Successful rehabilitation depends on many factors, such as dimensional stability, detail reproduction of impressions and models (Hamalian et al., 2011). Taking impressions is one of the crucial steps when it comes to oral rehabilitation. Impression quality determines the optimal adjustment of the restoration (Rupp et al., 2005; Balkenhol et al., 2010).

The aim of the impression material is to obtain an apica of the hard and soft tissues of the oral cavity in three dimensions and must be dimensionally stable (Craig e Powers, 2002; Hamalian et al., 2011).

Nowadays, elastomers are considered to be the standard of care as the material for definitive impressions in fixed prosthodontics (Lee, 1999). Within the family of elastomers, we can find polyethers, condensation silicones, addition silicones and polyethers (Noort, 2007). The addition impressions in fixed prosthodontics (Lee, 1999) Within the family of elastomers, we can find polyethers, condensation silicones, addition silicones and polyethers (Noort, 2007). The addition silicones and polyethers tend to be used most frequently due to their physical and mechanical properties (Lee, 1999; Hamalian et al., 2011).

Disinfection procedures weren’t used until the twentieth century. Impressions are contaminated by plaque, blood or saliva, creating a vehicle for cross-infection for a variety of pathogens such as HIV, Hepatitis B, herpes and tuberculosis. Therefore it is necessary to control cross-infection in clinical practice (Drennon e Johnson, 1990; Martin et al., 2007; Thomas et al., 2008; Rentzia et al., 2011).

The ADA Specification nº19 (1977) states that the maximum negative change in dimension is 0.5%, and the ISO 4823:2000 has a maximum of 1.5%.

**OBJECTIVES**

Study the dimensional changes on gypsum casts poured with 2 addition silicones and a polyether after the impressions were steam-autoclaved sterilized and then stored.

**HYPOTHESIS**

When subjected to autoclaving, the addition silicones and polyether suffer dimensional changes, resulting in casts with different dimensions of the matrix.

When subjected to autoclaving, the addition silicones and polyethers don’t suffer dimensional changes, resulting in casts with similar dimensions to the matrix.

**RESULTS**

The null hypothesis is rejected.

The gypsum casts show dimensional changes of the impression materials after autoclaving.

The dimensional changes are below the maximum allowed by ADA Specification nº19 (1977) and ISO 4823:2000, therefore the steam autoclave sterilization should be considered a valuable disinfection procedure.