



Information and Support for Radiographers and Radiological Technologists

Covid-19 and Chest X-ray

Access here the web site here <https://www.elearning.isrrt.org>

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Preamble

This web-based information and support system is a joint initiative between and ISRTT and the EFRS. From conception to publication, the web-based system was developed and published within 16 days in response to an urgent international need. A multinational team was assembled, and thousands of hours of human effort went into its creation.

At the time of publishing the website, it was intended to represent good practice in mobile chest radiography. However, we must accept two caveats - 1. Practice and legal variations will occur within individual countries and we could not address them here; 2. The subject of mobile chest X-ray imaging and Personal Protective Equipment (PPE) for Covid-19 is changing fast – so you should always check for any UpToDate evidence and your government guidelines, where they exist.

Purpose of this web-based information and support system

Within and between countries, the information provided to radiographers and radiological technologists about PPE and professional / social practices to minimise the chance of catching Covid-19 is highly variable. This web system shares what is considered to be good professional and social practice in this regard, from various countries across the world.

CT and mobile chest X-ray are considered to be two valuable imaging tools in the management of Covid-19, but due to the safety and logistics of CT it is certain that mobile chest X-ray will be used more extensively. Mobile radiography is an art and a science and not all radiographers/radiological technologists are up to date with this technique. Consequently, due to the rapid rise in demand for mobile chest X-ray imaging, many radiographers/radiological technologists will have to be reskilled and upskilled. We know this will place a huge resource burden, both locally and nationally, in order to create and deliver learning opportunities for them to meet training and educational needs. Providing a singular web-based information and support resource means that tens of thousands of hours can be saved across the world by reducing or even eliminating the need for replication of effort. More time can therefore be spent caring for patients.

Quality assurance, corrections and updating

The production of this website involved over 40 people, many of whom worked in small teams on specific topics. Nobody could meet in person due to social distancing and for some teams, they didn't know one another prior to commencing the work. Time zones created additional difficulties, as synchronous working was hard to achieve around the globe. However, once each team produced material about a topic it was peer reviewed quickly and suggestions were made for improvement. The speed at which the whole process was done means some errors will exist. Consequently - we are open to suggestions – if you perceive an error (other than grammatical) please email ceo@isrrt.org and we shall try to correct it. In due course we shall

need to review the content and appropriateness of the material about Covid-19 and the use of imaging and a team might be established to do this at some point.

How to use this web-based information and support system

You can use this web-based resource any way you like, for example

1. As an individual, you can work through each component sequentially and undertake the associated multiple choices questions
2. You could select to do just one or two individual components, to update yourself
3. If you are a practice educator, you could take whatever information you like from the website and use it when teaching in your hospital

Important - we recommend strongly that you gain practical experience alongside a radiographer/radiological technologist who is competent at performing mobile chest X-ray imaging, and ideally one who has Covid-19 PPE experience. Simply reading through this website is not a substitute for gaining clinical experience alongside a competent radiographer/ radiological technologist.

Links between web-platforms

The web-based system has web-platforms associated with it. The overwhelming majority of the materials are located on the ISRRRT e-Learning platform. From here clickable links are made to other resources, including e-Learning for Health (e-LfH) learning sessions and EFRS COVID-19 web-resources and webinars. As you work through the ISRRRT e-Learning platform do explore the clickable links ... some are essential, while others enrich your learning experience.

[Website content](#)

We have created a lot of learning materials and guidance documents with links to external sources. To minimise the time you spend searching through the website, we have provided a brief explanation of each section, below. It could be worth your while to review the brief explanations and then decide which sections are relevant to you. Each 'subheading', below, is a clickable link directly into the e-Learning materials.

[COVID-19 - ISRRT Response Document](#)

The initial document is an extract from the *COVID-19 - ISRRT Response Document*. Whether you are experienced in mobile chest radiography or not, this document is worth reading. It is a check list of things to consider before, during and after the imaging procedure.

[Section 1: What is a virus? What is Corona virus and why is it different?](#)

If you don't know a great deal about viruses or Covid-19 then this is worth reading as it sets a good foundation and context on which you can learn about Covid-19 and why it is so risky to humans. This section gives a clear explanation on why it is easy to catch if you are not careful. Working through this section will allow you to understand the nature of viruses, describe how they multiply within their host, understand the nature of Covid 19, describe ways of minimising the spread to yourself and the community and list ways you might be managed / treated if you catch the virus.

[Section 2: Measures Radiographers can take to minimise risk to themselves during professional working and their families](#)

There are three main components to this section: 1. PPE and practices in professional work and minimising risk to your loved ones; Physical and mental well-being of radiographers during self-isolation due to Covid-19; 3. Coping with wearing PPE in your professional work. There is special emphasis on the radiographers' wellbeing, be that physically, mentally, and for some, spiritually as these are exceptional circumstances and we all need to look after ourselves as well as our patients and colleagues.

[Section 3. Effective communication](#)

Under development and should be available by 9th May

Section 4: Mobile X-ray equipment

As the pandemic progresses, the medical community will frequently rely on portable chest radiography due to its widespread availability and reduced infection control issues that currently limit CT utilization . This section explains how to use a mobile X-ray machine effectively to perform mobile chest X-ray examination for a COVID-19 patient and it helps you understand the parameters which can optimise the radiation dose for a mobile chest X-ray examination on a COVID-19 patient.

Section 5: Radiographic procedure

Undertaking radiographic procedures when there is a possibility that the patient may be Covid-19 positive brings its own challenges. This section explains how to undertake a mobile chest X-ray examination on a Covid 19 patient and it enables you to discuss how to produce a diagnostic image at the first opportunity.

Section 6: Radiation protection

As with many radiographic procedures radiation dose is important and this should always be kept As Low As Reasonably Achievable / Practicable (ALARA/P). This session will help you understand the radiation protection measures that are required for a mobile chest X-ray examination on a Covid-19 patient.

Section 7. Image review and reporting

It is very important to be able to assess the images you produce so that they are of sufficient quality to assist in patient management. It is also important to be able to note and recognise any abnormalities. This section will help you apply, effectively, a 10 point plan to ensure the image is diagnostic for a mobile chest radiograph on a Covid 19 patient and to identify common pathological appearances on the radiograph of COVID 19 and communicate the findings to the referrer.

Section 8: Patient informatics

Under development and should be available by 9th May

Section 9: Audit and Learning

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