**UW Medicine - Pathology**

400-07-01-04

CO2 System

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| Adopted Date: 08/91  Review Date: 09/05  Revision Date: 08/12 |

PURPOSE

To provide a gas environment (CO2 and air) that is necessary to cultures growing in media buffered with sodium bicarbonate

PROCEDURE

### System

* + - 1. There are two manifolds working completely independently. They are labeled I and II and they feed incubators as follows:

MANIFOLD I: Feeds incubators 1 and 3 (odd) in every cubicle.

MANIFOLD II: Feeds incubators 2 and 4 (even) in every cubicle.

* + - 1. Each manifold has two tanks in service (Primary) and two in reserve (Secondary). All tanks must always be full (pressure >800).
      2. In addition, there are four full spare tanks in the room for replacing the empties.
      3. Each manifold has a chart to record daily gauge readings and instructions on how to change tanks.
      4. If the alarm goes off and there is CO2 in the manifold, it must be because of equipment malfunction – DO NOT ATTEMPT TO CHANGE ANYTHING IN THE MANIFOLD – just shut off the valve for the corresponding manifold and open the bypass valve by the south wall in the room so the other manifold will feed all incubators.
      5. Write a note on the equipment record sheet stating what happened and what was done. Notify the Supervisor as soon as possible.
      6. INSTRUCTIONS FOR REPLACING EMPTY CYLINDERS
         1. Adjust the delivery pressure of tank regulator on bank being replaced by turning the control arm from “PRIMARY” to “SECONDARY.”
         2. Adjust the delivery pressure of tank regulator on bank being replaced by turning the control arm from “SECONDARY” to “PRIMARY.”
         3. Close valves of all cylinders on bank being replaced.
         4. Tear off half of tags which read FULL to indicate tanks are now EMPTY.
         5. Loosen all cylinders to be replaced from pigtails using wrenches, which are attached to the wall by each manifold.
         6. Move empty cylinders out of the way and carefully replace them with full ones (one at a time). CHAIN them to the wall. CAUTION: Do not drop full cylinders – THEY CAN EXPLODE.
         7. Be sure all connections are free from dirt and grease. “Crack” (momentarily open, then close) cylinder valves before connecting cylinder to manifold header pigtails.
         8. Using the gasket provided with each cylinder, tighten them to the pigtail.
         9. ***Slowly*** open the other.
         10. Make sure all gauges read the desired pressure. Gauge #1: 20 lb/in2; Gauges #2 and #4: >800 lb (full); Gauges #3 and #5: 70-120 lb/in2.
         11. Write on the above chart: readings, date, time, initials and cylinders changed.

Written By: Director Approval:

(Signature and Date) (Signature and Date)

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Cytogenetic Supervisor