University Hospitals of Derby and Burton NHS Foundation Trust

Division of Cancer, Diagnostics & Support Services

Imaging Business Unit Procedure for 'Fluoroscopy' Radiographic Examinations.

Referral Guidelines, Authorisation and Justification Criteria

Reference Number: FL 99	**Version Number** 1.1		**Status:** Draft	**Document Owner:** See QPulse 'document records' for electronic signature **Job Title:** Clinical Director – Imaging
Version / Amendment History	**Version**	**Date**	**Author & Role**	**Reason**
	1.0	December 2021	Robert Whiteman - Superintendent: Fluoroscopy & Interventional (RDH); Rebecca Ward - Superintendent: Fluoroscopy & Interventional (QHB);	First QPulse archived version
	1.1	June 2023	Huw Thomas - Lead Radiographer for Non-Medical Referrers, Imaging Compliance team	Annual review and update to electronic signoff via QPulse.

Intended Recipients – Essential to Role Operators & Practitioners ACD Fluoroscopy CD – Imaging Chair Trust RPG	**Intended Recipients – For Awareness / Reference** Referrers
Communication: Emails via QPulse to Operators and Practitioners working under this protocol. Referrers are notified of the protocol and its location by letter,	**Training:** Operators and Practitioners receive training on this protocol and other IRMER Procedures.

Available on QPulse,	
To be Read in Conjunction with: Trust Policy Employer's procedures to meet the requirements of Schedule 2 of the Ionising Radiation (Medical Exposures) Regulations and those covering other matters relevant to the conduct of examinations involving the exposure of patients to ionising radiation.	

Groups & Stakeholders Consulted	**Equality Impact Risk Assessment**
General Manager Clinical Director Key Referrers	**Stage 1:** Completed **Stage 2:** N/A

Approving Groups:
Fluoroscopy & Interventional Medical Exposures Committee, Imaging PQRS, Radiology Advisory Group

Authorising Committee:
The Trust Radiation Group ratify Documents issued in accordance with The Trust Radiation Safety Policy and authorise their uploading to the Trust intranet and internet sites.

Imaging BU Sign- Off:

Dr R Singh: Clinical Director
31/05/2022

Dr R Kirke: Clinical Director
31/05/2022

Mr David Tipper
General Manager: Imaging and Lead Radiographer
01/12/21

Divisional Sign-Off:

Protocols approved by the Trust Radiation Protection Group

Active from: 01/12/21	Review Frequency: Annual	Review Due: Please see QPulse

Uncontrolled when printed. Staff should consult the electronic master copy of each clinical protocol for the definitive version

This document remains in force until replaced or withdrawn.

Index

Examination Protocols: 'Fluoroscopy' Examinations

Introduction

Evidence Base for these Protocols:

The Royal College of Radiologists: iRefer.

User Groups:

Referrers:

These guidelines are designed to assist the Referrer in selecting the most appropriate investigation for the patients clinical condition.

These are protocols for each common clinical situation. There are no definite recommendations for each examination. Requests for clinical indications not listed in these protocols but which are within the Royal College of Radiologists 'iRefer guidelines' will be considered but require direct Justification by a practitioner on a case by case basis.

The aim for all examinations is to obtain maximum information with minimum radiation, so as to meet the legal requirement to keep radiation doses as low as is reasonably practicable (ALARP). The examination performed will be based on the referral information provided and may differ from that requested. It is important that referrers are aware of this potential variation, since the imaging undertaken may not be what the referring clinician expects. Where the referrer wishes specific radiographic projections, or for the examination to performed in a particular way, they must provide the rationale for this as part of the referral so that it can be considered by the operator or practitioner as part of the authorisation or justification decision.

Operators

These guidelines are designed to assist the operator in decision making when authorising referrals.

Examination requests meeting the criteria listed in this protocol may be authorised by the operator. All examinations authorised by the operator under this protocol will be conducted accordance with the standard examination protocol indicated for the clinical information and referral source.

Examination requests not meeting the criteria listed must be passed to a Practitioner for individual justification. If considered justified, the practitioner will indicate the examination protocol to be followed by the Operator.

Practitioners

These guidelines are designed to assist the practitioner in decision making when justifying referrals.

Examination requests meeting the criteria listed in this protocol may be authorised by the operator. The Clinical Director for Imaging acts as Practitioner for all examinations authorised under this protocol; which will be conducted accordance with the standard examination protocol indicated for the clinical information and referral source.

Operators will pass any examination request not meeting the criteria listed in the protocol to a practitioner for individual justification. If considered justified, the practitioner will indicate the examination protocol to be followed by the operator. The individual practitioner making the justification decision is the practitioner for that examination.

