

Guidelines for Prescribing Dental Radiographs

Reviewed and Reaffirmed May, 1997

Guidelines for prescribing dental radiographs have been developed by an expert panel from the dental profession under the auspices of the Food and Drug Administration. The panel was convened by the FDA to reach a consensus on standardizing dental radiographic procedures because dental radiographs rank second in frequency of use and in total cost to the public. The panel was also concerned about saving the patient from unwarranted exposure to radiation. The guidelines serve as recommendations that dentists can use to determine when they should take an X-ray. They will help determine the type of radiograph needed, how frequently and under what conditions radiographs should be taken. Under these guidelines, a dentist will take an X-ray based on clinical observation and the patient's health history.

The guidelines are based on patient selection criteria, which are descriptions of clinical conditions derived from patient signs, symptoms and history that identify patients who are likely to benefit from a particular radiographic examination. The guidelines are illustrated in a chart designed to serve as a handy daily reference and are offered as a supplement to your expertise.

The recommendations in this chart are subject to clinical judgment and may not apply to every patient. They are to be used by dentists only after reviewing the patient's health history and completing a clinical examination. The recommendations do not need to be altered because of pregnancy.

(See Table, next page)

Guidelines for Prescribing Dental Radiographs

Patient Category	Child	Adolescent	Adult
	Primary Dentition (prior to eruption of first permanent tooth)	Permanent Dentition (prior to eruption of third molars)	Dentulous Edentulous
	Transitional Dentition (following eruption of first permanent tooth)		
New patient* All new patients to assess dental diseases and growth and development	Posterior bite-wing examination if proximal surfaces of primary teeth cannot be visualized or probed	Individualized radiographic examination consisting of peri-apical/occlusal views and posterior bite-wings or panoramic examination and posterior bite-wings	Individualized radiographic examination consisting of posterior bite-wings and selected periapicals. A full mouth intraoral radiographic examination is appropriate when the patient presents with clinical evidence of generalized dental disease or a history of extensive dental treatment.
Recall patient* Clinical caries or high-risk factors for caries [†]	Posterior bite-wing examination at 6-month intervals or until no carious lesions are evident	Posterior bite-wing examination at 6- to 12-month intervals or until no carious lesions are evident	Posterior bite-wing examination at 12- to 18-month intervals
No clinical caries and no high-risk factors for caries [†]	Posterior bite-wing examination at 12- to 24-month intervals if proximal surfaces of primary teeth cannot be visualized or probed	Posterior bite-wing examination at 18- to 36-month intervals	Posterior bite-wing examination at 24- to 36-month intervals
Periodontal disease or a history of periodontal treatment	Individualized radiographic examination consisting of selected periapical and/or bite-wing radiographs for areas where periodontal disease (other than nonspecific gingivitis) can be demonstrated clinically	Individualized radiographic examination consisting of selected periapical and/or bite-wing radiographs for areas where periodontal disease (other than nonspecific gingivitis) can be demonstrated clinically	Not applicable
Growth and development assessment	Usually not indicated	Periapical or panoramic examination to assess developing third molars	Usually not indicated

The recommendations contained in this table were developed by an expert dental panel comprised of representatives from the Academy of General Dentistry, American Academy of Dental Radiology, American Academy of Oral Medicine, American Academy of Pediatric Dentistry, American Academy of Periodontology, and the American Dental Association under the sponsorship of the Food and Drug Administration (FDA). The chart is being reproduced and distributed to the dental community by Esman Kodak Company in cooperation with the FDA.

* Clinical situations for which radiographs may be indicated include:

A. Positive Historical Findings

1. Previous periodontal or endodontic therapy
2. History of pain or trauma
3. Familial history of dental anomalies
4. Postoperative evaluation of healing
5. Presence of implants.

B. Positive Clinical Signs/Symptoms

1. Clinical evidence of periodontal disease
2. Large or deep restorations
3. Deep carious lesions
4. Malposed or clinically impacted teeth
5. Swelling
6. Evidence of facial trauma
7. Mobility of teeth
8. Fistula or sinus tract infection
9. Clinically suspected sinus pathology
10. Growth abnormalities
11. Oral involvement in known or suspected systemic disease
12. Positive neurologic findings in the head and neck
13. Evidence of foreign objects
14. Pain and/or dysfunction of the temporomandibular joint
15. Facial asymmetry
16. Abutment teeth for fixed or removable partial prosthesis
17. Unexplained bleeding
18. Unexplained sensitivity of teeth
19. Unusual eruption, spacing or migration of teeth
20. Unusual tooth morphology, calcification or color
21. Missing teeth with unknown reason.

[†] Patients at high risk for caries may demonstrate any of the following:

1. High level of caries experience
2. History of recurrent caries
3. Existing restoration of poor quality
4. Poor oral hygiene
5. Inadequate fluoride exposure
6. Prolonged nursing (bottle or breast)
7. Diet with high sucrose frequency
8. Poor family dental health
9. Developmental enamel defects
10. Developmental disability
11. Xerostomia
12. Genetic abnormality of teeth
13. Many multisurface restorations
14. Chemo/radiation therapy.