



Defense Health Agency

PROCEDURAL INSTRUCTION

NUMBER 6410.03

August 23, 2021

DAD-MA

SUBJECT: Processes and Procedures for Implementation of Standardized Dental Cone Beam Computed Tomography Operations and Training

References: See Enclosure 1

1. PURPOSE. This Defense Health Agency-Procedural Instruction (DHA-PI), based on the authority of References (a) and (b), and in accordance with the guidance of Reference (c) through (i), establishes the Defense Health Agency's (DHA) procedures to standardize practices and criteria for developing and sustaining comprehensive systems to provide, assess, and monitor standardized cone beam computed tomography (CBCT) operations, training, credentialing, and privileging for military medical/dental personnel providing services to dental patients.

2. APPLICABILITY. This DHA-PI applies to

a. The DHA, DHA Components (activities under the authority, direction, and control of the DHA), and the Military Departments (MILDEPS).

b. All personnel to include: assigned or attached Active Duty and Reserve Component members, members of the Commissioned Corps of the Public Health Service, Government civilians, contractors (when required by the terms of the applicable contract), and other personnel assigned temporary or permanent duties at DHA, to include DHA field activities (remote locations), and subordinate organizations administered and managed by DHA, to include MTFs and DTFs under the authority, direction, and control of DHA.

3. POLICY IMPLEMENTATION. It is DHA's instruction, pursuant to References (c) through (i), that this DHA-PI delineates procedures for CBCT training and operations to improve the quality and safety of dental care for MHS beneficiaries.

4. RESPONSIBILITIES. See Enclosure 2

5. PROCEDURES. See Enclosure 3

6. PROPONENT AND WAIVERS. The proponent of this publication is the Deputy Assistant Director (DAD), Medical Affairs (MA). When Activities are unable to comply with this publication the activity may request a waiver that must include a justification, to include an analysis of the risk associated with not granting the waiver. The activity director or senior leader will submit the waiver request through their supervisory chain to the DAD-MA to determine if the waiver may be granted by the Director, DHA or their designee.

7. RELEASABILITY. **Cleared for public release**. This DHA-PI is available on the Internet from the Health.mil site at: <https://health.mil/Reference-Center/Policies> and is also available to authorized users from the DHA SharePoint site at: <https://info.health.mil/cos/admin/pubs/SitePages/Home.aspx>.

8. EFFECTIVE DATE. This DHA-PI:

a. Is effective upon signature.

b. Will expire 10 years from the date of signature if it has not been re-issued or cancelled before this date in accordance with Reference (c).

/S/
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Director

Enclosures

1. References
2. Responsibilities
3. Procedures

Glossary

TABLE OF CONTENTS

ENCLOSURE 1: REFERENCES.....4

ENCLOSURE 2: RESPONSIBILITIES.....5

 DIRECTOR, DEFENSE HEALTH AGENCY5

 DEPUTY ASSISTANT DIRECTOR, MEDICAL AFFAIRS.....5

 DENTAL CLINICAL MANAGEMENT TEAM CHIEF, DEFENSE HEALTH AGENCY ..5

 SECRETARIES OF THE MILITARY DEPARTMENTS.....6

 DIRECTORS, MARKETS, SMALL-STANDALONE ORGANIZATION, AND
 DEFENSE HEALTH AGENCY REGIONS,6

 DIRECTOR, MILITARY MEDICAL TREATMENT FACILITY/DENTAL
 TREATMENT FACILITY6

ENCLOSURE 3: PROCEDURES.....7

 CREDENTIALING REQUIREMENTS7

 CONE BEAM COMPUTED TOMOGRAPHY SHORT COURSE CURRICULUM7

 CONE BEAM COMPUTED TOMOGRAPHY SHORT COURSE INSTRUCTOR8

 REQUIREMENTS.....8

 TRAINING AND OPERATION OF CONE BEAM COMPUTED TOMOGRAPHY
 SCANNING EQUIPMENT.....8

 CONE BEAM COMPUTED TOMOGRAPHY PROCEDURES.....8

 CONE BEAM COMPUTED TOMOGRAPHY REPORTING10

 EQUIPMENT MAINTENANCE11

 WORKLOAD11

 EXAM SIZE FIELDS OF VIEW11

 QUALITY CONTROL.....12

 METRICS12

GLOSSARY: ABBREVIATIONS AND ACRONYMS.....13

TABLE:

