Section 1: ICU Organisation and Management: The Intensive Care Unit

Part 1.1: The Intensive Care Unit

1: Design of the ICU
2: Staffing models in the ICU
3: Rapid response teams for the critically ill
4: In-hospital transfer of the critically ill
5: Pre- and inter-hospital transfer of the critically ill and injured
6: Regional critical care delivery systems
7: Integration of information technology in the ICU
8: Multiple casualties and disaster response in critical care
9: Management of pandemic critical illness

Part 1.2: Communication

10: Effective teamwork in the ICU
11: Communication with patients and families in the ICU
12: Telemedicine in critical care

Part 1.3: Training

13: Clinical skills in critical care
14: Simulation training for critical care
15: Leadership skills in the ICU

Part 1.4: Safety and Quality

16: Patient safety in the ICU
17: Policies, bundles and protocols in critical care
18: Managing biohazards and environmental safety
19: Managing ICU staff welfare, morale and burnout

Part 1.5: Governance

20: ICU admission and discharge criteria
21: Resource management and budgeting in critical care
22: Costs and cost-effectiveness in critical care

Part 1.6: Research

23: Evidence-based practice in critical care
24: Research ethics in the ICU

Part 1.7: Medico-legal and ethical issues

25: Informed consent in the ICU
26: Patient rights in the ICU
27: Medico-legal liability in critical care

Part 1.8: Critical Illness Risk Prediction

28: The role and limitations of scoring systems
29: Severity of illness scoring systems
30: Organ failure scoring
31: Genetic and molecular expression patterns in critical illness

Section 2: Pharmacotherapeutics

Part 2.1: Respiratory drugs

32: Oxygen in critical illness
33: Bronchodilators in critical illness

34: Vasopressors in critical illness
35: Vasodilators in critical illness
36: Inotropic agents in critical illness
37: Anti-anginal agents in critical illness
38: Anti-arrhythmics in critical illness
39: Pulmonary vasodilators in critical illness

Part 2.3: Gastrointestinal drugs

40: Gastrointestinal motility drugs in critical illness
41: Stress ulcer prophylaxis and treatment drugs in critical illness

Part 2.4: Nervous system drugs

42: Sedatives and anti-anxiety agents in critical illness
43: Analgesics in critical illness
44: Antidepressants in critical illness
45: Antiseizure agents in critical illness
46: Inhalational anaesthetic agents in critical illness
47: Muscle relaxants in critical illness
48: Neuroprotective agents in critical illness

Part 2.5: Hormonal drugs

49: Hormone therapies in critical illness
50: Insulin and oral anti-hyperglycaemic agents in critical illness

Part 2.6: Haematological drugs

51: Anticoagulants and antithrombotics in critical illness
52: Haemostatic agents in critical illness

Part 2.7: Antimicrobial and immunological drugs

53: Antimicrobial drugs in critical illness
54: Steroids in critical illness
55: Immunotherapy in critical illness

Part 2.8: Fluids and diuretics

56: Colloids in critical illness
57: Crystalloids in critical illness
58: Diuretics in critical illness

Section 3: Resuscitation

Part 3.1: Respiratory management

59: Airway management in cardiopulmonary resuscitation
60: Artificial ventilation in cardiopulmonary resuscitation

Part 3.2: Circulatory management

61: Pathophysiology and causes of cardiac arrest
62: Cardiac massage and blood flow management during cardiac arrest
63: Defibrillation and pacing during cardiac arrest
64: Therapeutic strategies in managing cardiac arrest
65: Post-cardiac arrest arrhythmias
66: Management after resuscitation from cardiac arrest
67: Ethical and end-of-life issues after cardiac arrest

Part 3.3: Fluid Management

136: Cardiac output assessment in the ICU
137: Oxygen transport in the critically ill
138: Tissue perfusion monitoring in the ICU
139: Lactate monitoring in the ICU
140: Measurement of extravascular lung water in the ICU
141: Doppler echocardiography in the ICU
142: Monitoring the microcirculation in the ICU
143: Imaging the cardiovascular system in the ICU

Part 5.3: Acute chest pain and coronary syndromes

144: Causes and diagnosis of chest pain
145: Pathophysiology of coronary syndromes
146: Diagnosis and management of non-STEMI coronary syndromes
147: Diagnosis and management of ST-elevation myocardial infarction

