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**FMS.32 The hospital ensures proper maintenance of the medical gas system.**

- FMS.32.1 The medical gas system is regularly tested for:
- FMS.32.1.1 Pressure.
  - FMS.32.1.2 Leaks.
  - FMS.32.1.3 Functionality of valves, alarms, pressure gauge, and switches.
- FMS.32.2 There is a policy and procedure that ensures effective use of medical gas system. Areas covered include, but are not limited to, the following:
- FMS.32.2.1 The procedures to follow for taking any part of the system offline.
  - FMS.32.2.2 Commissioning and testing new branching or modifications.
  - FMS.32.2.3 The procedure for ordering and filling liquid oxygen.
  - FMS.32.2.4 Documenting all repairs/alterations/tests/filling logs/consumption.
- FMS.32.3 Compressed medical air is regularly tested for humidity and purity.
- FMS.32.4 The central medical gas station is in a safe and secure place.
- FMS.32.5 The outlets of medical gases in patient care areas are clearly marked with the type of gas and have different connections according to the gas type.
- FMS.32.6 All medical gas pipes are clearly marked and labeled for the contents and direction of gas flow.
- FMS.32.7 In case of gas pipe repairs or new extensions, outlets are tested for the type of gas to ensure the correct type is delivered through the new pipe. Results of testing are recorded and maintained with engineering and the unit manager.
- FMS.32.8 The hospital keeps standby oxygen and medical air cylinders enough for forty-eight hours of average consumption.
- FMS.32.9 The gas cylinders are regularly tested for gas type, amount, and any leaks.
- FMS.32.10 Emergency shut off valves are available in all units and are clearly marked with areas/rooms affected.
- FMS.32.11 The hospital dedicates the responsibility of the closure of shut off valves to well-trained individual(s) available in the unit concerned.
- FMS.32.12 The hospital has adequate medical gases outlets in the patient care areas as appropriate and these outlets are to be error proof medical gas outlets-preferred to be in accordance with DIN standards related to gases piping, outlets and valves.
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**Standard Intent:**

Medical gas systems are a standard feature of most healthcare facilities, and they require special monitoring and maintenance to ensure they are operating properly. Unlike other medical equipment and systems, their use of gas under pressure makes

them vulnerable to a unique set of potential failures, which may not be readily apparent. This makes medical gas preventative maintenance critical to a problem-free working environment.

The medical gas source equipment used will vary, depending on the type of gas and the size of the institution. For smaller needs, cylinder-only solutions are often adequate. For large hospitals with substantial requirements, large reservoirs of liquid oxygen may be maintained to provide piped gas. Compressors are also used to provide medical air, and vacuum pumps are needed for suction. Failing to properly monitor these complex pressurized systems can be costly, both in terms of increased use of consumables and damage to permanent equipment.

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**FMS.33 The hospital has a documented system for handling the various types of compressed gasses.**

FMS.33.1 There is a policy on how to handle various types of compressed gasses, which includes:

FMS.33.1.1 Storing them in a well-ventilated area.

FMS.33.1.2 Positioning them upright the wall and secured by a chain.

FMS.33.1.3 Separating any flammables from oxidizing gases.

FMS.33.2 Exhausts of the following gases are extended to the roof and identified:

FMS.33.2.1 Laboratory safety cabinet gases of a certain classes.

FMS.33.2.2 Central vacuum gases.

FMS.33.2.3 Scavenger gases of certain types.

FMS.33.2.4 Bone marrow transplantation (BMT) laboratory gases.

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**Standard Intent:**

Due to the nature of gas cylinders, special storage and handling precautions are necessary. The hazards associated with compressed gases include oxygen displacement, explosion hazards, toxic effect of some gases, as well as the physical hazards of a ruptured cylinder. Hospitals need to develop and implement a policy for the on how to handle, store, transport and dispose of various types of compressed gasses.