

Manitoulin-Sudbury District Services Board POLICY & PROCEDURES MANUAL	
Section: G. Paramedic Services	Effective Date: April 30, 2019
Topic: 5. Fleet, Equipment and Facilities	Replaces: March 1, 2010
Subject: 4. Oxygen Regulators/Cylinders	
Policy No. G.5.4.2019	Page 1 of 3

PURPOSE

To outline safe workplace process and the safe use of oxygen cylinders and regulators.

APPLICATION

Paramedics, Paramedic Superintendents, Senior Managers

PROCEDURE

Rationale for use

Medical Oxygen cylinders utilized by Manitoulin-Sudbury DSB Paramedic Services have 2000psi pressure when full. The role of the regulator is to Reduction of pressure to a safe level, requires oxygen regulators. Regulators reduce the operating pressure to 50psi.

Cylinder/Regulator Description

The design of oxygen cylinder utilized by Manitoulin-Sudbury DSB Paramedic Service is set up based upon an international Standard. The tanks are seamless aluminum construction and are identified by their white/green colouring. There are certification dates and serial numbers stamped on each cylinder. Aluminum cylinders must be inspected every 5 years.

D sized cylinders are high pressure oxygen tanks that utilize white/green colouring have regulators that secure to the cylinder valve assembly by a yoke. The yoke is provided with pins that mate with corresponding holes in the valve assembly. This is called the Pin-Indexed Safety System (PISS) and designated as CGA-870 (Compressed Gas Association). The D cylinder/regulator operates with a constant of 0.16.

Regulators used with M cylinders have a valve assembly with a threaded outlet. All threaded regulator fittings conform with safety systems to prevent the regulator from being connected to a cylinder containing another gas or to a device not designed for use with oxygen. The M cylinder/regulator operates with a constant of 1.56.

Disengagement of the Regulator from the Oxygen Cylinder

Shut off the control valve of the attached equipment until there is no flow of oxygen. Shut off the cylinder valve (fully clockwise). "Bleed the valves" - open the control valve and leave it open until there is no flow of oxygen through the

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attached equipment. Shut off the control valve of the attached oxygen administration equipment.

D cylinders

- Loosen the regulator yoke with the handle. Remove the wrench or knob from the cylinder valve and slide the yoke up and off the cylinder. Replace or remove the cylinder as required.

M cylinders

- Loosen the regulator inlet nut with a wrench from the cylinder. Remove the regulator and replace or remove the cylinder as required.

Procedure for Use

Secure the cylinder and place it in the upright position. Stand to the right side of it. Remove the seal from the cylinder outlet. Briefly open the cylinder to clean the valve of any debris (ensure that the valve opening is not directed towards anyone). If present, remove the seal or covering from the oxygen inlet of the regulator. Inspect the regulator yoke to be certain that it is the right type for the oxygen cylinder.

For D cylinders

- The yoke should have the appropriate Pin-Indexed fittings. Ensure a new washer is in place on either the regulator or the cylinder (not both). Engage the nipple into the cylinder outlet while also engaging the indexed pins into the appropriate holes. Tighten the yoke securely with the handle.

For M cylinders

- The fittings have specific screw threads which are unique for oxygen cylinders and fittings. Place the oxygen inlet of the regulator against the outlet of the cylinder. The regulator's threaded nut should match the outer diameter of the threaded cylinder outlet. Thread the nut over the outlet and tighten it with a wrench. Do not over tighten.

Once changed, slowly open the oxygen cylinder valve by turning counter-clockwise. Once fully open, close the valve about half a turn to prevent damage caused by forcing' on an already open valve. Ensure that there are no audible leaks. If the tank pressure is 500 psi or less the tank should be changed. Attach the desired oxygen administration equipment to the regulator outlet.

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Precautions

Sudden pressurization of any regulator can generate extremely high temperatures. Combustible materials such as solvents, oils or greases, must not be permitted to touch the cylinder, regulator or hoses. Sudden pressurization can also result in rupture of pressure gauges and other regulator components.

Although oxygen does not burn, it does support combustion and will cause burning objects to flame vigorously. Smoking is not permitted near oxygen equipment and oxygen should not be used near open flame.

Only equipment intended for use with oxygen should be used. Devices intended for use with other gasses should not be modified for use with oxygen. Ensure washers, valve seats, gauges and other components are in good condition.

When finished administering oxygen, always bleed remaining gas from the regulator to prevent damage from the constant pressure. Empty containers should be stored with the valve closed to prevent contamination.

Storage

After each usage it is to be stored safely and according to our existing policy for Securing Equipment.

Cleaning

The exterior surface of the oxygen regulator may be cleaned with soapy water and the equipment should be thoroughly rinsed and dried. Ensure that cleaning agents do not touch either the pressure inlet or outlet fittings. These agents may be flammable when in contact with oxygen or when exposed to the high temperatures generated in a regulator. Don't immerse a regulator in any fluid. Do not autoclave a regulator.

REFERENCE

Ministry of Health, Emergency Services Branch, 1993, *Patient Care Equipment Manual*, The Crown in Right of the Province of Ontario

Manitoulin-Sudbury District Services Board, *Securing Equipment*, Policy and Procedure