

POSTOPERATIVE CARE

- ◆ Priority assessment parameters during and immediately after transport from the operating room to the ICU are ventilatory status, rhythm, and blood pressure.
- ◆ A chest x-ray may be done immediately in the postoperative period to reassess endotracheal tube placement and to confirm the absence of a pneumothorax. A chest x-ray should always be done with any change in respiratory status or with any concern for an air leak.
- ◆ A 12-lead ECG is also completed to assess for ischemia.
- ◆ An arterial line and pulmonary artery (PA) catheter are frequently used to monitor systemic and intracardiac pressures, cardiac output, and central venous oxygen saturation. There is a trend toward less PA catheter use and more use of less invasive strategies to obtain needed hemodynamic data.
- ◆ Cardiac rhythm and ST-segment monitoring and pulse oximetry are also used.
- ◆ Foley catheter may contain a temperature probe. Catheter is usually removed by 2nd postoperative day.
- ◆ NG tube to low intermittent suction may be used while patient is intubated.

Blood Pressure Management

- ◆ Systolic blood pressure should be kept between 90 mm Hg and 140 mm Hg. Hypotension or hypertension can result in additional complications in the postoperative period. The goal is typically to achieve a MAP of at least 65-70 mm Hg.
- ◆ Hypotension in the immediate postoperative period is usually caused by low circulating volume and responds to treatment with volume. If there is no immediate response to volume administration, 500 mg of IV calcium chloride is often given. Existing vasopressors, such as norepinephrine, can also be adjusted.
- ◆ Chest tubes should always be assessed for evidence of hemorrhage when there is a low blood pressure.
- ◆ Hypotension frequently occurs in the early postoperative period as the patient warms up. Vasodilation occurs for several other reasons during the early postoperative period.
 - ❖ Analgesics and anxiolytics are vasodilators.
 - ❖ NTG, if needed for ischemia, produces predominant venous vasodilation and decreases preload. Unless there is ischemia, NTG should be avoided during the rewarming phase.
 - ❖ Resolution of hypothermia leads to peripheral vasodilation.
 - ❖ Improvement in cardiac output also results in a resolution of vasoconstriction.
- ◆ Alpha agents norepinephrine (α and β) and phenylephrine (pure α) are used to keep systolic blood pressure > 100 mm Hg when filling pressures are adequate.
- ◆ Failure of fluid challenges to raise preload may indicate the presence of capillary leak and fluid shifting into the interstitial space. Patients with longer CPB times are at greater risk for capillary leak. In patients with capillary leak, a large amount of fluid is required to maintain adequate circulating volume. Administration of large amounts of volume also increases the interstitial volume. Inotropes and vasopressors may also be needed for hemodynamic support in the patient with capillary leak.
- ◆ When preload rises in response to volume but cardiac output does not improve, there may be excessive ventricular distention. Inotropes are indicated in this situation.
- ◆ When α agents are not able to maintain adequate blood pressure in the presence of adequate filling pressures, then vasoplegia may be present.
- ◆ Vasoplegia is the failure to respond to catecholamines. There are several theories behind the cause of vasoplegia, including leukocyte activation and the release of pro-inflammatory mediators during CPB. Vasoplegia, however, can also be seen after OPCAB.