



Introduction

Chapter 1

What is RSI?

Rapid Sequence Intubation (RSI) is defined as a series of steps, which must include the administration of a paralytic agent, to a critically ill or injured patient who is presumed to have a full stomach, in order to facilitate rapid, successful oral intubation while minimizing complications.

Why does it seem like everyone eats and drinks right before their accident?

For one thing, many people do! However, as soon as your body suffers grave injury or illness, gastric motility shuts down. This means that the normal secretions into the stomach and swallowed saliva as well as any residual food and drink will not pass into the intestines. So every critically ill or injured patient really does have a full stomach and is waiting to aspirate, regardless of whether or not they just ate. This is a time bomb in airway management.

The nearly simultaneous administration of both a neuromuscular blocking agent (paralytic) and a potent induction agent will facilitate intubation while decreasing the risks of aspiration, elevated intracranial pressure and airway trauma. When properly done, the patient literally can no longer breathe without the clinician. There is ample evidence that both pediatric and adult patients emergently intubated with the principles of RSI by a trained, experienced provider, have both lower complication rates and higher success rates when compared to other common intubation techniques, including intubation without pharmacological assistance, blind nasotracheal intubation and sedation-facilitated intubation.

Rapid Sequence Intubation should be distinguished from both “Rapid Sequence Induction” and “Sedation-Facilitated Intubation”.

Rapid Sequence Induction

In this technique, which is used by anesthesiologists and anesthesiologists in the O.R., the end-point is the induction of anesthesia rather than intubation. This technique is used primarily in fasted patients at low risk of aspiration (i.e. an empty stomach). Many such patients are managed exclusively with a laryngeal airway or other extraglottic airway device (EAD) rather than intubation for the duration of the case.

Sedation-facilitated Intubation (SFI)

This technique involves the administration of a powerful sedative drug such as midazolam or etomidate without a paralytic. While this sounds intuitively appealing in that it avoids the risks of paralysis, it is problematic for several reasons. A dose of medication that may only make a healthy person relaxed may have profound effects in a fragile patient. When given to critically ill or injured patients, these drugs may produce apnea and blunt the patient’s ability to protect their airway without eliminating the gag reflex or their ability to vomit. Furthermore the sedative alone does not overcome muscle tone like a paralytic does, thus failing to optimize laryngoscopy. **Taken together, this may be a recipe for disaster: sticking a big piece of metal down the mouth of a patient who still has the ability to gag and vomit, but limited ability to protect their airway, without improving your chances of success!**

In the academic Emergency Department setting, Sagarin et al report a first-intubator success rate of 91% with RSI compared with 84% for SFI. This may seem to be a small difference but it can have important implications in this critical patient population, especially when associated with the potential for serious complications. Prehospital studies have found success rates for SFI from 25% to 87%, well below the rates for RSI.

