

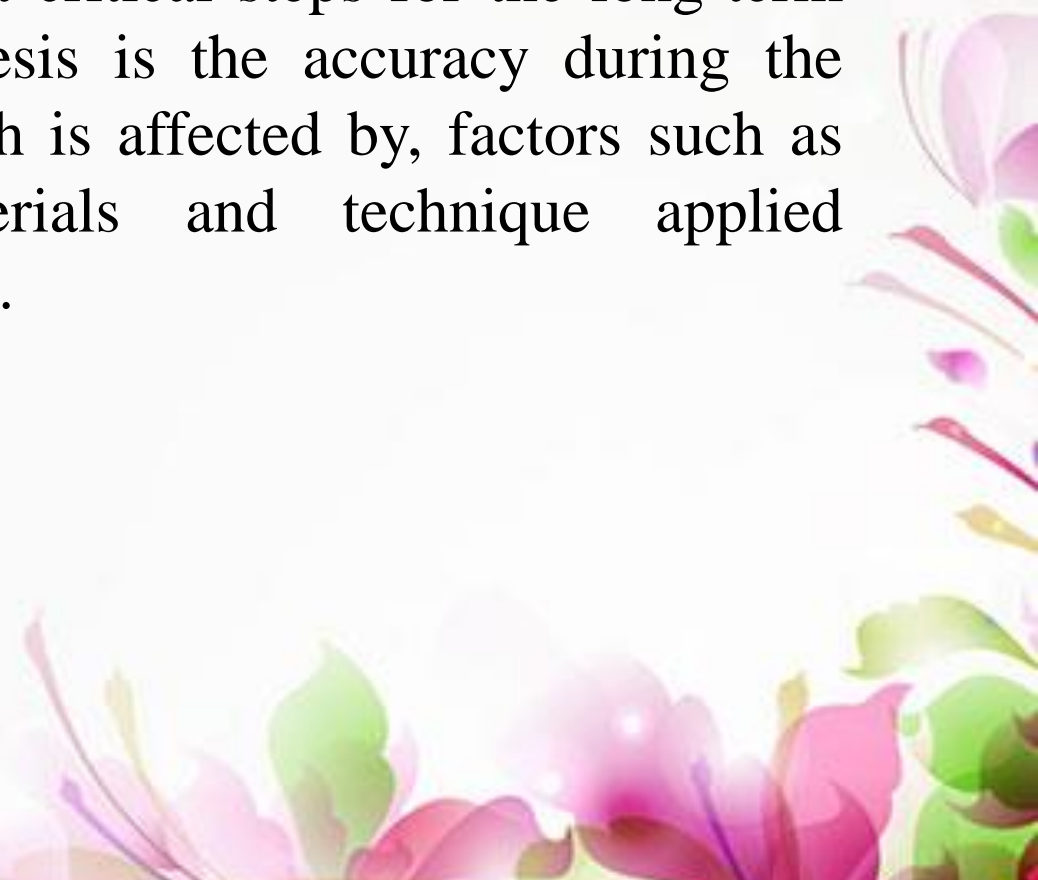


***Different Impression Materials Used In Dental
Implants (Monphase And Heavy Body)***

***By
Safa abdul wahab
&
Supervisor Dr . Rola waleed abdul-razzaq***

Introduction

Every phase in the production of an implant-supported prosthesis influences the fit between implants and the final prosthesis. One of the most critical steps for the long-term success of implant prosthesis is the accuracy during the impression procedure which is affected by, factors such as implant impression materials and technique applied contribute to implant misfit .



- misfit tolerances are accepted, given that it does not lead to future implant complications.
- The most common complications in implant supported bridge are two fold:
 - (1) Mechanical complications .
 - (2) Biological complications .



1.1 Impression material :

- monophasic impression materials



MONOPHASE
Regular Set



8 CARTRIDGES



Monophase impression material helps you create highly detailed impressions and perfectly fitting restorations for the following reasons:

- Outstanding initial hydrophilicity for precise, void-free impressions.
- Excellent flow properties delivering great detail reproduction.
- Unique “snap-set” behavior to prevent setting while you’re working.

