

COMPLEX CARE EXAM 2 PRACTICE (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. Left-sided heart failure commonly presents with which symptom?**
 - A. Shortness of breath
 - B. Peripheral edema
 - C. Hepatomegaly
 - D. Ascites
- 2. Which sign would you most likely observe with decreased cardiac output?**
 - A. High blood pressure
 - B. Low blood pressure
 - C. Normal blood pressure
 - D. Wide pulse pressure
- 3. In thermodilution CO measurement, what does the computer plot to determine CO?**
 - A. Time/temperature curve
 - B. Pressure-volume curve
 - C. ECG tracing
 - D. Oxygen saturation
- 4. Threshold is defined as?**
 - A. Electrical stimulus (mA) necessary to elicit a myocardial depolarization
 - B. Maximum programmable rate
 - C. The energy required to record an ECG
 - D. The time interval between atrial and ventricular pacing
- 5. During an air embolism associated with a central venous catheter, what is the first priority action?**
 - A. Occlude the external catheter site to prevent more air entry
 - B. Administer broad-spectrum antibiotics
 - C. Perform immediate chest radiography
 - D. Place the patient in Trendelenburg position and call for help

- 6. In the event of an air embolism at a central venous catheter site, which action is recommended?**
- A. Apply an occlusive dressing over the site
 - B. Hold pressure at the site until bleeding stops
 - C. Encourage the patient to ambulate to increase venous return
 - D. Administer a diuretic immediately
- 7. What happens in synchronous ventricular pacing when intrinsic activity is sensed?**
- A. The device paces or inhibits accordingly
 - B. The device ignores intrinsic activity
 - C. The device increases heart rate by 20 bpm
 - D. The device delivers a shock
- 8. Which condition is described as a negative inotrope affecting contractility?**
- A. Hypoxemia
 - B. Hyperkalemia
 - C. Hyperoxia
 - D. Hypertension
- 9. Left ventricular stroke work index (LVSWI) measures what?**
- A. The work performed by the left ventricle with each beat
 - B. The work performed by the right ventricle
 - C. The pressure in the left atrium
 - D. The rate of oxygen consumption by myocardium
- 10. Which statement best describes anticoagulation needs for valve types?**
- A. Mechanical valves require lifelong anticoagulation; tissue valves do not
 - B. Both mechanical and tissue valves require lifelong anticoagulation
 - C. Neither valve type requires anticoagulation
 - D. Anticoagulation is required only for the first year

Answers

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1. A
2. B
3. A
4. A
5. A
6. A
7. A
8. A
9. A
10. A

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Explanations

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1. Left-sided heart failure commonly presents with which symptom?

A. Shortness of breath

B. Peripheral edema

C. Hepatomegaly

D. Ascites

Left-sided heart failure presents mainly with symptoms from backward failure into the lungs. When the left ventricle fails, pressure backs up into the left atrium and pulmonary veins, raising pulmonary venous pressure and causing interstitial and sometimes alveolar edema. This leads to dyspnea—shortness of breath—often worsened by exertion and improved with sitting up, with classic features such as orthopnea and paroxysmal nocturnal dyspnea. Peripheral edema, hepatomegaly, and ascites arise from right-sided venous congestion or from progression to biventricular failure, not from the initial left-sided problem. So shortness of breath is the most characteristic presenting symptom of left-sided heart failure.

2. Which sign would you most likely observe with decreased cardiac output?

A. High blood pressure

B. Low blood pressure

C. Normal blood pressure

D. Wide pulse pressure

When cardiac output drops, there's less blood being pushed into the circulation each minute, so arterial pressure tends to fall. The body can briefly compensate with vasoconstriction, but the net result of decreased CO is typically low blood pressure. Wide pulse pressure points to conditions with high stroke volume or specific defects like aortic regurgitation, not to reduced CO. So the most likely sign you'd observe is low blood pressure.

3. In thermodilution CO measurement, what does the computer plot to determine CO?

A. Time/temperature curve

B. Pressure-volume curve

C. ECG tracing

D. Oxygen saturation

In thermodilution cardiac output measurement, a known amount of cold indicator is injected into the venous system and the temperature is tracked downstream. A thermistor at the catheter tip records how the temperature changes over time as the cold bolus travels through the right heart and lungs. The computer then plots a time-temperature curve, and from that curve it calculates cardiac output (the curve's shape and area relate to how quickly the indicator dilutes, i.e., the flow). This is specifically a time/temperature curve, not a pressure-volume curve, an ECG tracing, or an oxygen saturation trace.

4. Threshold is defined as?

- A. Electrical stimulus (mA) necessary to elicit a myocardial depolarization**
- B. Maximum programmable rate
- C. The energy required to record an ECG
- D. The time interval between atrial and ventricular pacing

Threshold is the minimum electrical stimulus required to reliably elicit myocardial depolarization, i.e., to achieve capture with a pacemaker. It's usually expressed as current (milliamperes) or voltage at a fixed pulse width, and it can vary with lead position, tissue health, and time after implantation. Clinically, threshold testing helps set the device output a bit above this level to ensure consistent pacing while conserving battery life. The other options describe different pacing parameters: the maximum programmable rate is the upper rate limit, the energy to record an ECG isn't what threshold refers to, and the interval between atrial and ventricular pacing is the AV delay.

