The TroCarWash™ System for Automated Laparoscopic Camera Cleaning

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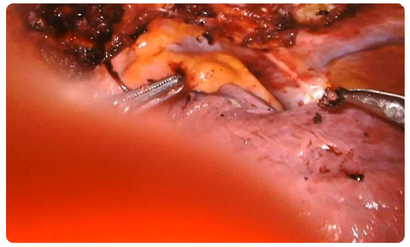
1 Biotex, Inc. (Houston, TX) 2 Bayou Surgical, Inc. (Houston, TX) 3 Weill Cornell Medical College, Department of Ophthalmology, (New York)
4 Baylor College of Medicine, Department of Surgery (Houston, TX)

Bayou surgical

A Method to Eliminate Scope Removal to Clean the Laparoscope and Rapidly Restore a Clear View.

40 % of a laparoscopic operation is performed with impaired vision

Average number of times per hour the scope is removed from the patient for cleaning **7.5**



Cameras are fouled by:

Tissue Debris

Fluids & tissues (blood, fat, ascites) occlude the lens of the surgical camera.

Smoke Debris

Reaction of tissues to thermal energy creates smoke that contaminates the lens.

Fogging

Due to temperature & humidity differentials between the patient and the operating room

The current practice to clean the lens of a surgical scope is a multistep process



Interruption of procedure



Removal of scope from patient



Manual cleaning of lens



Use of a warm (or anti-fog) solution to the lens to decrease fogging

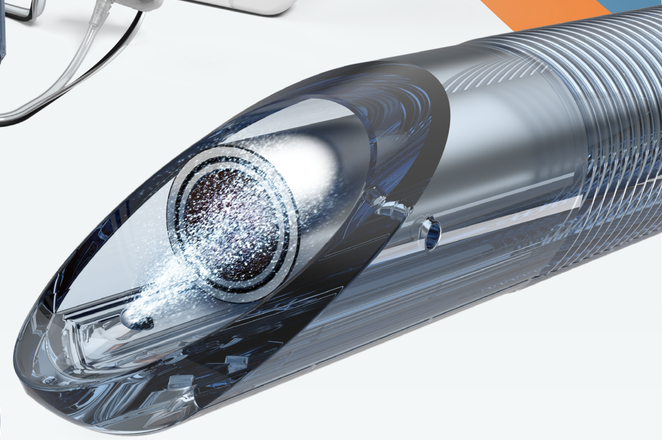


Reinsertion of scope into patient

How does it work?

1. Fouled scope is retracted into the troCarWash
2. The troCarWash optically detects camera position via the scope light, and ejects an aerosolized anti-fog solution
3. Lens is cleared and user vision is restored





Compatible with 0˚, 30˚, 45˚ Scopes

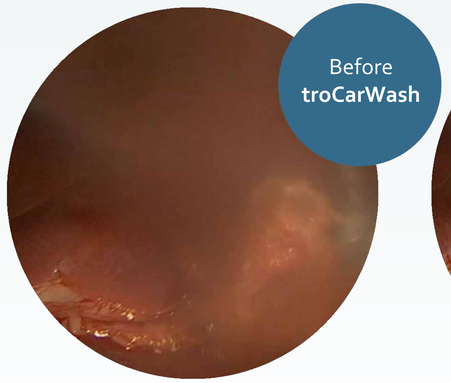
System cleans any angle of camera lens. Requires no addition to the scope.

Minimizes Surgical Disruption

One handed operation. The camera remains in the body cavity; no removal necessary

Rapid Cleaning with Reduced Surgical Times

Clear image in 200 milliseconds. Washes are automated. No buttons or foot pedals.





90% of fouling events cleaned with a single wash during animal testing, including bile, blood, fogging, cautery smoke, and tissue smears.