

64. THE ROLE OF MODERN SUTURE MATERIALS IN ORAL SURGERY



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Introduction. The development of contemporary suturing materials has led to the creation of numerous categories, including braided, non-resorbable, resorbable, monofilament, multifilament, natural, and synthetic suture materials. These materials can be employed in a wide range of circumstances to guarantee full recovery. In order to maximize wound healing, minimize ischemia, remove excessive wound tension, and prevent tissue damage, surgeons must choose the best suture materials while also taking into account factors like salivary flow, oral functions like chewing, swallowing, and speaking, as well as the high vascularization of the oral tissues.

Aim of study. Current data on contemporary suture materials was examined to assess how to use them as well as their physical and biological properties.

Methods and materials. A review of literature published in Pubmed, Google Scholar, Science Direct, and Medscape databases.

Results. Contemporary suture materials provide increased stability, minimize wound infection risk, shorten recovery periods, shorten surgical times, and maximize the restoration of the targeted tissue's appearance and functionality. Their enhanced adaptability makes them more useful in the wide range of clinical scenarios that surgeons face. Oral surgery uses resorbable sutures more frequently. The most widely used types of resorbable sutures are chromic catgut, catgut, which are natural, and vicryl, polyglycolic acid (PGA), polydioxanone, which are synthetic. Because catgut sutures are prone to enzymatic breakdown, polyglycolic acid and chromic catgut sutures are used more frequently. The most common non-resorbable suture materials used in oral surgery are polyester and silk. Although silk is inexpensive and widely available, its braided structure, which is more traumatic and prone to bacterial buildup, frequently results in tissue inflammation. Polyester suture materials, such as polypropylene and polytetrafluoroethylene, are less traumatic and reduce the chance of bacterial growth due to their monofilament configuration.

Conclusion. Thanks to current innovation, surgeons today have access to a wide variety of suture materials. A thorough understanding of the physical and biological properties of the suture material used, as well as the location, thickness, elasticity, and rate of healing of the damaged tissue, is essential for effective rehabilitation following oral surgery.