



COVID-19 – Areas of increased risk in purpose-built healthcare premises

6th April 2021 – Issue 4

Areas of increased risk in purpose-built healthcare premises

Introduction

- 1.1. This advice note replaces the guidance note '**COVID-19 – Areas of increased risk in purpose-built healthcare premises' Issue 3 dated 29th January 2021** and has been reviewed with consideration of the current recovery roadmap as published by the Government on 22nd February 2021.
- 1.2. The intention of this note is to identify and bring to the reader's attention, any specific areas of risk or consideration in purpose-built healthcare premises, such as hospitals. Fire and Rescue Services (FRSs) may use this information to inform their discussions with NHS Trust and their fire safety personnel so that those people can demonstrate their understanding of what appropriate measures are being implemented in order to reduce risk to an acceptable level.
- 1.3. This note is only intended to cover specific risks which have come about as a result of the COVID-19 pandemic. It represents non-statutory guidance in order to provide FRSs with general advice to assist with a consistent, standardised approach across all services. The guidance does not constitute legal advice. FRS legal duties will remain those specified by law, in particular article 26 of the Regulatory Reform (Fire Safety) Order 2005 (FSO), during the COVID-19 pandemic, but if any fire and rescue services consider that difficulties arise in relation to compliance with those duties, they should take legal advice.

Increased levels of oxygen within premises

- 2.1. It is expected that hospitals will come under increased pressure from acute respiratory admissions due to both COVID-19 and other winter pressures. These admissions are likely to require an increase in the use of oxygen. The equipment commonly used for respiratory treatment is of a high flow, open circuit design that carries a risk of increasing ambient oxygen concentrations. **NHS Estates and Facilities Alert NHSE/I-2020/003** issued on the 19th November 2020 stated that oxygen concentrations in excess of 23% pose a potential fire risk.
- 2.2. While the presence of oxygen in itself does not create a flammable environment, it may, depending on the levels present, create an atmosphere that allows for rapid fire propagation and development. This had been identified in the previous document, '[Design note: COVID-19 ward for intubated patients](#)' which noted that "*Where medical oxygen consumption increases, steps must be taken to ensure the oxygen level*

(oxygen enrichment) is maintained below 23.5%. Failure to do so will increase the flammability of the room.”

- 2.3. The Alert document outlines the importance of NHS Trust Incident Management Teams establishing specific leadership teams including key clinical leaders and fire safety teams to reduce the risk of physical hazards associated with oxygen use. There are 8 key areas identified:
1. Review the fire risk assessment and relevant findings including considering the evacuation strategy. This should include reviewing the [‘Fire Risk Assessment: Guidance on completing specific FRA for temporary wards provided for Covid-19 treatment or care’](#) document where it is appropriate.
 2. Arrange drills (including walk through and table-top) to test or improve the speed of response.
 3. Risk assess and reduce where oxygen cylinders are used instead of piped delivery.
 4. Securing cylinders when used at bedsides, on trolleys or wheelchairs.
 5. Review and strengthen existing restrictions on ignition sources such as patient smoking materials.
 6. Establish oxygen level monitoring on at least a daily basis and how this might interact with other atmospheres such as operating theatres.
 7. Provide guidance for all clinical areas on what to do if oxygen levels exceed 23% including how to seek advice and immediately reduce oxygen levels without compromising infection control.
- 2.4. In order to support NHS Trusts to deal with these issues, FRSs should liaise with the NHS Trust’s fire safety team, normally the Fire Safety Manager or Fire Safety Adviser [Authorised Person (Fire)]. Each premises will offer a different level of risk and type of solution. Particular attention should be given to the risk assessment, the document referred to in point 1 (above) represents a tick box style assessment, and any operational implications such as needing to advise operational crews of the risk of rapid fire development.

The use of temporary screening for infection control in hospitals.