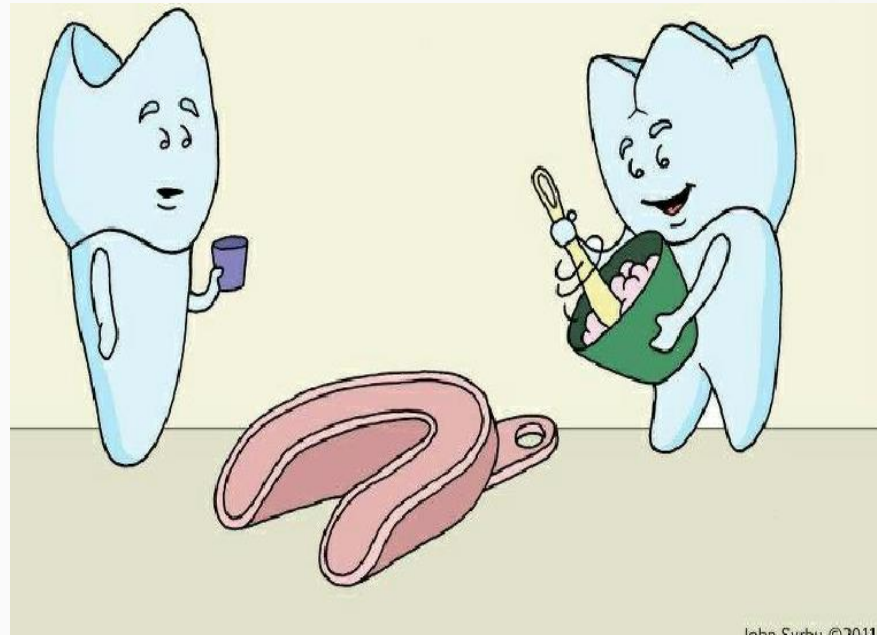


Properties :

- ✓ High tear strength.
- ✓ Dimensionally stable .
- ✓ High quality –finely detailed .
- ✓ Sterilizable.
- ✓ more cost- effective .



- PE/ VPS.
- Most common used and accurate impression material reported was PE followed by VPS.



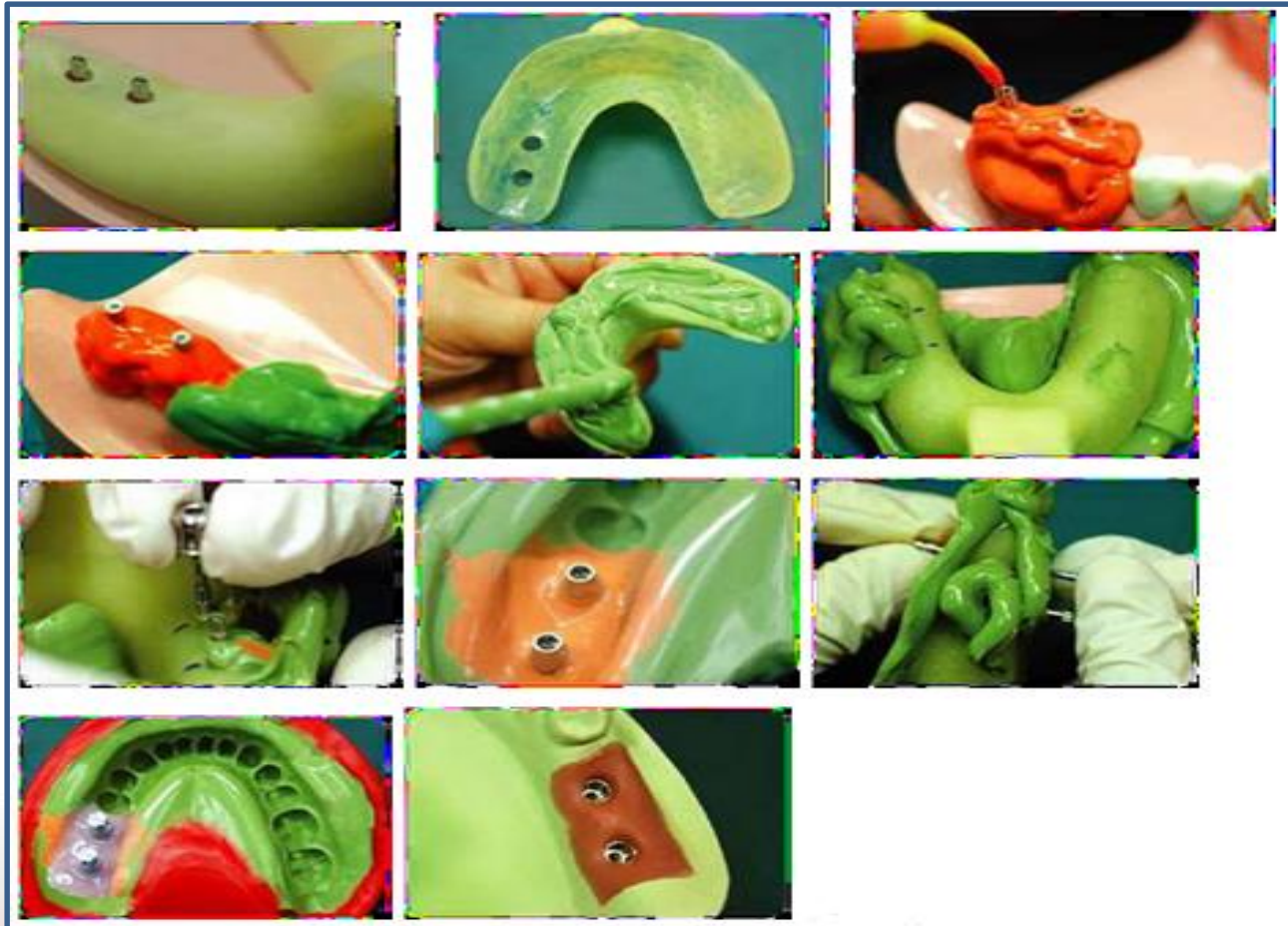
1.2 Conventional putty / wash impression materials :

