



Oxy Cage

Directions for Use

The *Oxy Cage* is designed for several different uses:

- Oxygen therapy
- Nebulization treatment

Oxygen Therapy

The administration of pure oxygen is a well-known therapeutic modality for just about every critical care or emergency situation. There is no known contra-indication for administering oxygen.

The *Oxy Cage* was designed to provide a portable and less expensive method of providing oxygen. The unit is not designed to be completely airtight. If oxygen is being provided at several liters per minute, this amount will eventually have to be vented. In addition, the temperature and humidity in the unit will start to rise from the warm exhaled air from the patient. Temperature and humidity gauges on the upper left panel monitor these levels.

Oxygen

A source of pure medical grade oxygen is needed. Oxygen can come from standard oxygen tanks or an oxygen concentrator/generator. A flow meter is also needed (the oxygen concentrator has a built-in flow meter). JorVet provides a wide range of flow meters utilizing many modes of connection.

Any oxygen delivered is easier for the patient to breathe, at least initially, humidified with water or saline. The J-653 oxygen humidifier is provided for that purpose.

Oxygen Hook-Up to Oxy Cage

A right angle connector is attached to the right side of the *Oxy Cage* via a port on the upper panel (figure #6). A right angle connector is attached to the right side of the *Oxy Cage* port on the upper panel. Oxygen from a flow meter (not provided) is attached to the oxygen humidifier (J-653). The outflow of the flowmeter is attached to the large end of the clear oxygen tubing (J-654). There is a female DISS fitting on the tubing and a male DISS on the flowmeter. If the flowmeter outflow is not a male DISS, an additional connector will be needed. Please consult the JorVet catalog. The other end of the clear tubing is attached to the humidifier. This requires the metal, double-ended (J533m) threaded connector to be screwed into the large opening on the humidifier and then the green Christmas Tree adapter (J-595c) attached to it (figure #9, next page).

The humidifier is connected to the *Oxy Cage* via a second oxygen tubing (J-654). The tubing is connected to the outlet port of the humidifier. The opposite end has the blue connector (J-157c) and clear connector (J-595b) which is inserted onto the right angle connector. The long tubing should be coiled.

NOTE: It is difficult to provide oxygen via an anesthesia machine and its circuit. The humidifier requires a high pressure to work.

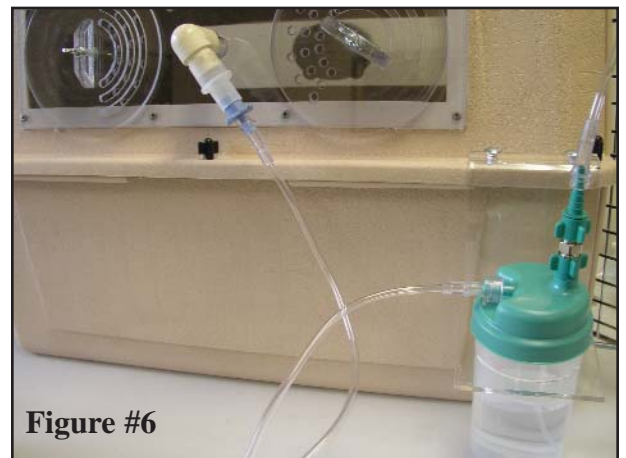


Figure #6

Use of Nebulization and Connection

The connection of the medicated 9cc nebulizers (J949N) is similar to the oxygen hook-up (Figure #5). Instead of the oxygen blender/diluter being attached, the 9cc nebulizer is connected to the right angle connector. Then the oxygen tubing can be connected to the bottom of the nebulizers. The oxygen tubing that leaves the bottom of the nebulizer is linked to an oxygen source with a flow meter.

A humidifier is not necessary for the use with the nebulizer. The 9cc nebulizer is first filled with 9cc of selected pharmaceuticals. It will take 10 - 15 minutes to empty the nebulizer 9cc at a flow rate of 7 LPM. The nebulizer needs to be maintained in an upright position.

Nebulization

The use of a nebulizer provides very small particles of 5 microns or less, which can be inhaled deep into the respiratory system. In theory, any water-soluble medication can be nebulized. Common uses are antibiotics, anti-inflammatories, or bronchodilators. Avian patients seem to really benefit from nebulization treatment. For best results, consult the numerous textbooks and articles about the use of nebulization.



