



Critical Care Advanced Level Course

The UKCPA Critical Advanced Level Course is suitable for post-foundation level pharmacists with more than six months experience in an ICU.

This course is made up of four 2-hour virtual sessions, each requiring delegates to undertake pre-reading, attend the online session/s and complete an assessment. Upon successful completion of each session, delegates will be awarded a certificate of completion.

Session 1 of 4

Drug handling in critical care: The effect of critical illness on pharmacokinetics and pharmacodynamics

After this event, participants should be able to:

- Discuss how critical illness can affect pharmacokinetics and pharmacodynamics for a broad range of drugs (from syllabus).
- Describe how the physiochemical properties of medicines can be used to personalise pharmacotherapy in critical illness, taking into account organ dysfunction, illness severity and body weight.
- Apply a conceptual framework for dosing strategies in critically ill, considering patient factors, drug factors and disease factors.

Session 2 of 4

Managing common cardiac challenges in the ICU

After this session, participants should be able to:

- Describe the principles of invasive and non invasive monitoring methods used locally and interpret the specific parameters generated
- Outline the evidence base around current concepts and debates around treatment options used for the management of arrhythmias in critical care patients
- Discuss different agents and summarise the specialist treatment options used for the management of acute and chronic cardiac failure in critical care patients

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Session 3 of 4

Advanced decision making for patients with AKI or renal replacement therapies, and chronic or acute liver problems

After this event, participants should be able to:

- Summarise the pathophysiological events leading to acute and chronic renal failure
- Discuss the principles and techniques of renal replacement therapy (RRT)
- Discuss principles and choice of anticoagulation in both RRT and other critically ill patients
- Describe and manage drug therapy that affects or is affected by altered renal function and RRT
- Discuss the limitations of published literature on drug dosing in RRT
- Identify abnormal liver findings in the context of a critically ill patients
- Describe the management including rationale and choice of agents in acute liver failure patients in general and specialise centre
- Summarise medicine management of chronic liver disease such as portal hypertension, hepatorenal syndrome, encephalopathy

Session 4 of 4

Neurological challenges in critical care, including agitation, delirium, and NICU for the generalist

After this event, participants should be able to:

- Describe neurological emergencies and the need for immediate management and requirements for appropriate intervention
- Summarise the key differences between different agents used for the management of acute seizures in a level 3 patients and apply advanced pharmacokinetic principles in complex acute seizure patients to inform dosage decisions
- Discuss current evidence, national or international guidelines that include the use of agents used for the management of acute seizures in a level 3 patient.
- Identify delirium from other form of agitation and cognitive dysfunction in critical care
- Discuss the different types of delirium seen in critically ill patients and the pharmacists proactive role in identifying them
- Describe the differences between a broad range of agents used for the management of delirium and how to communicate this effectively with the rest of the critical care team.
- Discuss the role of sleep within critical care and the agents which may be used
- Discuss the current concepts, evidence and possibilities for research into sleep and delirium in the critical care unit.