

<b>Department:</b>	Radiology Department		
<b>Document:</b>	Multidisciplinary Policy and Procedure		
<b>Title:</b>	Computed Tomography (CT – Scan)		
<b>Applies To:</b>	All Radiology Staff , Physicians and Nurses		
<b>Preparation Date:</b>	January 05, 2025	<b>Index No:</b>	RD-MPP-004
<b>Approval Date:</b>	January 19, 2025	<b>Version :</b>	2
<b>Effective Date:</b>	February 19, 2025	<b>Replacement No.:</b>	RD-MPP-004(1)
<b>Review Date:</b>	February 19, 2028	<b>No. of Pages:</b>	4

## 1. PURPOSE:

- 1.1 To provide the fast, effective and high quality imaging services for all patients in Maternity and Children Hospital, Hafer Al Batin, Radiology Department.

## 2. DEFINITIONS:

- 2.1 **Computed Tomography (CT) Scan** – is known as a "CT or CAT" Scan. CT is a diagnostic medical procedure that works like traditional X – rays, produces multiple images or pictures of the inside of the body. The cross – sectional images generated during a CT scan can be reformatted in multiple planes, and can even generate three-dimensional images. CT images of internal organs, bones, soft tissue and blood vessels provide greater detail than traditional X – rays, particularly of soft tissues and blood vessels.
- 2.2 **Chloral Hydrate** – is a sedative, also called a Hypnotic Chloral hydrate slows the activity of your central nervous system. This medicine has both fast – acting and long – lasting sedative effects. Chloral Hydrate is for short – term use as a sedative or sleep medicine.

## 3. POLICY:

- 3.1 All CT procedures are available **24 hours for 7 days** (morning – evening – night) duty and official holidays, the following points explain it in details:

### 3.1.1 For Out-Patient / In-Patient :

- 3.1.1.1 CT Scan procedures are available by an appointment, it will be given to the patient during the regular (morning) duty only, which is from Sunday to Thursday – (07:30 AM to 03:30 PM), however the last case will be at 02:30 PM considering exam time.
- 3.1.1.2 The appointment time may be postponed due to priority of the emergency cases or due to unprepared patient upon radiologist opinion.
- 3.1.1.3 For pediatric patients, the "uncooperative" patients will be prepared by pediatrician for sedation (e.g., Chloral Hydrate). On the day of procedure, pediatrician will give the dose to the patient with the help of nurse in order to start the procedure. Also anesthesia may be required for the examination and done by anesthesiologist.
- 3.1.1.4 **Note:** For (In-patient), it is mentioned an appointment because the proper preparation will be given to the patient after informing the radiology department about the requested examination, and the closest appointment will be scheduled.

### 3.1.2 For Emergency Cases:

- 3.1.2.1 The on call radiologist will be informed by referring physician about the case and after discussion, the radiologist will decide if it is "plain CT procedure" or it is "CT procedure with contrast", also may result in changing the exam modality , changing from urgent to routine or even exam cancellation in case of non – expected benefits.
- 3.1.2.2 The referring physician of the emergency cases must be the consultant concerning with the case (surgery consultant for surgical cases, paediatric consultant for

paediatric cases, orthopaedic consultant for orthopaedic cases, consultant neurologist for neurological cases, etc.,)

3.1.2.3 After confirming the request with radiologist:

3.1.2.3.1 **If it is CT with contrast media:** the radiographer will wait for radiologist until arrive to department then the procedure will be started and administrating contrast media with the presence of referring physician and nurse.

3.1.2.3.2 **If it is a plain CT procedure:** the radiographer will proceed for procedure after confirming from radiologist.

3.2 All CT Scan procedures should be performed in CT Scan room at the Radiology department.

3.3 All Outpatients coming to the department to perform the CT Scan should have companion especially the pediatric.

3.4 All Inpatients and ER patients should accompanied by staff nurse or physician (If needed).

3.5 The Special procedures in CT scan should be explained clearly to the patient/ parents (for pediatric patient) in the general consent form. The referring physician should write the explanation in Arabic word + physician signature and stamp + parents signature.

3.6 During all CT procedures with contrast media the radiologist must be present who will decide the contrast dose, and the contrast media will be given to the patient by the CT IV injector which prepared by the radiology specialist / technician and in case of manual contrast injection will be injected by a radiologist or qualified nurse.

3.6.1 Precautions should be taken for I.V contrast media injection to control life – threatening reaction and contrast induced nephropathy.

3.6.1.1 **General Precautions Includes:**

3.6.1.1.1 General Consent Form

3.6.1.1.2 A recent "Creatinine" result

3.6.1.2 **Strict Precaution in Case of:**

3.6.1.2.1 Previous Contrast Reaction

3.6.1.2.2 Asthmatics

3.6.1.2.3 Renal Impairment

3.6.1.2.4 Diabetes Mellitus

3.6.1.3 In these cases, IV contrast should be avoided by changing to another modality and if necessary general precautions, high risk consent from the patient must be taken, the referral physician must attend the exam and in case of renal impairment or diabetes an internal medicine physician or nephrologist must be consulted to take specific precautions.