- fall into 2 basic categories:
 - (1) a single-step procedure .
 - (2) a 2-step procedure.



1.3 *Direct versus Indirect :*

- direct (open tray)



Indications:

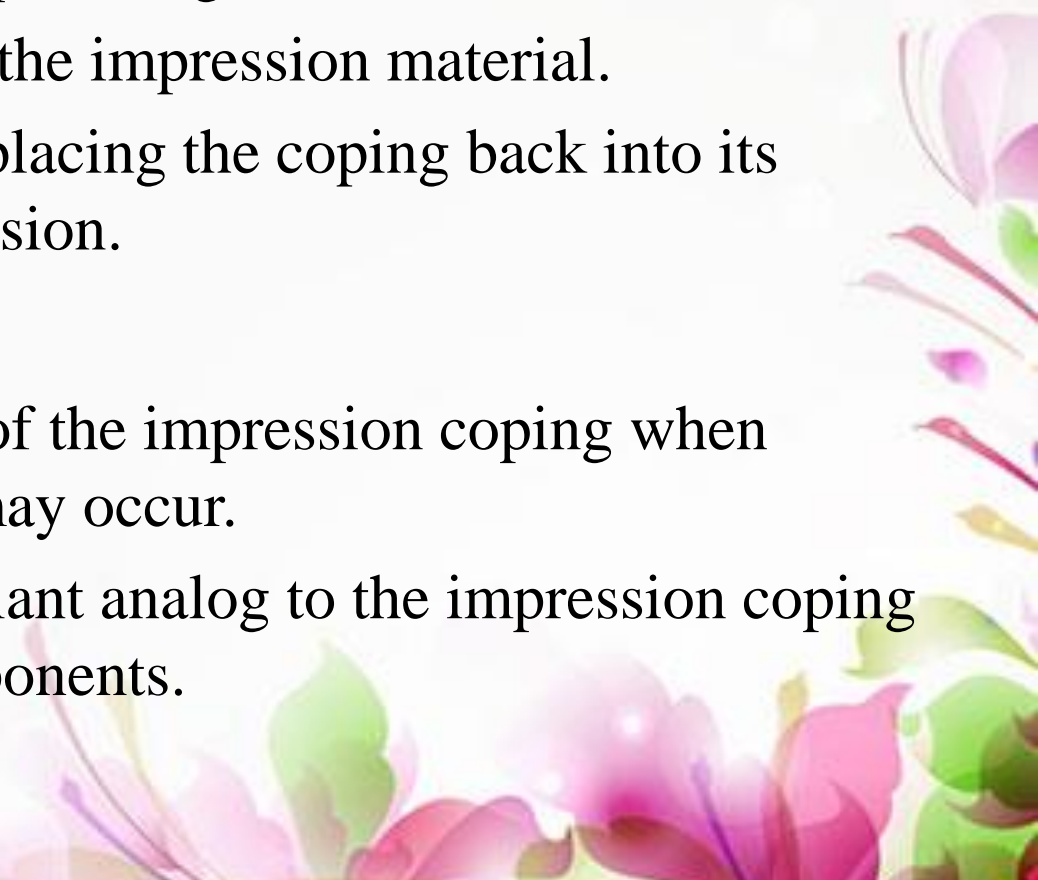
- Multiple implants.
- Very closely located implants.

