

Does oxygen usage prolong life or is it for comfort care?

- *Canadian Virtual Hospice*

**Don't monitor oxygen saturations to guide care, as the target is comfort rather than numbers. If oxygen is not available or is declined by the patient, then titrate the opioids to relieve dyspnea.*

There are no specific best practice guidelines on the use of oxygen at the end of life.

The first distinction that must be made is between the use of oxygen in unconscious and conscious patients. Frequently, oxygen is continued in patients who are deeply unconscious and in their final hours of life. As with all interventions, it is important to explore the hoped-for goals of treatment when communicating with the family (and, of course, with the patient when possible).

- If the goal is to forestall death for as long as possible, then oxygen administration may work toward that goal; however, *this is not a typical palliative goal.*
- If the goal is to relieve dyspnea, the unconscious patient will likely not be experiencing air hunger, especially when the patient appears calm and comfortable. There may be times when the unconscious patient appears to be experiencing increased work of breathing (tachypnea, use of accessory respiratory muscles). If there is concern about possible distress in the unconscious patient, as evidenced by facial grimacing or restlessness, consider the use of opioids rather than oxygen.

There is literature indicating that opioids may provide better relief of dyspnea than oxygen, even in awake patients who are hypoxic.[1] In this study, opioids worked "significantly better than oxygen in reducing the intensity of dyspnoea even in hypoxic patients. There was no correlation between intensity of dyspnoea and oxygen saturation in H[hypoxic] and NH[non-hypoxic] patients. Oxygen should be seen as a pharmacological agent and not be given based on intuitive assumption of benefit." [1]

It can be intimidating for clinicians to introduce the family to the idea of withdrawing oxygen from the unconscious patient nearing death, as it can feel like "pulling the plug." We do know that providing oxygen to severely hypoxic patients near the end of life can improve their oxygen levels, but will not likely adjust their clinical trajectory. **You could say to families:**

"He or she looks very comfortable. One thing that we try to do in these situations is to look at everything we're doing to make sure it's helping with comfort and isn't making the process take longer than the natural course of illness. One of the things that might actually be prolonging his or her dying, and not helping with comfort at this time, is the oxygen we are administering. I would like to suggest that over the next couple of hours we gradually reduce the oxygen, and as long as he or she remains comfortable, then we discontinue it."

If an awake or conscious patient is dyspneic and hypoxic, then there is good literature to indicate that oxygen administration helps dyspnea. There is also good evidence that adding opioids along with the oxygen helps dyspnea (*perhaps even more than oxygen, as noted above*) [1]. However if the dyspnea is moderate to severe, and the awake patient is nearing the end of life, then it is likely that effective opioid doses will be needed to lessen the dyspnea, but may also reduce the patient's alertness. This is something to discuss with the patient and family.

Some patients find oxygen masks feel more suffocating and claustrophobic than nasal prongs, even though the mask might be providing the needed amount of oxygen.

In the awake hypoxic patient near the end of life, encourage nasal prongs rather than a mask, so there is less of a barrier between the patient and the family. Opioids can help supplement the dyspnea-relieving effect of the oxygen, with the target being a balance of comfort and alertness that is acceptable to the patient. Don't monitor oxygen saturations to guide care, as the target is comfort rather than numbers. If oxygen is not available or is declined by the patient, then titrate the opioids to relieve dyspnea. As previously stated, for moderate to severe dyspnea at end of life, this usually means the patient will be sleeping.

What about the awake patient who is dyspneic and not hypoxic?

A recent randomized, double-blind trial was published that *examined the administration of oxygen compared with "medical air"* (compressed room air flowed into the nasopharynx via nasal prongs) in dyspnea. The trial showed that oxygen provided no benefit over room air administered by nasal cannula in non-hypoxic patients.[2]

The concern with this trial is that people have taken the findings to mean that oxygen provides no benefit to patients when compared with administration of nothing, which is incorrect. The trial didn't administer "nothing" as the control arm, but rather "medical air" (as described above). We do know that cold air introduced into the nasopharynx relieves dyspnea, even if it isn't delivered through nasal prongs. *In most cases, "medical air" is unavailable, so health care teams have either oxygen or nothing (i.e., actual room air) available.*

For awake non-hypoxic patients who are dyspneic, take a case-by-case approach. Sometimes a fan blowing cold air in the patient's face will help. Sometimes adding opioids and titrating them to effect is helpful. Oxygen by nasal prongs can be very effective. Consider all available options, depending on the context of the patient's clinical status and the goals of care.