

SHOCK

Clinical Surgery Ebook

Recognition, classification, resuscitation, source control, postoperative shock, and MCQs

Definition & Pathophysiology • Classification of Shock
Resuscitation Priorities & Haemorrhage • Septic & Obstructive Shock
Anaphylactic, Neurogenic & Endocrine Shock • Monitoring & Complications
Operative Decisions & Postoperative Shock • Clinical MCQ Bank

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A concise, examination-oriented text for medical students and surgical trainees, with high-yield clinical MCQs for viva and ward-based teaching

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Scope

A practical surgical overview of shock for medical students: clinical recognition, differential diagnosis, resuscitation priorities, haemorrhage, sepsis, obstructive causes, monitoring, operative decisions, and one-best-answer MCQs.

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Teaching Note

This is an exam-facing surgical guide. Local hospital protocols and senior critical care/surgical guidance always govern real patient management.

1. Definition and Pathophysiology

- Shock is acute circulatory failure causing inadequate tissue perfusion, cellular hypoxia, and organ dysfunction. Hypotension is common but late; early shock can exist with normal blood pressure.
- Clinical recognition depends on the whole picture: altered mentation, tachycardia, tachypnoea, cool or warm peripheries, weak pulse, oliguria, prolonged capillary refill, metabolic acidosis, and raised lactate.
- Compensation includes sympathetic vasoconstriction, tachycardia, venous constriction, and hormonal sodium-water retention. Decompensation leads to worsening acidosis, endothelial injury, capillary leak, coagulopathy, and organ failure.
- Shock is a syndrome, not a final diagnosis. The surgeon must resuscitate and search for the reversible cause simultaneously.
- Frequent reassessment is more important than a single blood pressure reading: pulse pressure, skin perfusion, urine output, mental state, lactate trend, base deficit, and response to fluid or blood guide care.

2. Classification of Shock

- Hypovolaemic shock results from reduced circulating volume due to haemorrhage, burns, dehydration, vomiting, diarrhoea, third-space loss, or pancreatitis.
- Cardiogenic shock results from primary pump failure such as myocardial infarction, severe arrhythmia, myocarditis, acute valve failure, or myocardial depression.
- Obstructive shock results from mechanical obstruction to cardiac filling or output, including tension pneumothorax, cardiac tamponade, massive pulmonary embolism, or abdominal compartment syndrome.
- Distributive shock results from loss of vascular tone and maldistribution of flow. Important examples are septic, anaphylactic, and neurogenic shock.
- Mixed shock is common in surgical practice: trauma can combine haemorrhage, tension pneumothorax, tamponade, and spinal injury; sepsis can coexist with hypovolaemia and myocardial depression.

3. Initial Assessment and Resuscitation Priorities

- Use an ABCDE approach: airway with cervical spine protection when relevant, breathing and oxygenation, circulation with haemorrhage control, disability, and exposure while preventing hypothermia.
- Call for help early. Shock resuscitation requires team-based action: airway support, vascular access, monitoring, blood sampling, imaging, source control, and definitive surgical decision-making.
- Give high-flow oxygen, establish two large-bore IV lines or intraosseous access, take blood for crossmatch and labs, start monitoring, catheterise when appropriate, and measure urine output.
- Control external haemorrhage immediately using direct pressure, tourniquet when indicated, pelvic binder, splintage, and early operative or interventional radiology control for internal bleeding.
- Resuscitation endpoints include improving mentation, warming peripheries, narrowing lactate or base deficit, adequate urine output, stable blood pressure or MAP, and controlled source of shock.

4. Haemorrhagic Shock and Trauma

- Haemorrhage is the most common surgically correctable cause of shock in trauma. The priority is control of bleeding with balanced resuscitation rather than crystalloid-only replacement.
- Clinical features include tachycardia, pallor, clammy skin, thirst, anxiety, delayed capillary refill, narrow pulse pressure, hypotension in late stages, oliguria, and reduced consciousness.
- Permissive hypotension may be used in selected uncontrolled haemorrhage until bleeding control, except when traumatic brain injury or other contraindications require higher perfusion pressure.
- Massive transfusion protocols use early blood components, correction of coagulopathy, calcium replacement when needed, warming, tranexamic acid when appropriate, and avoidance of hypothermia and acidosis.
- Definitive management is source control: theatre, endoscopy, interventional radiology, pelvic packing, vascular control, or damage control surgery depending on the site and physiology.

