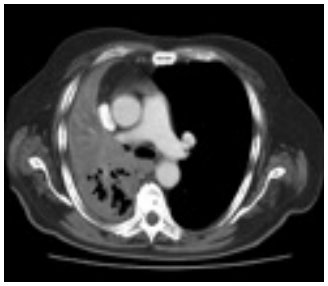
Clinical case 3: Flexible and Rigid bronchoscopy with Nd:YAG laser resection and silicone stent insertion for complete right main bronchial obstruction

CC is a 69 year old factory worker who has had a thirty pound weight loss over the past four months, and has increasing dyspnea on exertion and at rest. One month ago he was diagnosed with squamous cell carcinoma of the lung, and has now been noted to have complete right lung atelectasis radiographically. He has been transferred to your hospital with increasing shortness of breath and resting hypoxemia (Oxygen saturation can be maintained greater than 92% on 2 liters oxygen via nasal canula). He smokes one pack per day for forty years but quit recently. He is divorced and has two adult children with whom he lives. He has no advance directives and has not considered resuscitation measures. He wishes to undergo systemic treatment for his lung cancer and believes that he can be cured if his symptoms can be relieved... The patient's physical examination shows decreased breath sounds on the right. His neurological examination is normal. Blood pressure and heart rate are normal. His past medical history is unremarkable.

The chest radiograph reveals opacification of the right hemithorax. The computed tomography scan shows right lung collapse, and flexible bronchoscopy reveals complete obstruction of the right main bronchus with extrinsic compression, bronchial wall infiltration, and an exophytic mass protruding from the posterior wall of the distal aspect of the trachea just at the entrance of the right main bronchus. Nd:YAG laser resection and possible stent insertion is planned.


After addressing items of the four boxes, briefly respond to the following questions:

1. What is *Power Density* and how does it affect procedural technique in this scenario?
2. What are the anatomic dangers to be considered in this case?
3. What kind of survival is expected in a case such as this if the procedure is successful in restoring airway patency?