Figure #9

Nebulizer Compressor (J949)

An optional piece of equipment is the small nebulizer compressor. The oxygen tubing runs directly from the compressor to the nebulization chamber. It uses room air and operates on 110 volt AC.

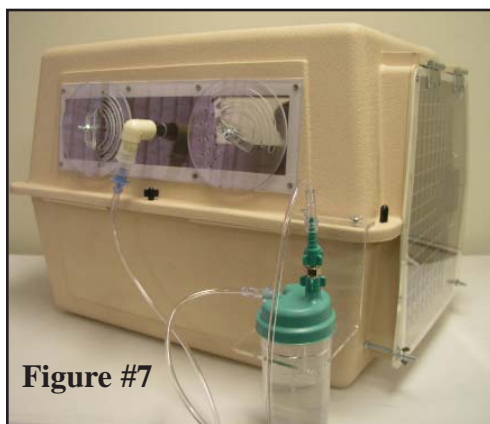


Figure #7

Connecting Oxygen to the Humidifier

Oxygen tank with flow meter: Use clear oxygen tube and attach one end to the male DISS fitting on the flow meter to the humidifier as follows: The Christmas Tree connector (J595C) should be placed on top of the metal male to male DISS (J533M) fitting then onto the top of the humidifier (Figure #9).

A flow meter by itself: Can be placed on top of the humidifier then connected to the oxygen tanks via a standard green hose (Figure #7).

Oxygen Monitor with Sensor (J948)

An optional oxygen monitor with sensor can be used to monitor the actual percentage of oxygen being provided in the *Oxy Cage*. The sensor is plugged into the *Oxy Cage* port as shown (Figure #2).

Use with Avian Patients

The *Oxy Cage* is very well suited for use with avian patients. The use of the triangular perch (J741) placed on the bottom of the cage is a good resting spot for avian patients.

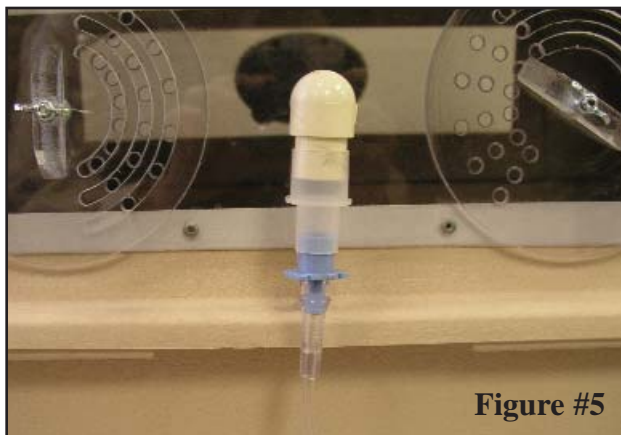
Supplemental Heat to Hypothermia Patients

The Lectro Kennel (J916) fits nicely on the floor. It is an inexpensive, flat, and effective source of radiant heat. However, no heat source should be used on any patient in prolonged recumbency.

Oxygen Concentrators (J744A)

The use of an oxygen concentrator/generator will also work. The humidifier is connected directly to the male DISS fitting on the connector. The oxygen tubing connects to the humidifier output to the oxygen blender and right angle connector attached to the *Oxy Cage*.

Care must be taken to avoid sealing the the *Oxy Cage* too airtight because an inflow of 3 -5 liters per minute must also have an outflow of the same amount. Opening vents on the outside panels or leaving the Plexiglas front door panel slightly ajar can accomplish this.



Frequently Asked Questions

What percentage of oxygen should be used?

At the very least, no less than 40%. At percentages less than 40, the benefit is minimal. Certainly, in the short term, the highest percentage possible should be used. Studies have shown percentages about 80% to be very beneficial and no detrimental effects have been noted. Any use longer than eight hours should be in the 40 - 60% range. If the *Oxy Cage* is heavily used, and oxygen monitor should be considered. The flow rate should be 100 - 200 ml/kg/min.

What about heat and humidity levels?

