## 3.1.13 Medical Imaging Services

**(a) Procedure Overview**

This procedure outlines structures, processes, and resources that California Correctional Health Care Services (CCHCS) staff shall utilize to ensure patients have timely access to safe and cost-effective medical imaging services that are medically necessary in order to establish diagnoses, make recommendations for additional diagnostic work-up, and establish treatment plans. The Medical Imaging Services (MIS) program shall perform, process, and provide interpretation of medical imaging examinations both within the institutional MIS departments and through contracted onsite services. The MIS program shall maintain accurate records of both onsite and offsite medical imaging in a retrievable manner, adhering to all applicable retention, privacy and security, and safety guidelines as required by federal and state laws.

**(b) Responsibility**

**(1) Statewide**

(A) California Department of Corrections and Rehabilitation and CCHCS departmental leadership at all levels of the organization, within the scope of their authority, shall ensure administrative, custodial, and clinical systems are in place and appropriate tools, training, technical assistance, and levels of resources are available to ensure patients have timely access to safe and cost-effective medical imaging services that are medically necessary.

(B) The Chief, MIS is responsible for the implementation and maintenance of a safe and effective MIS program. The Chief, MIS is responsible for:

1. Developing statewide standard operating procedures for use at the local level.
2. Monitoring of annual institution Radiology Supervisor & Operator (RS&O) and quarterly mammography inspections, medical imaging equipment registration and calibration, and radiation safety procedures.
3. Providing oversight and initiating statewide MIS contracts, procurements, policies and procedures, workflows, and forms.
4. Providing oversight of all medical imaging examination preparations and protocols and quality assurance of all examinations performed onsite, in conjunction with the CCHCS contracted radiology group.
5. Providing consultation and advice to health care providers and institution staff regarding their local institution MIS departments.
6. Monitoring performance of the contracted interpreting radiologists including adherence with interpretation timelines.
7. Monitoring performance of contracted onsite mobile imaging services providers in collaboration with the institution Radiologic Technologists and institution medical leadership.

**(2) Regional**

Regional Health Care Executives are responsible for implementation of this procedure at the subset of institutions within an assigned region.

**(3) Institutional**

(A) The Chief Executive Officer (CEO) has overall responsibility for implementation and ongoing oversight of the system at the institution. The CEO and all members of the institution leadership team are responsible for establishing an organizational culture that promotes interdisciplinary teamwork and continuous process improvement. The CEO delegates decision-making authority to the Chief Medical Executive (CME), Chief Support Executive (CSE), and/or Correctional Health Services Administrator (CHSA), and Chief Nurse Executive for daily operations.

(B) The CME is responsible for the overall health care management of patients and ensures resources are available to meet the needs of the population.

(C) The CSE and/or CHSA are responsible for the following:

1. Hiring local MIS staff members, ensuring appropriate training is provided and completed, and monitoring of staff performance. Institution medical leadership may consult with MIS headquarters regarding staff member duties and quality of staff performance.
2. Determining institution MIS departments' operating hours based on institutional needs.
3. Monitoring performance of contracted onsite mobile service providers in collaboration with MIS headquarters.

4. Monitoring performance of onsite medical imaging providers in collaboration with MIS headquarters.

(D) The Senior Radiologic Technologist is responsible for sending notifications to MIS staff of onsite medical examinations ordered and scheduled for entry into the Radiology Information System (RIS), and providing permissions to obtain the completed examination reports and images for inclusion in the health record.

(E) Institution MIS departments shall be responsible for:

1. Entering all patient medical imaging orders into the health record including orders for examinations to be performed onsite, verifying the orders in the CCHCS RIS, and ensuring all examination images are received by the CCHCS Picture Archiving and Communication System (PACS).
2. Performing all onsite plain film X-Ray examinations.
3. Performing all onsite mammography ordered for screening purposes at women's institutions, where available.
4. Ensuring accuracy in all health records as they pertain to MIS.
5. Ensuring appropriate maintenance of MIS department equipment.
6. Monitoring mobile imaging technologist timeliness and adherence to State requirements.
7. Ensuring mobile imaging technologists complete all steps in the examination process.
8. Reporting institution and mobile medical imaging equipment issues immediately to the CHSA, CEO and MIS headquarters.
9. Ensuring that their local MIS department is current on X-Ray and mammography registration and inspections and maintaining records of all required inspections, licenses, and permits.
10. Monitoring the onsite schedule and obtaining results and examination images in collaboration with the Imaging Records Center.

