

B — Breathing and circulation

14 statements · Recommended tool: CP-BREATH Breathing & Circulation Check · Validated scales: NEWS2, SpO₂, ECG

B1 Struggling to breathe comfortably

Group: Breathing and circulation | Type: Actual problem

Definition: Breathing feels hard, shallow, too fast, or too slow, so the person cannot get comfortable air in and out.

Possible causes: Lung disease; pain; anxiety; fluid or air in the chest; weak breathing muscles; obesity

Signs and symptoms: Fast, slow, or shallow breathing; using neck muscles; flaring nostrils; sitting upright to breathe; low oxygen readings

Scenario. A man with COPD breathes 30 times a minute and can say only three words at a time.

S: "I can't catch my breath, even sitting still."

O: Respiratory rate 30/min; oxygen saturation 89% on room air; uses neck muscles; speaks only 3 words at a time; sits upright leaning forward.

Tools: CP-BREATH · NEWS2, SpO₂, ECG ****CarePath diagnosis:**** Struggling to breathe comfortably related to lung disease, as evidenced by fast, slow, or shallow breathing and using neck muscles.

****Interventions and rationale**** | Intervention | Rationale | |---|---| | Sit him upright. | Sitting upright lets the diaphragm drop and the lungs expand more fully, which lowers the work of breathing. Leaning forward also eases airflow in COPD. | | Check breathing rate and oxygen level. | Regular checks show whether breathing and oxygen are improving or worsening, so treatment can be adjusted before he tires out. | | Give oxygen or medicine as ordered. | Extra oxygen raises the low blood oxygen and bronchodilator medicines open narrowed airways. The amount is ordered because too much oxygen can be harmful in some lung disease. | | Coach slow breathing. | Slow, controlled breathing keeps airways open longer and reduces trapped air, so each breath works better and costs less effort. | | Stay calm. | A calm nurse lowers anxiety, which otherwise speeds breathing and raises oxygen need, feeding a cycle of worsening breathlessness. | | Report worsening. | Early reporting lets the team act before tiring breathing muscles lead to breathing failure. | ****Expected outcomes**** - Within 1 hour: breathing rate 12-20/min and oxygen saturation at the doctor's target. - Within 24 hours: speaks in full sentences and says breathing feels easier. ****Linking the data to the diagnosis**** The patient has COPD and is breathing 30 times a minute, with oxygen saturation 89% on room air, neck muscle use, speech limited to three words at a time and an upright, forward-leaning posture. He says he cannot catch his breath even sitting still. This is an actual problem because difficult breathing is already present, so a risk statement would be wrong. Poor oxygen exchange in the lungs could be confused with it, but here the main issue is the effort and discomfort of breathing itself. The plan aims for a rate of 12-20/min with oxygen at the doctor's target within 1 hour, then full sentences and easier breathing within 24 hours.

CarePath diagnosis: Struggling to breathe comfortably related to lung disease, as evidenced by fast, slow, or shallow breathing and using neck muscles.

Intervention	Rationale
Sit him upright.	Sitting upright lets the diaphragm drop and the lungs expand more fully, which lowers the work of breathing. Leaning forward also eases airflow in COPD.
Check breathing rate and oxygen level.	Regular checks show whether breathing and oxygen are improving or worsening, so treatment can be adjusted before he tires out.
Give oxygen or medicine as ordered.	Extra oxygen raises the low blood oxygen and bronchodilator medicines open narrowed airways. The amount is ordered because too much oxygen can be harmful in some lung disease.
Coach slow breathing.	Slow, controlled breathing keeps airways open longer and reduces trapped air, so each breath works better and costs less effort.
Stay calm.	A calm nurse lowers anxiety, which otherwise speeds breathing and raises oxygen need, feeding a cycle of worsening breathlessness.
Report worsening.	Early reporting lets the team act before tiring breathing muscles lead to breathing failure.

Expected outcomes: Within 1 hour: breathing rate 12-20/min and oxygen saturation at the doctor's target. · Within 24 hours: speaks in full sentences and says breathing feels easier.

