Respiratory depression is a complication that often follows cancer-related surgery and can result in life-threatening consequences. Oncology nurses caring for postoperative patients must monitor for respiratory complications and implement measures to prevent respiratory depression. A review of postoperative respiratory depression risk factors, clinical findings, and monitoring will be presented in this article using a case study.

AT A GLANCE

- A significant percentage of patients undergoing general surgeries have obstructive sleep apnea, but most members of this population remain undiagnosed at the time of surgery.
- Atelectasis, which involves failure of the lungs to expand or collapse, may be caused by general anesthesia, which creates a pulmonary shunt.
- Nurses often do not recognize changes in respiratory rates and are falsely reassured by saturation levels measured by pulse oximetry, which tends to be the method least sensitive to detecting hypoventilation.

Pathophysiology

The incidence of respiratory events in the postoperative period is estimated to be about 3% (Karcz & Papadakos, 2013). Perioperative respiratory depression has a 26% mortality rate within the first 30 days after surgery (Gupta et al., 2011), as well as a six times higher possibility of transfer to a skilled nursing facility (Pfeifer & Smetana, 2016). The most common postoperative pulmonary complications are atelectasis, pneumonia, respiratory depression, exacerbation of underlying lung disease, pleural effusion, and pneumothorax (Pfeifer & Smetana, 2016). General anesthesia causes atelectasis by creating a pulmonary shunt, which is evident immediately after induction. In an adult with healthy lungs, about 15% of the entire lung, as well as 20%–25% of the tissue at lung bases, becomes atelectatic (Karcz & Papadakos, 2013).

More than 20 million Americans with a history of cancer will be alive on January 1, 2026, according to estimates, with many of these survivors likely having undergone surgical treatment for the disease (Khanna, 2017). Respiratory depression is a common but life-threatening surgery-related complication that is preventable with appropriate nursing assessment and the timely implementation of interventions (Khanna, 2017). This article offers a review of postoperative respiratory depression prevention and recognition, as well as a case study that illustrates its risk factors, pathophysiology, and implications.

Risk Factors

Postoperative respiratory depression can be categorized by patient-, anesthesia-,