All Examinations

All examinations requests will be conducted in accordance with the employer's procedures to meet the requirements of Schedule 2 of the Ionising Radiation (Medical Exposures) Regulations and those covering other matters relevant to the conduct of examinations involving the exposure of patients to ionising radiation.

Implementation, Training and Dissemination

All operators and practitioners undertaking fluoroscopic radiographic examinations will be trained on these protocols and must follow them in their day to day work.

The protocols will be available to Operators and Practitioners:

- On QPulse
- On the Radiology Shared Drive (Until QPulse is available at all UHDB sites)
- As printed copies in relevant clinical areas (managed by the Superintendent Radiographer for the area)

All referrers will be notified of these guidelines which will be available to them:

- On the Trust intranet site (Net-i)
- On the Trust internet site

Trust staff have access to the RCR iRefer website via Net-i

Monitoring Compliance

Audit of compliance with each employer's procedure forms part of the Imaging Quality Management Audit programme.

Ref: FL01	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Barium Swallow
Description	Dynamic study performed by Radiologist or suitably trained practitioner to assess the oesophagus and swallowing mechanism and stomach
Clinical Indications allowing Justification / Authorisation	○ Oesophageal Cancer ○ Hiatus Hernia ○ Reflux / Gastro Oesophageal Reflux Disorder (GORD) ○ Globus ○ Web ○ Foreign Body Sensation ○ Dysphagia ○ Suspected Motility Disorder ○ Suspected Oesophageal Pouch ○ Regurgitation of Food ○ Oesophageal Pain ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to barium Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks

	and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.006%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Nil by mouth and no smoking 6 hours prior to examination Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Swallow setting linked via RIS code Screening setting – 4fps* Acquisition setting – 2-4fps* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Prone / Supine / Decubitus
Standard Examination	Please see Upper GI SOP
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Drink regular water for 24-48hrs to avoid constipation
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.
Image Archive	Ensure required Images transfer into the correct record on PACS.

	Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• Standalone case National DRL 2.1 minutes screening time and 750uGym^2 • Combined with Barium Meal National DRL 2.3 minutes screening time and 1000uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL02	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Barium Meal
Description	Dynamic study performed by Radiologist or suitably trained practitioner to assess the demonstrate the oesophagus and stomach
Clinical Indications allowing Justification / Authorisation	○ Dyspepsia ○ Stomach Cancer ○ Pyloric Stenosis ○ Previous GI Surgery (if immediately post-surgery – water soluble) ○ Post Fundaplasty (if immediately post-surgery – water soluble) ○ Gastritis ○ Chest Pain (Ba Swallow & Meal) ○ Reflux / Gastro Oesophageal Reflux Disorder (GORD) ○ Ulcer ○ Early Satiety ○ Failed / not possible OGD
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to barium Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed.

	The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.006%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Nil by mouth and no smoking 6 hours prior to examination Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Meal setting linked via RIS code Screening setting – 4fps* Acquisition setting – Single shot, 2-4fps* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Prone / Supine / Decubitus
Standard Examination	Please see Upper GI SOP
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Drink regular water for 24-48hrs to avoid constipation
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.

Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	Standalone case National DRL 2.6 minutes screening time and 1200uGym^2 Combined with Barium Swallow National DRL 2.3 minutes screening time and 1000uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL03	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Barium Follow Through
Description	Study to assess small bowel
Clinical Indications allowing Justification / Authorisation	**Consider CT scan as first line diagnostic test for**: • Weight Loss • Acute Small Bowel Obstruction • Small Bowel Tumour **Consider MRI scan for:** • Crohn's Disease (in patients under 40 years of age) OTHER CLINICAL INDICATIONS: ○ Small Bowel Obstruction ○ Malabsorption ○ Diarrhoea ○ Recurrent Anaemia ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to barium, Picolax, or Cleanprep Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the

	opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.006%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	As per specific medication instructions for Picolax/Cleanprep Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Follow Through setting linked via RIS code Screening setting – 2fps* Acquisition setting – Single shot* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Prone / Supine / Decubitus
Standard Examination	Dependent on clinical question
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Drink regular water for 24-48hrs to avoid constipation
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.

Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• National DRL 2 minutes screening time and 840uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL04	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Water soluble Swallow
Description	Dynamic study performed by Radiologist or suitably trained practitioner to assess the demonstrate the oesophagus and stomach
Clinical Indications allowing Justification / Authorisation	○ ? Aspiration ○ ? Anastomotic leak ○ Post Recent Surgery (upper GI) ○ Post Op Ivor Lewis Oespohagectomy ○ Ideally done at day 5 post op, however if this falls on a Saturday or Sunday can be done on day 4 or day 6 as agreed with Upper GI Surgeons November 2018. ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to Omnipaque / Iodinated Oral Contrast Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.

Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.006%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Nil by mouth and no smoking 6 hours prior to examination Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Swallow setting linked via RIS code Screening setting – 2fps* Acquisition setting – 2-4fps* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Prone / Supine / Decubitus
Standard Examination	Dependent on clinical question
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Dependent on pathology seen, will be detailed in results as below
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.
Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.

Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• National DRL 2.1 minutes screening time and 750uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL05	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Water soluble Enema / Pouchogram
Description	Study to assess the lower GI system +/- surgical interventions
Clinical Indications allowing Justification / Authorisation	○ ? Anastomotic Leak ○ ? Fistula ○ Before reversal post anterior resection ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to Omnipaque / Urograffin / Iodinated Contrast Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. In most cases this will be via the provision of the returnable leaflet. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.006%] to the 1 in 3 chance we all have of getting cancer

Pre-procedure preparation	Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with "**Radiographer Protocols for Fluoroscopy Radiology**" (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Enema setting linked via RIS code Screening setting – 2fps* Acquisition setting – Single Shot* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Supine
Standard Examination	Dependent on clinical question
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Dependent on pathology seen, will be detailed in results as below
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.
Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.

Diagnostic Reference Level	• National DRL 2.1 minutes screening time and 750uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL06	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Arthrogram/Joint Injections
Description	Examinations to demonstrate articular surfaces and other structures within joints
Clinical Indications allowing Justification / Authorisation	○ Suspected tear of cartilage, ligaments or tendon dependent of joint ○ Unstable shoulder with US or Plain MRI unable to demonstrate tear ○ Pain/swelling of joint ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to iodinated contrast or MRI contrast agent If for MRI, MRI contraindicated Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.

Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Negligible (less than 1 in 100,000)** This represents a very small addition [0.0002%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Arthrogram setting linked via RIS code Screening setting – 2fps* Acquisition setting – Single shot* *however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Prone / Supine
Standard Examination	Fluoroscopy guided joint injection
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Not to drive for 12 hrs post injection
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.
Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS

Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• No national DRL available • Local DRL will be created after DoseWatch audit in due course
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL07	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Video Fluoroscopy
Description	Dynamic study performed by Radiologist or suitably trained practitioner to assess the oesophagus and swallowing mechanism and stomach
Clinical Indications allowing Justification / Authorisation	**SLT-led Examinations:** ○ Clear neurological presentation ○ Repeat videofluoroscopy of progressing or resolving dysphagia in a neurological condition ○ Repeat videofluoroscopy of a clearly documented, non-structural aetiology for dysphagia. ○ Adult with congenital physical or cognitive impairment presenting with chronic dysphagia. ○ Any videofluoroscopy for patients between 18 and 40 years old who have been discussed and agreed with a Radiologist. **Radiologist-led Examinations:** ○ Patients less than 18 Years of age. ○ Patients between 18 and 40 years of age where a SLT-led examination is not agreed by the Radiologist. ○ Dysphagia of unknown aetiology. ○ Head & neck surgery patients. ○ Suspected or confirmed structural abnormality. ○ Any SLT referral for video fluoroscopy for the above indications may be Authorised by the Radiographer designated as the Operator for the examination. ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to barium Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised

	examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Minimal (less than 1 in 100,000)** This represents a very small addition [0.002%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Swallow setting linked via RIS code Screening setting – Continuous and onto DVD Acquisition setting – Single Shot* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Sitting
Standard Examination	As directed by SALT team
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Drink regular water for 24-48hrs to avoid constipation
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images

	should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.
Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• National DRL 3.5 minutes screening time and 340uGym^2
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse

Ref: FL08	Review Due: Annual - Please see QPulse Active until replaced	Document Owner: Clinical Director – Imaging Please see QPulse

