Information Needed

1. History: Acute or slow onset, chronic lung or heart problems, medications, home O_2, past allergic reactions, recent surgery.
2. Physical findings: Decreased level of consciousness, chest pain, lung sounds, cyanosis, airway edema, trauma.

General Treatment

1. Identify and treat upper airway obstruction.
2. Protect airway and assist ventilation as needed.
3. Position patient properly to facilitate patients' own ventilatory effort and decrease work of breathing.
4. Administer O_2.
5. Consider CPAP.
6. Perform 12-lead ECG and continuous cardiac monitoring.
7. Perform physical exam (including lung sounds).
8. Establish venous access.

Wheezing – Possible reactive airway disease, asthma, allergic reaction:

1. Administer albuterol via nebulizer. Continuous nebs may be indicated. Nebulized medications can be given through CPAP.
2. Nebs may not be effective if patient is not moving enough air to transfer medication to lungs. Consider SQ Epinephrine 0.3mg (1:1,000) and prepare for possible intubation if patient does not improve.
3. CPAP may deliver inhaled meds deeper in the airway.

Possible Acute Pulmonary Edema/ Congestive Heart Failure:

1. **Additional information needed:** History: shortness of breath at rest, at night, with exertion; sleeping in chair or with several pillows, chest pain, nausea and vomiting, weakness, ankle or leg swelling, weight gain, past medical history of CHF.
2. **Additional physical findings:** crackles (rales) or wheezing (cardiac asthma), pink frothy sputum, JVD, decreased oxygen saturation, peripheral pitting edema.

3. **Treatment:**
   a. Administer CPAP
   b. If BP > 100:
      - Nitroglycerine 0.4 mg SL and repeat as BP will tolerate.
      - Contact medical control for a direct order for any fluid boluses or vasopressors.
   c. If BP < 100:
      - Contact medical control for fluid and pressor orders.
   d. Consider intubation in those patients who have altered mental status, are losing consciousness, or are comatose.
4. **Additional Notes:**
   a. IV fluid bolus/ challenge should be discussed with medical control as patients with acute pulmonary edema and CHF can be made better or worse with additional fluid. The alternative to fluid is dopamine.
   b. Patients with chronic CHF are probably on many medications specific to their illness. Noncompliance may be the cause of worsening CHF.
   c. Patients presenting in CHF or pulmonary edema can have cardiac complaints and may be having an MI. Obtain 12-lead ECG ASAP. Fluids and/or dopamine may be necessary before administering NTG. Aspirin should be given per chest pain protocol. Morphine should be used only for chest pain per the chest pain protocol.
   d. Consult medical control for the use of either ativan or valium.

Possible Acute Pulmonary Edema: High Elevation related

1. **Additional History:** Recent ascent to high elevation, shortness of breath with any exertion or while trying to sleep at night, insomnia, chest pain, nausea, headache, coughing and wheezing.
2. **Additional Physical findings:** respiratory distress, crackles (rales) or wheezing, pink frothy sputum, JVD, decreased oxygen saturation and cyanosis.
3. **Treatment:**

a. Administer CPAP

b. Begin transport to lower elevation.

c. If BP > 100:

- NTG 0.4 mg SL and repeat as BP will tolerate.
- Contact medical control for a direct order for any fluid, for a NTG drip, or for vasopressors.

d. If BP < 100:

- Contact medical control for fluid, NTG, and pressor orders.

e. Give Albuterol/Atrovent neb treatment for any wheezing.

f. Consider intubation in those patients who have altered mental status, are losing consciousness, or are comatose. High altitude cerebral edema can be seen with HAPE.

4. **Additional Notes:**

a. IV fluid bolus/ challenge should be discussed with medical control as patients with acute pulmonary edema can be made worse by fluid overload. However, the patient may be volume depleted and dehydration is common in HAPE. The alternative to fluid is dopamine.

b. Patients presenting with HAPE can have cardiac complaints and may be having an MI. Obtain 12-lead ECG ASAP. Aspirin and NTG should be given per chest pain protocol.

c. Applying O2 and getting the patient to lower elevation may be all the treatment necessary to clear symptoms.

Possible COPD exacerbation:

1. Administer CPAP if patient will tolerate it. Use NRB mask @ 15 lpm if patient can't tolerate CPAP. Consider inline nebulizer treatment with either CPAP or NRB.

2. Administer O2 realizing that some patients will never reach an SAO2 greater than 92% and tolerate a lower SAO2 because of their chronic hypoxia.

3. Give Ipratropium with albuterol in the first neb.

4. **Additional Notes:**

a. If diagnosis is not clear, stick with good BLS care. Place the patient in position of comfort, administer O2, monitor cardiac rhythm, and transport.

b. COPD patients should never have O2 withheld. Titrate the O2 delivery and try to reach an SAO2 > 90%.

c. Prepare to assist ventilations if patient fatigues or develops altered mentation, or if respiratory arrest occurs.

Possible Pneumonia:

1. **Additional Physical findings:**

   a. Fever, decreased or abnormal lungs sounds isolated to one side or one lobe, history recent upper respiratory infection.

2. **Treatment:**

   a. Follow general treatment guidelines above.

3. **Additional Notes**:

   a. Fever is your best clue that the patient has an infectious source for respiratory distress, but some patients do not run fevers with pneumonia.

   b. Be alert for signs of sepsis.

   c. Use precautions to avoid contamination of yourself and your equipment to prevent cross-infection to other patients.