Advantages:

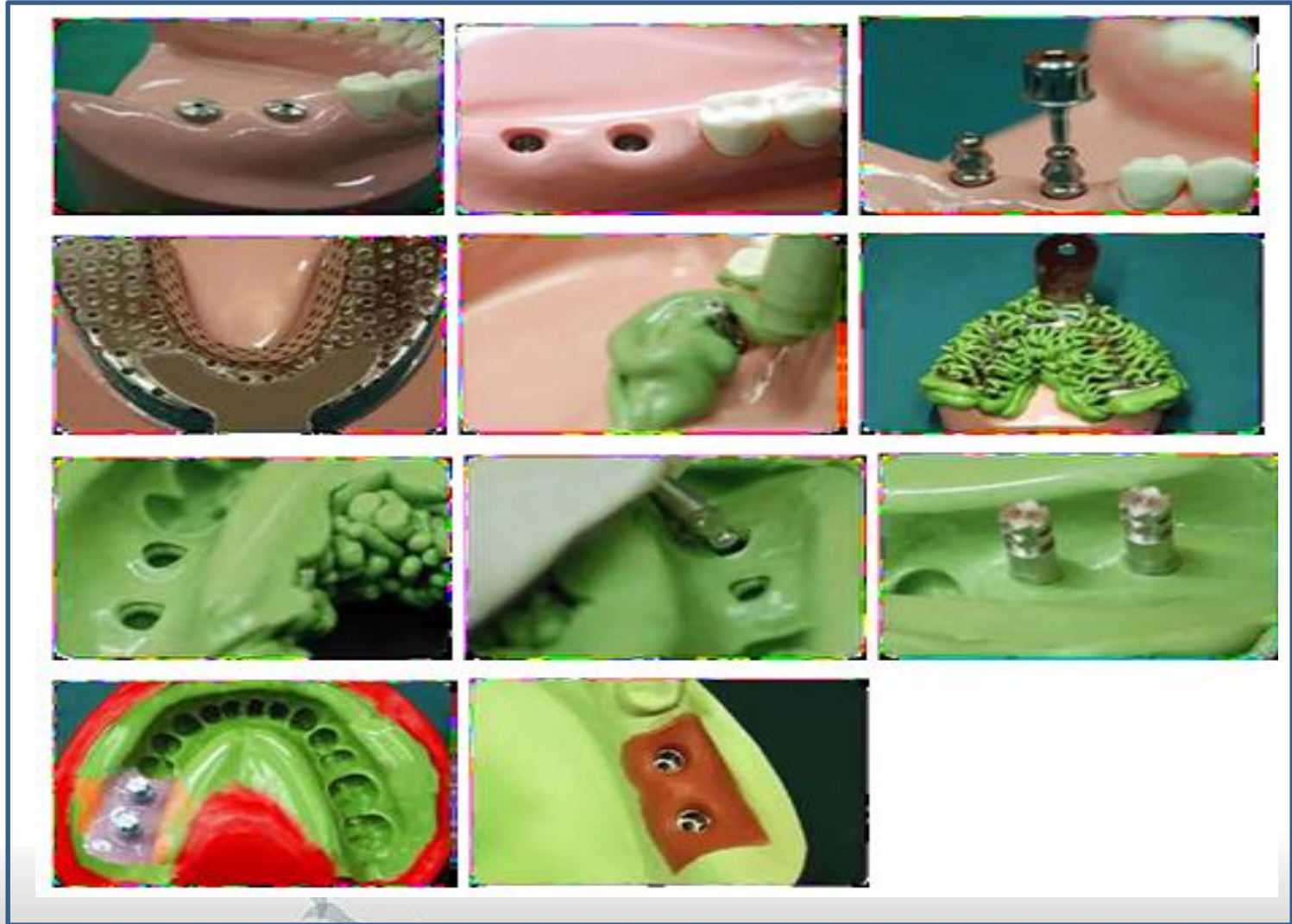
- Reduces the effect of the implant angulation.
- Reduces the deformation of the impression material.
- Removes the concern for replacing the coping back into its respective space in the impression.