Examination	Gastric Band
Description	As for the Barium Swallow but normally performed by a Bariatric Nurse Specialist trained in the use of X-ray room F3. The examination aims to check the restriction of the flow of barium into the stomach resulting from the gastric band previously fitted to the patient. Patients do not need to be undressed. The Nurse Specialist will locate the band around the top of the stomach using the fluoroscopy equipment and then adjust the restriction it causes by adding or removing saline via a port, to it to relax/tighten it. A very simplified Barium Swallow then follows to ensure the band is of correct tightness.
Clinical Indications allowing Justification / Authorisation	○ Check patency of surgically implanted Gastric Band ○ Allow flow of Barium through Gastric Band to be assessed by Bariatric Nurse Specialist/Radiographer ○ Adjustment of fluid volume within Gastric Band ○ As per iRefer guidelines
Information relevant to, but insufficient to allow Justification / Authorisation	Specialist referral, research, Radiologist recommendation, 'non-medical examination for example 'medico-legal' reasons.
Contraindications	Allergy to barium Patient unable to cooperate with examination requirements. Patient does not consent or withdraws consent. Relevant recent imaging which excludes the suspected pathology and no change in clinical history. Another Imaging modality / technique is more appropriate
Justification / Authorisation	Requests must be Justified by a Practitioner. Operators (Radiographers and pre FRCR Radiologists) may authorise examinations with the above clinical indications as defined in the relevant authorisation protocol. The Clinical Director for the Imaging Business Unit is the Practitioner for all authorised examinations. Requests with other clinical indications, not listed above but included in the Royal College of Radiologists iRefer guidelines, must be Justified on a case by case basis by a Practitioner.
Protocolling	Examinations are performed in accordance with this standard protocol.
Consent	Patients attending for examination are considered to have

	consented to it being performed. The patient must be given information about the procedure, its risks and what is required of them. The patient must be given the opportunity to ask questions and asked if they are happy to proceed before the examination begins.
Radiation Risk National Radiological Protection Board Risk Category	Lifetime additional risk of cancer per examination: PHE Descriptor: **Very Low Risk (less than 1 in 10,000)** This represents a very small addition [0.004%] to the 1 in 3 chance we all have of getting cancer
Pre-procedure preparation	Risk vs benefit information Changed into patient gown Removal of radiopaque items from the area to be examined. NB: To be read in conjunction with Radiographer Protocols for Fluoroscopy Radiology (available on QPulse)
Fluoroscopy Radiology Departmental Preparation	In addition to the guidelines above: • PATIENTCheck and STOP Moment as per QPulse documents • Radiographer Protocols for Fluoroscopy Radiology
Machine Settings	Barium Swallow setting linked via RIS code Screening setting – 2fps* Acquisition setting – 1fps* *as per SOP, however specific clinical cases may necessitate changes by performing practitioner
Patient Position	Standing / Supine
Standard Examination	Simplified Swallow centred over Gastric Band
Comment	Dependent on clinical condition of patient and specific questions on request card, this protocol may be adapted / reduced as per the Radiologist / Practitioner as necessary.
Aftercare	Drink regular water for 24-48hrs to avoid constipation
Results	Results will be provided to the patient by the referrer. Staff should follow the Imaging Department Protocol to ensure patients are aware of the process to get their results and appropriate timescales. Imaging non-medical staff should not discuss results or potential treatment with patients. In the event of potentially significant unexpected findings, images should be sent for urgent report. If confirmed, the Radiologist / Performing Practitioner will escalate the report to the referrer in accordance with Imaging department policy. The referrer will then contact the patient as appropriate. If the patient is a GP referral, they should ideally wait whilst Images are reported. The Radiologist / Performing Practitioner will escalate urgent results to the referrer. The Radiologist / Performing Practitioner will advise on changes to when patients should seek their results.

Image Archive	Ensure required Images transfer into the correct record on PACS. Rejected Images should not be archived.
Rejected Images	Non diagnostic / unrequired images will not be sent to PACS
Reporting	Most Images will be reported by UHDB Radiologist or Performing Practitioner
Dose Recording	Operators must record the patient's dose on CRIS, as specified by the employer's procedures.
Diagnostic Reference Level	• No national DRL available, use Barium Swallow of National DRL 2.1 minutes screening time and 750uGym^2 Local DRL will be created after DoseWatch audit in due course
Overexposure	Examinations breaching the DRL without obvious cause should be regarded as an incident and a DATIX incident report should be completed. Such incidents should be escalated to the senior Radiographer on duty for local investigation. Please see Imaging employer's procedure e for Radiation Incidents and Trust Incident Investigation Policy.
Error Reporting	Radiographers have a professional duty to be open about errors. When a significant error is identified whist the patient is still within the department, they should be told, an apology offered and a DATIX incident form completed. If the patient has left the department, a DATIX incident report should be completed and the referrer contacted. Referrers should be informed of the error and advised of their responsibility to inform the patient and apologise on behalf of the Trust. The Trust Duty of Candour process will then be followed if a relevant threshold is considered to have been reached.
Basis for Practice	Royal College of Radiologists i-Refer, local commissioning and agreed referral pathways
Signature & Date	This document is managed and signed electronically in the Imaging QPulse system. Please see the QPulse 'document details' record. Hardcopy Versions of this document must be accompanied by the document details report from QPulse