(F) The CCHCS contracted radiology group is responsible for:

1. Interpreting all onsite and mobile examination images loaded into PACS and making contact with health care providers by telephone as clinically indicated.
2. Ensuring availability to interpret images and to be contacted by the institutions Monday through Friday, between the hours of 7:00 a.m. and 7:00 p.m.
3. Performing annual RS&O and quarterly mammography inspections with a report of their findings to the inspected institution and Chief, MIS.

**(c) Procedure**

**(1) General Ordering Procedures**

(A) When a health care provider determines medical imaging is necessary, the health care provider shall submit an order in the health record and include the priority timeframe in which the service is necessary.

1. For STAT X-Ray orders, the patient is immediately sent to the MIS department for the ordered service. For all other STAT imaging orders, the patient is immediately sent to an outside hospital.
2. High priority medical imaging services are to be provided as ordered or within 14 calendar days from the date of the order if a timeframe is not specified.
3. Medium priority medical imaging services are to be provided as ordered or within 15-45 calendar days from the date of the order if a timeframe is not specified.
4. Routine priority medical imaging services are to be provided as ordered or within 46-90 calendar days from the date of the order if a timeframe is not specified.

(B) The ordering health care provider shall inform the patient of the plan including a general timeframe of expected service. If a service is scheduled or rescheduled outside of compliance timeframes, the primary care team shall evaluate and inform the patient. If the patient's condition has declined and cannot wait for the scheduled appointment appropriate action shall be taken. The information provided to the patient shall be documented in the health record. The specific date, time, and location of an offsite appointment shall not be shared with the patient.

(C) Orders for plain film X-Ray examinations, abdominal ultrasounds, fibroscans, and mammograms do not require pre-authorization and will be automatically routed in the health record to the imaging scheduler.

(D) Orders, other than plain film X-Ray examinations, abdominal ultrasounds, fibroscans, and mammograms, will generate an electronic Request for Service (RFS) that requires Utilization Management (UM) pre-authorization as outlined in Section (c)(2) of this procedure.

(E) Approved orders will be automatically routed in the health record to the imaging scheduler. The imaging scheduler shall determine if the examination will be performed onsite or offsite.
1. Onsite studies include Computerized Tomography, Magnetic Resonance Imaging, Ultrasound, mammography, and general X-Ray. Refer to the onsite scheduling process outlined in Section (c)(3) of this procedure.
2. Offsite studies include, but are not limited to, nuclear medicine, biopsy, and fluoroscopy examinations. Refer to the offsite scheduling process outlined in Section (c)(4) of this procedure.

(F) The Primary Care Provider (PCP) shall follow the patient as clinically indicated until the service has occurred, and these PCP encounters with the patient shall be documented in the health record.

**(2) Pre-Authorization Process for Imaging Studies Ordered by CCHCS Providers**

(A) STAT orders are exempt from the pre-authorization process.

(B) Orders, other than for plain film X-Ray examinations, abdominal ultrasounds, fibroscans, and mammography, are electronically routed to the UM nurse for the first level review to determine if the RFS meets evidence-based clinical decision support criteria.

(C) Upon completion of the first level review, the RFS will be electronically routed to the CME or CP&S for second level review.

(D) At their discretion, the CME or CP&S may obtain input from other health care providers at the regularly scheduled provider meetings in order to determine medical necessity. The decision making authority to approve or deny the RFS at the second level remains with the CME or CP&S.
1. High and medium priority services shall be processed in a manner that allows for both the first and second level of review to be completed within five calendar days from the date of the order.
2. Routine priority services shall be processed in a manner that allows for both the first and second level of review to be completed within seven calendar days from the date of the order.

(E) The Statewide Medical Authorization Review Team is the third level of review and shall review cases appealed by the PCP within 14 calendar days of the date of the order.

(F) If the RFS meets clinical criteria and is approved, it will be automatically routed in the health record to the individual scheduling the appointment.

(G) If the RFS is denied, the PCP shall document the decision and provide the patient with alternate treatment strategies during the next encounter, which shall be within 30 calendar days of the denial of the medical imaging study.

**(3) Imaging Studies Completed Onsite or via Onsite Mobile Services**

(A) The designated staff shall schedule the appointment in the health record which interfaces with RIS and the Strategic Offender Management System.
1. For STAT X-Ray orders, the patient is immediately sent to the MIS department for the ordered service, which shall be performed upon arrival of the patient in the MIS department.
2. Orders for all other medical imaging services shall be performed within the priority timeframes specified in Section (c)(1) of this procedure.
3. In the event a radiology scheduled procedure conflicts with another appointment, the individual scheduling the appointment shall communicate with the appropriate department prior to overriding the previously scheduled patient appointment.