 1. ADA current dental terminology billing codes11

ENCLOSURE 1

REFERENCES

- (a) DoD Directive 5136.01, “Assistant Secretary of Defense for Health Affairs (ASD(HA)),” September 30, 2013, as amended
- (b) DoD Directive 5136.13, “Defense Health Agency (DHA),” September 30, 2013
- (c) DHA-Procedural Instruction 5025.01, “Publication System,” August 24, 2018
- (d) DHA-Procedures Manual 6025.13 “Clinical Quality Management in the Military Health System (MHS),” date varies by volume
- (e) DoD Instruction 6055.08, “Occupational Ionizing Radiation Protection Program,” April 9, 2021
- (f) DHA-Administrative Instruction 087 “Radiation Safety Program (RSP) and Radiation Safety Committee (RSC),” August 1, 2019
- (g) 21CFR1020.33 “Performance Standards for Ionizing Radiation Emitting Products Sec. 1020.33 Computed tomography (CT) equipment,” April 1, 2020
- (h) National Council on Radiation Protection & Measurements, report “Radiation Protection in Dentistry and Oral & Maxillofacial Imaging,” 2019¹
- (i) American Dental Association Council on Scientific Affairs Article, “The use of cone-beam computed tomography in dentistry. An advisory statement from the American Dental Association Council on Scientific Affairs,” August, 2012²

¹ This reference is available for purchase at: <https://ncrponline.org/shop/reports/report-no-177/>

² This reference can be found at: <https://pubmed.ncbi.nlm.nih.gov/22855905/>

ENCLOSURE 2
RESPONSIBILITIES

1. DIRECTOR, DHA. The Director, DHA, will:

- a. Ensure Markets, the Small Market and Stand-Alone Medical Treatment facility Organization (SSO), and Defense Health Agency Regions (DHARs) assign responsibilities to implement the processes of this DHA-PI.
- b. Support the Medical MILDEPS, Markets, SSO, DHARs and MTFs/DTFs by identifying standard clinical, business, and administrative process changes or requirements, and assigning resolution of the process changes or requirement modifications to the DAD-MA or DAD-Health Care Operations when indicated.
- c. Exercise authority, as outlined in Reference (b), over DHA-aligned MTFs/DTFs.
- d. Ensure standardization of Dental CBCT workflow processes.
- e. Assign responsibility for tracking compliance with the standard processes and criteria outlined in this DHA-PI to DAD-MA.

2. DAD-MA, DHA. The DAD-MA, DHA will:

- a. Monitor compliance with this DHA-PI and ensure compliance, tailored to meet individual facility capabilities, with guidance outlined in this DHA-PI.
- b. Manage standardization of data collection and key processes, through the Chief, DHA Dental Clinical Management Team (CMT), to reduce variation in CBCT processes across MTFs/DTFs.
- c. Submit an annual Dental CBCT report, including adherence metrics, to the Director, DHA.

3. DENTAL CLINICAL MANAGEMENT TEAM (DCMT) CHIEF, DHA. The DCMT Chief, DHA, must:

- a. Make recommendations to the Director, DHA on adjustments to CBCT protocols to maximize the dental care system and avoid complications in providing timely CBCT services.
- b. Drive clinical improvements in CBCT management to standardize practice across the MHS.
- c. Manage standardization of data collection and key processes to reduce variation in CBCT processes across MTFs/DTFs.

4. **SECRETARIES OF THE MILDEPS.** The Secretaries of the MILDEPS will ensure MTFs and DTFs outside the continental United States comply with this DHA-PI.

5. **DIRECTORS, MARKETS, SSO, AND DHARs.** Directors, Markets, SSO, and DHARs must:

- a. Disseminate this DHA-PI and all updates to MTF/DTFs.
- b. Ensure MTFs/DTFs under their authority, direction, and control implement this DHA-PI.
- c. Monitor MTF/DTF adherence and compliance with this DHA-PI.
- d. Review data collection related to CBCT adherence and compliance, and provide an annual report to the DCMT as outlined in Enclosure 3.

