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Individuals involved in developing / reviewing / amending this document: (titles only)	
Radiology Governance Lead Clinical Services Manager Modality Leads Office Managers	
Key staff responsibilities	Post:
To follow information provided	All radiology referrers

BACKGROUND

It is important that organisations learn from incidents and take action to mitigate the risks of repeating errors to protect patients from risks when they are exposed to radiation from x-rays or radiopharmaceuticals as part of their diagnosis.

Many errors in radiology occur simply due to poor communication and incorrect referrals.

Appropriate referrals with accurate/good clinical history can also assist in the reduction of reporting discrepancies.

Inadequate or incomplete clinical history is a recognised contributory factor for discrepancies, observational and reporting errors.

This document outlines the referrers' responsibilities and provides a clear description of the minimum requirements for each submitted referral. This will ensure that there are no delays in undertaking appropriate imaging by avoiding rejected and declined requests and will also compliance with IR(ME)R regulations for imaging involving ionising radiation.

WAHT-KD-024**Radiology Key Documents****PATIENT LOCATION ON ICE ORDER:**

On all referrals, it is essential that the correct location is identified and correct. Trust computers default to the location of the computer being used not the location of the patient. If the patient location is different then you must change it to the correct location of the patient. Failure to do so may result in a delay to the patient's examination and/or rejection of the request.

For example, the radiology team will prioritise inpatient requests daily but often find that patients are not inpatients but have been entered on a computer which is an inpatient location.

These requests appear as discharged and are rejected as per discharge SOP: SOP for Discharged and Planned Patients

DUTY RADIOLOGIST

For urgent clinical queries, please contact the Duty Radiologist Admin Support-

extension: ext. 30264 Monday-Sunday: 9am-9pm (Medica: 9pm-9am)

You do not need to ring to get your scans for IP's vetted, they will be vetted by the duty radiologist.

If you are enquiring about any pending reports, please wait for the report to be completed on CRIS and available on ICE or alternatively for further assistance contact wah-tr.radiologyreporting@nhs.net

Useful email contacts for queries

wah-tr.radiologysecswrh@nhs.net

wah-tr.ktc-radiologyadmin@nhs.net

wah-tr.radiologysecsalex@nhs.net

RADIOLOGY ALLOCATION OFFICERS

wah-tr.radiologyreporting@nhs.net

The allocation officers are responsible for ensuring that imaging is allocated to an appropriate reporter and for ensuring that reports are available within the reporting Key Performance Indicators (KPIs). The policy can be located on the Radiology Key Documents page:

[Standards for Radiology Turnaround Times \(KPIs\)](#)

Please do not contact the allocation officers to chase reports unless they are overdue according to the KPI in the policy or unless it is a genuine urgent case. The number of phone calls being received is unprecedented and this slows down the work of the team who are working to policy.

CANCELLATION OF OUTPATIENT APPOINTMENTS

For cancellation of outpatient appointments and for queries about appointments, please contact:

wah-tr.wrhbookings@nhs.net – for CT, N Med, Fluoroscopy and plain film/Dexa. Contact numbers: 38246; 38243; 38247; 38245; 38244 and 38783

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wah-tr.mribookings@nhs.net – for MRI bookings

wah-tr.ultrasoundbookings@nhs.net – for u/sound and obstetric bookings. Contact numbers: 42099 and 45754

wah-tr.interventionalradiology@nhs.net – for vascular and other interventional exams (biopsies/drainages/ablations etc) Contact numbers: 30833 or 44603

USEFUL DOCUMENTS

Several useful documents can be found on the Trust Key Documents site (<https://apps.worcsacute.nhs.uk/KeyDocumentPortal/>), for example:

[MRI GP Referral Guidelines](#)

[Radiology Guidelines for the Use of Gadolinium-based Contrast Agents](#)

[Radiology Guidelines for the Use of Iodinated Contrast Media in Adults](#)

CT REFERRALS requiring contrast

Outpatient referrals for patients with known renal disease, are diabetic or are taking metformin

- renal function blood tests (within 3 months) must be available at least 2 weeks before the required exam date.

