

## How to Reduce Lasik Complications during Surgery

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### Introduction

Most of the complications on a Lasik surgery happen during flap cut. Partial or irregular flaps, buttonholes, epithelial defects and free flaps. Risk factors for these complications include increased age, preoperative hyperopia, and years of contact lens wear. In order to avoid these complications I suggest following these steps before each surgery:

1. Inspect, that the vacuum is strong enough to hold the eye steady we can do that with test balls of different radios in that step we check the vacuum of the console and tubing are working fine
2. Run the motor by it self

In some consoles you can see the current used by the motor and see if there is a defect in the consoles that don't have that feature, we should see that the shafts run smoothly without breaks or stutters, we also can hear the noise that it usually does, there is a noise all motors do when they run, if it changes there is something happening with the motor.

3. Install the link arm and the head without the blade in this step we can see the movement of the head going forward and backward it should move smoothly, and we also can identify if the motor is still working fine
4. Run All together and inspect the movement of the blade

I consider this step one of the most important, because we verify all is running smoothly most of the blades are moved sideways by a pin on the tip of the motor sometimes that pin gets stocked and don't have the spring movement they usually do and they don't grab the blade correctly causing them not to move right we should see the blade move smooth side to side. The irregular movement of the blade, causes irregular or incomplete flaps.

Following those steps will definitely reduce the risk of having flap complications during surgery in Laser Locators we verify all owe refurbished equipment, are working correctly, we test inspect everything very well before we sell it. We have the calibration tools and all equipment to assure the functionality of the equipment. Very, very few companies do this, and that is why we are one of the most trust worth companies in the whole world this is the most important step of all be careful where you buy your refurbished equipment from.

### Microkeratome-Related Flap Complications Flap Buttonhole

Caused by buckling of the cornea during flap creation, occurs predominantly in steep corneas. Other risk factors include loss of suction, defective blade, abnormal advancement of blade.

**Management:** Do not perform laser ablation, recut the flap and ablate a minimum of 3 months later.

### Free Cap

Caused by inadequacy of captured tissue in the suction ring, occurs predominantly in flat cornea. To prevent free cap, use larger ring and choose larger flap hinge.

**Management:** Perform laser ablation, orient the cap properly and replace it on the bed, allow air-drying for 3-5 minutes.

Incomplete, short, or irregular flaps.

Caused by inadequate suction or microkeratome malfunction.

**Management:** Do not manipulate the flap, do not perform laser ablation, place a bandage contact lens, and recut the flap and ablate at least 3 months later.

### Limbal Bleeding

It occurs in two occasions: presence of corneal pannus as is common in contact lens wearers, using inappropriate size or position of the suction ring resulting in passage of the blade over limbal or conjunctival vessels.

**Management:** Apply gentle pressure on the oozing vessels with a dry sponge directly or pushing a fold of conjunctiva over the limbal feeders with a dry sponge. Remove any blood in the ablation zone. After replacing the flap, phenylephrine 2.5% may be used to constrict the blood vessels.

### Interface Debris

The sources include Meibomian gland secretions, particles from sponge, talk from gloves, metallic fragment from blade, red blood cells, epithelial cells, and debris from tear film.

**Prevention:** Use an aspirating speculum, operate in a lint-free environment, and drape the lashes and eyelids.

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Management: Only if an inflammatory reaction elicited by debris, then lift the flap, irrigate and remove the debris manually. Otherwise they are well tolerated [1-14].

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