6. **DIRECTOR, MTF/DTF.** The Director, MTF/DTF must:

- a. Track compliance with the standardized CBCT training, credentialing, administration, interpretation, and maintenance guidelines outlined in this DHA-PI for their respective MTF/DTF.
- b. Submit a CBCT status update report to the Market, SSO, or DHAR Director. This data collection includes metric values identified by DCMT.
- c. Develop an MTF-level Standard Operating Procedure that specifies roles, responsibility, and communication channels for compliance with this DHA-PI.
- d. Make recommendations to the DCMT on adjustments to CBCT protocols to maximize the dental care system and avoid complications in providing timely CBCT services.
- e. Implement a dissemination plan for this DHA-PI to all medical/dental healthcare personnel.
- f. Disseminate updates in a timely manner as they become available to DTF staff.

ENCLOSURE 3

PROCEDURES

1. CREDENTIALING / PRIVILEGING REQUIREMENTS. Providers acquire training through a CBCT Short Course or course work associated with a Commission on Dental Accreditation accredited training or residency program.

a. Providers requesting credentials/privileges must provide evidence of training and the requisite competence to safely perform and interpret dental CBCT imaging.

b. Providers that have completed a Commission on Dental Accreditation accredited training or residency program or OMR consultant approved in-house or American Dental Association (ADA) Continuing Education Recognition Program (CERP) CBCT short course will be required to submit proper completion documentation commensurate with the training/specialty/privileges requested to the MTF/DTF credentialing authority. OMR consultant will provide assistance to the MTF/DTF credentialing authority concerning questions pertaining to individual training/specialty/privileges requested. An OMR or assigned designee by an OMR consultant will determine CBCT short course curriculum adequacy.

2. CBCT COURSE CURRICULUM.

a. CBCT Short Course. The CBCT Short Course Curriculum will be based on, but is not limited to, the following:

(1) Didactic/theoretical instruction must include justification and referral criteria for dental CBCT, radiation doses and risks involved with CBCT, radiation protection in relation to CBCT equipment, and CBCT equipment and apparatus.

(2) Didactic/practical instruction must include principles of CBCT imaging; usage of different CBCT equipment, CBCT imaging techniques and measures for dose reduction, use of software to optimize patient dose and image interpretation, quality assurance for CBCT, and care of patients undergoing CBCT.

(3) Radiological interpretation must include principles and practice of interpretation of CBCT images of the teeth, their supporting structures, the mandible and maxilla, and of the facial skeleton, normal radiological anatomy on CBCT images, artifacts on CBCT images, radiological interpretation of disease affecting the teeth, jaws, and facial skeleton on CBCT images, interpretation of a received report, and designation of result urgency based on preliminary findings.

(4) Short course provider participants must show competency through evaluation (by an OMR, medical radiologist, or appropriately credentialed designee appointed by an OMR

consultant) via case reviews (no less than five cases of sufficient complexity associated with requested privileges) associated with established curriculum.

- b. Commission on Dental Accreditation accredited training or residency programs. Course work at a minimum would include objectives consistent with CBCT Short Course.

3. CBCT SHORT COURSE INSTRUCTOR REQUIREMENTS. CBCT Short Course (in-person or virtually/online) must be taught by a graduate of an accredited OMR program or appropriate available designee appointed by an OMR consultant.

4. TRAINING AND OPERATION OF CBCT SCANNING EQUIPMENT. Training to operate CBCT scanning equipment to generate three dimensional images will be in accordance with guidance specified in References (e and f). In addition, all dental personnel who operate CBCT must:

- a. Receive training from an OMR or dental personnel trained in the operation of CBCT scanner devices and within the same scope of practice.
- b. Complete the annual recurring dental radiation safety briefing, As Low as Reasonably Achievable (ALARA) as defined in Title 10, Section 20.1003 of the Code of Federal Regulations (10 CFR 20.1003).
- c. Work under the supervision of a dentist or trained technician.

5. CBCT PROCEDURES.

- a. Exam Order Entry

- (1) Radiographs are prescribed and ordered by a credentialed/privileged provider in accordance with established legacy or electronic workflows.

- (2) Treatment facilities without connection to a DHA-approved enterprise imaging archive should develop a plan in accordance with DHA policy to make necessary technological updates. CBCT machines under DHA purview will, as soon as possible, be networked into the designated Picture Archiving and Communication System ordering system to allow for proper tracking, reporting, and retrieval of all CBCT examinations.

