

General Anesthesia for Prostate Brachytherapy using a Laryngeal Mask Airway (LMA) and Short Acting Anesthetic Agents

**Brian J. Moran MD, Michael P. Raslowsky BS, Judy Visockis RN,
Michael A. Stutz MD, Stanley Knight MD and Woo Kim MD**

Chicago Prostate Cancer Center, Westmont IL

INTRODUCTION: Chicago Prostate Cancer Center (CPCC) is a freestanding facility that performs only one procedure (transrectal ultrasound guided prostate brachytherapy). This procedure continues to gain popularity with an estimated 50,000 cases projected for the United States during 2000. Brachytherapy, when properly performed, is extremely well tolerated with negligible blood loss and postoperative discomfort. Many implant programs advocate spinal anesthesia. CPCC has found general anesthesia to be more conducive to prostate brachytherapy performed in an ambulatory setting.

MATERIALS AND METHODS: Between 10/14/97 and 2/9/00, 1221 patients received general anesthesia while undergoing prostate brachytherapy at Chicago Prostate Cancer Center. Patient identification and interview are held in the Pre-Op holding area. IV access is placed and antibiotics are administered IV piggy-back. Patients are pre-medicated with Reglan 10mg IV/Decadron 4mg IV. Decadron is given primarily for prevention of post-operative swelling but it has anti-nausea effect as well. Intra-operatively, monitors are applied to the patient and blood pressure, room air SpO₂, heart rate, and ECG tracing are checked. One hundred percent O₂ is applied by mask for pre-oxygenation. A modified inhalation induction with sevoflurane is used at a high O₂ flow while titrating up to 100mg propofol (Figure 1). This allows for rapid induction to the point of Laryngeal Mask Airway (LMA) insertion (Figure 2). Spontaneous ventilation is maintained throughout induction, maintenance, and emergence. Adequate depth of anesthesia is maintained with O₂(14m), N₂O(14m), and sevoflurane. Emergence is achieved by setting a high O₂ flow and discontinuing the sevoflurane and N₂O. The LMA is removed when the patient is awake and responding with airway reflexes intact. Opioids and benzodiazepines are avoided throughout the perioperative period to facilitate rapid recovery. Tylenol is usually effective for post-operative pain control due to minimal post-operative pain associated with this procedure. The patient is usually voiding, taking PO, ambulating and in Phase 2 recovery within 30 minutes.

RESULTS: No patient experienced side effects requiring transfer to the hospital. 12 patients experienced mild nausea and only 1 patient had an episode of emesis postoperatively. Recovery time to discharge ranged from 60-480min., with an average of 125min., median of 120min., and a mode of 110min. A significant portion of recovery time was occupied by radiation safety and nursing instructions and simulation (AP and lateral radiographs).

CONCLUSIONS: General anesthesia using a LMA with short acting agents is extremely well tolerated by patients who have prostate brachytherapy. Intra/Post-operative pain is negligible. Benzodiazepines and opioids should be avoided as they can prolong recovery and may cause nausea. Patients are alert and oriented within minutes after completion of

the procedure. Anesthesia familiarity with this procedure has allowed precise titration of the medication described above. Chicago Prostate Cancer Center has demonstrated this anesthetic technique to be ergonomically beneficial for prostate brachytherapy performed on an outpatient basis.

Figure 1. Anesthetic agents: sevoflurane, Diprivan (propofol) ampule and vial.



Figure 2. Size 4 LMA-Classic manufactured by The Laryngeal Mask Company Limited.

