11.4: Nursing Process Related to Oxygen Therapy

When administering oxygen therapy, it is important for the nurse to assess the patient before, during, and after the procedure and document the findings.

Subjective Assessment

Prior to initiating oxygen therapy, if conditions warrant, the nurse should briefly obtain a history of respiratory conditions and collect data regarding current symptoms associated with the patient’s feeling of shortness of breath. The duration of this focused assessment should be modified based on the severity of the patient’s dyspnea. See Table \( \PageIndex{1} \) for focused interview questions related to oxygen therapy. This information is used to customize the oxygen delivery device and flow rate for the patient. For example, supplemental oxygen is typically initiated in nonemergency situations with a nasal cannula at 1-2 liters per minute (L/min), but a patient with a history of chronic obstructive pulmonary disease (COPD) may require a different device such as a Venturi mask.

Table \( \PageIndex{1} \): Focused Interview Questions for Subjective Assessment of Dyspnea

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Follow-up</th>
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<tr>
<td>Please rate your current feeling of shortness of breath from 0-10, “0” being no shortness of breath and “10” being the worst shortness of breath you have ever experienced.</td>
<td>Note: If the shortness of breath is severe, associated with chest pain, or if there are imminent signs of respiratory failure, discontinue the subjective assessment and obtain emergency assistance.</td>
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Are you experiencing any additional symptoms such as chest pain, cough, or a feeling of swelling in your throat or tongue? Please describe.

Note: If the patient describes severe symptoms that could indicate imminent blockage of the airway, obtain emergency assistance.

When did it start?

Is the cough productive of phlegm? If yes, what color and what is the amount?

Does the chest pain radiate elsewhere?

Have you ever been diagnosed with respiratory conditions such as asthma or COPD? Please describe.

Are you currently taking any medications, herbs, or supplements to help you breathe? Please identify what you are taking and the dosage.

If you are using inhalers on an as-needed basis, how often are you using them and has the frequency increased lately?

Have you received oxygen therapy previously? Please describe.

Do you use oxygen therapy at home? What is your normal flow rate?

Do you use CPAP or BiPAP devices at home?

Do you smoke? Have you considered quitting?

Objective Assessment

Prior to applying supplemental oxygen, objective data regarding patient status should quickly be obtained such as airway clearance, respiratory rate, pulse oximetry, and lung sounds. Signs of cyanosis in the skin or nail bed assessment should also be noted. Within a few minutes after initiating oxygen administration, the nurse should evaluate for improvement of these indicators, and if no improvement is noted, then additional actions should be taken. At any point, if the nurse feels that the patient’s condition is deteriorating, emergency action should be taken such as calling the rapid response team or 911.
Depending upon the severity of patient condition, serial ABG results may also be monitored to determine effectiveness of oxygenation interventions.

After oxygen therapy is initiated, it is important to closely monitor for skin breakdown at pressure points. For example, nasal cannula tubing often causes skin breakdown in the nares or over the ears, so protective foam dressings may need to be applied.

Life Span Considerations

Children

Different sized oxygen equipment is used for infants and children. Additionally, oxygen tubing may need to be secured to a child’s face with tape to prevent them from pulling it off. For infants, the pulse oximeter probe is usually attached to the palm or foot.

Older Adults

If a patient is oxygen-dependent, ensure that extension tubing is applied so the patient is able to reach the bathroom with the oxygen device in place. However, be aware of the increased risk for falls due to the excess tubing. Keeping the oxygen tubing coiled up at the head of the bed or on the bedside table closest to the bathroom will decrease the patient’s risk of falling. Advise the patient to ask for assistance when getting up to use the restroom.

- Safety Tip: When oxygen is in use, teach the patient about safety considerations with oxygen use because it is very flammable. See the “Safety with Oxygen Therapy” section in "Oxygenation Equipment" for more details.
- After administering oxygen, instruct the patient to inhale through their nose with slow, deep breaths and to breathe out through their mouth.
- If a patient is experiencing worsening dyspnea with decreased oxygen saturation levels compared to their baseline levels, apply oxygen and stay with the patient until their oxygen saturation level increases and they report feeling less short of breath. Providing a physical presence is an important intervention for the associated anxiety that accompanies dyspnea. Consider asking a team member for assistance.
- Based on the patient’s condition, it may be helpful to institute additional interventions to improve oxygenation. See Table 11.2.3 in the “Basic Concepts of Oxygenation” section for interventions to improve hypoxia.