Linking the data: The patient has COPD and is breathing 30 times a minute, with oxygen saturation 89% on room air, neck muscle use, speech limited to three words at a time and an upright, forward-leaning posture. He says he cannot catch his breath even sitting still. This is an actual problem because difficult breathing is already present, so a risk statement would be wrong. Poor oxygen exchange in the lungs could be confused with it, but here the main issue is the effort and discomfort of breathing itself. The plan aims for a rate of 12-20/min with oxygen at the doctor's target within 1 hour, then full sentences and easier breathing within 24 hours.

B2 Poor oxygen exchange in the lungs

Group: Breathing and circulation | Type: Actual problem

Definition: The lungs are not moving enough oxygen into the blood or carbon dioxide out, which may show as low oxygen readings, drowsiness, or confusion.

Possible causes: Pneumonia; fluid in the lungs; lung scarring; shallow breathing after surgery

Signs and symptoms: Low oxygen readings; fast breathing; restlessness or confusion; blue lips; abnormal blood gas results

Scenario. A woman with pneumonia has an oxygen saturation of 88% and is restless at night.

S: "I feel like I'm not getting enough air, and I'm so tired."

O: Oxygen saturation 88% on room air; respiratory rate 26/min; restless at night; crackling sounds in the right lung; temperature 38.4 C.

Tools: CP-BREATH, CP-INFECT · NEWS2, SpO₂, ECG, qSOFA / sepsis screen ****CarePath diagnosis:**** Poor oxygen exchange in the lungs related to pneumonia, as evidenced by low oxygen readings and fast breathing. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Raise the head of the bed. | Raising the head lets the diaphragm move down and the lungs expand, so more air reaches the air sacs where oxygen passes into the blood. | | Give oxygen as ordered. | Extra oxygen raises the blood oxygen level when infected lungs cannot move enough oxygen across on their own. | | Check oxygen and breathing often. | Frequent checks catch falling oxygen or rising breathing rate early. Restlessness can be an early sign that the brain is short of oxygen. | | Encourage deep breathing and coughing. | Deep breathing opens collapsed air sacs and coughing clears mucus, so more of the lung can take part in gas exchange. | | Report falling oxygen. | Prompt reporting lets the doctor change oxygen or treatment before the patient becomes exhausted or seriously short of oxygen. | ****Expected outcomes**** - Within 24 hours: oxygen saturation at or above 94% (or the doctor's target), breathing rate 12-20/ min, calm and oriented. - By discharge: clear breath sounds. ****Linking the data to the diagnosis**** The patient has pneumonia, with oxygen saturation 88% on room air, breathing rate 26/min, crackling sounds in the right lung, temperature 38.4 C and restlessness at night. She says she is not getting enough air and feels very tired. This is an actual problem because the low oxygen is already measured, not just possible. Struggling to breathe comfortably could be confused with it, but the key finding here is the failure to move oxygen into the blood, not the feeling of effort. The plan aims for saturation at or above 94% (or the doctor's target), a normal breathing rate and calm orientation within 24 hours, and clear breath sounds by discharge.

CarePath diagnosis: Poor oxygen exchange in the lungs related to pneumonia, as evidenced by low oxygen readings and fast breathing.

Intervention	Rationale
Raise the head of the bed.	Raising the head lets the diaphragm move down and the lungs expand, so more air reaches the air sacs where oxygen passes into the blood.
Give oxygen as ordered.	Extra oxygen raises the blood oxygen level when infected lungs cannot move enough oxygen across on their own.
Check oxygen and breathing often.	Frequent checks catch falling oxygen or rising breathing rate early. Restlessness can be an early sign that the brain is short of oxygen.
Encourage deep breathing and coughing.	Deep breathing opens collapsed air sacs and coughing clears mucus, so more of the lung can take part in gas exchange.
Report falling oxygen.	Prompt reporting lets the doctor change oxygen or treatment before the patient becomes exhausted or seriously short of oxygen.

Expected outcomes: Within 24 hours: oxygen saturation at or above 94% (or the doctor's target), breathing rate 12-20/ min, calm and oriented. · By discharge: clear breath sounds.

Linking the data: The patient has pneumonia, with oxygen saturation 88% on room air, breathing rate 26/min, crackling sounds in the right lung, temperature 38.4 C and restlessness at night. She says she is not getting enough air and feels very tired. This is an actual problem because the low oxygen is already measured, not just possible. Struggling to breathe comfortably could be confused with it, but the key finding here is the failure to move oxygen into the blood, not the feeling of effort. The plan aims for saturation at or above 94% (or the doctor's target), a normal breathing rate and calm orientation within 24 hours, and clear breath sounds by discharge.