Disadvantages:

- Some rotational movement of the impression coping when securing the implant analog may occur.
- Blind attachment of the implant analog to the impression coping may result in a misfit of components.



- indirect technique (closed tray) :



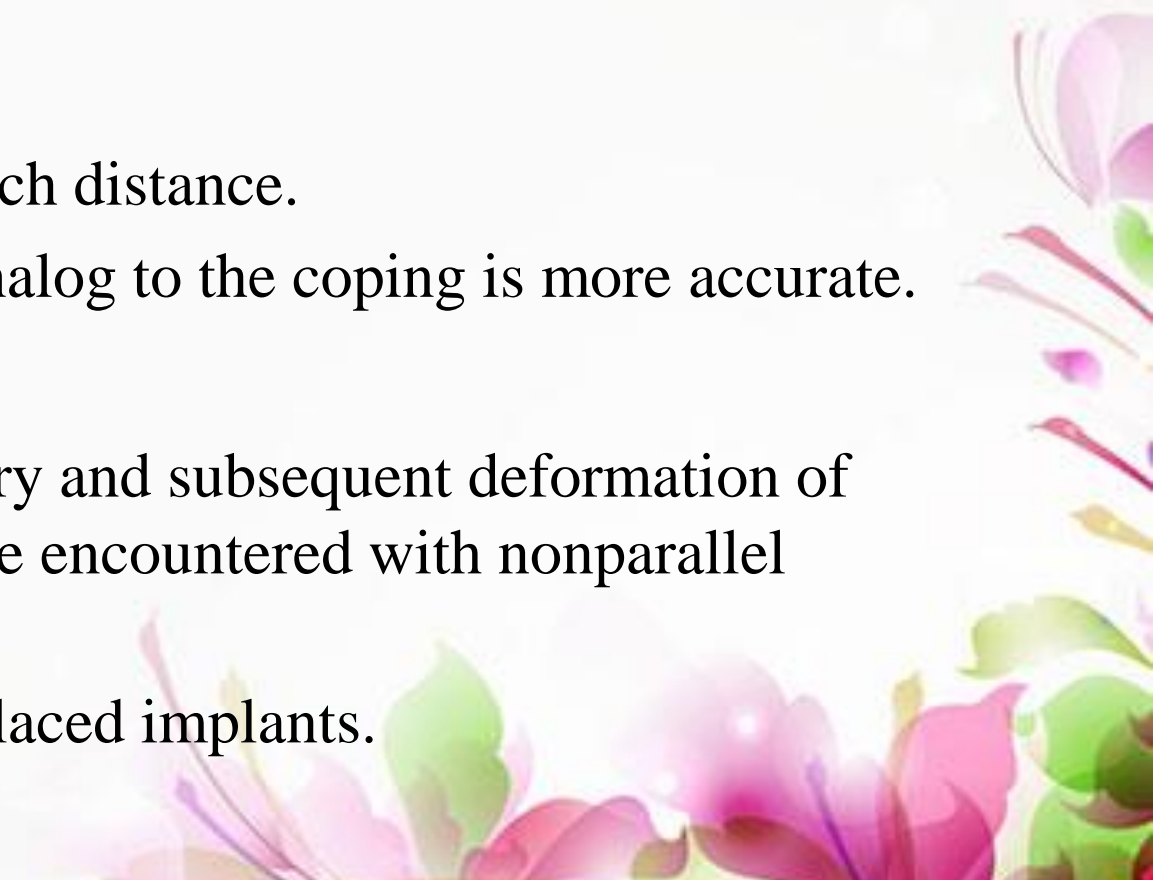
Indications:

- Limited inter arch space.
- Tendency to gag.
- Difficult access in the posterior region of the mouth.

