

# **The use of hemostatic agents and sealants in urology. [Review] [50 refs]**

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## **Abstract:**

**PURPOSE:** While hemostatic agents and sealants have long been used in the fields of surgery and urology, confusion persists about their indications for use and the optimal agent choice. We comprehensively defined and evaluated the scientific basis for hemostatic agent and sealant use in urology, and provide a conceptual framework for future research and discussion.

**MATERIALS AND METHODS:** A MEDLINE search of all available literature concerning hemostatic agents in urology was performed, including topical hemostats, anti-fibrinolytics, fibrin sealants and matrix hemostats. Select references were also chosen from the broader surgical literature. Animal studies, case reports, retrospective and prospective studies, and opinion articles were reviewed.

**RESULTS:** Hemostatic agents include a wide range of components. Recent literature has focused on fibrin sealants and matrix agents. Two main indications exist for hemostatic agents, including 1) hemostasis and 2) sealant. The best evidence for efficacy and safety exists for hemostasis, especially for nephrectomy and trauma. Newer data highlight urinary tract reconstruction, fistula and percutaneous tract closure, suture line strengthening and infertility as potential uses. Novel drug delivery and tissue engineering are areas with large clinical potential.

**CONCLUSIONS:** Hemostatic agent use is promising and yet unproven for most conditions currently treated in urology. Hemostasis continues to be the main indication, which is well established. Few

trials have examined comparative efficacy among hemostatic agents and further prospective studies are needed to justify additional indications as well as determine the optimal mode of use. Minimally invasive surgery will further drive the use of hemostatic agents and sealants. Cost-effective, evidence based hemostatic agent use will continue to challenge all urologists. [References: 50]