

## Potential impact of COVID-19 on diagnostic imaging provision in the UK

### Purpose

The purpose of this paper is to summarise current guidance and facilitate a discussion of UK Medical Radiation Regulators on the potential changes in the provision of diagnostic imaging during the COVID-19 pandemic to guide a consensus on regulatory approach.

### Background

Imaging departments across the UK are playing a fundamental role in managing patients during the COVID-19 pandemic. [Guidance](#) and recommendations are changing rapidly as more evidence emerges and the situation evolves. Local policy and procedures should be adapted and consistent with national and international guidance to ensure they are in line with this growing evidence.

Effective and efficient use of imaging will be paramount in the management of the predicted growth in demand. As ever, the use of medical imaging must be justified at a point in the clinical decision pathway where it will influence the patient's clinical management or prognosis.

Radiology providers will need to consider and implement changes to their usual practice based on local demand and capacity. There will be disruption to patient flow through the radiology department due to the need to clean and decontaminate equipment following imaging of infected patients or high-risk patients. [Radiologists](#) will need to consider alternate investigations where access to imaging equipment is more limited.

Radiology departments have already implemented the vast reduction in non-urgent imaging to cope with the increase in demand for in-patient services. [Guidance](#) is available from the professional bodies on the postponing of both individual and groups of patients where diagnostic imaging and treatment can be delayed until after the pandemic.

[Royal College of Radiologists](#) (RCR) have actively encouraged all radiology services to put in place mechanisms to allow radiologists to report and attend multidisciplinary team meetings (MDTMs) remotely, to facilitate the dissemination of the workforce and support the continuity of the service.

### Potential changes to diagnostic imaging provision

[SCoR](#) have published key points for inclusion in the adaptation of departmental policies:

- Mobile imaging wherever possible, avoiding transfer of the patient
- Transfer of patients to imaging departments when mobile imaging is not appropriate
- Decontamination of imaging equipment (CT and MRI gantries, ultrasound probes) and any surface that may have come into contact with respiratory droplets
- Clean techniques for imaging, including dual working where possible

The SCoR advise that “the use of mobile imaging will play an important role in patient management, both for the imaging of critically unwell patients and also to avoid increased contamination risk associated with patient transfer”. They have suggested the use of dedicated mobile units, and where possible DR units to reduce transit and to effectively manage radiographer workload.

As of 30<sup>th</sup> April 2020, the [RCR](#) supports the agreed [intercollegiate statements](#) from the Surgical Royal Colleges. Due to its low sensitivity and the low pre-test probability of disease, computed tomography should only be deployed in very specific circumstances.

Guidance has been drafted in light of concerns expressed over an increase in requests for pre-operative chest CT as a routine screen to exclude asymptomatic COVID-19. The guidance outlines the specific circumstances where CT is indicated for pre-operative chest CT imaging for elective cancer surgery during the COVID-19 pandemic.

The guidance remains, that patients who present as abdominal emergencies who have a pre-operative abdominal CT in their diagnostic investigations should also have a low dose chest CT scan. In the case of routine pre-operative patients, chest CT to screen for COVID-19 is NOT indicated and requests will be rejected.

[British Society of Thoracic Imaging \(BSTI\) and NHS England \(NHSE\)](#) have devised a radiology decision support tool to guide appropriate referrals and characteristic findings on chest radiographs (CXR) and CT scans. The RCR have recommended that referrals have a higher threshold and are justified by senior staff to limit unnecessary imaging.

[BSTI and British Society Gastrointestinal and Abdominal Radiology \(BSGAR\)](#) have also jointly devised a decision tool for deciding on chest imaging in patients presenting with an acute surgical abdomen in whom it is already deemed necessary for a CT abdomen to be performed, as per current national guidance.

In situations where CT is justified and performed on an infected or suspected high-risk patient, the need to decontaminate the scan room can be an issue in facilities where there is only a single CT scanner on site. Therefore, the use of nuclear medicine hybrid CT scanners and radiotherapy CT scanners are being considered in some departments to increase the workflow and reduce delays.

Some key considerations for the adaption of such scanners prior to use should be:

- MPE involvement to ensure protocols are optimised
- Training of staff
- Handover of equipment, in the case of radiotherapy to diagnostic staff
- Appropriate referral criteria and availability of DRLs

A combined statement from the [IR\(ME\)R inspectorates](#) in the four UK countries responding to COVID-19 says that "we encourage flexibility within the legislative and regulatory requirements while ensuring that patient safety is not compromised". However, the guidance emphasises that "No staff should operate radiological equipment without training". Staff will need to work within their scope of practise and retain training matrices to help track staff redeployment to other areas within radiology.

IPEM have provided [guidance](#) on the handling of donations and loans of medical equipment during the COVID-19 pandemic. The key points of this guidance are:

- ensure patient safety
- support the efficient, appropriate and timely use of hospital resources
- address issues arising as a result of the COVID-19 pandemic

Hospitals should have a procedure in place specifying the criteria under which medical equipment is loaned or accepted. Clinical engineering services must be consulted prior to accepting equipment, this applies to equipment from within the NHS, from companies, charities or the public.

## Summary

- 1) Radiology departments across the UK need to adapt to meet the challenges of local demand and capacity.
- 2) CXR remains the primary imaging modality with CT being used only in specific acute circumstances.
- 3) The use of dedicated DR mobile machines will reduce the need for patient transfer and contamination risks.
- 4) Remote working for radiology reporting and MDTMs have been encouraged to support continued services and staffing.
- 5) Use of hybrid CT scanners and therapeutic CT scanners is being adopted to help meet demand, especially in centres with single diagnostic CT scanners.
- 6) The accepting and loan of medical equipment must be done under strict criteria and in consultation with local clinical engineering services.

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