

Subject: 1422-Cardio Pulmonary Bypass and Perfusion Technology

UNIT – II – PATIENT MONITORING DURING BYPASS

Reasoning Puzzle: The Bypass Monitoring Dilemma

Instructions

- Read the scenario and clues carefully.
- There are **five monitoring mistakes or oversights** during cardiopulmonary bypass (CPB) in the case below.
- Your task: **Identify and explain each mistake or oversight**, referencing correct monitoring protocols.
- For each, briefly justify why it is critical for patient safety and optimal outcomes.
- Structure your answer as:
 1. Mistake/Oversight
 2. Why it is critical
 3. What should be done instead

Puzzle Scenario

A 56-year-old woman with mitral stenosis, pulmonary hypertension, and diabetes is undergoing elective mitral valve repair under CPB. During bypass, the following monitoring steps are recorded:

1. Arterial blood pressure is monitored continuously.
2. Central venous pressure (CVP) is checked only at the start of bypass.
3. Perfusion flow is set at 1.6 L/min/m² throughout, regardless of temperature changes.
4. Urine output is measured at the end of bypass only.
5. Temperature is monitored using a single rectal probe.
6. Arterial blood gases (ABG) are checked once, 30 minutes after starting bypass.
7. ECG is monitored, but ST segment changes are not documented.
8. No record of coagulation status (ACT) during bypass.
9. No neurological monitoring is performed.
10. Reservoir volume and circuit pressures are checked every 30 minutes.

Rubric (10 Marks)

Criteria	Marks	Description
Identification (5)	5	Find all five key monitoring mistakes/oversights
Explanation (3)	3	Explain why each is critical for safe and effective monitoring
Correction (2)	2	State what should be done instead for each issue