

gas cylinders 2016 - 2017

Description

Anaesthetists use gas cylinders every day as part of their clinical practice. This session examines the physical components of the gas cylinders, analyses the pressure changes that exist in oxygen and nitrous oxide cylinders, and explores Entonox (BOC Healthcare) cylinders.

Session introduction

Learning objectives: by the end of this session you will be able to:

- Identify the physical composition of cylinders, cylinder valves and their storage.
- Interpret the key aspects of Pin Index System.
- Recognize and manage pressure changes in Oxygen and Nitrous Oxide cylinders.
- Define the features of Entonox cylinders.

oxygen

Nitrous oxide

Cylinder size and color coding

Cylinder markings and engravings

Cylinder valves

The pin index system

Entonox

Cylinder storage and maintenance

Session key points

- Gas cylinders are made of thin walled molybdenum steel to withstand high pressures.
- They are made in different sizes.
- Oxygen cylinders contain gas whereas nitrous oxide cylinder contain a mixture of liquid and vapour. In the UK, they are 75% filled with liquid nitrous oxide (filling ratio).
- At a constant temperature, the pressure in a gas cylinder decreases linearly and proportionally as the cylinder empties. This is not true in a cylinder containing liquid/ vapour.
- Gas cylinder are colour coded and display labelling and marking.
- They undergo regular testing and checking.
- A cylinder valve is mounted on the neck of the cylinder which acts as on/off device for the discharge of the contents. The pin index system prevent cylinder identification errors.
- Entonox is a gas mixture of 50% oxygen and 50% nitrous oxide by volume.