

Radiographs

General Guidelines

CDA's Council on Peer Review endorses the ADA statement (contained in its Recommendations in Radiographic Practices) which emphasizes the fact that X-radiation for diagnostic purposes should be used only after clinical examination by the dentist and careful consideration of both the dental and general health needs of the patient. The nature and extent of diagnosis for required patient care, rather than the concept of routine use of X-rays as a part of periodic examination of all patients, constitute the only rational basis for determining the needs, type and frequency of radiographic examination. With this in mind, the specific frequency norms contained in the following guidelines should be considered flexible to accommodate individual patient need.

Initial full radiographic series for adults with dentition shall include 14 or more periapical films with necessary bitewing films, or a panoramic film with bitewing films and periapical films as necessary. Radiographic aids may include CT's tomographs.

A full radiographic series for edentulous adults, if a periapical series is not preferred, shall include occlusal films with molar-region periapical films, or a panoramic film supplemented with all necessary periapical films in questioned regions.

Initial radiographic series for children, prior to the eruption of the permanent second molars, shall include those periapical and bitewing films or a panoramic film or lateral jaw film and those bitewing films that are necessary to depict the erupted and developing dentition, commensurate with the age of the patient.

The dentist's decision to take recall radiographs shall depend upon the individual's age, general or systemic condition, and his or her proneness to caries or periodontal change. Therefore, recall and/or posttreatment radiographs are not to be taken on a routine basis, but rather, on an individual basis. Recall radiographs are justified in the presence of questioned pulpal or periapical responses, embedded or impacted teeth, questioned bone change, and delayed development of eruption of the dentition. In these instances, bitewing films or single periapical films of the questioned regions are to be used rather than a full series.

A full radiographic series should not be taken more than once every 3 years unless there are specific indications for more frequent examinations. An attempt should be made to obtain any previous series. A bitewing film series would not be taken more than once in a 12 month period unless there are specific indications for more frequent examinations.¹

¹ The following statement was published in the February 1975 issue of the *Journal of the American Dental Association*, in the section "Bulletin and Highlights."

Dental x-rays are an essential part of the best possible dental care. Dental x-ray examinations made with modern methods and safeguards pose no known or documented danger to the patient. The amount of radiation from such x-rays which reaches the gonadal area, for example, is less than that received from natural sources, such as cosmic rays from outer space and background radiation from the earth. Dental x-ray equipment manufacture and use both are monitored by federal and state laws which the dental profession has supported and helped formulate. Just as each person's general and oral health situation is different, frequency of x-ray use cannot be governed by norms universal to all patients. Only the dentists well-trained in radiation practice can examine the patient and determine the minimum number and frequency of x-rays for the diagnosis and prevention of oral diseases. To prevent unnecessary frequency of full radiographic series, an attempt should be made to obtain any previous full radiographic series.

Radiographs should be kept on file for reference in subsequent evaluations and treatment, and should be reviewed on a regular basis, considering not only proposed treatment, but also treatment performed in the past.

For evaluation of treatment of specific sites, such as extraction of third molars, single films, panoramic films or lateral jaw films shall be used. Additional films shall not be taken with a full intraoral periapical series unless there are specific indications for additional information unattainable with single intraoral films.

Films must be taken in compliance with state and federal regulations for radiation hygiene.

Original or duplicate films should be forwarded on patient referral or transferred to another practitioner to prevent or minimize need for re-exposure to radiation. The use of double film packets or photographic duplication is recommended for maintaining file records.

In carefully selected cases, where a particular service is in question, postoperative radiographs may be required on an individual basis.

The following quality-evaluation criteria should be considered merely as AIDS for the discrimination between the four ratings for each characteristic. The determination of the rating of any given dental service is dependent upon the sound JUDGMENT of the peer review examiners.

RADIOGRAPHS

QUALITY EVALUATION RATING SYSTEM		
	Rating	Operational Explanation
S A T S F A C T O R Y	R Range of Excellence ROMEO Code: R Call: Romeo	The radiograph (or series of radiographs) is of satisfactory quality and provides the necessary information for diagnostic purposes.
	S Range of Acceptability SIERRA Code: S Call: Sierra	The radiograph (or series of radiographs) is of acceptable quality, but exhibits one or more features which deviate from the ideal.
N O T S A T I S F A C T O R Y	T Not Acceptable but could be corrected TANGO Code: T Call: Tango	The radiograph (or series of radiographs) is not of acceptable quality, but the deficiency could be corrected.
	V Not Acceptable cannot be corrected without retaking VICTOR Code: V Call: Victor	The radiograph (or series of radiographs) is not of acceptable quality. The radiograph (or series of radiographs) does not provide the necessary information for diagnostic purposes.

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RADIOGRAPHS

QUALITY EVALUATION CRITERIA AND ABBREVIATIONS					
Code	Film Contrast, Density, Sharpness, Identification	Code	Film Coverage		
Code	Image Defects	Code	Image Defects		
	Standard illumination permits differentiation between the various structures of the teeth, the periodontal ligament spacings, the supporting bone and normal anatomic landmarks. (Refer to General Guidelines)		All crowns and roots, including apices are fully depicted together with interproximal alveolar crests, contact areas and surrounding bone regions. (Refer to General Guidelines)		Images of all teeth and other structures are shown in proper relative size and contour with minimal distortion and without overlapping images where anatomically possible (Refer to General Guidelines)
SDY SCT SDT SCS ST	Differentiation between the various structures of the teeth, the periodontal ligament spacings, the supporting bone and anatomic landmarks require special viewing illumination: File density is excessive or insufficient, or Film contrast is excessive or insufficient, or Image details are inadequate, or Films exhibit creases , or Films exhibit minor stains ; but other films in the series allow interpretation of the regions in question.	SCOV	All crowns and roots, including apices, in general, are depicted together with interproximal alveolar crests and contact areas but coverage of the surrounding bone regions does not extend sufficiently to rule out or fully diagnose partially shown or suspected pathologic changes without additional radiographs or further evaluation by referral.	SDTS SOLS	Images of some teeth and other structures are slightly distorted , or images of some teeth and other structures exhibit slight interproximal overlapping , but the series of films provides sufficient diagnostic information.
TMT TID	Current films are not mounted , or Films are not correctly identified .	TFFQ TBW TVER TIM	Full radiographic series is taken more than once every three years without specific indications, or Bitewing series is taken more than once in a 12-month period without specific indications. Edentulous regions not shown. Film series is incomplete .		Not applicable.
VDY VCT VDT VCS VST	Interpretation of possible pathologic changes in the dentition and/or the surrounding bone is uncertain: Film density is inadequate, or Film contrast is inadequate, or Image detail is inadequate, or Films are severely ceased , or Films are severely stained .	VCOV VCC	Film coverage is insufficient to diagnose pathologic changes in the interproximal, infradental, periradicular, and/or retromolar regions, or Radiographs exhibit cone cutting , rendering films non-diagnostic.	VDTS VOLS	Images of teeth and other structures are distorted to the extent that interpretation of normal structure vs. pathological changes is not possible, or Images of teeth and other structures are overlapping to the extent that interpretation of normal structures vs. pathological changes is not possible.

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