- 3.1. The need to maintain high levels of infection control in hospitals and health care settings during the COVID-19 pandemic is paramount to restricting the potential for the virus to spread while allowing normal healthcare activities to be undertaken.
- 3.2. In some healthcare settings, the use of temporary screens is a method by which physical control measures can be put in place with little impact on the layout or function of the healthcare activities which are undertaken.
- 3.3. The decision to use screens, or any other physical or management-based measures should come about as a result of the operational risk assessment that is carried out by the NHS Trust, or other appropriate responsible person. The decision then to implement these measures should be assessed against the fire risk they present. This should be done in-line with the NHS Trust’s fire safety policy although, more often than not, carried out by the Trust’s Fire Safety Manager or Fire Safety Adviser [Authorised Person (Fire)].

- 3.4. This should take the form of a review of the existing fire risk assessment (FRA) for the relevant area. It should include an understanding of the risk posed by the physical properties of the screen, the consequences of them being involved in a fire situation and the measures that can be undertaken to eliminate those risks or reduce them to a tolerable level. Any measures taken and their rationale should be fully documented within the FRA.
- 3.5. FRSs have been encouraged to work closely with NHS Trusts, especially where special measures related to COVID-19 are required. As a result, they may be asked to make an opinion on the use of screens or other risk mitigation measures. FRS should continue to regulate in a way that is compliant with the Regulator's Code and the FSO.
- 3.6. FRSs will endeavour to undertake their full range of activities but continue to adopt a risk-based approach to ensure the benefits of such activities will be balanced against the risk to staff and the public of transmission of the COVID-19 virus. This approach is outlined further in the Protection Strategic Intention document as well as other COVID-19 related Protection guidance found on the NFCC website [here](#).
- 3.7. When undertaking Protection activities, FRS staff should be conversant with the relevant prevailing standards including the suite of Health Technical Memorandum. In particular, the requirements for fixed or mobile screens can be found in [Health Technical Memorandum 05-03: Operational provisions Part C – Textiles and furnishings](#).

Instances of fire in COVID wards

- 4.1. Since the start of the global pandemic, there have been fires across the world which have involved the treatment of COVID patients and resulted in significant loss of life.
- 4.2. NFCC and the NHS have both provided specific guidance on dealing with COVID related healthcare risks. In addition, the existing guidance (such as HTM) and FRA already cover some of these risk elements. Nonetheless it is important to understand the nature of incidents, regardless of where they have taken place, in order to better understand the risks and, where necessary, to take further steps to mitigate them.
- 4.3. Most incidents were the result of a malfunction within a ward such as a ventilator failure or a fire starting which has grown rapidly due to high levels of oxygen present. There was also a fire which involved the external storage of oxygen which resulted in the loss of two lives when the oxygen supplies to the hospital, were cut off because of the fire.
- 4.4. These incidents should be tempered with the fact that:
 - The NHS are aware of these incidents and undertake reviews of their procedures accordingly.
 - The hazards that caused these incidents are not new and have already been outlined in existing guidance.

- The standards of equipment in use and their related operating and maintenance procedures vary significantly across the world and some of those would not be present in the UK.
- 4.5. Elements of COVID treatment and response may present additional considerations but it would be expected that they are addressed in existing fire management plans. Such considerations might include:
- Increases in general occupancy.
 - Repurposing of premises or the use of field hospitals.
 - Increases in waste materials.
 - Considerations for efficient ward evacuations
 - Oxygenation of materials such as bedding should machine procedures not be followed.
 - Introduction of ignition sources into wards.
- 4.6. Regarding ventilators specifically, these can result in significant fires in a short space of time due to representing both an ignition and oxygen source. Equipment used in UK hospitals are manufactured and maintained to extremely high standards. As a result, it is not considered that they represent an abnormally high level of risk.
- 4.7. Protection staff are encouraged to discuss matters like those outlined above when in touch with their local NHS Trusts in order to ensure these known risks are being dealt with.
- 4.8. Should you require any further information on the matter, please contact the NFCC Building Safety Programme Team using PPRUAdminTeam@nationalfirechiefs.org.uk.