Issues which will cause quick depletion of the O2 bottle on CPAP.

Because Emergent operates similarly to a SCBA and delivers only "demand high flow", there are only 2 sounds, which the operator should hear.

When the Emergent device is on a patient, we should hear the patient inhale and exhale. If we hear continuous flow, there is a leak and the tank will be depleted very, very quickly. (The challenge is that w/the engine running, it is difficult to hear a leak.)

1.) The barb on the regulator is turned ON. It must be OFF. Some medics think that the barb control knob operates the DISS port. Make sure the barb is in the OFF position. Because EMS is accustomed to using a regulator w/only a barb, the inclination is to turn on the barb and let it flow.

2.) Any O2 connection, which should be finger or wrench-tight. Do not use loctite or elbows.

3.) Any quick-connect connection, which usually is composed of many parts, which becomes loose during use.

4.) The distal end of the circuit, which has 2 clear tabs. The 2 clear tabs must fit under both black tabs of the machine. As the righty tighty is made, many times, one of the clear tabs winds up on top of one of the black tabs. The leak is not noticed or heard. It's perfectly acceptable to pre-attach circuits in good lighting. They're not sterile, only clean.

5.) Giving too much CPAP causes the gas to pour out around the seal of the mask, and it creates chipmunk cheeks on the patient. Less is more. The average patient does well w/5 cm or less. A gauge needle, which is swinging rapidly over several cm of pressure, indicates that the patient still is struggling to breathe. A gauge needle, which barely bumps, means the patient is getting enough pressure. The gauge is measuring exhaled pressures breath by breath.

JEMS refers to CPAP as D-50 for severe respiratory distress. Therefore, results should occur in 2 minutes. 5 minutes is the cut off. If you haven't seen positive results in 5 minutes, you won't see them.

6.) Attaching the 6 foot O2 hose to the Christmas tree port. This will not supply enough pressure to run the machine. Because the needle will not move off ZERO, users crank the flowmeter to flush. They seem to think that cranking the flowmeter will make the CPAP machine work. It has to have a minimum of 40 psi to run. A Christmas tree port is low-flow, not high pressure.

7.) Attempting to pre-set pressure. The Emergent device will not allow users to pre-set pressure when the mask is off of the patient. Because the machine is "demand flow",

pressure only will move off of zero when the mask is on the patient. Users then must make a ¾ turn and line up w/the CPAP word before any Green pressure is delivered. This is the starting point to titrate safely to effect. Black is only high flow, not pressure.

Because users think they can pre-set pressure, they keep turning the knob and trying to get the needle to move off of zero. As a result, the O2 is gushing out of the mask because the mask isn't on a patient.

If they try to pre-set pressure by occluding the end of the circuit, they use mega amounts of O2 when they then have to remove their fingers to attach the mask to the circuit before handing it to the patient. In the meantime, the needle has dropped to no pressure but the gas is gushing out of the mask and blowing all over the patient's face. When the patient places the mask on his face, then he's getting a massive amount of pre-set pressure, which the medic pre-set by occluding the circuit. This is dangerous since we don't have chest x-rays in the field and may encounter asthma or COPD.

8.) The yellow exhalation mushroom valve is out of position. You still will have CPAP, but it no longer will be "demand" flow CPAP. It instead will be continuously-flowing CPAP and the bottle will deplete very quickly. (See attached picture.)

9.) When patient is removed from the CPAP machine, turn knob to OFF (the farthest left position). Otherwise, the next time the O2 bottle is turned on, the gas will gush.