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**Suture less
Blepharoplasty, does it
worth it?**

**Hesham Fouad Kamel
MD,FRCS**



Introduction

- Blepharoplasty is the most frequently performed facial cosmetic and functional procedures
- The use of surgical glue in blepharoplasty is driven by the pursuit of:
 - Improved patient comfort,
 - Reduced operative time,
 - Enhanced cosmetic outcomes, and
 - Potentially lower complication rates.

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Types of Surgical Glue Used in Blepharoplasty

- Surgical glues, are designed to bond tissue surfaces, providing wound closure and hemostasis.
- Main Classes of Surgical Glues
 - • **Cyanoacrylate Glues:** Synthetic, fast-polymerizing adhesives (e.g., n-butyl-2-cyanoacrylate, 2-octyl-cyanoacrylate).
 - • **Fibrin Glues:** Biologic adhesives mimicking the final stage of coagulation (e.g., Tisseel®, Evicel™).
 - • **PEG-Based Hydrogels:** Synthetic, biocompatible, and customizable adhesives (e.g., ReSure®).
 - • **Albumin-Glutaraldehyde** and Other Newer Adhesives: Used in select surgical contexts, with ongoing research into their ophthalmic applications.

Cyanoacrylate Glues: Properties, Brands, and Mechanism

- Common Brands:

- • **Dermabond™ (2-octyl-cyanoacrylate)**: FDA-approved for skin closure, widely used in the US and globally.
- • **SurgiSeal®**: Similar to Dermabond, with comparable or superior adhesive strength and flexibility.
- • **Histoacryl® (n-butyl-2-cyanoacrylate)**: Used in Europe and Asia, with a slightly different polymer chain length and flexibility.

• Properties:



• Strength:

- High tensile and shear strength, with 2-octyl-cyanoacrylate being more flexible and less brittle than n-butyl-cyanoacrylate.



• Antimicrobial:

- Demonstrates bacteriostatic properties, particularly against gram-positive organisms.



• Biocompatibility:

- Generally well-tolerated, though degradation products (cyanoacetate, formaldehyde) can cause local inflammation if used in excess or inappropriately.



• Polymerization:

- Sets within seconds to minutes, forming a waterproof, protective barrier.

• Indications and Limitations:

- • Approved for superficial skin closure, including blepharoplasty incisions, lacerations, and minor wounds.
- • Not recommended for wounds under high tension, infected wounds, or mucosal surfaces.
- • Should be used with caution near the ocular surface to avoid inadvertent adhesion or chemical injury.



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•Application Steps:

- **1. Dry the Wound:** Excess moisture or blood can impede polymerization and weaken adhesion.
- **2. Edge Approximation:** Hold the skin edges together with forceps or by placing a few temporary absorbable sutures as "handles" (especially in upper eyelid blepharoplasty).
- **3. Glue Application:** Using a fine applicator, apply a thin layer of adhesive along the approximated skin edges.
- **4. Polymerization:** Hold the edges together for 30–60 seconds until the glue sets and is no longer tacky.
- **5. Layering:** Some protocols recommend two to three thin layers, allowing each to dry before the next is applied, but a single layer is often sufficient with modern adhesives.
- **6. Post-application Care:** Avoid ointments or dressings that may weaken the glue. Protective dry dressings can be applied after full polymerization.

• Technical Pearls:

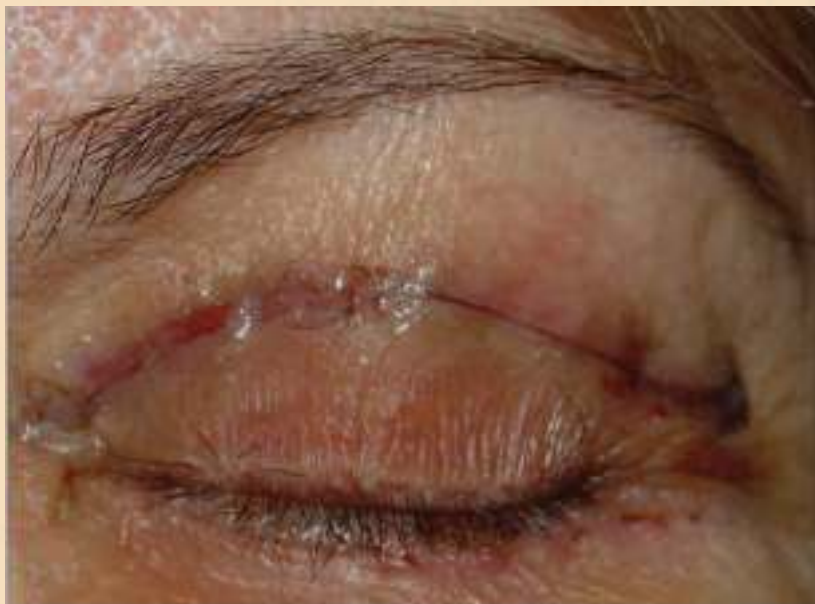
- • Use a corneal shield to protect the ocular surface during lower eyelid or periocular glue application.
- • Avoid pressing the applicator tip too hard, which can force glue into the wound or separate the skin edges.
- • Remove any residual glue from undesired locations before it hardens.

• **Contraindications:**

- **Active infection, high-tension wounds, or wounds with significant tissue loss.**
- **Caution in patients with known formaldehyde allergy (a degradation product of cyanoacrylates).**



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Benefits vs Risks

- **Benefits:** reduced procedure time, no suture removal, minimal scarring
- **Risks:** allergic reactions, glue migration, wound dehiscence
- **Infection Risk:** generally low with proper technique
- **Healing Time:** often faster than sutures

Summary

- Surgical glue offers a viable alternative to sutures in blepharoplasty
- Benefits include faster healing, reduced scarring, and shorter procedures
- Clinical outcomes are comparable or superior in many cases
- Patient selection and surgeon expertise are key to success