Advantages:

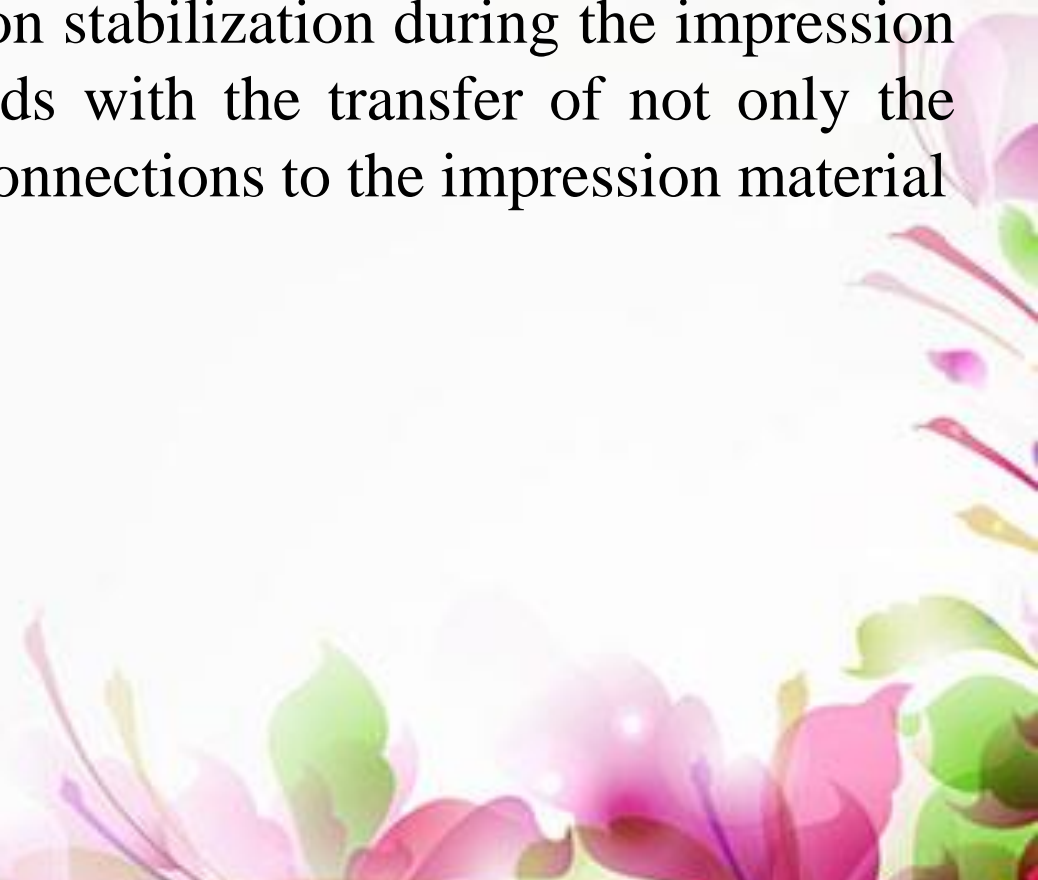
- Easier.
- Suitable for short inter arch distance.
- Visual fastening of the analog to the coping is more accurate.

Disadvantages:

- Inaccuracies with recovery and subsequent deformation of impression material may be encountered with nonparallel implants.
 - Not suitable for deeply placed implants.
- 

1.4 Splinted versus Non-Splinted

The splinted technique for implant impression was first introduced along with the development of a metal– acrylic resin implant for an edentulous jaw , The method encompasses the connection of all copings with an acrylic resin to prevent individual coping movement and achieve rotation stabilization during the impression procedure. The procedure ends with the transfer of not only the copings but also its splinted connections to the impression material



1.5 Splint Material :



1.6 Coping Design :

✓ the coping shape has the major factor influencing impression accuracy. the square and tapered copings are the most frequently used in various implant systems.