- (3) Dental providers should use professional clinical judgment and follow the American Dental Association (ADA) guidelines when ordering three dimensional (3D) CBCT radiographic images and studies.

- (4) Orders must contain patient demographic information, study justification, and relevant medical history.

b. Image Storage and 3D Viewer

(1) Access to networked/non-networked CBCT studies and a CBCT 3D Viewer must be readily available for storage, retrieval, and review for all MTFs/DTFs using CBCT. CBCT Digital Imaging and Communications in Medicine image files must be uploaded to a designated Picture Archiving and Communication System and the DHA-approved enterprise imaging archive if available.

(2) Treatment facilities without connection to a DHA-approved enterprise imaging archive should develop a plan in accordance with DHA policy to make necessary technological updates.

(3) Image archive will be maintained for viewing and comparison to prior studies.

c. Receipt and Forwarding of CBCT Images:

(1) The designated dental radiology technicians will monitor incoming CBCT examinations captured at their respective locations and CBCT examinations from outside sources.

(2) CBCT exams captured at location or by outside sources must be archived and when available uploaded to centralized imaging archives and forwarded to the appropriately credentialed referring provider. Treatment facilities without connection to a DHA-approved enterprise imaging archive should develop a plan in accordance with DHA policy to make necessary technological updates.

(3) There must be a plan in place to allow Market, SSO, DHAR MTF/DTF providers to view images and be interpreted by appropriately credentialed and privileged providers in a timely manner. Facilities without connection to a DHA-approved enterprise imaging archive should develop a plan in accordance with DHA policy to make necessary technological updates if DTF treatment requirements necessitate CBCT capabilities. CBCT machines under DHA purview will, as soon as possible, be networked into the designated Picture Archiving and Communication System ordering system to allow for proper tracking, reporting, and retrieval of all CBCT examinations.

d. Exam Interpretation

(1) The provider completing the exam interpretation is responsible for the quality assurance evaluation of the study.

(2) Dental providers (non- OMR), privileged in CBCT ordering and capturing small or medium FOV CBCTs scans within their scope of practice, are responsible to interpret and write the final report for these scans.

(3) Dental providers (non- OMR) privileged in CBCT who order a large FOV CBCT within their scope of practice are responsible for evaluation of the entire scan, and are

responsible to refer the CBCT scan to an OMR or a medical radiologist in an appropriate timeframe to meet final reporting requirements. The OMR or medical radiologist will interpret and provide the final report.

(4) OMR and medical radiologists are privileged to write/provide CBCT reports for all CBCT FOV. OMR staffing may dictate that the expertise of OMRs be reserved for the interpretation of CBCT scans with FOV greater than 10 centimeters in diameter, or more complex cases of any size FOV.

6. CBCT REPORTING. CBCT Reporting Procedures will be administered as follows:

- a. For routine imaging the turn-around time from image acquisition to final report completion is no more than 10 business days from the date the scan is performed.
- b. Urgent requests are situation specific. Results from urgent requests should be individually managed between requesting provider and reporting provider to ensure results are available for the required patient care. Final reports will be completed no more than 10 business days from the date the scan is performed.
- c. Life threatening and abnormalities requiring immediate notification will be relayed by phone, in-person or secure electronic messaging system, to the referring or designated provider or facility POC. This notification must be documented in the final report.
- d. The referring dental providers are responsible for ensuring CBCT images and associated orders meet minimal patient demographic and clinical history information elements required to generate a CBCT report.
- e. Required elements of CBCT reports include, but are not limited to, patient name, patient date of birth, date of CBCT scan, capture location of CBCT scan, radiographic findings, radiographic interpretations, and digital or wet signature(s) of the provider(s) who interpreted the CBCT scan for the report.
- f. The final radiology report is a standalone document. Pending capability and in accordance with DHA policy, the final report must be attached to the CBCT study and be accessible in medical/dental Picture Archiving and Communication System, or centralized archive system.
- g. Final reports will include the name of the provider who was notified of the results and the date and method of notification.
- h. Final reports must be archived and must be available within the Electronic Health Record (EHR), or via a hard copy record if EHR capability is not available.
- i. The Dental Radiology Officer or and/or designee(s) (based on facility operations) will review 10 percent of completed reports to ensure compliance with the stated reporting requirements. Adherence compliance metrics will be reported to DTF leadership.

