many reasons, including advancing age, pregnancy, anaemia and obesity. ESR can be lowered in polycythemia and some haemoglobinopathies including sickle cell disease. ESR is not a sensitive test. The result may be within the reference interval in people with significant inflammatory or other conditions.

The Westergren method is the standard method for measuring ESR. The method is time consuming and prone to error. The result can be significantly affected by several pre-analytical variables. For example a slight tilt from vertical in the tube; vibration from other bench-top equipment or change in temperature. These factors make the test difficult to perform consistently so that assuring the quality of testing is challenging even in the controlled laboratory setting.

2.1 Note on terminology

A reference interval (sometimes called a reference range) is quoted by laboratories on reports of many test results. In the past this was often referred incorrectly as a “normal range”. In general, the reference interval is defined in relation to the values observed in a readily accessible group of healthy people who provide samples. In some cases different reference intervals may be specified for those who have identified as men and women and for children. A reference interval is a guide to interpretation.

A value outside of the reference interval is not always “abnormal” for that person and may not be a cause for concern. A value outside of the reference interval may be physiological for some people. It may be expected in relation to age, medication or know medical condition. Equally, a value within the reference interval does not exclude illness. In each case clinical judgement is required in applying the result of a diagnostic test result to the individual’s clinical circumstances

3. Relevant Materials

None

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