Part 5.4: Aortic dissection

148: Pathophysiology, diagnosis, and management of aortic dissection

Part 5.5: The hypotensive patient

149: Pathophysiology of shock
150: Diagnosis and management of shock in the ICU

Part 5.6: Cardiac failure

151: Pathophysiology and causes of cardiac failure
152: Therapeutic strategy in cardiac failure
153: Intra-aortic balloon counterpulsation in the ICU
154: Ventricular assist devices in the ICU

Part 5.7: Tachyarrhythmias

155: Causes and diagnosis of tachyarrythmias
156: Therapeutic strategy in tachyarrhythmias

Part 5.8: Bradyarrhythmias

157: Causes, diagnosis and therapeutic strategy in bradyarrhythmias

Part 5.9: Valvular problems

158: Causes and diagnosis of valvular problems
159: Therapeutic strategy in valvular problems

Part 5.10: Endocarditis

160: Pathophysiology and causes of endocarditis
161: Prevention and treatment of endocarditis

Part 5.11: Severe hypertension

162: Pathophysiology and causes of severe hypertension
163: Management of severe hypertension in the ICU

Part 5.12: Severe capillary leak

164: Pathophysiology of severe capillary leak
165: Management of acute non-cardiogenic pulmonary oedema

Part 5.13: Pericardial tamponade

166: Pathophysiology and causes of pericardial tamponade
167: Management of pericardial tamponade

Part 5.14: Pulmonary hypertension

168: Pathophysiology and causes of pulmonary hypertension
169: Diagnosis and management of pulmonary hypertension
Part 5.15: Pulmonary embolus
170: Pathophysiology and causes of pulmonary embolus
171: Diagnosis and management of pulmonary embolus
Section 6: The Gastrointestinal System
Part 6.1: Physiology
172: Normal physiology of the gastrointestinal system
173: Normal physiology of the hepatic system
Part 6.2: Gastrointestinal monitoring
174: Imaging the abdomen in the critically ill
175: Hepatic function in the critically ill
Part 6.3: Gastrointestinal haemorrhage
176: Pathophysiology and causes of upper gastrointestinal haemorrhage
177: Diagnosis and management of upper gastrointestinal haemorrhage in the critically ill
178: Diagnosis and management of variceal bleeding in the critically ill
179: Pathophysiology and causes of lower gastrointestinal haemorrhage
180: Diagnosis and management of lower gastrointestinal haemorrhage in the critically ill
Part 6.4: Disordered gastric motility
181: Vomiting and large nasogastric aspirates in the critically ill
182: Ileus and obstruction in the critically ill
183: Diarrhoea and constipation in the critically ill
Part 6.5: The acute abdomen in the ICU
184: Pathophysiology and management of raised intra-abdominal pressure in the critically ill
185: Perforated viscus in the critically ill
186: Ischaemic bowel in the critically ill
187: Intra-abdominal sepsis in the critically ill
188: Acute acalculous cholecystitis in the critically ill
189: Management of the open abdomen and abdominal fistulae in the critically ill
Part 6.6: Pancreatitis
190: Pathophysiology, diagnosis and assessment of acute pancreatitis
191: Management of acute pancreatitis in the critically ill
Part 6.7: Jaundice
192: Pathophysiology and causes of jaundice in the critically ill
193: Management of jaundice in the critically ill
Part 6.8: Acute hepatic failure
194: Pathophysiology and causes of acute hepatic failure
195: Diagnosis and assessment of acute hepatic failure in the critically ill
196: Management of acute hepatic failure in the critically ill
197: The effect of acute hepatic failure on drug handling in the critically ill
198: Extracorporeal liver support devices in the ICU
Part 6.9: Acute on chronic hepatic failure
199: 199: Pathophysiology, diagnosis, assessment of acute or chronic hepatic failure
200: Management of acute or chronic hepatic failure in the critically ill

