Diagnostic Imaging Protocols Policy

Document Management

Document owner:	GIG Radiology Pty Ltd
Version:	Diagnostic Imaging Protocols Policy
Effective date:	1st March 2016
Review cycle and responsibilities:	Renee Zach = Operations & Client Services Manager, will review this document at intervals not greater than three years.
Reference documents:	Department of Health Practice Accreditation Standards 3rd edition: 1.1 & 3.1 Other: Protocols for Required Projections and/or Manoeuvres for the Acquisition of Diagnostic Quality Images. National Health and Medical Research Council.
Reference websites:	http://www.nhmrc.gov.au

Introduction

- The Safety and Quality Governance Standard has been developed to ensure that comprehensive examination protocols are being undertaken for the full range of examinations performed at this practice. Protocols describe the required projections, list of anatomy to be visualized, contrast injection requirements and/or positioning required for the acquisition of optimized quality images

Objectives

- GIG Radiology Pty Ltd is committed to having a consistent approach to delivering optimal diagnostic images using clear and detailed protocols.

Policy

- GIG Radiology Pty Ltd has effective broad examination protocols which succeed in maintaining safe and accurate diagnostic imaging procedures. Determination of these protocols is based on the International Commission on Radiological Protecting (ICRP) ALARA principle (as low as reasonably achievable).
- The Managing Director of GIG Radiology Pty Ltd is responsible for the overall diagnostic imaging operations of the practice.
- The Managing Director of GIG Radiology Pty Ltd is responsible for the delegation of the imaging procedures taking into account the qualifications and experience of the personnel.

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- The Chief Radiographer is responsible for the diagnostic imaging operations of the practice and the development of protocols for examinations performed using general x-ray, mammography and CT scanning.
- All staff using a radiation source must hold a current Radiation Use License without any conditions relating to the radiation source being administered.
- The Chief Sonographer is responsible for the development of ultrasound protocols for all gynecological, obstetric, vascular, renal, abdominal and small part examinations.
- The medical personnel performing the procedures will seek further guidance, when required, from the reporting Radiologist rostered at that GIG Radiology Pty Ltd site.
- GIG Radiology Pty Ltd will ensure all protocols are reviewed **in NOVEMBER 2018 as per the Safety and Quality Manual Schedule.**

Procedure

- GIG Radiology Pty Ltd has a complete set of protocols for each imaging procedure carried out at the practice. (ref. Protocols for Required Projections and/or Maneuvers for the Acquisition of Diagnostic Quality Images.) These protocols are located in the Radiation Management Plan in the CT/X-ray control room at each site.
- Manufacture/s of all digital imaging equipment will provide a manual containing all relevant preset protocols.
- Protocols for new equipment purchased will be developed by the Diagnostic Radiographers/Medical Imaging Technologist unless specified in manufacture/s manual/s.
- Orientation and/or induction of new equipment protocols will be the responsibility of the Diagnostic Radiographer/Medical Imaging Technologist.
- Orientation and/or induction for all diagnostic imaging staff in the protocols will be conducted by the relevant supervisor and a record of the orientation and/or induction will be maintained.

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- **Section 1 – Upper Extremity**

1.1 Hand x-rays

PA

PA oblique

True Lateral (fingers separated)

1.2 Fingers

PA

PA Oblique

Lateral

1.3 Thumb

AP (PA with thumb supported in AP not possible)

Lateral (must be true lateral)

PA Oblique

1.4 Wrist joint

PA

PA Oblique

Lateral (must be true lateral)

1.4a Instability series:

PA Neutral

PA in Ulnar deviation

PA in Radial deviation

PA with clenched fist

Lateral neutral –NO flexion or extension of wrist joint

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1.5 Scaphoid

PA with Ulnar deviation

Oblique with Ulnar deviation

PA with Ulnar deviation – 25 deg. Cranial angulation

Lateral

1.6 Bone age

PA LEFT hand and wrist (non dominant hand)

1.7 Forearm

AP (BOTH wrist and elbow in true AP)

Lateral

1.8 Elbow

AP

External oblique

Lateral

1.9 Humerus

AP (to include shoulder joint)

Lateral (to include elbow joint)

- **Section 2 – Shoulder Girdle**

2.1 Shoulder joint

AP external rotation

AP internal Rotation 25 deg. Caudal angulation

Lateral Oblique Outlet view – 25 deg.caudal angulation

2.2 Clavicle

AP

AP with 20 deg. Cranial angulation

2.3 AC Joints

AP of clavicle of affected side for ? fracture (if present, perform uptilt view)

