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## Optimal Perioperative Management of Arterial Blood Pressure. How high is high? How low is low?

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Transient hypo- or hyper-tension often occurs during the perioperative period. Although the anesthesiologist strives to maintain systemic blood pressure within preselected limits, there is no agreement in regards to what those limits should be. Too narrow a definition of target pressures may lead to overtreatment causing an increase in the incidence of adverse effects. On the other hand, a too wide therapeutic window may lead to inadequate cerebral perfusion (hypotension) or various complications related to acute hypertension.

In the first part of the lecture we will discuss the controversy related to the definitions of hypotension, physiologic mechanisms leading to hypo-perfusion related adverse effects, and pathophysiology of low perfusion state. We conclude by reviewing methods to determine the adequacy of cerebral perfusion.

We will discuss incidence, adverse outcomes and pathophysiology of perioperative hypertension in the second half of the lecture. Perioperative hypertension is common particularly in the setting of cardiac, neurosurgical, and vascular procedures. It increases risk for serious cardiac and neurological complications. Target BP is usually 10% above the patient's preoperative pressure. APH is primarily due to increased systemic vascular resistance due, in part, to an exaggerated sympathetic response. The ideal hypertensive agent in perioperative settings should provide fast onset and short duration of action, have minimal potential for end organ damage, and have no toxic metabolites. Newer calcium channel antagonists such as nicardipine and clevidipine are well suited for treatment of APH.

### Biography

Alex Bekker is Professor and Chairman of Anesthesiology at Rutgers New Jersey Medical School. He obtained his Doctoral Degree in Engineering from the New Jersey Institute of Technology and received his Medical Degree from the Rutgers – New Jersey Medical School. He completed his anesthesia training at Columbia Presbyterian Medical Center in New York. He has joined the Department of Anesthesiology at the NYU Medical Center in 1995 and was appointed a Vice-Chair for Research in 2005. He is internationally recognized expert in neuroanesthesia and is frequently invited to speak at Grand Rounds and Scientific Panels. He has been active in research and for many years. He is an author of 65 peer reviewed publications, 6 US patents, 33 educational reviews and more than 100 abstracts. His work has focused on perioperative brain protection, neuroinflammation, postoperative pain control and clinical pharmacology. He was a PI of numerous clinical trials, including studies sponsored by the National Institute of Aging. He serves on the editorial board of the Journal of Neurosurgical Anesthesiology and is ad hoc reviewer for 15 peer-reviewed journals, including NEJM, Anesthesiology, Neurosurgery, PLoS One, Anesthesia and Analgesia.

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