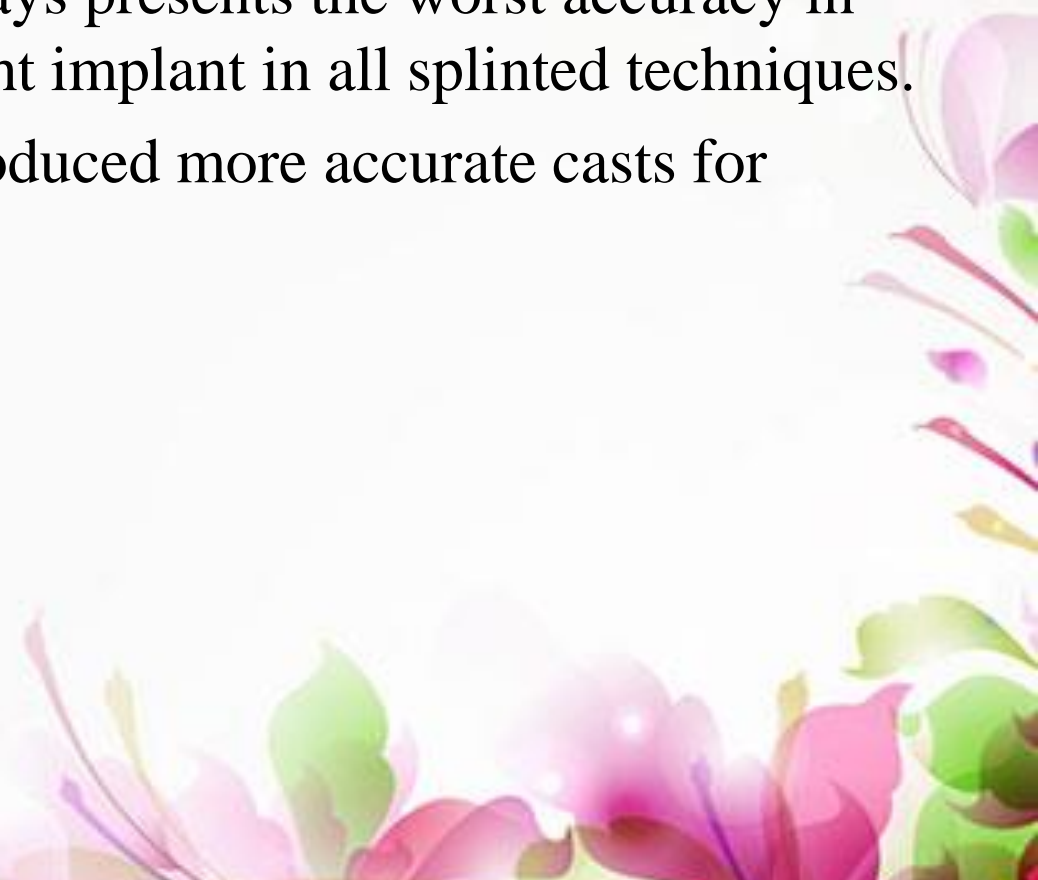
(tapered and square). More indentation was found to improve retention in the impression material, but material deformation could also result in inaccuracy.

✓ effect of surface treatment with sandblasted adhesive copings, without presenting significant advantages in dimensional accuracy over non-sandblasted square copings.

✓ an additional 2 mm extension on each side of the coping was added using AR. These modifications resulted in significant differences when compared with the non-modified coping . It was also found that casts fabricated from plastic impression copings are less accurate than casts made from metal impression transfer copings .

1.7 Angulation :

- ✓ The inaccuracy of impressions is often associated to the angulation of implants, with several studies investigating accuracy variations of parallel and non-parallel implants.
- ✓ the angulated implant always presents the worst accuracy in comparison with the straight implant in all splinted techniques.
- ✓ that the addition silicon produced more accurate casts for nonparallel implants.



1.8 Optical Impression :

- ✓ (CAD/CAM) technology as an alternative to conventional restorations.
- ✓ , two techniques of data capturing are available: intraoral scanning and digitizing the casts made from conventional impressions, the latter usually carried on by scanning the cast in the dental lab .
- ✓ Measuring the relationship between dental implants in the oral cavity directly and reproducing them outside the oral cavity without taking impressions, and fabricating models overcome some problems of the indirect method. These problems include measurement errors between the oral cavity and the model, and the long chair time for impression taking.

Aim of study :

The aim of study is to compare between heavy /light body silicon and monophase impression material in impression step for patient with dental implant .



Instruments and materials used :

- (1) towel tray for cleaning and sterilization environment.
- (2) 2 plastic perforated trays (one for monophasic material and the other for heavy /light body material) .
- (3) heavy /light body addition silicon.
- (4) monophasic material (medium body addition silicon with syringe).
- (5) mirror , mask, gloves .