5. Septic Shock and Surgical Sepsis

- Septic shock is distributive shock with infection-driven circulatory and cellular dysfunction. Surgical causes include perforation, peritonitis, abscess, necrotising infection, biliary sepsis, urinary obstruction, and anastomotic leak.
- Clinical features include fever or hypothermia, tachycardia, tachypnoea, confusion, hypotension, warm peripheries early or cold peripheries late, oliguria, raised lactate, and organ dysfunction.
- Management requires early recognition, cultures when they do not delay treatment, broad antimicrobials, fluid resuscitation, vasopressors for persistent hypotension, and urgent source control.
- Current sepsis guidance suggests at least 30 mL/kg crystalloid within the first three hours for sepsis-induced hypoperfusion or septic shock, with dynamic reassessment to avoid fluid overload.
- Norepinephrine is the usual first-line vasopressor for septic shock when hypotension persists despite appropriate fluid resuscitation; target MAP is commonly around 65 mm Hg initially.

6. Cardiogenic and Obstructive Shock

- Cardiogenic shock presents with hypotension, cool peripheries, pulmonary oedema, raised jugular venous pressure, chest pain, arrhythmia, or ECG and troponin evidence of myocardial injury.
- Excessive fluid can worsen cardiogenic shock. Bedside echo, ECG, chest imaging, cardiac biomarkers, and critical care or cardiology input are important.
- Tension pneumothorax causes obstructive shock with severe respiratory distress, hypotension, distended neck veins, tracheal deviation when present, absent breath sounds, and requires immediate decompression.
- Cardiac tamponade causes obstructive shock with hypotension, raised JVP, muffled heart sounds, pulsus paradoxus, and may follow trauma, procedures, malignancy, or pericarditis.
- Massive pulmonary embolism causes obstructive shock with sudden dyspnoea, chest pain, hypoxia, tachycardia, hypotension, right heart strain, and requires urgent senior-led treatment.

7. Anaphylactic, Neurogenic, and Endocrine Shock

- Anaphylactic shock is distributive shock with airway swelling, bronchospasm, urticaria, hypotension, gastrointestinal symptoms, or collapse after allergen exposure. Intramuscular adrenaline is the key immediate treatment.
- Neurogenic shock follows high spinal cord injury and produces hypotension with relative bradycardia and warm peripheries due to loss of sympathetic tone.
- Adrenal crisis can mimic septic shock with hypotension, abdominal pain, vomiting, hyponatraemia, hyperkalaemia, hypoglycaemia, and poor response to fluids or vasopressors until steroids are given.
- In all distributive shock, consider mixed physiology: anaphylaxis may cause hypovolaemia through capillary leak; neurogenic shock can coexist with haemorrhage after trauma.
- Diagnosis is clinical and time-critical. Treatment must begin while confirming investigations are arranged.

8. Monitoring, Endpoints, and Complications

- Basic monitoring includes pulse, blood pressure, respiratory rate, oxygen saturation, temperature, mental state, urine output, capillary refill, ECG, and serial clinical examination.
- Laboratory monitoring includes arterial or venous blood gas, lactate, base deficit, haemoglobin, coagulation profile, electrolytes, renal function, glucose, cultures when relevant, and crossmatch.
- Invasive arterial pressure, central venous access, bedside ultrasound, echocardiography, and critical care monitoring are used in unstable or complex shock.
- Complications include acute kidney injury, acute respiratory distress syndrome, myocardial injury, gut ischaemia, coagulopathy, hypothermia, acidosis, multiple organ dysfunction, and death.
- Fluid overload, missed haemorrhage, delayed source control, unrecognised tension pneumothorax, and failure to reassess are common preventable hazards.

