The Benefits of Digital Radiography in Modern Dental Practices: Enhanced Diagnosis, Storage and Communication

João da Silva[1]* and Carolina Almeida[2]

[1]*Department of Community Dentistry, University of Campinas, Brazil*
[2]*Department of Community and Preventive Dentistry, University of Passo Fundo (UPF), Brazil*

Abstract

Digital radiography has become increasingly accessible to dental practices, o ering signiýcant advantages over traditional ýlm-based imaging. With the integration of Ñ ocent r# veu] ˜ τ ȳ dentb # oda N digital images o er superior convenience in terms of storage and retrieval. They can be e ciently archived, shared, and utilized for patient education, specialist referrals, and communication through digital means. The ability to transfer digital ýles via disk or the Internet further streamlines workþow and collaboration. This paper explores the current applications of digital radiography in dentistry, highlighting its beneýts in improving diagnostic precision, facilitating patient interaction, and optimizing practice e ciency.

Digital radiography; Dental imaging; Diagnostic precision; Image manipulation; Density adjustment; Contrast enhancement; Digital storage; Patient education; Referral communication; Dental technology

Digital radiography represents a signi cant advancement in dental imaging technology, transforming the way dental professionals capture, analyze, and utilize radiographic images. Unlike traditional lm-based radiography, which relies on chemical processing and physical lm handling, digital radiography uses electronic sensors and digital cameras to produce high-resolution images that can be immediately viewed and manipulated on a computer. is technology o ers several key advantages, including the ability to adjust image density, contrast, and magni cation to improve diagnostic accuracy and detail [1]. One of the most notable bene ts of digital radiography is the ease with which images can be stored and retrieved. Digital images eliminate the need for physical storage space and reduce the risk of image degradation over time. Additionally, they facilitate seamless sharing and transfer of les between computers, enhancing communication and collaboration with other healthcare providers. Digital les can be used not only for diagnostic purposes but also for patient education and referral communications, making them a versatile tool in modern dental practice. e integration of digital radiography into contemporary dental practice, highlighting its impact on diagnostic capabilities, e ciency, and patient care. By examining the technological advancements and practical applications of digital imaging, we aim to provide a comprehensive understanding of its role in enhancing the quality of dental diagnostics and practice management.

Digital radiography represents a signi cant shi from traditional lm-based imaging. Traditionally, dental radiographs were captured on lm, which required chemical processing and physical storage. e transition to digital imaging has streamlined this process, allowing for immediate image capture and processing. Digital radiography systems use electronic sensors to capture images, which are then displayed on a computer screen, facilitating quicker analysis and decision-making [2].

ere are primarily two types of digital radiography systems used in dentistry: Direct Digital Radiography (DDR) and Indirect Digital Radiography (IDR). DDR systems utilize a sensor that directly converts X-ray energy into an electronic signal. IDR systems involve a phosphor plate that stores X-ray energy and is then scanned by a digital sensor to produce an image. Each type has its own set of bene ts and applications, depending on the clinical needs.

Digital radiography enhances diagnostic accuracy by providing high-resolution images that can be adjusted for optimal clarity. e ability to zoom in and adjust image properties aids in identifying subtle dental issues that might be missed with traditional lm. Digital images o er advanced manipulation capabilities, including adjustments in density, contrast, and magni cation. ese features allow dental professionals to ne-tune images for better visualization and interpretation, improving diagnostic accuracy [3].

***Corresponding author:** João da Silva, Department of Community Dentistry, University of Campinas, Brazil, E-mail: jo«o.da@silva.br

Received: 01-Sep-2024, Manuscript No. johh-24-148371; Editor assigned: 04-Sep-2024, Pre QC-No. johh-24-148371 (PQ); Reviewed: 18-Sep-2024, QC No: johh-24-148371 ; Revised: 23-Sep-2024, Manuscript No. johh-24-148371 (R); Published: 31-Sep-2024, DOI: 10.4172/2332-0702.1000450

Citation: Silva J (2024) The Beneýts of D ŏ ḍ 5Ṛ Ê

Citation: Silva J (2024) The Beneýts of Digital Radiography in Modern Dental Practices: Enhanced Diagnosis, Storage and Communication. J Oral Hyg Health 12: 450.

in dental imaging, o ering numerous bene ts that enhance diagnostic capabilities and practice e ciency. Ongoing assessment and adaptation are necessary to address the evolving needs of dental practices and to fully realize the potential of digital radiography technology.

None

None

References

1. Isler SC, Soysal F, Ceyhanlğ T, Bakğrarar B, Unsal B (2018) Regenerative surgical treatment of peri-implantitis using either a collagen membrane or concentrated growth factor: A 12-month randomized clinical trial. Clin Implant Dent Relat Res 20: 703-712.
2. Renvert S, Roos-Jans¬ker AM, Persson GR (2018) surgical treatment of peri-implantitis lesions with or without the use of a bone substitute-a randomized clinical trial. J Clin Periodontol 45: 1266-1274.
3. Monje A, Pons R, Vilarrasa J, Nart J, Wang H-L (2023) Signiýcance of barrier membrane on the reconstructive therapy of peri-implantitis: A randomized controlled trial. J Periodontol 94: 323-335.
4. Wohlfahrt JC, Aass AM, Granfeldt F, Lyngstadaas SP, Reseland JE (2014) Sulcus þuid bone marker levels and the outcome of surgical treatment of peri-implantitis. Clin Periodontol 41: 424-431.
5. Klimecs V, Grishulonoks A, Salma I, Neimanel L, Locs J, et al. (2018) Bone Loss around Dental Implants 5 Years after Implantation of Biphasic Calcium Phosphate (HAp/ßTCP). J Healthc Eng 1-7.
6. Pazmino-Garaicoa C, Couso-Queiruga E, Monje A, Avila-Ortiz G, Castilho RM, et al. (2023) Disease resolution following treatment of peri-implant diseases: A systematic review. Int J Periodontics Restorative Dent.
7. Melsen B, Agerbaek N, Eriksen J, Terp S (1988)New attachment through periodontal treatment and orthodontic intrusion.Am J Orthod Dentofac Orthop 94: 104ï116.
8. Carey JP, Craig M, Kerstein RB, Radke J (2007)Determining a relationship between applied occlusal load and articulating paper mark area. Open Dent J 1: 1ï7.
9. Perillo L, Femminella B, Farronato D, Baccetti T, Contardo L, et al. (2011) Do malocclusion and Helkimo Index Ó 5 correlate with body posture? J Oral Rehabil 38: 242ï252.
10. Bayani S, Heravi F, Radvar M, Anbiaee N, Madani AS (2015)Periodontal changes following molar intrusion with miniscrews. Dent Res J 12: 379ï385.