

7.4.5 Removal and Inspection of Alginate Material

Upon setting, care must be taken on removal of the impression from the mouth to avoid deformation. The optimal technique when removing the impression from the patient's mouth is to press on the side of alginate overflow from the labial vestibule. Nandini *et al.*, [17] advocated that the impression must be removed with a firm, quick snap. For a mandibular arch removal, it is advisable that the operator avoid using the handle of the tray as level. This is because the alginate is easily loosened from the tray with the leverages. More so, with respect to the removal of the maxillary arch impression, it is highly recommended that the operator's index finger on both hands be placed in the buccal sulci to break the seal [17].

Once the impression is removed from the mouth, it should be observed for any possible defects under good lighting condition and subsequently rinsed under running tap water to remove saliva or blood. With the modified form of alginate available in the market, impression can be covered in a damp towel/napkin to prevent syneresis (loss of moisture). It is not recommended to place the impression in water, as this could result to inhibition of water, thereby causing distortion and inaccurate casts. In addition, it is also important that the impression is trimmed to remove excess alginate material before sending it to the dental laboratory. While it is recommended that the cast be poured within 30 minutes to avoid dimensional instability, essentially, as highlighted in Table 7.1, modified forms of alginates can now be stored up to 5 days without any significant changes in its dimensional properties.

7.4.6 Effects of Cast Production Techniques

A dental cast is produced by filling the alginate impression of the dental arch with a semisolid material product [39]. While correct impression-taking techniques are important for accurate duplication of the dental arch, the cast production from the impression is much more critical. More so, a poorly poured cast will invariably negate the quality of fabricated prosthesis. As such, it is advisable that conventional alginate impression material be poured immediately or within 10–12 minutes (see Section 7.3.2.1).

Generally, dental gypsum is the material of choice commonly used for alginate impression. Prior to alginate impression pouring, it is highly recommended that the surface of the alginate impression be sprinkled with dental gypsum and the stone be dispersed with minute amounts of water [17]. This will help to remove any saliva or blood residues. The sprinkled gypsum must be carefully rinsed out and excess water removed after 1–2 minutes. Mixing of the dental gypsum with water then follows.