9. Operative Decision-Making and Postoperative Shock

- Postoperative shock should be assumed serious until proved otherwise. Causes include bleeding, sepsis, myocardial infarction, pulmonary embolism, anaphylaxis, adrenal crisis, and major fluid loss.
- Early postoperative tachycardia, hypotension, falling haemoglobin, abdominal distension, drain blood, or oliguria suggests haemorrhage until excluded.
- Fever, confusion, tachypnoea, hypotension, high lactate, wound findings, peritonitis, or purulent drain output suggests sepsis or anastomotic leak.
- In unstable patients, resuscitation must not delay source control. Damage control surgery accepts temporary control and physiological restoration before definitive reconstruction.
- The key surgical question is: what reversible cause will kill the patient first, and what action controls it fastest?

10. Rapid Clinical Reasoning Tables

Pattern Recognition Table

Clinical pattern	Most likely reasoning step
Cool clammy trauma patient with narrow pulse pressure	Haemorrhagic shock until proved otherwise
Hypotension, pulmonary oedema, raised JVP after MI	Cardiogenic shock
Hypotension, absent breath sounds, severe dyspnoea	Tension pneumothorax
Fever, warm peripheries, high lactate, infection	Septic shock
Urticaria, wheeze, airway swelling after exposure	Anaphylactic shock
High spinal injury, hypotension, relative bradycardia	Neurogenic shock
Postoperative tachycardia, falling Hb, bloody drain	Postoperative haemorrhage
Postoperative fever, peritonitis, faeculent drain	Anastomotic leak with sepsis
Tense abdomen, oliguria, high airway pressure	Abdominal compartment syndrome

Red Flags and Pitfalls

Red Flags and Pitfalls

Normal blood pressure does not exclude early shock.
 Persistent tachycardia after surgery is bleeding or sepsis until proved otherwise.
 Do not delay haemorrhage control for prolonged imaging in an unstable patient.
 Avoid unlimited crystalloid without reassessment.
 Treat tension pneumothorax and anaphylaxis immediately on clinical grounds.
 Source control is part of resuscitation in surgical sepsis.

Selected Current Reference Notes

- Merck Manual Professional describes shock as organ hypoperfusion causing cellular dysfunction and classifies causes into hypovolaemic, distributive, cardiogenic, obstructive, and mixed mechanisms.
- Surviving Sepsis Campaign 2021 recommends early crystalloid resuscitation for septic shock, dynamic reassessment, norepinephrine as first-line vasopressor, and an initial MAP target around 65 mm Hg.

11. Clinical MCQ Bank and Answer Key

Instruction

Choose the single best answer. Questions focus on clinical features, examination findings, investigations, emergency decisions, operative planning, and postoperative shock.

Q1. A 24-year-old man arrives after a road traffic collision with cool clammy skin, tachycardia, narrow pulse pressure, pelvic tenderness, and reduced urine output. FAST is equivocal and pelvic binder is applied. What is the most likely type of shock?

- A. Cardiogenic shock
- B. Haemorrhagic shock
- C. Neurogenic shock
- D. Obstructive shock
- E. Septic shock

Answer: B — Haemorrhagic shock

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q2. A 70-year-old man after myocardial infarction is hypotensive, confused, cool peripherally, and has pulmonary oedema with raised jugular venous pressure. ECG shows extensive anterior changes. What is the most likely type of shock?

- A. Anaphylactic shock
- B. Cardiogenic shock
- C. Haemorrhagic shock
- D. Hypovolaemic shock from diarrhoea
- E. Neurogenic shock

Answer: B — Cardiogenic shock

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q3. A 32-year-old stabbed patient has severe respiratory distress, hypotension, distended neck veins, and absent breath sounds on the left. Trachea is deviated to the right. What is the most likely diagnosis?