AP of each joint (each joint examined separately) non weight bearing

2.4 Scapula

AP 15 degrees rotation to the affected side, arm supinated

Lateral oblique

- **Section 3 – Lower Extremity**

3.1 Toes

Dorsi-pantar (AP)

Medial Oblique

Lateral

3.2 Foot

Dorsi-plantar

Medial oblique

Lateral

3.3 Calcaneum

Lateral

Infero-superior axial

3.4 Ankle joint

AP (include distal 1/3 tib/fib)

Internal Oblique

Lateral

3.5 Tibia and Fibula (Lower leg)

AP

Lateral

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3.6 Knee Joint

Ap individual Weight Bearing

Lateral

Rosenbergs view weight bearing (IC view) both knees

Skyline patella

3.7 Femur

AP

Lateral

- **Section 4 – Pelvic Girdle**

4.1 Pelvis and hip joint

AP Pelvis

Lateral oblique

- **Section 5 – Abdomen**

5.1 Abdomen

AP supine

5.2 Acute series

AP supine

AP erect

PA chest erect

5.3 Renal tract – renal colic

AP supine (NB empty bladder first)

AP 30 degrees oblique of the affected kidney/ureter if required

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- **Section 6 – Thorax**

6.1 Chest

PA erect (high Kvp)

Left Lateral erect

6.2 Suspected pneumothorax

PA inspiration

PA expiration

6.3 Paediatric

AP or PA erect if possible or AP supine

Right lateraL

6.4 Ribs

Identify the area of interest and , using appropriate views from those below, focus the examination in that area, annotate the request to assist reporting.

PA erect for associated lung disorders

AP oblique upper ribs (30 degrees towards the injured side)

AP lower ribs (expiration)

Lateral

6.5 Sternum

Lateral

PA with Trunk rotated 15 degrees each way (breathing technique)

6.6 Thoracic inlet

AP (using Valsalva manoeuvre)

Lateral (use Valsalva manoeuvre)

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- **Section 7 – Vertebral Column**

6.7 Cervical spine

AP C3-T1 15 degrees cranial angle

Lateral C1-T1 180cm ffd

AP C1-C2 open mouth

Both obliques

45 degrees with 15 degree cranial angle OR

PA with 15 degrees caudal angle

Lateral CDJ if required (use cranio-caudal angle if needed)

Supplementary views

Functional views - lateral flexion/extension

6.8 Thoracic Spine

AP

Lateral (breathing technique)

6.9 Thoraco- Lumbar spine

AP thoracic

Lateral Thoracic

AP LSV

AP L5/S1

Lat LSV

Lat L5/S1

Both obliques LSV

6.10 Lumbosacral Vertebra

AP T12-S1

AP L5-S1 and SI joints (20deg. Cranial angle)

Lat T12- S1

Lat L5-S1

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Both obliques (in patients under 60 yrs of age)

6.11 Sacrum

AP with 20deg Cranial angle

AP with 20deg Caudal angle

Lateral

6.12 Sacro-iliac joints

PA with 20 degree caudal angle

Both AP oblique (20 deg each side with 15 deg cranial angle)

6.13 Cocyxx

AP with 20 Deg caudal angle

AP with 15 deg cranial angle

LateraL

6.14 Chiropractic postural series

AP Cervical

APOM

AP thoracic

AP lumbar spine and pelvis

Lat Cervical

Lat Thoracic

Lat Lumbar spine and pelvis

- **Section 7 – Craniofacial**

7.1 Skull

Check with Radiologist to see if CT is preferred test

30 deg Fronto-Occipital (Townes)

20 deg Occipito Frontal

Lateral – horizontal beam of suspected side

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7.2 Paranasal sinuses

All films horizontal beam where possible

- Occipito-mental Mouth open
- PA
- Lateral

7.3 Facial bones

- Occipito-mental
- Extended OM (30deg caudal angle)
- Lateral

Supplementary views

- Coned Townes for Zygomatic arch

7.4 Mandible

- PA with 10 degree caudal angle
- Both lateral obliques
- OPG if possibe

7.5 Nasal Bones

- Occipito-mental (for alignment)
- Lateral nose

7.6 Mastiods

Check first re CT instead

- Coned Townes
- Coned AP
- Lateral obliques of each side

7.7 Orbits (?FB)

- Occiptio-mental both globes looking up
- Occipito-mental both globes looking down

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7.8 TMJ

TMJ program on OPG machine – open and closed mouth

- **Section 8 Skeletal Survey**

8.1 Multiple myeloma

PA chest

AP Pelvis

AP Femora

AP Humeri

Lat Skull

Lat CV

Lat TV

Lat LV

AP CV

AP TV

AP LV