7. EQUIPMENT MAINTENANCE. Maintenance of CBCT imaging equipment is the responsibility of the facility where the CBCT is located.

8. WORKLOAD. Workload requirements and responsibilities will be as follows:

a. CBCT images that are captured but not interpreted will require a Current Dental Terminology (CDT) image capture only code where the image was captured.

b. CBCT images that are interpreted and receive written final reports only will require appropriate CDT interpretation only code by the provider providing the final report.

c. CBCT images that are captured, interpreted, and receive a final report written by the same provider will require appropriate CDT capture and interpretation code by that provider.

9. EXAM SIZE FOV. Appropriateness of CBCT FOV and their relevance will be considered by the ordering provider with ALARA principles.

a. Small FOV scans are typically limited to the size of a jaw quadrant or sextant and are dento-alveolar centered scans.

b. Medium FOV scans (less than or equal to 10 cm diameter) can be a single arch, or a scan that includes both the maxillary and mandibular arches.

c. Large FOV scans are also known as full head, craniofacial, or maxillofacial scans.

d. Temporomandibular Joint CBCT Series may involve structures of the cranial base and temporomandibular joint and surrounding structures.

e. FOVs as per ADA current dental terminology billing codes, in accordance with CDT:

Table 1. ADA Current Dental Terminology Billing Codes

Limited FOV	Less than one whole jaw
FOV of one full dental arch	Mandible
FOV of one full dental arch	Maxilla; with or without cranium
FOV both jaws	Mandible and Maxilla; with or without cranium
Temporomandibular Joint Series	Whether single condyle, or both

f. FOV selection must be within the provider's credentialed and privileged scope of care. Providers are expected to possess knowledge of whether findings can be defined as anatomically normal or abnormal even when FOV is beyond scope of care.

g. Providers must refer CBCT scan examinations to an OMR or appropriate designee for interpretation and report completion when uncertain of the associated diagnosis or its clinical significance even if they are privileged to independently interpret the examination.

10. QUALITY CONTROL.

a. Policies and procedures related to image quality and ionizing radiation protection in accordance with standards (references (e) and (f)) will be in place to ensure both the dental staff and patients receive the lowest possible radiation dose consistent with a diagnostic image meeting operational requirements and the principle of ALARA guidelines.

b. A Quality Control program is required for each CBCT acquisition device to test operation of the system in accordance with standards set by the ADA (when available) and Food and Drug Administration standards 21CFR1020.33 for imaging performance, Quality Assurance.

c. Instructions for use must be reviewed and readily available for the respective device by the end-user.

d. Acceptance testing and a general inspection of the CBCT acquisition device will be accomplished by the Medical Physicists and/or Biomedical Equipment Technician annually. This image quality test is a complete test and is used as a reference for the end-user constancy (where available).

11. METRICS.

a. Quality performance peer review for non- OMR dental providers utilizing cone beam technology to order and interpret small or medium FOV scans and required to enter final reports in the EHR, hard copy record, or electronic document center is required. Non-OMR providers must meet requirements as outlined in this DHA-PI and the peer review processes for the outcome indicators established for CBCT.

b. Quality Performance Peer Review for OMR dental providers receiving requests to interpret any FOV size scan and are required to enter final reports in the EHR, hard copy record, or electronic document center is required. OMRs must meet requirements as outlined in this DHA-PI and peer review processes for the outcome indicators established for CBCT.

c. As noted in Enclosure 3, 6., i., compliance metrics will be reported to DTF leadership for review, tracking and reporting to Market, SSO or DHAR Directors for reporting to the DCMT as noted in Enclosure 2, 5., d.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

3D	Three Dimensional
ADA	American Dental Association
ALARA	As Low As Reasonably Achievable
CBCT	Cone Beam Computed Tomography
CDT	Current Dental Terminology
DAD	Deputy Assistant Director
DCMT	Dental Clinical Management Team
DHA	Defense Health Agency
DHA-PI	Defense Health Agency Procedural Instruction
DHAR	Defense Health Agency Region
DTF	Dental Treatment Facility
EHR	Electronic Health Record
FOV	Field of View
MA	Medical Affairs
MILDEPS	Military Departments
MTF	Military Medical Treatment Facility
OMR	Oral and Maxillofacial Radiologist