- A. Cardiac tamponade
- B. Flail chest
- C. Massive haemothorax
- D. Tension pneumothorax
- E. Traumatic aortic injury

Answer: D — Tension pneumothorax

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q4. A 45-year-old woman develops wheeze, facial swelling, urticaria, hypotension, and collapse minutes after ceftriaxone. Oxygen is applied and help is called. What is the most appropriate immediate drug?

- A. Adrenaline intramuscularly
- B. Aspirin orally
- C. Furosemide intravenously
- D. Metoprolol intravenously
- E. Warfarin orally

Answer: A — Adrenaline intramuscularly

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q5. A 67-year-old man has perforated diverticulitis, fever, confusion, hypotension, warm peripheries, raised lactate, and oliguria. Broad-spectrum antibiotics are planned. What is the most likely type of shock?

- A. Anaphylactic shock
- B. Cardiogenic shock
- C. Haemorrhagic shock
- D. Neurogenic shock
- E. Septic shock

Answer: E — Septic shock

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q6. A 29-year-old man falls from height and has hypotension with relative bradycardia, warm dry peripheries, priapism, and limb weakness. No external bleeding is seen. What is the most likely diagnosis?

- A. Cardiac tamponade
- B. Haemorrhagic shock
- C. Neurogenic shock
- D. Septic shock
- E. Tension pneumothorax

Answer: C — Neurogenic shock

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q7. A postoperative patient is restless, tachycardic, hypotensive, and oliguric two hours after laparotomy. His drain fills rapidly with fresh blood and haemoglobin falls. What is the most likely cause?

- A. Acute adrenal crisis
- B. Anaphylaxis
- C. Concealed postoperative bleeding
- D. Neurogenic shock
- E. Pulmonary oedema

Answer: C — Concealed postoperative bleeding

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q8. A 52-year-old man with septic shock remains hypotensive after appropriate fluid resuscitation. Lactate is elevated and urine output is poor. Which vasopressor is preferred as first-line support?

- A. Dobutamine
- B. Dopamine for all patients
- C. Norepinephrine
- D. Phenylephrine for all patients
- E. Salbutamol

Answer: C — Norepinephrine

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q9. A 41-year-old woman with intra-abdominal sepsis has persistent hypotension and lactate elevation. The team gives fluids, cultures, broad antibiotics, and prepares urgent drainage. What intervention addresses the surgical cause?

- A. Beta blockade
- B. Delayed clinic review
- C. Source control
- D. Thyroxine replacement
- E. Warfarin reversal only

Answer: C — Source control

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q10. A 36-year-old trauma patient is bleeding from a mangled limb. He is pale, tachycardic, confused, and hypotensive. Which immediate action most directly reduces ongoing shock?

- A. Apply direct pressure and tourniquet when indicated
- B. Delay treatment until CT
- C. Give oral fluids
- D. Start diuretics
- E. Wait for haemoglobin result

Answer: A — Apply direct pressure and tourniquet when indicated

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q11. A 76-year-old woman with vomiting and diarrhoea is confused, hypotensive, tachycardic, has dry mucosa, flat neck veins, and oliguria. Lungs are clear. What is the most likely shock mechanism?

- A. Decreased circulating volume
- B. Massive vasodilation from anaphylaxis
- C. Mechanical obstruction to cardiac filling
- D. Primary pump failure
- E. Spinal sympathetic loss

Answer: A — Decreased circulating volume

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q12. A 60-year-old man with suspected ruptured abdominal aortic aneurysm is hypotensive and pale. Two large-bore cannulas are placed and blood is crossmatched. What is the definitive priority?

- A. Control of bleeding
- B. Elective outpatient ultrasound
- C. Fluid restriction only
- D. Oral antihypertensives
- E. Routine colonoscopy

Answer: A — Control of bleeding

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q13. A 49-year-old woman has septic shock from obstructed infected kidney. She receives antibiotics and fluids but remains unwell. What is the key additional treatment principle?

- A. Avoid drainage until afebrile
- B. Drain the infected obstruction
- C. Give antidiarrhoeals
- D. Perform fundoplication
- E. Start oral iron only

Answer: B — Drain the infected obstruction

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q14. A 35-year-old man has hypotension after penetrating chest trauma. Neck veins are distended, heart sounds are muffled, and breath sounds are equal. FAST shows pericardial fluid. What is the most likely diagnosis?