(B) The Radiologic Technologist shall check the order against imaging protocols to verify the proper examination was ordered. If a change is required, the technologist may change the order with a co-signature required from the ordering health care provider.

(C) The Radiologic Technologist shall communicate the necessary examination preparation to designated nursing staff per the institution Local Operating Procedure (LOP). The designated nursing staff shall perform necessary patient examination preparation.

(D) At the appointment, the Radiologic Technologist shall:
1. Arrive the patient in RIS.
2. Perform the requested service using established protocols.
3. Quality assess the examination images.
4. Submit the images to PACS for interpretation.
5. End the appointment with clinically appropriate instructions to the patient.

(E) The Radiologist shall read and finalize the report. The final report is automatically sent from the reporting system to all of the electronic systems maintaining the health record.
1. All critical results shall be immediately communicated to the ordering health care provider via telephone. If the results are received after hours or the ordering health care provider is unavailable, the report shall be communicated to the Triage and Treatment Area (TTA) staff via telephone for appropriate notification to the on-call provider. (See Appendix 1, Communication Urgency Level for Radiologic Findings.)
2. STAT examination reports shall be read and finalized within two hours from the time the examination is available for interpretation.
3. All other examination reports shall be read and finalized within four hours from the time the examination is available for interpretation.
4. Addendum requests shall be completed within three calendar days of the request being placed.

(F) The ordering health care provider shall review and endorse the report within three calendar days of receiving an examination report notification into the health record.

(G) The ordering health care provider shall create a patient notification letter in the health record at the time of the ordering health care provider's review of the examination results. The patient notification letters shall include the following:
1. Date of the examination results.
2. Reviewing provider's name.
3. Whether the results are within normal limits.
4. Whether a follow-up appointment with the provider is required and will be scheduled.

(H) Patient notification letters shall be printed for collection by the designated staff member to be distributed to the patients.

(I) The Primary Care Team (PCT) shall schedule the patient for a follow-up appointment as clinically indicated. At the follow-up appointment, the designated PCT member shall discuss the findings and recommendations with the patient and document the discussion in the health record.

**(4) Imaging Studies Ordered Onsite and Completed Offsite**

(A) The designated staff responsible for scheduling shall:
1. Contact the offsite facility to schedule the appointment.
2. Schedule the order in the health record.
3. Submit any related examinations or information to the offsite facility.

(B) In the event a radiology scheduled procedure conflicts with another appointment, the individual scheduling the appointment shall communicate with the appropriate department prior to overriding the previously scheduled patient appointment.

(C) The Radiologic Technologist shall communicate the necessary examination preparation to designated nursing staff per the institution LOP. The designated nursing staff shall perform any necessary patient examination preparation.

(D) The designated specialty clinic staff shall ensure all necessary arrangements are made for patient transportation to the offsite facility pursuant to the Health Care Department Operations Manual, Section 3.1.11, Outpatient Specialty Services.

(E) The offsite facility shall:
1. Perform the examination.
2. Immediately communicate all critical results to the TTA for appropriate action. (See Appendix 1, Communication Urgency Level for Radiologic Findings.)
3. Submit the interpretive report to the requesting institution within two business days of approval by the Radiologist.
4. Submit the images to the CCHCS Health Information Management (HIM) department within three business days.

(F) The offsite report is received by the HIM department at the local institution and made available to the local MIS department.

(G) The designated MIS staff shall scan the report into RIS with the actual date of service and assign a task in RIS for the Imaging Records Center.

(H) The Imaging Records Center shall:

1. Request the images from the outside facility if they have not been received by HIM.
2. Upload the images into PACS and finalize examination.

(I) The ordering health care provider shall review and endorse the report within five calendar days of receipt into the health record.

(J) The ordering health care provider shall create a patient notification letter in the health record at the time of the ordering health care provider's review of the examination results. Patient notification letters shall be printed for collection by the designated staff member to be distributed to the patients.

(K) The PCT shall order a follow-up appointment for the patient as clinically indicated. At the follow-up appointment the designated PCT member shall discuss the findings and recommendations with the patient and document the discussion in the health record.

**(5) Imaging Studies Completed While Patient is Offsite at a Hospital**

(A) Health care is provided to the patient during an emergency department visit or while hospitalized at an offsite medical facility.