Inpatient and ED referrals:

- renal function blood tests (within 24 hours) must be available before requesting this type of exam.

Where this is not achievable, further discussion should be undertaken with a duty radiologist on ext 39165

Typical opening hours and services

WRH: CT- At WRH we predominantly provide an inpatient and ED service

- 09:00-17:00 (Mon-Fri excl. bank hols)

Patients will be prioritised by duty radiologists and scans arranged with wards. Please do not phone radiology unless you wish to escalate a deteriorating patient/wish to cancel a request.

- 17:00-21:00 (7 days)

Critically urgent requests must be discussed with the duty radiologist on ext. 39165 and then flagged to the CT radiographer on ext. 39817 @WRH

- 21:00-09:00 (7 Days)

Nighthawk guide for referrers must be followed for CT referrals: Nighthawk guide for Referrers

Weekends / bank holidays 9AM -9PM times

Clinically critical or urgent requests must be discussed with the duty radiologist on ext. 39165

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CT radiographers will arrange scans according to vetting priority Other requests can be discussed with CT helpdesk from 9am-8pm.

38246; 38243; 38247; 38245; 38244 and 38783

ALEX: CT- we offer a range of Inpatient, ED and Outpatient exams

- 09:00-17:00 (Mon-Fri excl. bank hols)

Patients will be prioritised by duty radiologists and scans arranged with wards. Please do not phone radiology unless you wish to escalate a deteriorating patient/wish to cancel a request. The helpdesk number is 44142.

- 17:00-21:00 (7 days)

Requests must be discussed with the duty radiologist on ext. 39165 and then flagged to the CT radiographer via switchboard @ Alex or ext 44651

- 21:00-09:00 (7 days)

Nighthawk guide for referrers must be followed for CT referrals:

Nighthawk guide for Referrers

- Weekends / bank holidays

Requests must be discussed with the duty radiologist on ext. 30264 and then flagged to the CT radiographer via switchboard @ Alex or ext 44651

MRI referrals

KTC

Mon- Fridays: 08:00 – 20.15

Weekend: No service

Bank holidays: No service

WRH

Mon-Fri: 8:00 – 20.15:

All weekends & bank holidays: 09:00-17:00

ALEX

Mon- Sat 08:00 -20:15

Some weekends & bank holidays

WRH & ALEX – Currently there is no inpatient / emergency MRI service outside the above hours

Ultrasound Referrals

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Outpatient examinations are available at WRH, Alex, KTC, POWCH, MCH and ECH although specialist scans may need to be performed at the acute sites.

In-patient/ acute service is provided at Alex and WRH and includes weekends (Sat only at Alex) and Bank Holidays

Normal opening times

Alex – Mon – Sat (9-5)

WRH – 7 days (9-5)

KTC, POWCH, ECH – Mon – Fri (9-5)

Obstetric Scans are performed at Alex, WRH, KTC and some scans at ECH – Obstetric bookings ext: 42167

Nuclear medicine info for referrers

For nuclear medicine related queries: wah-tr.wrh-nuclear-medicine@nhs.net

Extension: 30250

NBONW (bone scans) and DMSA scans are booked by the booking team email: wah-tr.wrhbookings@nhs.net

The nuclear medicine department is open 09:00-17:00 mon-fri excl. bank holidays

The list of procedures we perform are:

- NBONW – Whole bone scans
- NBONE – Bone localised
- NBKNBO – Bone local knee SPECT
- DMSA – Static renal scan
- NREND – Dynamic renal scan with furosemide
- NCHEVQ – ventilation/perfusion scan
- NCHEQ – Perfusion scan
- NSLOC – Sentinel node injections

NM procedures are performed on the following days:

Monday	Tuesday	Wednesday	Thursday	Friday
NBONW	NBONW	NBONW NBONE	NBONW NBONE	NBONW NBONE
NBONE	NBONE	NBKNBO	NBKNBO	NBKNBO
NBKNBO	NBKNBO	DMSA	DMSA	DMSA
DMSA	DMSA	Pead DMSA	Pead DMSA	NCHVQ/ NCHEQ
Pead DMSA	NCHVQ/ NCHEQ	NREND	NREND	NSLOC
NREND	NSLOC	NSLOC	NSLOC	

