

# POSTOPERATIVE HYPERTENSION

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Postoperative hypertension is defined as blood pressure (BP) that is more than 20% above preoperative levels, or an absolute value of arterial BP above age-corrected limits.<sup>1</sup> Its occurrence is thought to be common.<sup>2,3</sup> The BP at which complications arise depends on a patient's chronic preoperative BP and the presence of preexisting end organ damage. Evaluation of postoperative hypertension (PH) should be directed toward establishing etiology. Prompt diagnosis and therapy can avoid further potential complications including myocardial ischemia, myocardial infarction, intracerebral hemorrhage, and wound hematoma.

- A. Evaluate the adequacy of ventilation. Postoperative hypertension may be a reflection of hypoxemia and/or hypercarbia, either of which may be life-threatening, and as such, should be assessed first. Examine the chest to rule out pneumothorax, tension pneumothorax, and atelectasis. Search for evidence of myocardial ischemia or infarction. Evaluate the neurologic status for signs of cerebrovascular compromise. Supplement physical examination of the patient with focused laboratory studies (e.g., ABG to evaluate for hypercarbia).
- B. Evaluate the urgency of the situation.<sup>4</sup> Those situations that present evidence for end organ damage (e.g., myocardial ischemia, myocardial infarction, intracerebral hemorrhage) must be evaluated and treated emergently to prevent further sequelae. Those situations that present no evidence for end organ damage can be treated after more thorough evaluation. Review the history of HTN, antihypertensive medications, and baseline disease states.<sup>5</sup> Review the anesthetic record for other possible causes of hypertension.<sup>6</sup>
- C. Evaluation for potential etiologies may be divided into four broad categories: pain, drug interactions, physical

causes, and concomitant disease states. A differential diagnosis can be developed within each category. Direct treatment toward an identifiable etiology.<sup>7,8</sup> Options for immediate control of BP include intravenous infusions of sodium nitroprusside, nitroglycerin, or trimethaphan. Treatment options for a more gradual control of BP include beta blockade (esmolol, propranolol, labetalol), alpha blockade (phentolamine, droperidol), and calcium channel blockade (verapamil, nifedipine).

## References

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