



The Million-Dollar Stitch in Oral Cavity Reconstruction

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Short Communication

Advanced resections of the oral cavity often require reconstruction using a pectoralis major myocutaneous (PMMC) flap, an anterolateral thigh flap, or a free fibula osteo-cutaneous flap. Flap inset is typically performed in a posterior-to-anterior fashion, beginning at the retromolar trigone and ending at the cut end of the mandible. At the anterior-most point, a tripointer suture is placed to approximate the flap, the floor of mouth, and the remnant buccal mucosa around the exposed bone. This suture serves as a critical barrier between the oral cavity and the neck. Although widely practiced and accepted, this reliable technique has not been adequately documented in surgical literature.

The criticality of this suture lies in fact that the area is prone for developing an oro-neck-cutaneous communication. The development of this oro-cutaneous fistula (OCF) is a major postoperative complication in oral cavity reconstruction after surgical resections. This complication not only prolongs hospitalization but also delays adjuvant therapy, thereby impacting oncological outcomes [1]. Reported incidence ranges from 6% to 11%, with no significant difference seen across the choice of flap reconstruction [2-4]. Patient-related factors such as poor wound healing, malnutrition, diabetes, and prior radiotherapy contribute to fistula formation. Surgical factors include tension at the suture line, inadequate flap reach, and poor inset technique. While many of these risk factors are beyond the surgeon's control, one critical factor lies entirely within the surgeon's domain: the technique of flap inset. Among all variables, the tripointer suture is the most important safeguard against OCF. Its role is pivotal in achieving a watertight closure, particularly in mandibular defects where dependent positioning leads to saliva pooling. Here, we describe our experience with the tripointer suture, which has evolved into a stepwise, standardised technique over the years.

Our technique involves using a fresh 2-0, 30 mm, absorbable polyglactin round body/cutting suture to avoid muco-periosteal tearing, with adequate lubrication using lignocaine jelly or normal saline. It involves five critical, sequential inserts - through flap tissue, lingual mucosa, attached lingual gingiva, interdental papilla, and back through flap tissue (Figures 1-5). Following this, the suture is tightened to saddle the flap securely over the mandible and a square knot is taken (Figure 6). Reinforcement with a supporting stitch either lingually or buccally ensures additional security over the cut end of mandible (Figure 7). As visual demonstration conveys the technique best,

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Figure 1: Insert 1 enters from the flap and exits through lingual mucosa.



Figure 2: Insert 2 enters lingual mucosa and exits attached gingiva.



Figure 3: Insert 3 passes through interdental papilla.



Figure 4: Insert 4 through attached alveolar gingiva with direction towards the occlusal surface.



Figure 5: Insert 5 enters flap near last exit and exits near first insert.



Figure 6: Tightening saddles the flap over the mandible.

accompanying images are provided.

In our experience, this technique is simple, reproducible, and consistently effective in preventing OCF. Its contribution to enabling



Figure 7: Reinforced by the supporting "thousand-dollar stitch".

timely discharge and ensuring patients receive adjuvant therapy without delay is priceless. For this reason, it has come to be known as the "million-dollar stitch" at our centre. Though seemingly minor in the context of surgical manoeuvres of an extensive resection and reconstruction, it has stood the test of time in delivering reliable results. The significance of this stitch is self-evident and does not require validation through clinical trials. Indeed, this 'stitch' in time saves nine (perhaps even more prolonged postoperative recovery days).

Thus, this million-dollar stitch, reinforced by the thousand-dollar stitch, should be recognized as a cornerstone of oral cavity reconstruction. By emphasizing its role in surgical training and incorporating it into standardized operative protocols, outcomes can be improved across both pedicled and free flap reconstructions.

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Author's Contributions

Burhanuddin Qayyumi conceived the concept of the "million-dollar stitch," evolved the technique over years of practice, and imparted it to many surgeons, thereby ensuring its widespread adoption. He deserves primary credit for the development and dissemination of this technique. Meghna Kumar contributed to documenting the technique, drafting the manuscript, and coordinating submission. Basit Ali assisted in refining the description, reviewing relevant literature, and critically revising the manuscript. All authors read and approved the final version of the manuscript.

Ethical Consideration

This article describes a surgical technique based on operative experience. It does not report patient-identifiable data or involve a clinical study requiring Institutional Ethical Committee approval. Therefore, formal IEC approval and individual informed consent were not applicable. The description complies with the requirements of the World Medical Association's Declaration of Helsinki.

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