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NSLOC				
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WRH does not perform or arrange PET scans, please contact the QEH PET Centre for PET scans on 0121 371 7220

OUTPATIENTS:

DISCHARGED & PLANNED PATIENTS

Please refer to the separate SOP

[SOP Discharged Patients & Planned Radiology Referrals.pdf](#)

CANCELLED & DECLINED REQUESTS (referred to by the CRIS software as rejected and we are unable to change the terminology)

Radiology will only cancel a request if instructed to do so by the referrer or the patient. If there is a duplicate request from a different referring team, one request will be cancelled and that referrer will be notified.

Requests which require further information or patients require renal function tests will be deferred for a period of 10 /7 but then the referrer will be notified by email with a declined letter (cc'd to medical secretary). Following this a new request will be required.

'HOT REPORTING SERVICE'

The Radiology directorate provides a plain film 'hot reporting' service, predominantly supported by our ever growing team of reporting Radiographers during the hours of 09:00 – 17:00 Monday–Friday excluding bank holidays.

Please allow a minimum of 30mins following the patient's return from x-ray for the report to be available before calling the department to 'chase'.

INTERRUPTIONS

Interruptions during reporting sessions are a recognised contributory factor for reporting errors and incidents, where possible please refrain from non-urgent/life threatening interruptions of the Duty Radiologist and reporting teams

If you do need to interrupt?

Please be patient when approaching:

- Reporting radiologists, radiographers and sonographers and allow them to finish dictating the report they are working on.

Scanning radiographers – the CT & MRI control rooms are clinical areas in which radiographers are performing complex clinical exams. They should not be disturbed during this or distracted by unnecessary conversations.

Please wait until they have finished scanning before you engage with them.

IR(ME)R 2017 Responsibilities of Referrer

Duties and Responsibilities of the referrer

"Referrer": a registered health care professional who is entitled, in accordance with the employer's procedures, to refer individuals for exposure to a practitioner; It is a legal obligation that the referrer provides all necessary clinical

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information relating to the patient and the exam, to enable the practitioner to decide whether there is a sufficient net benefit giving appropriate weight to:

- (a) The specific objectives of the exposure and the characteristics of the individual involved;
- (b) The total potential diagnostic or therapeutic benefits, including the direct health benefits to the individual and the benefits to society, of the exposure;
- (c) The individual detriment that the exposure may cause; and
- (d) The efficacy, benefits and risk of available alternative techniques having the same objective but involving no or less exposure to ionising radiation.

As a requirement to refer to Worcester Acute Hospitals Trust Radiology services, every referrer must provide the following information as a minimum:

Demographics

- Patients full name
- Patients registered address
- Patients date of birth
- Where possible, the referrer should provide the Patients NHS number so that the patient can be accurately and uniquely identified prior to any examination being undertaken.

Note: Where the patient's identity is unknown i.e. Emergency A&E referral only, standard Trust identification procedures must be followed.

Clinical History

- Accurate clinical information to 'justify' the associated medical exposure or examination.
- Where relevant, i.e. for all patients of child-bearing potential (between the ages of 12 and 55), referrers are required to include information related to pregnancy status and whether patients are breast feeding. The referrer must also state whether they wish (subject to practitioner approval) any restrictions to be waived for those patients undergoing x ray procedure, which involves irradiation of anatomy between the diaphragm and the knees and/or all nuclear medicine procedures. In order to establish the pregnancy status of a patient, the Inclusive Pregnancy Status form will be completed.

[NEW PREGNANCY FORM A.pdf](#)

- Clear evidence of a signature (routinely electronically populated though individually approved logons to systems such as ICE/order comms, but where IT systems fail, physical signatures are required) and a description of role occupied, which are all used to uniquely identify the referrer.
- By submitting a referral, referrers are therefore responsible to act on all results provided within a timely manner and in the patients best interests.