Material and method



Monophase

1-Required injected syringe and few material in one capsule so it's more costly.

2-To produce acceptable impression it's required a dentist with a skill to control injected technique.

3-Easy to remove from patient mouth ,more flexible .

4-In this case monophase material less dimensional change .

5-More tearing resistance in the

Heavy / light

1- Not required any addition instrument and the material jar enough for taking number of impression . so it's less costly .

2-Not required a large skill for technique .

3-More difficult to remove from patient mouth .

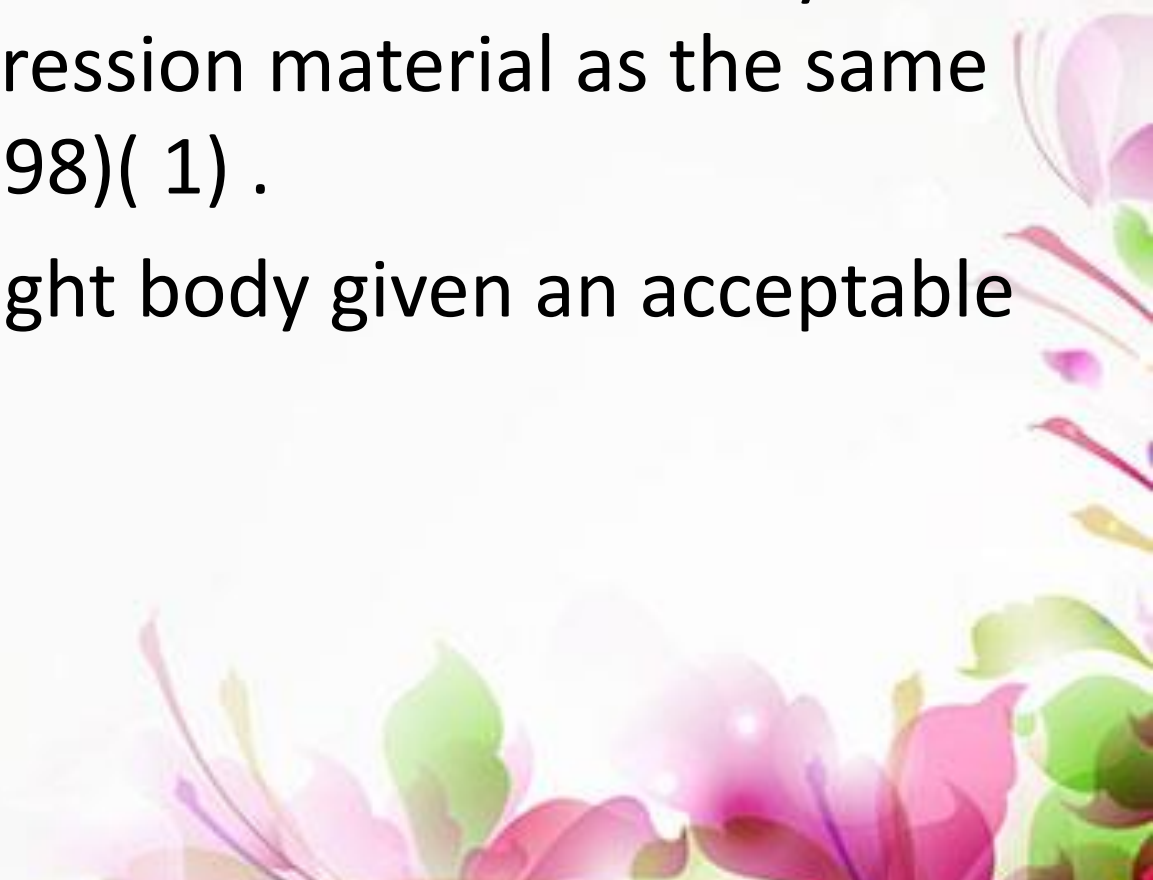
4-More dimensional change .

5- Less tearing resistance .

conclusion

With the limitation of this study :

- (1) The monophasic material more costly and more accurate impression material as the same of (Millar et al, 1998)(1) .
- (2) The heavy / light body given an acceptable impression .



Thank
you