(B) The offsite report is received by the HIM department at the local institution within three days of discharge and made available to the local MIS department.

(C) The designated MIS staff shall place an order and schedule it in the health record with the actual date of service, scan the report into RIS, and assign a task in RIS for the Imaging Records Center.

(D) The Imaging Records Center shall:

1. Request the images from the outside facility if they have not been received by HIM.
2. Upload the images into PACS and finalize examination.

**(6) Imaging Study Cancel and/or Re-Order**

(A) An imaging study may be canceled for reasons including, but not limited to, patient refusal, the study is no longer clinically indicated, conflicting appointments, or the incorrect study was ordered.

(B) The designated health care staff shall cancel, or cancel and re-order the study in the health record, note the specific reason for cancellation or re-order, and notify the ordering health care provider via telephone and a message using the health record message center regarding the cancelled or modified order.

(C) The ordering health care provider shall sign-off on order changes or cancellation in the health record.

**Appendices**

- Appendix 1: Communication Urgency Level for Radiologic Findings

**References**

- California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 4, Section 30305
- Health Care Department Operations Manual, Chapter 4, Article 1, Section 3.1.11, Outpatient Specialty Services
- California Department of Corrections and Rehabilitation, Department Operations Manual, Chapter 9, Article 6, Sections 91060.1-91060.17, Radiology Services

**Revision History**

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# Appendix 1

## Communication Urgency Level for Radiologic Findings

| Anatomical Region | Category 1: Communicate Immediately (Call) | Category 2: Communicate Within Hours (Sign within 4 hours) | Category 3: Communicate Within Days (Sign within 4 hours) |
|---|---|---|---|
| **General** | • Malpositioned line or tube of immediate clinical concern (e.g., ET tube or enteric tube in bronchus)<br>• Foreign body with potential immediate and/or severe consequences<br>• Any finding that the interpreting radiologist determines requires immediate physician notification | • Clinically significant mass, tumor or infection<br>• Finding highly suggestive of malignancy<br>• Intravascular line in suboptimal location, moderate risk (e.g., Intended central line in jugular or azygous vein, right atrium)<br>• Retained surgical instruments, sponges, devices<br>• Misplaced or migrated surgical or other implanted devices (e.g., IVC filter, gastric band, pacemaker wires)<br>• Adverse event from diagnostic imaging or interventional procedure<br>• Significant congenital anomaly | • Probable malignancy, any location, no acute danger to patient<br>• Significant nonmalignant diagnosis, any location, no acute danger to patient<br>• Incidental finding on imaging study requiring further workup or longer term follow-up |
| **Neurologic/ Head and neck** | • Intracranial or spinal hemorrhage (parenchymal, subarachnoid, subdural epidural)<br>• Intracranial mass with significant mass effect (midline shift/herniation/hydrocephalus)<br>• Brain herniation<br>• Symptomatic hydrocephalus (malfunctioning shunt or new diagnosis of any cause)<br>• Depressed skull fracture<br>• Posttraumatic pneumocephalus<br>• Arterial dissection<br>• Severe spinal cord compression of any cause<br>• Unstable spine fracture<br>• Cord hemorrhage or infarct<br>• Airway obstruction or impending obstruction (epiglottis, retropharyngeal abscess, tonsillitis, facial fracture, other) | • Critical arterial stenosis or occlusion<br>• Non-ruptured intracranial aneurysm<br>• Intracranial mass without significant mass effect (no midline shift/herniation)<br>• Non-hemorrhagic stroke, not thrombolytic candidate<br>• Linear skull fracture<br>• Facial fracture, no airway compromise, likely to need surgical repair<br>• Stable spinal fracture without cord compression<br>• Spinal mass without cord compression<br>• Spinal cord edema<br>• Discitis<br>• Airway narrowing, not severely obstructive<br>• Abscess, any location<br>• Encephalitis | • Small intracranial mass, likely benign, no mass effect<br>• Hemodynamically significant arterial stenosis (carotid or vertebral), not associated with acute symptoms or otherwise immediately threatening<br>• Suspected brain metastases, established cancer diagnosis |

