

Chemical Pathology Written Assignment Topics

Topic 1 Discuss the epidemiology and diagnosis of mercury poisoning. What methods would you recommend for testing someone who has been exposed to mercury? Your answer should include information gained from directly approaching laboratories involved in mercury testing.

Topic 2 Many laboratories report estimated GFR as well as serum creatinine. What is the evidence that reporting eGFR has been worthwhile? What are the limitations of eGFR reporting? In particular, explain how doctors should use the body surface area term (per 1.72m^2) when interpreting their results.

Topic 3 Discuss the common genetic variants of alpha 1 antitrypsin. Describe the laboratory methods used to identify abnormalities in alpha 1 antitrypsin. Describe the frequency, population distribution and clinical consequences of the common variants. Where possible, include results from your laboratory.

Topic 4 The term “biological variation” is widely used in chemical pathology today. Describe what this term means and its importance to the interpretation of biochemical results. The essay should be written as a newsletter that would be suitable for medical students or general practitioners. Case studies, practical examples, simple diagrams and analogies may be preferred ways of communicating with this audience.

Topic 5 What are the limitations of the tests that are currently used to diagnose haemochromatosis and iron deficiency? Describe recent advances in our understanding of iron metabolism and whether there are any new tests that may be diagnostically useful.

Topic 6 Describe the system for waste disposal in your laboratory. What are the different types and volumes of waste? Are there any particular waste disposal problems? How much does waste disposal cost? Are there any ways that your waste disposal system could be improved?

Topic 7 Discuss the arguments for and against retaining the oral glucose tolerance test as a diagnostic test. Is it time to abandon the glucose tolerance test?

Topic 8 Discuss the advantages and disadvantages of serum free light chain measurements compared with urine electrophoresis and immunofixation.

Topic 9 Discuss the potential role of so-called lean management principles in laboratory medicine. Discuss the historical origin and the principles of this management technique as well as examples of its application in the clinical laboratory.

Topic 10 Discuss the advantages and disadvantages of measuring apolipoproteins.

Topic 11 Discuss the advantages and disadvantages of saliva as a specimen for drugs of abuse testing.

Topic 12 Circulating micro RNA has been proposed as a novel biomarker for acute myocardial injury. What are the benefits and limitations of this approach?

Topic 13 PSA screening is the subject of considerable controversy. Discuss the issues in a newsletter suitable for medical students or general practitioners.