- A. Cardiac tamponade
- B. Fat embolism
- C. Neurogenic shock
- D. Pulmonary contusion
- E. Tension pneumothorax

Answer: A — Cardiac tamponade

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q15. A shocked patient has cold peripheries, capillary refill of five seconds, confusion, and lactate of 6 mmol/L. Blood pressure is initially normal. What does this scenario demonstrate?

- A. Normal pressure excludes shock
- B. Shock can precede hypotension
- C. Urine output is irrelevant
- D. Warm skin excludes hypoperfusion
- E. Lactate has no value

Answer: B — Shock can precede hypotension

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q16. A 66-year-old man after colectomy develops fever, tachycardia, abdominal tenderness, hypotension, and faeculent drain output on day five. Lactate is raised. What is the most likely cause of shock?

- A. Anastomotic leak with sepsis
- B. Benign postoperative pain
- C. Isolated anxiety
- D. Neurogenic shock
- E. Simple atelectasis only

Answer: A — Anastomotic leak with sepsis

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q17. A 54-year-old woman with septic shock is being resuscitated. The team wants a dynamic bedside assessment of fluid responsiveness. Which option is most appropriate?

- A. Capillary refill and passive leg raise response
- B. Fixed daily weight only
- C. One blood pressure reading only
- D. Serum sodium alone
- E. Temperature chart alone

Answer: A — Capillary refill and passive leg raise response

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q18. A 28-year-old man with haemorrhagic shock receives large transfusion. He becomes cold, acidotic, and coagulopathic. Which triad worsens bleeding in trauma?

- A. Acidosis, hypothermia, coagulopathy
- B. Alkalosis, fever, hypertension
- C. Bradycardia, rash, wheeze
- D. Hypercalcaemia, jaundice, ascites
- E. Polyuria, hyperglycaemia, tremor

Answer: A — Acidosis, hypothermia, coagulopathy

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q19. A 58-year-old man has sudden dyspnoea, hypotension, tachycardia, hypoxia, and right heart strain on bedside echo after major pelvic surgery. What is the most likely cause of shock?

- A. Adrenal crisis
- B. Massive pulmonary embolism
- C. Peptic ulcer bleed
- D. Spinal shock
- E. Urticaria

Answer: B — Massive pulmonary embolism

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q20. A patient with severe pancreatitis is hypotensive, tachycardic, and has third-space fluid loss with clear lungs. What initial fluid strategy is most appropriate?

- A. Careful crystalloid resuscitation with reassessment
- B. Immediate diuretics
- C. No IV access
- D. Oral fluid only
- E. Vasopressors before any volume assessment

Answer: A — Careful crystalloid resuscitation with reassessment

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q21. A 31-year-old woman with ectopic pregnancy has abdominal pain, syncope, tachycardia, hypotension, and free fluid on ultrasound. What is the most likely shock type?

- A. Cardiogenic shock
- B. Haemorrhagic shock
- C. Neurogenic shock
- D. Obstructive shock
- E. Septic shock

Answer: B — Haemorrhagic shock

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q22. A 63-year-old man with septic shock has MAP 52 mm Hg after fluids. Norepinephrine is started. What initial MAP target is commonly recommended?

- A. 45 mm Hg
- B. 55 mm Hg
- C. 65 mm Hg
- D. 95 mm Hg
- E. 120 mm Hg

Answer: C — 65 mm Hg

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q23. A trauma patient with suspected head injury and haemorrhagic shock is being resuscitated. Which statement is most appropriate about permissive hypotension?

- A. Avoid profound hypotension when brain perfusion is at risk
- B. Always target systolic pressure below 60
- C. Never control haemorrhage
- D. Use only oral fluids
- E. Withhold blood products

Answer: A — Avoid profound hypotension when brain perfusion is at risk

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q24. A 43-year-old man has severe burns, tachycardia, hypotension, and massive capillary leak. What is the main early shock mechanism?

