

Novel Laparoscope Defogging and Cleaning Device Utilized During Robot-Assisted Laparoscopic Prostatectomy (RALP): 20 Case Experiences

Introduction and Objective: Maintaining efficiency and optimal visualization are critical components of any surgical procedure, particularly in robot-assisted cases, where removal of the laparoscope to defog or clean the lens requires time and can be cumbersome. We evaluate the Advanced Laparoscopic Care Kit (New Wave Surgical, Coral Springs, FL) as a novel set of accessories that defogs and cleans the laparoscope during RALP.

Materials and Methods: Laparoscope warming and cleaning equipment were replaced in our operating suite with the Advanced Laparoscopic Care Kit ("Care Kit") for 20 consecutive patients underwent transperitoneal RALP. Our observations and the features of the Care Kit are reviewed.

Results: The Care Kit includes a defogging device that heats an internal reservoir of surfactant based alcohol-free anti-fog solution to 120 F. The device remains heated for 5 hours. The heated surfactant acts as a soap that can quickly remove dried debris from the lens. Because the device is self-contained and hand held, it can be brought to the laparoscope with minimal displacement of the laparoscope from the trocar. The Care Kit also includes microfiber cleaning pads (fibers 2000 times smaller than surgical gauze) that clean oils better than surgical gauze and avoid scratching the delicate lens. A trocar cleaning sponge for removing debris that can be trapped inside the trocar cannula is also supplied. Subjectively, the Care Kit proved to be simple to use by the bedside assistant and effective at maintaining optimal laparoscope visualization. Transfer of the laparoscope to the back table for warming intraoperatively was not required in all 20 cases. The Care Kit protects the laparoscope while it is initially lying flat on the back table from the dangers of scratching and falling associated with using traditional laparoscope warmers.

Conclusions: The Care Kit was effective in preventing fogging of the laparoscope during RALP. It has the potential to minimize delays that can result from laparoscope defogging and cleaning, thereby reducing operative times. Further studies will be required to quantify the potential time savings and determine whether there is a reduction in laparoscope damage and subsequent repair costs associated with use of this device.