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Alginates in Evolution of Restorative Dentistry

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Abstract
Over the last decades, alginate biomaterial has gained sufficient attention among researchers for its inherent properties. These properties, such as the lack of toxicity and biocompatibility, have endeared it to various pharmaceutical and biomedical applications. Since its introduction in restorative dentistry in the early 1930s, alginate has remained the material of choice for impression taking due to its low cost, ease of use, and ability to reproduce sufficient degree of the oral cavity and its related tissues. The conventional alginate used in dentistry, however, has poor dimensional stability and low tear strength. In recent years, several modifications and advancement in alginate material have led to the development of alginate with an improved dimensional stability, dust-free, and color-changing alginate attributes, etc. This chapter foregrounds the evolution of alginate impression materials with an emphasis in the art of impression taking using alginate material.

Keywords: Alginate, biomaterial, impression, restorative dentistry

7.1 Introduction

The history of dental materials indicates that restorative dentistry has witnessed unprecedented advancements, particularly with respect to replacement of teeth for partially or completely edentulous jaws [1, 2]. Much of this was largely due to the development of new and smart biomaterials [3, 4], which has allowed direct and accurate replication of the oral tissues

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