Proper attention should be paid to heat and humidity build-up. The natural warm and moist expiration of the patient will raise both temperature and humidity. The *Oxy Cage* can be vented to varying degrees to help dissipate heat and humidity build-up if the temperature should rise above body temperature.

What about the use of other monitors?

The use of pulse oximeters is of clear benefit. However, constantly opening and closing the *Oxy Cage* door to adjust sensors will keep the oxygen level lower than desired. End tidal CO2 monitors are difficult to use without an intubated patient.

Oxy Cage

Bill of Materials

Cage Unit Components:

- Bottom half of cage
- Top half of cage
- Blue plastic cage rack
- Metal door grill
- Black screws and nuts
- Right angle connector (J947D1)
- Temperature/Humidity monitor (mounted on the top half of the *Oxy Cage*)
- Wing nuts for Plexiglas door hinges and cup holder
- Plexiglas “cup” holder

Oxygen Therapy Components:

- Green lid oxygen humidifier (J-653)
- Oxygen tubing 7 feet (J655) 4 pk.
- DISS male/male connector (J533M)
- Endotracheal tube adapter (J157C)
- Christmas tree connector (J-595C) 1 each (not 2/pk)

Oxy Cage Nebulizer Components

- 9cc Medicated Nebulizer 2pk (949N)

Assembly of *Oxy Cage* and Accessories

Every *Oxy Cage* comes with a master bill of materials checklist. All listed items should be spread out and identified before any assembly is started. Assembly of components is divided into three different groups as listed on the bill of materials: (See page 3)

- *Oxy Cage* kennel or cage
- Oxygen therapy items
- Nebulization items

Separate out these three groups into their own distinct area.

Oxy Cage Assembly

- Place the bottom portion of the *Oxy Cage* with the cut out opening for the door facing toward the front.
- Insert the door grill with the black opener facing outward. This ensures the door will open outward.
- The door grill has metal posts that fit into slots in the bottom portion of the *Oxy Cage*.
- The top portion of the *Oxy Cage* is placed on the bottom portion and the door grill metal post is aligned with the top.
- Use the black wing screws to join the two portions.
- Have the wing on top and the nut portion on the bottom.
- Place all screws before completely tightening any one screw.

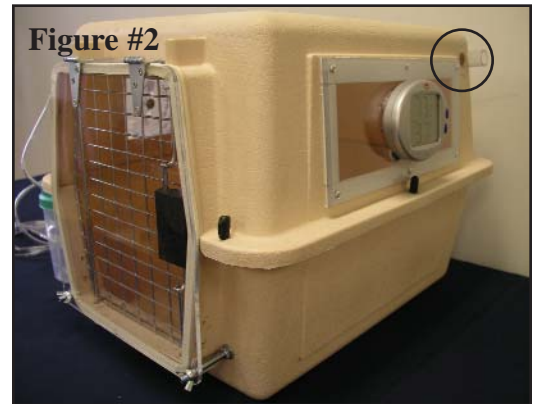


Temperature/Humidity Monitor (Figure #1)

The monitor has been factory mounted and uses a single AA battery, which is placed in the back panel. There is no on-off switch. The unit will run for months before any battery change is needed. The Celsius/Fahrenheit function is controlled by a small switch located on the back panel.

Right Angle Connector Portal: on the upper right side is a round portal where the right angle is inserted. This connector is for all uses.

Oxygen Monitor Portal: an optional piece of equipment that can be inserted into this portal. If no oxygen monitor is used, there is no need to remove this plug (Figure #2).



Blue Cage Rack: for placement in the bottom of the assembled *Oxy Cage*. It should help maintain hygiene and keep patients elevated and away from any fluid accumulation on the *Oxy Cage* floor.



Plexiglas Front Door Cover: the metal grill front door can be covered and sealed by a swinging door with a Plexiglas cover. This cover has a rubber gasket. It can be secured closed by closing the panel and using the butterfly nuts to tighten the door closed. **DO NOT OVER TIGHTEN THE WING NUTS.** The panel can also simply rest against the metal door grill without tightening the wing nuts. This will help to avoid heat and humidity buildup. If wing nuts are lost, any hardware store will have them readily available. They are 1/4" x 20 thread with wing nut.

