

## **“My patients don’t feel the Nitrous”**

- 1) ***The mask is not fitting the patients face,***
  - If the mask doesn’t fit, the gaps between the mask and the patients face allows room air to leak into the mask upon patient inhalation, diluting the nitrous oxide and the patient doesn’t feel the effect. If this is occurring, use a mask that fits properly. One size does not fit all.
- 2) ***The one way valve in the nasal hood (or in the nasal cone in other brands) is missing or stuck in an open position, failing to close upon patient inhalation.***
  - If the valve does not close when the patient inhales, the missing or stuck valve allows room air to flow into the mask upon patient inhalation, diluting the nitrous oxide and the patient doesn’t feel the effect. Correct this issue and the system should work.
- 3) ***The breathing bag has a hole, tear, or slit in it.***
  - A hole, tear, or slit in the breathing bag allows the nitrous oxide to leak out into the room instead of filling the bag, and then, room air to flows into the breathing circuit upon patient inhalation, diluting the nitrous oxide and the patient doesn’t feel much effect. Replace the bag.
- 4) ***Loose hose or connector in the breathing circuit.***
  - When the patient inhales, if there is a hose that is off or loose, it allows room air to flow into the mask upon patient inhalation, diluting the nitrous oxide and the patient doesn’t feel the effect. Tighten or replace any loose parts or hoses.
- 5) ***The Room Air Safety Valve is stuck open.***
  - If the breathing circuit has no gas in it because the oxygen ran out or the flow was not set to the correct level for a patient, the room air safety valve in the bag tee will open and allow room air to be drawn in by the patient. Increase the flow to the patient.
  - If this valve is damaged and not functioning properly, it will have the same effect as a damaged breathing bag. Replace the valve cartridge with new parts.
- 6) ***The Nitrous concentration is not set correctly for the patient.***
  - This one is most elusive, and still very likely. Many doctors and their staff do not understand the correct method to deliver nitrous oxide.
    - Most people barely start feeling the gas at 20 - 30% and the highest percentage of the population breathe closer to 40-50%.
    - It wouldn’t be out of the question that they aren’t following proper protocol by giving a dosage based on some “guess” or “one number fits all” method.
    - There is no place for guessing. We know that the proper way to dispense is based on patient response, as outlined in Dr. Clarks’ book.
- 7) ***Some patients do not feel effects of nitrous oxide.***
  - Approximately 5% of the population feels little or no effect of nitrous oxide. It is out of the ordinary that you would see several of these patients in a row, but it is possible.
- 8) ***Some people self-medicate before going to the dentist.***
  - The thought is that if they take a Valium, Xanax, other drugs, or a stiff drink that they will get an extra boost when they are placed on the nitrous. But this isn’t true. Nitrous brings you to a certain level and does not go higher when combined with these other drugs. Require patients to reveal any medications or alcohol they took prior to treatment.

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### What is probably isn’t:

- Low nitrous flow.
  - If it was, they would be seeing the nitrous not flowing at the flowmeter. If it shows flow, it’s flowing.
- Too much suction.
  - Accutron nasal masks (PIP and ClearView) as well as *some* other brands, do not allow a build-up of suction in the scavenger system to pull the gas away before the patient inhales it.
  - *Be alert, some other brands of masks will allow the suction to pull gas away from the patient before inhaling it.*
  - *And, never underestimate the possibility of someone installing things incorrectly, adding parts that cause malfunction, or “blended” scavenger systems made up with parts from more than one manufacturer.*

### What to do?

- A. Check the system to ensure no leaks in the bag or hoses.
- B. Verify that the tubes are clear and that there are no kinks.
- C. Verify that the valves are in place in the nasal hoods
- D. Don’t forget about the fit of the mask.
- E. If there are issues like reasons listed above, the following will reveal it immediately.
  - Turn the system on and observe a patient breathing.
    - The breathing bag should slowly inflate and then partially deflate upon patient inhalation.
  - Possible results:
    - The bag stays inflated when the patient inhales.
      - # 1, 2, 4 are the most likely causes
    - The bag stays mostly deflated when the patient inhales.
      - # 3, 5 are the most likely causes
- F. You can perform a simple flow test: These tests will confirm that gas is at least approximately flowing at the correct rate.
  - Test Oxygen 1<sup>st</sup>:
    - Get a 2<sup>nd</sup> breathing bag from another operatory.
    - Remove the breathing circuit off the front of the flowmeter
    - Turn the flowmeter on at 6 lpm of oxygen
    - Empty the bag on the flowmeter and at the same time, place the 2<sup>nd</sup> bag on the front of the flowmeter, then start a timer.
    - When the timer is at 1 minute, both breathing bags should be approx. full.
  - Test Oxygen and Nitrous 2<sup>nd</sup>:
    - Test both Oxygen and Nitrous: do the same test as above, but this time
    - Turn the flowmeter to 3 lpm of Oxygen and 3 lpm of Nitrous
    - Empty the bag on the flowmeter and at the same time, place the 2<sup>nd</sup> bag on the front of the flowmeter, then start a timer.
    - When the timer is at 1 minute, both breathing bags should be approx. full.