Section 7: Nutrition

Part 7.1: Physiology

201: Normal physiology of nutrition

202: The metabolic and nutritional response to critical illness

Part 7.2: Nutritional failure

203: Pathophysiology of nutritional failure in the critically ill

204: Assessing nutritional status in the ICU

205: Indirect calorimetry in the ICU

206: Enteral nutrition in the ICU

207: Parenteral nutrition in the ICU

Section 8: The Renal System

Part 8.1: Physiology

208: Normal physiology of the renal system

Part 8.2: Renal monitoring and risk prediction

209: Monitoring renal function in the critically ill

210: Imaging the urinary tract in the critically ill

Part 8.3: Oliguria and acute kidney injury

211: Pathophysiology of oliguria and acute kidney injury

212: Diagnosis of oliguria and acute kidney injury

213: Management of oliguria and acute kidney injury in the critically ill

Part 8.4: Renal replacement techniques

214: Continuous haemofiltration techniques in the critically ill

215: Haemodialysis in the critically ill

216: Peritoneal dialysis in the critically ill

Part 8.5: Established renal failure

217: The effect of renal failure on drug handling in critical illness

218: The effect of chronic renal failure on critical illness

Section 9: The Neurological System

Part 9.1: Anatomy and physiology

219: Normal anatomy and physiology of the brain

220: Normal anatomy and physiology of the spinal cord and peripheral nerves

Part 9.2: Neurological monitoring

221: Electroencephalogram monitoring in the critically ill

222: Cerebral bloodflow and perfusion monitoring in the critically ill

223: Intracranial pressure monitoring in the ICU

224: Imaging the central nervous system in the critically ill

Part 9.3: Sleep disturbance

225: Pathophysiology and therapeutic strategy for sleep disturbance in the ICU

Part 9.4: Agitation, confusion and delirium

226: Causes and epidemiology of agitation, confusion and delirium in the ICU

227: Assessment and therapeutic strategy for agitation, confusion and delirium in the ICU

Part 9.5: The unconscious patient

228: Causes and diagnosis of unconsciousness

229: Management of unconsciousness in the ICU

230: Non-pharmacological neuroprotection in the ICU

Part 9.6: Seizures

231: Pathophysiology and causes of seizures

232: Assessment and management of seizures in the critically ill

Part 9.7: Intracranial hypertension

233: Causes and management of intracranial hypertension

Part 9.8: Stroke

234: Epidemiology of stroke

235: Diagnosis and assessment of stroke

236: Management of ischaemic stroke

237: Management of parenchymal haemorrhage

Part 9.9: Non-traumatic subarachnoid haemorrhage

238: Epidemiology, diagnosis, and assessment on non-traumatic subarachnoid haemorrhage

239: Management of non-traumatic subarachnoid haemorrhage in the critically ill

Part 9.10: Meningitis and encephalitis

240: Epidemiology, diagnosis and assessment of meningitis and encephalitis

241: Management of meningitis and encephalitis in the critically ill

Part 9.11: Non-traumatic spinal injury

242: Pathophysiology, causes, and management of non-traumatic spinal injury

Part 9.12: Neuromuscular syndromes

243: Epidemiology, diagnosis, and assessment of neuromuscular syndromes

244: Diagnosis, assessment, and management of myasthenia gravis and paramyasthenic syndromes

245: Diagnosis, assessment, and management of tetanus, rabies and botulism

246: Diagnosis, assessment, and management of Guillain-Barré syndrome

247: Diagnosis, assessment, and management of hyperthermic crises

248: Diagnosis, assessment, and management of ICU acquired weakness

Section 10: The Metabolic and Endocrine Systems

Part 10.1: Physiology

249: Normal physiology of the endocrine system

Part 10.2: Electrolyte disturbance

250: Disorders of sodium in the critically ill

251: Disorders of potassium in the critically ill

252: Disorders of magnesium in the critically ill

253: Disorders of calcium in the critically ill

254: Disorders of phosphate in the critically ill

Part 10.3: Metabolic acidosis and alkalosis

255: Pathophysiology and causes of metabolic acidosis in the critically ill

256: Management of metabolic acidosis in the critically ill

257: Pathophysiology, causes, and management of metabolic alkalosis in the critically ill

Part 10.4: Blood glucose control

258: Pathophysiology of glucose control

259: Glycaemic control in critical illness

260: Management of diabetic emergencies in the critically ill

Part 10.5: Endocrine disorders

292: Diagnosis and management of malaria in the ICU
293: Diagnosis and management of viral haemorrhagic fevers in the ICU
294: Other tropical diseases in the ICU

