

# Medical Gas System Training For Designated Nursing Officers

## Target audience

All senior Nursing personnel with responsibility for signing Permits to allow engineering work on medical gas systems, especially those with responsibility for training other personnel.

## What will be covered?

Potential candidates / course purchasers should note that **Sessions 1 and 2** and parts of **Session 3** that deal with specific medical equipment e.g. flowmeters will be delivered only as **very** short revision sessions. Therefore, if familiarity with these topics is required, additional time should be allowed to cover the more detailed training needed.

For a more in depth treatment of more specialist aspects of MGPS management, discrete short modules are also available: these are also detailed below.

For the one-day course stress will be placed on the following operational aspects:

- Reasons for using a MGPS Permit to Work System and the role of the Nursing staff in both authorising work on a medical gas system and accepting system back into use following engineering work.
- Emergency isolation of a ward / department in the event of a serious leak of a medical gas or a fire in the area.
- Protocols for responding to medical gas alarms, both routine and emergency.
- Liaising with the Authorised Person (MGPS) to ensure effective MGPS operation and maintenance

A case study involving completion of a Permit to Work Form will be presented as a class exercise.

## **Course content**

### **1). *Medical Gas Cylinder Safety***

- a). The role of medical gases as medicines
- b). The dangers of medical gases and precautions to ensure patient and staff safety during their use.
- c). How to identify medical gases supplied in cylinders by cylinder size, valve type and colour coding.
- d). Safe handling, storage and transport of medical gas cylinders.
- e). Connection and disconnection of medical equipment to/from cylinders.

### **2). *Medical Gas Pipeline Systems Safety***

- a). Medical gases supplied from pipeline systems.
- b). Hazards of pipeline systems.
- c). Medical gas pipeline terminal units and flexible, colour-coded hoses.
- d). Pipeline alarm systems and what they mean and how to react to alarms.

### **3). *General medical gas system management and good practice***

#### **a). Gas conservation – the role of good practice**

- Cylinder contents gauges and gas wastage
- Flowmeters and gas wastage
- CPAP machines and system resilience

#### **b). Preventing system and equipment pollution / cross connection**

- Preventing cross connection – Blenders and anaesthetic machines
- Correct use of suction controllers – filter and pollution control mechanisms
- Correct use of medical air systems and flowmeters
- Maintaining system cleanliness

#### **c). Managing work on the medical gas pipeline system (MGPS). Use of the MGPS Permit to Work System and the role of the Designated Nursing Officer**

- Reasons for using the Permit system for MGPS
- Nominated personnel and their responsibilities
- The roles of Matron and DNO
- Liaising effectively with the MGPS Authorised Person
- The MGPS Permit Form
- Filling out a Permit Form correctly (Practical exercises)
- Carrying out correct actions on completion of the work
- Problems that may arise during MGPS work and how these may be resolved.

**d). Coping with medical gas system emergencies**

- Distinguishing between “normal” and “fault” medical gas alarm indications.
- Coping with damage to terminal units and serious gas leaks.
- Using an AVSU for emergency isolation of a medical gas supply
- Reacting correctly in the event of fire.
- Reacting correctly in the event of total electricity supply failure.
- Reacting correctly in the event of total or partial gas supply failure.
- Identifying a contaminated gas supply.