Referrals for medical exposures should be made in accordance with documented referral criteria. The criteria used by the WAHT will be based on those provided in the latest version of "iRefer - Making the best use of clinical radiology" document, published by the Royal College of Radiologists.

[Home](#) | [iRefer](#)

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- We ask that all referrers adhere to Appendix A: Pause & check IR(ME)R referrers checklist when requesting a diagnostic procedure to ensure all requirements are met.
- Please note self-referrals or referral for direct family members are not accepted.
- If any request is deemed incomplete it will not be accepted and the referrer will be notified of the reason electronically and if any further action is required, this will cause a delay to the patients requested exam.

Referrers at WAHT include Non-Medical Referrers

All non-medical referrers are requesting on behalf of a documented medically qualified responsible referrer who has delegated the responsibility as appropriate.

A list of all trust approved non-medical referrers is kept centrally within radiology in addition to records of all required approval documents. Registrants are contacted when their 3 yrs refresher training is approaching.

This list is maintained by a person designated by the Radiology Directorate and enables the operators/Practitioners to use as a reference guide as to who is an authorised non-medical referrers and their scope.

All Non-medical referrers who wish to refer for imaging involving ionising radiation are expected to as a minimum have completed:

- Training to include e-learning IRMER modules 01-03 via Electronic Service Record (ESR)/e-LfH, (refreshed at a minimum every 3 years)
- Completed relevant continuing professional development
- Competencies for radiology requesting

There is a separate register for those NMRs requesting ultrasound examinations only. These staff do not need to complete the IR(ME)R training.

They must be approved by the Radiology Quality/ Governance team following the application process documented here:

[Non Medical Referrer Application Process](#)

“To x-ray or not to x-ray? - That is the question!”

Prior to submitting any referral, all individuals should consider: Will this examination influence /affect the immediate management of the patient?

You should also consider Cochrane’s Law:

“Before you request a test, you should first ask yourself what you are going to do if the test is positive, then ask yourself what you are going to do if the test is negative. If the answer is the same, do not do the test.”

Under IR(ME)R 2017 “wherever practicable, and prior to an exposure taking place, the patient or their representative is provided with adequate information relating to the benefits and risks associated with the radiation dose from exposure”.

In the first instance this discussion should be undertaken by the referrer with the patient prior to referral.

The delivery of information concerning the benefits and risks associated with radiation dose will be dependent on the level of risk associated with the planned exposure and are broadly defined according one of three levels of risk (Low, Medium, Moderate) corresponding to the level of risk associated with the exposure.

Low risk - procedures include, general radiography involving individual radiographs, low dose fluoroscopy procedures, dental radiography and bone densitometry.

- ➔ Relevant information will be delivered in the form of posters displayed in the radiology department waiting areas.

Medium risk - procedures include high dose non-interventional fluoroscopy, low dose computed tomography (CT) and diagnostic nuclear medicine procedures.

- ➔ Relevant information will usually be delivered in the form of posters displayed in the radiology department waiting.
- ➔ Where attendance for the procedure is arranged via an appointment letter then relevant information regarding the benefits and risks will be included in the appointment letter.

Moderate risk - procedures include high dose interventional radiology, high dose CT procedures (including hybrid imaging) and standardised therapeutic nuclear medicine procedures.

- ➔ Relevant information will be verbally communicated to the individual to be exposed, or their representative, by the referrer at the time of referral. The procedures benefits and risks associated with the radiation dose shall be discussed.
- ➔ Information is available on ICE and will also be included with the appointment letter.

