Extension Seminar in Laboratory Tests

SEMINAR

Preliminary program

Self-paced learning package: Available from Friday 17 January 2025

Topic and presenters		Learning objectives
Part 1	**Use of laboratory data in clinical practice** **Professor Jeff Hughes**	• Describe laboratory test data used to evaluate the appropriateness of drug therapy • Assess therapeutic outcomes and disease progression using laboratory test data • Describe laboratory test data used in the assessment and prevention of adverse drug reactions

	Sodium
	Karl Winckel
		• Understand the presentation, causes and risks associated with hypo/hypernatraemia
		• Understand management options for hyponatraemia in terms of:
		  ○ Appropriate treatments including cessation of causative drugs
		  ○ Benefits of treatment
		  ○ Risks of treatment or under-treatment

	Potassium
	Karl Winckel
		• Understand the presentation, causes and risks associated with common serum potassium disturbances
		• Understand management options for serum potassium in terms of:
		  ○ Appropriate treatments including cessation of causative drugs
		  ○ Benefits of treatment
		  ○ Risks of treatment or under-treatment

	Magnesium
	Professor Jeff Hughes
		• Understand the presentation, causes and risks associated with hypomagnesemia
		• Understand management options for hypomagnesemia in terms of:
		  ○ Appropriate treatments including cessation of causative drugs
		  ○ Benefits of treatment
		  ○ Risks of treatment or under-treatment

Part 2	**Acid-base balance** **Professor Jeff Hughes**	• Describe laboratory test data used to evaluate the appropriateness of drug therapy • Assess therapeutic outcomes and disease progression using laboratory test data • Describe laboratory test data used in the assessment and prevention of adverse drug reactions
	Urea and creatinine **Bhavini Patel**	• Identify people at greatest risk of kidney disease • Explain the diagnosis and classification of acute and chronic kidney disease • Discuss the advantages and limitations of different markers of kidney function
	Calcium and phosphate **Bhavini Patel**	• Evaluate the normal ranges for calcium and phosphate and their variation within the normal range • Describe the measurement and interpretation of these laboratory tests, and the influence of commonly used drug therapy on them • Describe the relevance of further laboratory test investigations • Describe monitoring requirements for a patient with kidney disease
	Liver function tests **Professor Jeff Hughes**	• Describe laboratory test data used to evaluate the appropriateness of drug therapy • Assess therapeutic outcomes and disease progression using laboratory test data • Describe laboratory test data used in the assessment and prevention of adverse drug reactions
Part 3	**Troponin and creatinine kinase** **Karl Winckel**	• Understand what troponin and creatinine kinase (CK) are • Understand the role and limitations of troponin and CK in the diagnosis and management of acute coronary syndrome (ACS)
	Coagulation lab tests **Karl Winckel**	• Understand the simplified coagulation cascade • Why different coagulation test results are used for different anticoagulants • Discuss the limitations of coagulation tests in the clinical use of DOACs

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	Haemoglobin, red cells, and iron studies **Bhavini Patel**	• Explain the relevance and significance of derangements of individual components of full blood count and iron study laboratory tests • Distinguish between a picture of iron deficiency anaemia and other types of common anaemia based on laboratory tests
	White cells and acute phase reactants **Professor Jeff Hughes**	• List multiple reasons for elevation and reduction of white cells and acute phase reactants • Apply this knowledge of the tests discussed to various clinical situations
	Natriuretic peptide **Karl Winckel**	• Explain the role of natriuretic peptides in the diagnosis and management of heart failure

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Program

Live seminar: Saturday 1 March 2025

All times listed are in AEDT

Time (AEDT)	Session
0920-0930	**Online login available**
0930-0940	**Welcome, introduction, housekeeping**
0940-1030	**Perfect partners: why certain lab tests are partnered** • Describe why certain laboratory tests are partnered • Describe the relationship between various laboratory tests • Identify laboratory test results that are dependent on others • Identify additional laboratory tests that are required to accurately interpret data • Apply partnered laboratory test results to clinical scenarios
1030-1130	**Case session: Liver function tests** • Describe laboratory test data used to evaluate the appropriateness of drug therapy • Assess therapeutic outcomes and disease progression using laboratory test data • Describe laboratory test data used to in the assessment and prevention of adverse drug reactions • Apply knowledge of the above to clinical scenarios involving patients with liver impairment
1130-1150	**BREAK**
1150-1305	**Case session: Kidney disease** • Use laboratory data to assess the appropriateness of drug therapy for clinical case scenarios • Develop management plans, which include monitoring of laboratory data, to assess clinical outcomes
1305-1335	**Case session: Infectious diseases**
1335-1345	**BREAK**
1345-1515	**Case session: Myocardial infarction and heart failure**
1515-1530	**BREAK**

1530-1600	**Case session: Coagulation** • Use laboratory data to assess the appropriateness of drug therapy for clinical case scenarios • Develop management plans, which include monitoring of laboratory data, to assess clinical outcomes
1600-1615	**Summary and close**
1615-1620	**Close of live virtual seminar**

Please note: presentation recordings from the live virtual seminar will not be available.

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