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Which one is better? Digital v/s conventional impression for fixed prosthodontics: A review

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Abstract

Introduction: The quality of final prosthesis be subject to on accuracy of definitive impression. The most important factors in improving the prognosis of prosthodontic restoration are good marginal and internal fit, along with high mechanical strength, good adhesion to veneering material and luting cement. The conventional technique of impression has seen a long journey from impression plaster and waxes till current once like polyether. In dentistry CAD/CAM technology has been in use since 1980 CERCT was first CAD/CAM system used in dentistry.

Review: The purpose of this review was to compare marginal and internal fit of fixed restoration with digital technique to those fabricated using conventional impression technique to determine the effect of different restoration on accuracy fit.

Summary: The advantages of digital impression and scanning system are improving patient, acceptance, reducing the distortion of impression material 3D pre-visualization of tooth preparation and probable cost and time effectiveness, removal of laboratory production steps, that case misfit and reduced patient discomfort.

Conclusion: Based on this review digital impression appears to be superior in various aspect than conventional impression.

Keywords: Conventional impression, digital impression, fixed prosthodontics, digital technology

Introduction

Nowadays, digital technology influences nearly every facet of our lives, including dentistry, are not exempt from this. Countless millions of Impressions are gathered annually for production purposes., crowns, bridges, and removable partial dentures. Creating impact using elastomeric impression material is a common practice and routine process in nearly all general dental offices. A fresh the method for distributing trays and impression materials has now changed available that generate digital models of a patient's teeth.

The concept of digital impressions is quickly gaining traction. The future suggests that digital impressions will provide a solution over the obstacles and issues of the traditional reactions.

Back-ground of current impression materials

Overview of Current Impression Materials -The background of contemporary traditional impression materials started in the mid-1930s with the launch of reversible Hydrocolloids. This was the initial substance that created the impression of undercuts may be achievable. By the year 1955 Polysulfides were introduced, marking the first occurrence of this development [1].

Elastomeric impression material was utilized. It appears that your input may be incomplete. Significant enhancement in replicating the features of ready teeth were still contain underlying issues such as reduction in material size.

Back-ground of current impression materials

In 1966, farther advancements in print accoutrements passed with the preface of polyether. This material proved to be far superior to the hydrocolloid followed by silicones in 1976 [1].

Though they are hydrophobic by nature but indeed in the presence of a wettish terrain, they are largely dimensionally stable performing in a superior elastic recovery ^[1]. With the advancement of time and technology, advancements are made to these accoutrements to reduce tearing, preserve time and enhance the case comfort.

Evolution of digital impressions

Elaboration of Digital prints- It began in 1980's with the preface of CAD/CAM in the field of dentistry, innovated by Procera and Cerec. The current digital print bias available are the lately introduced cadent iTero (Carlstadt, N.J.) and the 3M ESPE.

Lava president-side Oral Scanner C.O.S. (St. Paul, Minn.) ^[2, 3, 7].

Comparison of traditional impressions and digital impression method – challenges and expenses acquire

The upfront expense of digital equipment is quite high when in contrast to traditional impressions. Additionally, digital the equipment is intricate and necessitates a trained operator. Use and care for the equipment. A reliable and current Assistance from the laboratory is needed. While traditional, the impressions technique claims to be cost-effective as well. No significant equipment is necessary.

Improper tray selection

Choosing the right tray is a crucial step in the impression process creating. Rigid stock trays are utilized for taking impressions. However, there are occasions when the tray is not very stable or is misshapen. An incorrectly chosen tray results in insufficient support.

If the stock tray and the impression material are used, the rigidity is insufficient inside, affecting the accuracy of the impression. Impression will be affected due to the tray's flexibility and the substance ^[2, 3, 4].

Digital impressions eliminate the need for impression trays. This resolves the issues associated with incorrect tray usage choosing and possibly enhancing the quality impressions.

Distortion of impression while removing from the impression tray

Deformation of Impression While Removing from the print Charger Polyether and vinyl polysiloxane print accoutrements bear tenacious agents to attach the print material to the print charger ^[1, 3]. Perforated servers further enhance attachment of the print material to the charger. Indecorous separation generally results in deformation of the print. Print servers are not needed for digital prints. Thus, digital prints exclude this constantly seen problem.

Storage of impression

Storing Prints for some time and not pouring prints incontinently is a common procedure. While Alginate print has to be poured immediately ^[1] Polyether and vinyl polysiloxane print accoutrements are stable for a reasonable period of time after the print is made, but they can get distorted by the storehouse ^[5, 6, 8]. Digital prints do not involve print servers or print accoutrements thereby barring the associated problems.

Pouring of casts/dies

At times, an impression can be cast incorrectly. The material used for pouring might be either excessively thick or too thin, or it could be the stone itself and may not have been

established prior to being retrieved ^[1]. The outcome of each One of these issues is the necessity to alter the perception that creates difficulties for the patient and raises expenses. The treatment requires additional time spent at the chairside. In a digital impression, the information is saved in its original form taken, so in the event of an issue while pouring the impression. The issue of casting or die placement emerges in the digital context. Data saved on a computer can be utilized multiple times as frequency of occurrences, thereby conserving valuable time for the clinician with individual receiving care and the expenses associated with the treatment.

Disinfection

The process of disinfecting standard impressions is a costly and unwieldy process that is frequently neglected by dental professionals and lab technicians. Digital impressions remove the need for stock trays and impression materials, thereby removing the necessity for sanitization.

Patient discomfort and mess

The discomfort experienced by patients due to the use of stock trays and impression material are reduced to a certain degree using digital impressions. Mouth restrictions and gagging. The openings make the process more complex with traditional impression method. Digital impression method entails positioning a small intraoral camera inside the patient's mouth, which is generally well tolerated by the individuals receiving medical care. Digital impressions significantly minimize the need for patients. Digital impressions do not require the use of impression trays. Blending of impression materials similar to traditional method, do not induce any discomfort.

Conclusion

We evaluated the advantages and disadvantages of traditional methods and Creating digital impressions in standard dental procedures. Impressions arise as both practical and accurate, yet there is a necessity for additional investigation is needed ^[2, 3]. Some widespread issues that arise in traditional impression methods are similar to those used for elastomeric materials impressions, yet effective management of soft tissues afterwards is essential of dental preparation and an effective laboratory. Assistance is essential for achieving success. Digital technology has proven to be reliable and precise. It provides several advantages compared to conventional methods of impression methods. In the upcoming years, the use of digital technology in dentistry will keep growing and thriving.

Conflict of Interest

Not available.

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