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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

WS/T 608-2018

**Basic operation of oral and maxillofacial conventional X-ray
practices**

(English Translation)

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Radiation protection for medical X-ray examination

5 X-ray photography

5.1 Apex X-ray photography

5.2 Occlusal X-ray photography

5.3 Maxillary anterior occlusal X-ray photography

5.4 Maximal posterior occlusal X-ray photography

5.5 Mandibular anterior occlusion film photography

5.6 Mandibular transverse occlusion piece X-ray photography

5.7 Curved tomography

5.8 Cephalometric film X-ray photography

5.9 Craniofacial X-ray photography

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was drafted. China Oral Medicine Association Oral and Maxillofacial Radiology Committee, Peking University School of Stomatology, Shanghai Jiaotong University School of Stomatology, West China Stomatological Hospital of Sichuan University, Stomatological Hospital of Wuhan University, Affiliated Stomatological Hospital of Nanjing University Medical College, Air Force Military Medical University Learn dental hospital.

1 Scope

This standard specifies the requirements for preparation of the oral and maxillofacial X-ray examination, technical methods, procedures and image display requirements.

This standard is applicable to medical personnel of medical institutions at all levels in the country for oral and maxillofacial X-ray examination of the subjects.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest edition (including all amendments) applies to this document.

GBZ 179 Basic requirements for medical radiation protection WS/T 389 Medical X-ray examination procedure

3 Terms and definitions

The following terms and definitions apply to this document.

X-ray radiography

X-ray is used as a carrier to expose the intensifying screen and/or image receiver system with its penetrability and fluorescence to obtain the method of photographing the image of the subject.

X-ray image receptor A device that converts X-ray images into visible images directly or indirectly. X-ray image receivers are also known as X-ray images, including screen/film systems, Storage phosphor plate (IP), flat panel detector, charge-coupled device (CCD), complementary metal oxide half Complementary Metal Oxide Semiconductor (CMOS), etc.

X-ray occlusion collimator Different forms of X-ray tube occlusion cylinders are produced according to the requirements of the X-ray imaging site to control the irradiation field.

Center line central ray, CR the center line is the most intermediate of the X-ray beams projected onto the photographic portion. The projection direction, angle, and injection point of the center line affect the solution.

The display of the section and the extent of the enlargement and deformation of the image.

X-ray photography position radiographic positioning in X-ray photography, the position design for displaying an anatomical site or lesion.

Listen to the line infraorbitomeatal line, IOML the lower edge of the ankle is connected to the upper edge of the outer ear hole.

Listening line cheilion-meatal line, CML the mouth is connected to the upper edge of the outer ear hole.

Listening to the nose acanthiomeatal line, AML the front of the nose is connected to the midpoint of the outer ear hole.

Nose amp line ala-tragus line the midpoint of the nose is connected to the midpoint of the

ipsilateral tragus.

3.10

Sagittal plane sagittal plane the sagittal plane divides the human body into vertical planes of the left and right parts; the human body is divided into vertical planes of symmetrically equal left and right parts, called the median sagittal plane.

3.11

Salivary gland angiography it is a method for inspecting the internal morphology and function of the gland by taking the X-ray-blocking contrast agent retrogradely into the gland through the main catheter and taking an X-ray film.

Mostly used in the parotid gland and submandibular gland.

3.12

Temporomandibular joint tempromandibular arthrography an imaging method showing the internal structure of the joint by injecting a contrast agent into the temporomandibular joint cavity.

3.13

Oral and maxillofacial cone beam CT cone beam computed tomography Oral and maxillofacial cone beam CT uses a cone X-ray beam and an area detector, which only needs to be rotated 360° around the region of interest to obtain the volume reconstruction required.

The desired data is reconstructed by the computer from an isotropic, high spatial resolution three-dimensional image. Compared with traditional medical CT, it has spatial resolution the rate is high and the radiation dose is relatively small.

4 Radiation protection for medical X-ray examination

X-ray radiation protection shall comply with the requirements of GBZ 179.

5.1.1 Preparation before photography

Pre-photography preparation includes the following steps.

- a) Check the X-ray examination application form, understand the condition, and clarify the purpose of the examination and the location of the photograph;
- b) patients take off glasses, earrings and other accessories in the field of view and obstruction items such as removable partial dentures;
- c) wearing a thyroid lead collar for the patient;
- d) select an appropriate image receiver according to the inspection site and purpose;

e) Select appropriate exposure parameters based on the site of examination, patient age, tissue thickness, etc.

5.1.2 Indications

Mainly used for rickets, pulp calcification, intra-abdominal absorption, periapical lesions, abnormal tooth development, periodontitis, dental trauma, root fracture, repair Reconstruction, implants and certain systemic diseases involve examination of alveolar bone.

5.1.3 Contraindications

There are no special contraindications, but patients with severe openness, severe craniocerebral injury, and serious systemic diseases or other serious conditions cannot cooperate.

It is not suitable for shooting.

5.1.4.1 Patient position

The patient is seated and the sagittal plane is perpendicular to the ground. When casting the maxillary posterior teeth, the nasal otoscope line should be parallel to the ground. When casting the maxillary anterior teeth, the upper lip of the front teeth should be perpendicular to the ground. When the mandibular posterior teeth are cast, the listening line should be parallel to the ground. When the mandibular anterior teeth are cast, the head is tilted back and down.

The lip of the anterior teeth should be perpendicular to the ground.

5.1.4.2.1 Technical requirements for angular projection

The X-ray centerline is perpendicular to the angle bisector of the angle between the long axis of the inspected tooth and the image receiver. X-ray centerline should be checked as much as possible the adjacent tangent lines of the teeth are parallel.

5.1.4.2.2 Image receiver placement and fixation

The image receiver should be placed in the entrance so that the image receiving surface of the image receiver abuts the side of the tongue of the inspected tooth. Image reception when shooting the front teeth the vertical position of the device is about 7 mm higher than the cutting edge; when the rear teeth are projected, the image receiver is placed horizontally. Fix the image receiver and project it.