Special circumstances:

Emergency trauma unconscious patients – No information provided

Paediatric patients – Information provided to parent/guardian

Patient lacking capacity – information provided to representative

Patient with sensory impairment – additional tools (i.e. Interpreter/information in another format)

Communication in alternative language - additional tools (i.e. Interpreter/information in another language)

Typical examination dose and equivalent period of natural background radiation (UK)

Examination (Adult examinations)	Effective Dose (mSv)	Equivalent period of natural background radiation	Lifetime additional risk of fatal cancer per examination

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Chest	0.02	3 days	1 in a million
Abdomen (AP)	0.7	4 months	1 in 30,000
Pelvis (AP)	0.7	4 months	1 in 30,000
Cervical spine lateral	0.08	2 weeks	1 in 200,000
Thoracic spine complete	0.7	4 months	1 in 30,000
Extremities	<0.01	<1.5 days	1 in a few million
CT Head	2	1 year	1 in 10,000
CT Chest	8	3.6 years	1 in 2,500
CT Abdomen/Pelvis	10	4.5 years	1 in 2,000
Barium swallow	1.5	8 months	1 in 13,000
Bone Scan	4	2 years	1 in 5,000
Lung ventilation	0.1	2.4 weeks	1 in 200,000
Lung perfusion	1	6 months	1 in 20,000

Age

The risks from radiation are a little higher for children than they are for adults; this is because children are still developing and growing and have a long life ahead of them.

Extra care is taken with young patients to keep their radiation exposure to a minimum.

The risks from radiation are much lower for older people.

The Possibility of Pregnancy:

The Referrer is also required to check the LMP (Last Menstrual Period) dates of all individuals of childbearing capacity aged 12 – 55 years before referring them for an X-ray of the abdominal, pelvic or upper femora regions. Radiographers will check LMP prior to the examination being undertaken on attendance.

Referrers should clearly indicate on the referral form if it is known or suspected that a patient is pregnant at the time the request is made and must indicate that the clinical necessity of performing the examination overrides the question of possible pregnancy.

Please note: a negative pregnancy test is only accepted if the patient's menstrual cycle is overdue as the tests to exclude pregnancy are not reliable prior to this. However, they are more reliable for a positive test.

For patients that are known to be pregnant; if the clinical need for an x-ray outweighs the risk from radiation, there is a pregnancy waiver form available from the radiology department. This must be completed by the referrer in discussion with the patient prior to the examination.

To ensure a strong safety culture is in place and that the essential safety checks are completed we are advocating the use of the Society and college of radiographers (SCoR) 'Paused and Checked for referrers. (Appendix 1)

Appendix 1

Diagnostic Radiology Referral

Have you “Paused & Checked”?

An IR(ME)R Referrers checklist for referring a patient for a diagnostic imaging examination

P	Patient	<p>Ensure correct patient (3-point ID)</p> <p>Ensure it is physically possible for the patient to undergo the examination (e.g. any mobility issues)</p> <p>Ensure patient has been given adequate information and understands and agrees to examination</p>
A	Anatomy	<p>Ensure correct body part/laterality specified</p>
U	User Checks	<p>Confirm most appropriate investigation and consider non ionising radiation alternative (use of IRefer/local referral guidelines)</p> <p>Check previous investigations</p> <p>Confirm timing of examination (is date required clear?)</p> <p>Ensure pregnancy/breastfeeding status is verified</p> <p>Ensure any special needs/interpreter/disabilities/mobility documented (eg hoist required?)</p> <p>Ensure implantable cardiac defibrillator devices documented</p> <p>Ensure allergies documented and appropriate pathology results are available where requested</p>
S	System & Settings	<p>Confirm correct examination (code) requested</p> <p>Confirm correct imaging modality selection</p> <p>Confirm relevant clinical information is adequate to enable the Practitioner to justify the examination</p> <p>Confirm relevant clinical information will assist in the evaluation of the study</p>
E	End	<p>Confirm entitled Referrer against IR(ME)R procedures – eg unique identifier/correct user login</p> <p>Final check that this is the CORRECT patient</p> <p>Confirm the above and submit request</p>
D	Draw to a Close	<p>Ensure you have received an evaluation of the examination</p> <p>Ensure the results are discussed with the patient</p> <p>Confirm whether further investigation is required</p>



IR(ME)R requires all duty holders to comply with their local employer's procedures. This 'pause and check' poster does **not replace** these procedures but represents a shortened summary of the main **checks**. **You must adhere to your local procedures at all times.**