Part 13.5: Sepsis

295: Assessment of sepsis in the critically ill
296: Management of sepsis in the critically ill
297: Pathophysiology of septic shock
298: Management of septic shock in the critically ill

Section 14: Inflammation

Part 14.1: Physiology

299: Innate immunity and the inflammatory cascade

Part 14.2: Organ-specific biomarkers

300: Brain injury biomarkers in the critically ill
301: Cardiac injury biomarkers in the critically ill
302: Renal injury biomarkers in the critically ill

Part 14.3: Host response

303: The host response to infection in the critically ill
304: The host response to trauma and burns in the critically ill
305: The host response to hypoxia in the critically ill
306: Host-pathogen interactions in the critically ill
307: Coagulation and the endothelium in acute injury in the critically ill
308: Ischemia-reperfusion injury in the critically ill
309: Repair and recovery mechanisms following critical illness
310: Neural and endocrine function in the immune response to critical illness
311: Adaptive immunity in critical illness
312: Immunomodulation strategies in the critically ill
313: Immunoparesis in the critically ill

Part 14.4: Anaphylaxis

314: Pathophysiology and management of anaphylaxis in the critically ill

Section 15: Poisoning

Part 15.1: Principles of management

315: Role of toxicology assessment in poisoning
316: Decontamination and enhanced elimination of poisons

Part 15.2: Management of specific poisons

317: Management of salicylate poisoning
318: Management of acetaminophen (paracetamol) poisonin
319: Management of opioid poisoning
320: Management of benzodiazepine poisoning
321: Management of tricyclic antidepressant poisoning
322: Management of amphetamine or ecstasy
323: Management of digoxin poisoning
324: Management of cocaine poisoning
325: Management of beta-blocker and calcium channel blocker poisoning
326: Management of cyanide poisoning

Part 18.2: Sedation
358: Sedation assessment in the critically ill
359: Management of sedation in the critically ill
Section 19: General Surgical and Obstetric Intensive Care
Part 19.1: Optimisation strategies for the high-risk surgical patient
360: Identification of the high-risk surgical patient
361: Peri-operative optimisation of the high risk surgical patient
Part 19.2: General post-operative intensive care
362: Post-operative ventilatory dysfunction management in the ICU
363: Post-operative fluid and circulatory management in the ICU
364: Surgical enhanced recovery programmes in the ICU
Part 19.3: Obstetric intensive care
365: Obstetric physiology and special considerations in ICU
366: Pathophysiology and management of pre-eclampsia, eclampsia and HELLP syndrome
367: Pathophysiology and management of critical illness in pregnancy
Section 20: Specialized Intensive Care
Part 20.1: Specialized surgical intensive care
368: Intensive care management after cardiothoracic surgery
369: Intensive care management after neurosurgery
370: Intensive care management after vascular surgery
371: Intensive care management in hepatic and other abdominal organ transplantation
372: Intensive care management in cardiac transplantation
373: Intensive care management in lung transplantation
Part 20.2: Oncological intensive care
374: ICU selection and outcome of patients with haematologic malignancy
375: Management of the bone marrow transplant recipient in ICU
376: Management of oncological complications in the ICU
Section 21: Recovery From Critical Illness
Part 21.1: In hospital recovery from critical illness
377: Chronic critical illness
378: Promoting physical recovery in critical illness
379: Promoting renal recovery in critical illness
380: Recovering from critical illness in hospital
Part 21.2: Complications of critical illness
381: Physical consequences of critical illness
382: Neurocognitive impairment after critical illness
383: Affective and mood disorders after critical illness
Part 21.3: Out-of-hospital support after critical illness
384: Long-term weaning centres in critical care
385: The ICU survivor clinic
386: Rehabilitation from critical illness after hospital discharge
Section 22: End Of Life Care
Part 22.1: Withdrawing and withholding treatment
387: Ethical decision making in withdrawing and withholding treatment

388: Management of the dying patient

Part 22.2: Management of the potential organ donor

389: Beating heart organ donation

390: Non-beating heart organ donation

Part 22.3: Post-mortem diagnosis

391: Post-mortem examination in the ICU