

Vaporizers, Oxygen Flush and Alarms 2016 - 2017

Description:

This session provides an overview of the anaesthetic machine and examines the function, design and safety features of vaporizers and their filling devices, the emergency oxygen flush system and the oxygen supply failure alarm.

Session introduction

Learning objectives:

- Describe the key features, functionality and safety features of vaporizers and their filling devices.
- Describe the key features, functionality and safety features of the emergency oxygen flush and oxygen supply failure alarm
- explain the function of the compressed oxygen outlets and common gas outlet of the anaesthetic machine

How vaporizers work

Functional characteristics

The Plenum Vaporizer

How The Plenum Vaporizer Works

Features of Vaporizers Design

Compressed Oxygen Outlets and the Common
Gas Outlet

Plenum Vaporizers

Selectatec System

The Vaporizer Safety Feature

Emergency Oxygen Flush

Oxygen Supply Failure Alarm

Features of Vaporizers Design Temperature
compensating valves

Session Key Points

- Vaporizers are made of copper as copper is a good heat sink material. They consist of a bypass channel and vaporization chamber. The latter has wicks to increase the surface area available for vaporization. The gas leaving the vaporizing chamber is fully saturated
- Vaporizers have a temperature sensitive valve that controls the splitting ratio. They have colour – and geometrically – coded filling devices
- Vaporizers used for desflurane have different design modifications due to desflurane's unique physical properties.
- Emergency oxygen flush delivers 100% oxygen at flows of 35 to 75L/min. inappropriate use can cause barotrauma and potential awareness
- Oxygen supply failure alarms are activated by the oxygen pressure itself with no other power supply source they also allow the supply of ambient air

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