5. During an air embolism associated with a central venous catheter, what is the first priority action?

- A. Occlude the external catheter site to prevent more air entry**
- B. Administer broad-spectrum antibiotics
- C. Perform immediate chest radiography
- D. Place the patient in Trendelenburg position and call for help

The first priority in an air embolism from a central venous catheter is to stop more air from entering. Occluding the external catheter site immediately (or clamping the catheter at the insertion point) cuts off the source of ongoing air entry, which is the most urgent threat to the patient's stability. If air continues to enter, other measures won't be as effective and the embolism can worsen rapidly. Once the entry is stopped, you would proceed with additional management to reduce harm and speed air resorption: place the patient in a head-down position with the left side, often described as Durant maneuver (left lateral decubitus with Trendelenburg) to trap air in the right atrium and prevent it from entering the pulmonary circulation; provide 100% oxygen to help wash out nitrogen from the bubbles; and call for help. If feasible, aspiration of air via the central line can be considered, but stopping the source comes first.

6. In the event of an air embolism at a central venous catheter site, which action is recommended?

- A. Apply an occlusive dressing over the site**
- B. Hold pressure at the site until bleeding stops
- C. Encourage the patient to ambulate to increase venous return
- D. Administer a diuretic immediately

Air entrainment through a central venous catheter can cause a dangerous air embolism, so the first priority is to seal the entry point to prevent more air from being drawn into the circulation. An occlusive dressing over the catheter site provides a tight, nonporous seal that stops additional air entry while other urgent steps are arranged. Actions like encouraging ambulation would worsen the problem by increasing venous return and moving air toward the heart, and a diuretic has no role in acute air embolism management. In practice, this step is combined with positioning the patient appropriately and providing oxygen, but sealing the site is the immediate, key action.

7. What happens in synchronous ventricular pacing when intrinsic activity is sensed?

- A. The device paces or inhibits accordingly**
- B. The device ignores intrinsic activity
- C. The device increases heart rate by 20 bpm
- D. The device delivers a shock

Sensing intrinsic activity lets a synchronous ventricular pacemaker act only when needed. In demand pacing, the device watches for the heart's own ventricular contractions. If it detects an intrinsic beat within the programmed interval, it inhibits its own output for that cycle so the heart beat is not double-counted. If no intrinsic beat is detected, it delivers a pacing stimulus to maintain the set rhythm. This is why the appropriate description is that the device paces or inhibits accordingly. It doesn't ignore intrinsic activity, it doesn't automatically raise the heart rate by a fixed amount, and it doesn't deliver shocks in this pacing mode.

8. Which condition is described as a negative inotrope affecting contractility?

- A. Hypoxemia**
- B. Hyperkalemia
- C. Hyperoxia
- D. Hypertension

When contractility is reduced, the heart's pumping force is diminished by a negative inotropic effect. Hypoxemia lowers the oxygen content reaching the myocardium, which directly impairs aerobic energy production in heart cells. With less ATP available, calcium handling becomes less efficient, and the myofilaments can't generate as strong a cross-bridge interaction. The result is weaker, less forceful contractions. While conditions like hyperkalemia can also depress contractility by affecting membrane excitability and calcium influx, and hypertension can raise afterload (making the heart work harder), the scenario described points to reduced oxygen delivery to the heart as the key factor driving a negative inotropic effect.

9. Left ventricular stroke work index (LVSWI) measures what?

- A. The work performed by the left ventricle with each beat**
- B. The work performed by the right ventricle
- C. The pressure in the left atrium
- D. The rate of oxygen consumption by myocardium

The main idea is that LVSWI represents the left ventricle's energy output per beat. Work is pressure times volume, so to eject blood the left ventricle must generate enough pressure to overcome systemic afterload while delivering the stroke volume. LVSWI estimates this by taking the pressure gradient the ventricle must overcome during systole (roughly MAP minus the LV end-diastolic pressure) and multiplying it by the stroke volume, then indexing to body surface area. This makes LVSWI a measure of left ventricular systolic performance per beat. It does not quantify the right ventricle, and it isn't simply the pressure in the left atrium or the myocardium's oxygen consumption.

10. Which statement best describes anticoagulation needs for valve types?

- A. Mechanical valves require lifelong anticoagulation; tissue valves do not**
- B. Both mechanical and tissue valves require lifelong anticoagulation
- C. Neither valve type requires anticoagulation
- D. Anticoagulation is required only for the first year

The key idea is that the material and thrombogenic risk of a valve determine how long you need anticoagulation. Mechanical prosthetic valves have surfaces that strongly promote clot formation, so patients typically require lifelong anticoagulation to prevent valve thrombosis and systemic emboli. This is usually done with a vitamin K antagonist like warfarin, with an INR target set based on valve position and other risk factors. Bioprosthetic (tissue) valves, on the other hand, are much less prone to causing clots once they've healed, so long-term anticoagulation isn't normally required. They may still need short-term anticoagulation after surgery or antiplatelet therapy if there are other indications (such as atrial fibrillation or prior clotting events), but the default is not lifelong anticoagulation. So, the statement aligns with how the thrombogenic risk of the valve type drives the ongoing need for anticoagulation.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://complexcare2.examzify.com>

We wish you the very best on your exam journey. You've got this!

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