- A. Cardiac tamponade
- B. Fluid loss and capillary leak
- C. Pure bradyarrhythmia
- D. Spinal sympathetic loss
- E. Tension pneumothorax

Answer: B — Fluid loss and capillary leak

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q25. A 72-year-old woman on long-term steroids presents with abdominal sepsis, hypotension, hyponatraemia, hyperkalaemia, and poor response to fluids. Which diagnosis should be considered?

- A. Adrenal crisis
- B. Appendicitis resolved
- C. Essential hypertension
- D. Hyperthyroidism
- E. Simple anxiety

Answer: A — Adrenal crisis

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q26. A 57-year-old patient in shock has falling urine output despite catheter patency. Why is urine output monitored during resuscitation?

- A. It reflects renal perfusion and resuscitation response
- B. It confirms normal liver function
- C. It excludes all bleeding
- D. It measures oxygen saturation
- E. It replaces clinical examination

Answer: A — It reflects renal perfusion and resuscitation response

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q27. A 68-year-old man with septic shock has persistent hypoperfusion despite fluids and vasopressor therapy. Bedside echo shows poor cardiac contractility. What adjunct may be considered?

- A. Dobutamine support
- B. Oral antacid
- C. Routine discharge
- D. Therapeutic phlebotomy
- E. Warfarin loading

Answer: A — Dobutamine support

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q28. A 46-year-old woman with abdominal compartment syndrome has hypotension, ventilatory difficulty, tense abdomen, oliguria, and high bladder pressure after massive resuscitation. What shock mechanism is likely?

- A. Mechanical obstruction to venous return
- B. Primary allergy only
- C. Pure hypoglycaemia
- D. Simple dehydration only
- E. Spinal cord vasodilation

Answer: A — Mechanical obstruction to venous return

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q29. A 59-year-old postoperative patient is tachycardic and hypotensive. The junior gives repeated fluid boluses without reassessment. The patient develops pulmonary oedema. What principle was missed?

- A. Dynamic reassessment of response
- B. Giving unlimited crystalloid is always safe
- C. Hypoxia excludes shock
- D. Urine output should be ignored
- E. Vasopressors are never used

Answer: A — Dynamic reassessment of response

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Q30. A 40-year-old man with crush injury is hypotensive and acidotic. The surgeon plans abbreviated laparotomy to control contamination and bleeding, then ICU resuscitation before definitive repair. What strategy is being used?

- A. Damage control surgery
- B. Elective cosmetic surgery
- C. Open biopsy only
- D. Routine day-case surgery
- E. Watchful waiting

Answer: A — Damage control surgery

Source: Bailey & Love's Short Practice of Surgery, relevant chapters on shock, trauma, sepsis, perioperative care, and critical care.

Answer Key

1. B — Haemorrhagic shock	11. A — Decreased circulating volume	21. B — Haemorrhagic shock
2. B — Cardiogenic shock	12. A — Control of bleeding	22. C — 65 mm Hg
3. D — Tension pneumothorax	13. B — Drain the infected obstruction	23. A — Avoid profound hypotension when brain perfusion is at risk
4. A — Adrenaline intramuscularly	14. A — Cardiac tamponade	24. B — Fluid loss and capillary leak
5. E — Septic shock	15. B — Shock can precede hypotension	25. A — Adrenal crisis
6. C — Neurogenic shock	16. A — Anastomotic leak with sepsis	26. A — It reflects renal perfusion and resuscitation response
7. C — Concealed postoperative bleeding	17. A — Capillary refill and passive leg raise response	27. A — Dobutamine support
8. C — Norepinephrine	18. A — Acidosis, hypothermia, coagulopathy	28. A — Mechanical obstruction to venous return
9. C — Source control	19. B — Massive pulmonary embolism	29. A — Dynamic reassessment of response
10. A — Apply direct pressure and tourniquet when indicated	20. A — Careful crystalloid resuscitation with reassessment	30. A — Damage control surgery

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