Oxygen Therapy

**Target group:** Nursing students **Recommended number of participants:** 1-2 learners

**Simulation time:** 10 minutes **Debriefing time: 20 minutes**

# Curricular Information

## Learning Objectives

**After completion of the simulation and debriefing session, learners will able to:**

* Perform a focused respiratory assessment
* Recognize the need for increased oxygen administration
* Demonstrate correct techniques for oxygen administration
* Explain procedures to the patient using an appropriate communication framework
* Demonstrate appropriate evaluation of the patient outcome

## Scenario Outline

In this scenario, an 81-year-old female is in the medical unit. She was admitted yesterday for treatment of pneumonia. She has a slight fever and moderate symptoms of breathing difficulties. The learners are expected to perform a focused respiratory assessment, recognize oxygen desaturation, explain the procedures to the patient using an appropriate communication framework, and make appropriate adjustments of the oxygen flow.

The vital signs will stabilize when the oxygen flow is increased, and the head of the bed is raised to standard Fowler’s position.

## Debriefing

When the simulation is over, it is recommended that a facilitator-led debriefing be completed to discuss topics related to the learning objectives. The Event Log in Session Viewer provides suggested debriefing questions. Central discussion points could be:

* Performing a focused assessment of the respiratory system
* Management of oxygen therapy
* Communication with the patient

## Suggested References

Gamache J, Harrington A, Kamangar N. *Bacterial Pneumonia Treatment & Management.* Medscape.com. 2017. Retrieved from <https://emedicine.medscape.com/article/300157-treatment>

Zhang Y, Fang C, Dong BR, et al. *Oxygen therapy for pneumonia in adults.* Cochrane Database of Systematic Reviews 2012, Issue 3. Art. No.: CD006607. doi: 10.1002/14651858.CD006607.pub4.

# Setup and Preparation

## Equipment

* Blood pressure cuff
* Incentive spirometer
* IV saline lock (smaller than 22 g)
* Oxygen flowmeter
* Oxygen supply source
* Nasal cannula
* Patient gown
* Patient ID with name and date of birth
* Patient monitor
* SpO2 probe
* Hand hygiene station
* Stethoscope
* Thermometer
* Universal precautions equipment

## Preparation Before Simulation

* Dress the simulator in a patient gown and place it in a hospital bed in supine position.
* Insert a saline lock in one arm of the simulator.
* Place the nasal cannula on the simulator and apply an oxygen flow of 2 L/min.
* Attach a patient ID bracelet with name and date of birth.
* Print the patient chart from page 4 and hand it out to the learners after reading the learner brief to them. If you use an electronic patient chart, you can transfer the information to this system.

## Learner Brief

*The learner brief should be read out loud to the learners before the simulation starts.*

**Situation:** You are a nurse in a medical unit and the time is now 11:00. You are caring for Kim Lee, an 81‑year-old female admitted yesterday with some breathing difficulties and fever. She has been diagnosed with pneumonia.

**Background:** The patient has had increased breathing difficulty, weakness and fever over the past day. Yesterday she was admitted by her home provider.

**Assessment:** Her vital signs were assessed 4 hours ago. Temperature has been steady, around 38oC (100.4oF), SpO2 was 96%, RR 16/min, BP 143/92 mmHg and HR 83/min. She is currently receiving oxygen at 2 L/min by nasal cannula, which has helped her breathing. She received antibiotics 3 hours ago. She is still weak, but seems to be feeling better than yesterday.

**Recommendation:** She is due for a reassessment and incentive spirometer. Please take a few minutes to review her chart (hand chart out to learners) and then go see the patient.

# Customization of the Scenario

The scenario may form the basis for creating new scenarios with other or additional learning objectives. Making changes to an existing scenario requires careful consideration of what interventions you expect the learners to demonstrate, and what changes you will need to make to learning objectives, progression of scenario, programming and support material. It is, however, a quick way to increase your pool of scenarios because you can reuse much of the patient information and several elements in the scenario programming and support material.

For inspiration, here are some suggestions on how this scenario can be customized:

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| New Learning Objectives | Changes to the Scenario |
| Include learning objectives about using communication skills and clinical knowledge. | Have the provider orders state that the patient should receive education about medications or breathing exercises.The patient should ask questions about the information that the learners provide. |
| Include learning objectives about correct administration of medication, including taking appropriate safety precautions. | Adapt the Learner Brief and MAR so that learners will also need to administer medications.The patient could ask questions about the medications being administered. |

# Patient Chart

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| **Patient name:** Kim Lee **Gender:** Female **Allergies:** No known allergies **DOB:** 09/07-XXXX  |
| **Age:** 81 years **Height:** 160 cm (63 in.) **Weight:** 72 kg (159 lb.) **MRN:** 30005567  |
| **Diagnosis:** Pneumonia **Adm date:** Yesterday |
| **Facility:** Medical unit **Advance directive:** No  **Isolation precautions:** None |
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| **Past Medical History**The patient has had increased breathing difficulty, weakness and fever over the past day. Yesterday she was admitted by her home provider.Fracture of distal ulna 5 years ago. Otherwise no significant history. |

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| **Notes** |
| **Date/Time** |  |
| Today, 07:00 | Vital signs obtained. Respirations are stable, slight crackles in both lungs. Acetaminophen administered. Oxygen concentration adjusted to 2 L/min /RN |
| Today, 08:00 | Levofloxacin administered /RN |
| Today, 09:00 | Incentive spirometer x 10 /RN |
| Today, 10:00 | Incentive spirometer x 10 /RN |
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| **Provider Orders** |
| Activity: Up ad libitum |
| Diet: Normal |
| Vital signs every 4 hours |
| Titrate oxygen to keep SpO2 above 94% |
| Encourage use of incentive spirometer when taking vital signs during waking hours |
| Levofloxacin 750 mg, IV infusion over 30 minutes, once daily for 5 days |
| Acetaminophen 500 mg orally for pain and/or fever, prn every 6 hours |
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| **Medical Administration Record** |
| **Date/Time** |  |
| Today, 07:00 | Acetaminophen 500 mg, orally |
| Today, 08:00 | Levofloxacin 750 mg, IV infusion |
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| **Vital Signs** |
| **Date/Time** |  |
| Today, 07:00 | **BP:** 143/92 mmHg **HR:** 83/min **RR:** 16/min **SpO2:** 96% **Temp:** 38.0oC (100.4oF) |
|  | **BP:**  **HR:** **RR:** **SpO2:** **Temp:** |