| Anatomical Region | Category 1: Communicate Immediately (Call) | Category 2: Communicate Within Hours (Sign within 4 hours) | Category 3: Communicate Within Days (Sign within 4 hours) |
|---|---|---|---|
| **GI** | • Unexplained pneumoperitoneum<br>• Closed loop intestinal obstruction<br>• Intestinal ischemia and/or portal/mesenteric venous gas<br>• Pseudoaneurysm or active hemorrhage (post trauma, GI bleed, other)<br>• High grade intra-abdominal organ injury (liver, spleen, pancreas, other) and/or bowel injury post trauma, acute intervention likely | • Abscess, any location<br>• Intestinal obstruction, no evidence of acute ischemia<br>• Intra-abdominal infection, likely surgical or interventional candidate (Appendicitis, cholecystitis, diverticulitis, abscess, other)<br>• Large volume ascites<br>• Low to moderate grade intraabdominal organ injury and/or bladder or bowel injury post trauma, observation likely<br>• Pneumatosis in bowel wall, no other signs of ischemia | • Low volume ascites (any cause), portal hypertension, and/or cirrhosis |
| **GU/OB** | • Testicular torsion<br>• Ovarian torsion<br>• Ectopic pregnancy (high likelihood)<br>• Placental abruption<br>• Uterine rupture<br>• High grade kidney injury and/or ureteral or bladder injury post trauma, acute intervention likely<br>• Absent perfusion postoperative kidney<br>• Oligohydramnios (less than fifth percentile for age) | • Placenta previa or suspected placenta accreta, increta, percreta in third trimester<br>• Embryonic/fetal demise<br>• Incompetent cervix in pregnancy<br>• Abdominal umbilical cord Doppler or IUGR<br>• Urinary tract obstruction (stone, tumor, other)<br>• Pyonephrosis/renal abscess<br>• Abnormal appearing pregnancy for which short interval follow-up is recommended<br>• Indeterminate findings for ectopic versus normal pregnancy | • Placenta previa or possible previa in second trimester<br>• Suspected placenta accrete, increta, percreta in second trimester<br>• Abnormal findings on routine obstetrical ultrasound (possible fetal abnormality, abnormal growth, abnormal fluid volume, other) not likely to need acute intervention |
| **Breast** | | • Biopsy recommended | • Follow-up imaging recommended |

| Anatomical Region | Category 1: Communicate Immediately (Call) | Category 2: Communicate Within Hours (Sign within 4 hours) | Category 3: Communicate Within Days (Sign within 4 hours) |
|---|---|---|---|
| **MSK** | • Non-spinal fracture and/or dislocation with risk of vascular compromise<br>• Necrotizing fasciitis | | • Bone lesion at risk for pathologic fracture (femur, other)<br>• Non-spinal fracture and/or dislocation without vascular compromise, likely to need intervention<br>• Large hematoma without or with fracture, especially with compression of adjacent structures<br>• Fracture follow-up imaging, significant change in alignment or concern of infection<br>• Infection (including septic arthritis and osteomyelitis)<br>• SCFE<br>• Hardware complication |
| **Chest** | • Tension pneumothorax<br>• Pulmonary embolus (CT or high probability V/Q scan), hemodynamically unstable, central embolus, and/or extensive emboli<br>• Lung lesion with high possibility of being active TB<br>• Large pericardia effusion and/or suspected tamponade or any cause<br>• Active posttraumatic hemorrhage<br>• Tracheal obstruction or impeding obstruction | • Superior vena cava occlusion (including SVC syndrome) | • Pneumothorax, no evidence of tension<br>• Lobar or lung collapse<br>• Pneumomediastinum, interstitial emphysema, extensive subcutaneous emphysema<br>• Pulmonary embolus, hemodynamically stable, limited extent peripheral emboli<br>• Moderate or large pleural effusion<br>• Significant superior vena cava compression or narrowing<br>• Pneumonia |
| **Cardiac/ Vascular** | • Ruptured/leaking arterial aneurysm (thoracic or abdominal aortic or other)<br>• Limb-threatening arterial or venous occlusion or high-grade stenosis<br>• Arterial dissection or intramural hematoma (aortic, other)<br>• Acute myocardial infarction | • Hemodynamically significant arterial stenosis or occlusion, associated with acute symptoms<br>• Occluded coronary or other bypass graft with associated symptoms<br>• Deep venous thrombosis<br>• Arterial pseudoaneurysm post vascular access<br>• Thoracic aortic aneurysm ≥ 6 cm or Abdominal aortic aneurysm ≥ 5 cm, no evidence of acute instability<br>• Previously unknown chronic arterial dissection or intramural hematoma | • Nondisplaced minor fracture or questioned fracture low risk for worsening<br>• Routine fracture follow-up imaging, healing not progressing as expected or minor change in alignment |