3.6.2 Immediate reactions take place within an hour after injection of the contrast medium, These reactions can be:

3.6.2.1 **Mild Reaction:** (Nausea, Vomiting, Mild Urticaria)

3.6.2.1.1 It will stop the procedure and it require monitoring the patient.

3.6.2.2 **Moderate Reaction:** (Severe Vomiting, Extensive Urticaria, Dyspnea, Rigor, Laryngeal Edema).

3.6.2.2.1 The first aid will be given to the patient by Radiologist.

3.6.2.2.2 The patient will be sent to ER immediately.

3.6.2.3 **Severe Reaction:** (Pulmonary Edema, Cardiac Arrhythmias or arrest, Circulatory Collapse).

3.6.2.3.1 Call for "Code Blue" (by calling **Emergency Number: 2222**) after giving the patient the first aid by the Radiologist.

3.7 Applying the 10 days rule for all female patients and companion (with pediatric patient).

3.8 Reporting time for CT – Scan procedure is:

3.8.1 Emergency Cases: the report will be available Immediately.

3.8.2 Urgent Cases: the report will be available 24 hours.

3.8.3 Routine Cases: the report will be available during 48 hours.

#### 4. PROCEDURE:

- 4.1 CT scan procedures will be performed after receiving radiology request through PACS with complete and correct patient identification which is:
  - 4.1.1 Patient Name (Four names for Saudi/ Complete Name for the Non – Saudi).
  - 4.1.2 Medical Record Number or National ID Number/ Iqamah Number.
  - 4.1.3 Requested Examination.
  - 4.1.4 Complete and benefit clinical indications for the requested exam.
  - 4.1.5 Name of Referring Physician.
- 4.2 Patient identification will be verified before starting a CT procedure. The Radiographer is responsible for correctly identifying the patient to be examined.
- 4.3 Before performing the CT procedure, it is important to inform the patient / parents about the procedure and answer any questions related to the examination.
- 4.4 Before performing the CT procedure, it is important to ensure the correct procedure, side and anatomical region.
- 4.5 Provide a private place for the patient for changing and keep the door close during the examination.
- 4.6 The patient is appropriately prepared by removing clothing, jewellery, and /or other articles from the body that may obstruct the interesting area to be examined.
- 4.7 Provide the lead aprons for the patient (if applicable) and companion.
- 4.8 The available examinations for CT are:
  - 4.8.1 CT – Brain
  - 4.8.2 CT – Chest and Neck
  - 4.8.3 CT – Abdomen
  - 4.8.4 CT – Pelvis
  - 4.8.5 CT – Spine
  - 4.8.6 CT – Para Nasal Sinuses / Temporal / Facial Bones
  - 4.8.7 CT – Upper & Lower Extremities
- 4.9 Give the clear and correct instructions before starting procedure, and monitor the patient during exposure.
- 4.10 After performing the CT procedure, all images will be delivered to PACS and reviewed by radiologist for reporting.

#### 5. MATERIAL AND EQUIPMENT:

- 5.1 CT Scan Machine
- 5.2 Lead Aprons
- 5.3 IV Injector
- 5.4 Contrast Media
- 5.5 MOH General Consent Form: GDOH-COR-GC-351
- 5.6 LMP Log book

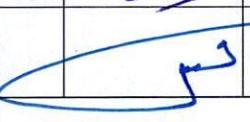
#### 6. RESPONSIBILITIES:

- 6.1 **For Inpatients:** Responsible Physician and Nurse
- 6.2 Radiology nurse
- 6.3 Radiographers
- 6.4 Radiologist

#### 7. APPENDICES:

N/A

**8. REFERENCES:**8.1 <https://www.radiologyinfo.org>**9. APPROVALS:**

	Name	Title	Signature	Date
<b>Prepared by:</b>	Mrs. Ghadeer Rakad Aldhafeeri	Radiology Specialist		January 05, 2025
<b>Reviewed by:</b>	Mr. Abdullah Ganam Almutteri	Head of Radiology Specialist and Technician		January 07, 2025
<b>Reviewed by:</b>	Dr. Ahmad Al Nussairy	Head of Radiology Department		January 08, 2025
<b>Reviewed by:</b>	Mr. Sabah Turayhib Al Harbi	Director of Nursing		January 09, 2025
<b>Reviewed by:</b>	Dr. Tamer Mohamed Naguib	Medical Director		January 09, 2025
<b>Reviewed by:</b>	Mr. Abdulelah Ayed Almutairi	QM&PS Director		January 12, 2025
<b>Approved by:</b>	Mr. Fahad Hazam Alshammari	Hospital Director		January 19, 2025