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### **NasaClip: A New Comprehensive Device to Treat Nosebleeds**

Jeffrey Y. Wang and Connor Perlin
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Epistaxis (nosebleed) is one of the most prevalent ear, nose, and throat medical emergencies and is responsible for over 500,000 visits to U.S. emergency rooms (ER) annually, costing nearly \$350,000,000. In a U.S. study over ten years, epistaxis was responsible for 1 in 200 emergency room (ER) visits, 6% of which necessitated hospitalization. These events can often be messy, anxiety-inducing, and time-consuming. Around sixty percent of the world population (4 billion people) will experience a nosebleed once in their lifetime. Epistaxis more often affects children between the ages of 2 to 10 and adults between 50 to 80, but all ages are susceptible. Those hospitalized as a result of epistaxis may incur significant costs ranging from \$6,000 to \$17,000, with a reported average length of stay in the hospital (LOS) of 3.24 days.

Based on standard medical practice, a <u>standard nosebleed</u> (anterior epistaxis) should be treated by applying firm, constant pressure to the soft side walls of the nose for 10 to 20 minutes without interruption while positioning the head slightly forward. While this sounds easy, it is often difficult to perform in practice as <u>children and the elderly</u> may not follow or understand the steps. Furthermore, attending to these low-acuity patients in the hospital can unnecessarily take up staff time and resources.

Many products have been used to treat and manage epistaxis, including saline gel, petroleum jelly, glycine and calcium gel, etc., each with a role dependent on the underlying cause of the nosebleed. The products range from \$1 to \$10 per 30-day supply or >\$20 per 30-day supply. Products containing moisturizing agents may mitigate further epistaxis by relieving

dryness. In contrast, other products that induce local vasoconstriction or assist in clot stabilization offer a temporary reprieve from bleeding but may not prevent nosebleed recurrence. Overall data is limited on the use of these products, and there is no current evidence to suggest the superiority of one agent over another.

A team spearheaded by <u>Dr. Elizabeth Clayborne</u>, an ER physician, and co-founders Romil Patel and Dr. Neal Sikka developed a novel invention appropriately named Bleed Freeze. Bleed Freeze was developed at George Washington University as a simple and effective device to help control nosebleeds in children and adults. Resembling a swimmer's clip, the device combines compression with intranasal sponges that can be medicated into a single comprehensive device that can be used in hospitals, clinics, sporting fields, and homes. The device comes in <u>adjustable sizes</u> for children and adults and applies constant <u>hands-free</u> pressure to the soft side walls (ala) of the nose with intranasal sponges that can deliver medication to the mucosa over Kiesselbach's plexus, the origin of bleeding in most anterior epistaxis. Bleed Freeze, now branded as NasaClip, can be combined with over-the-counter medications (such as Afrin®, Bacitracin®, Vaseline®, or Ayr Gel®) that further control bleeding by constricting vessels, dramatically improving hemorrhage control or assist with moistening the mucosa. This device allows healthcare providers to reclaim lost time and reallocate valuable resources. NasaClip's website promotes its device as a method to help to treat nosebleeds faster and more effectively than other common methods at an affordable price. Currently, the price for NasaClip remains undisclosed, but NasaClip claims its product will be available for sale in 2023. For now, a waitlist exists for those hoping to be the first to purchase NasaClip when it becomes available.

In short, epistaxis is a common, treatable condition. However, treatment can be time-consuming for patients and providers alike. Since most nosebleeds are not life-threatening

and treatment in healthcare facilities can be invasive and inefficient, developing innovative solutions could significantly reduce inefficiencies and improve the overall experience for everyone involved. For patients, a product like NasaClip could lead to fewer emergency room visits, reduced stress, and reduced healthcare spending. For healthcare professionals, NasaClip could positively impact the quality of care, shorten treatment times, and take pressure off healthcare professionals – directing it where it belongs... on nosebleeds.

The authors have no conflicts to report.