

# A Split-Cotton Roll Technique - An Adjunct to Intraoral Dental Radiography

Ramugade MM

Department of Conservative Dentistry and Endodontics, Government Dental College and Hospital, Mumbai St. Georges Hospital Compound, India

Volume 1 Issue 4- 2018

Received Date: 20 Oct 2018

Accepted Date: 12 Nov 2018

Published Date: 24 Nov 2018

## 2. Key words

Intraoral periapical radiograph; Mandibular teeth; Pain; Split cotton roll technique

## 1. Abstract

Intraoral periapical radiograph plays a pivotal role in diagnosis, treatment and evaluation of post-operative healing of the patient. Irritation, pain and rigidity of IOPA films or intra-oral sensor are the demerits of intraoral radiography, especially when used for posterior teeth radiographs. To reduce the pain or irritation; split-cotton roll technique can be used effectively with its added advantage of isolation. This technique can be used universally with regular IOPA films or with digital sensors to reduce the pain, anxiety and fear of taking radiographs in dentistry especially in children and apprehensive patients.

## 3. Introduction

Restorative dentistry is majorly dependent on the material properties and its handling. Isolation is the most important aspect to gain maximum benefit from the restorative material in terms of its service and durability. Cotton roll has become an indispensable part of restorative and cosmetic dentistry which is commonly used to isolate the working field and to keep it dry from moisture contamination, preferably in cases where the use of rubber dam is difficult. It also helps to improve handling characteristics of the dental restorative material and increases its durability.

Intraoral peri-apical radiograph (IOPA) has been considered as the third eye of the dentist and it plays a major role in the visualization of dental hard and soft tissues anatomy, anomalies and pathology [1]. Similarly extra-oral radiographs have been used alternatively for peri-apical radiography in the patients intolerant to intraoral film placement [2]. The split-cotton-roll technique can be used to secure the IOPA film or digital radiographic sensor in the desired position (**Figure 1a**). The floor of mouth has soft mucosal tissue which is vulnerable to injury if handled injudiciously especially during radiography of mandibular teeth. This could be avoided by embedding the apical end of the IOPA film or radio-visiography digital sensor (RVG) in the split-cotton-roll while placing over the floor of mouth during radiography (Figure 1b-d). Additionally, application of local anaesthetic (LA) gel on the external-apical part of the cotton roll would give

a soothing effect to the patient due to its anaesthetic property.

In maxillary teeth, taking IOPA of posterior teeth is comparatively difficult when the patient has a severe gag reflex. In Rinn's radiographic film holder the parallel technique of radiography has been utilized which reduces the image distortion by avoiding magnification or shortening. In maxillary posterior teeth radiography especially in patients with the severe gag reflex, instead of injecting a LA into the palatal mucosa, application of LA gel to the cotton roll allow better tolerance to the gagging.

Conclusively, the use of split-cotton-roll technique is a simple variation which avoids pain, irritation to the soft tissues and relieves the anxiety of the patient, especially in children.



\*Corresponding Author (s): Manoj Mahadeo Ramugade, Department of Conservative Dentistry and Endodontics, Government Dental College and Hospital, Mumbai St. Georges Hospital Compound, India, Tel: 9869159131 /9664541227; E-mail: manojm5@yahoo.co.in

## References

1. Whaites E. Essentials of dental radiography and radiology.3rd ed. Edinburgh: Churchill Livingstone; 2002. Periapical radiography; 92.
2. Kumar R, Khambete N, Priya E. Extraoral periapical radiography: an alternative approach to intraoral periapical radiography. Imaging Sci Dent. 2011; 41(4): 161 - 65.