B3 Airway blocked by secretions

Group: Breathing and circulation | Type: Actual problem

Definition: Mucus or fluid in the airway cannot be coughed up, making breathing noisy or difficult.

Possible causes: Thick mucus; weak cough; infection; smoking; sedation

Signs and symptoms: Wet or rattling breath sounds; weak cough; mucus that cannot be cleared; noisy breathing

Scenario. A patient after surgery cannot cough up thick mucus and sounds wet when breathing.

S: "I can feel the mucus but I can't cough it up."

O: Wet gurgling breath sounds; weak ineffective cough; thick yellow secretions in the mouth; oxygen saturation 92%.

Tools: CP-BREATH · NEWS2, SpO₂, ECG ****CarePath diagnosis:**** Airway blocked by secretions related to thick mucus, as evidenced by wet or rattling breath sounds and weak cough. ****Interventions and rationale**** | Intervention | Rationale | |---| | Position upright. | An upright position lets the lungs expand and makes coughing stronger, which helps move mucus out of the airway. | | Teach deep breathing and supported coughing. | Deep breaths open airways behind the mucus, and holding a pillow over the wound lessens pain so the cough is strong enough to clear secretions. | | Give fluids and humidified air if ordered. | Fluids and moist air thin thick mucus, making it easier to cough up. These are ordered because fluid limits or oxygen settings may apply. | | Suction if needed. | Suction removes mucus the patient cannot clear alone, reopening the airway and improving oxygen levels. It is used only when needed because it is uncomfortable and can irritate the airway. | | Give prescribed medicines. | Prescribed medicines can thin mucus, open airways and relieve pain, all of which help the patient cough effectively. | ****Expected outcomes**** - Within 24 hours: coughs up secretions effectively, breath sounds clearer, oxygen saturation at target. - Patient demonstrates supported coughing correctly. ****Linking the data to the diagnosis**** The patient is recovering from surgery and cannot cough up thick mucus. The nurse notes wet gurgling breath sounds, a weak ineffective cough, thick yellow secretions in the mouth and oxygen saturation 92%. He says he can feel the mucus but cannot cough it up. This is an actual problem because the airway is already partly blocked. Poor oxygen exchange in the lungs may follow if it continues, but the cause here is the mucus itself, so this statement is the better fit. The plan aims for effective coughing, clearer breath sounds and oxygen at target within 24 hours, with correct supported coughing shown by the patient.

CarePath diagnosis: Airway blocked by secretions related to thick mucus, as evidenced by wet or rattling breath sounds and weak cough.

Intervention	Rationale
Position upright.	An upright position lets the lungs expand and makes coughing stronger, which helps move mucus out of the airway.
Teach deep breathing and supported coughing.	Deep breaths open airways behind the mucus, and holding a pillow over the wound lessens pain so the cough is strong enough to clear secretions.
Give fluids and humidified air if ordered.	Fluids and moist air thin thick mucus, making it easier to cough up. These are ordered because fluid limits or oxygen settings may apply.
Suction if needed.	Suction removes mucus the patient cannot clear alone, reopening the airway and improving oxygen levels. It is used only when needed because it is uncomfortable and can irritate the airway.
Give prescribed medicines.	Prescribed medicines can thin mucus, open airways and relieve pain, all of which help the patient cough effectively.

Expected outcomes: Within 24 hours: coughs up secretions effectively, breath sounds clearer, oxygen saturation at target. · Patient demonstrates supported coughing correctly.

Linking the data: The patient is recovering from surgery and cannot cough up thick mucus. The nurse notes wet gurgling breath sounds, a weak ineffective cough, thick yellow secretions in the mouth and oxygen saturation 92%. He

says he can feel the mucus but cannot cough it up. This is an actual problem because the airway is already partly blocked. Poor oxygen exchange in the lungs may follow if it continues, but the cause here is the mucus itself, so this statement is the better fit. The plan aims for effective coughing, clearer breath sounds and oxygen at target within 24 hours, with correct supported coughing shown by the patient.

B4 Weak heart pumping

Group: Breathing and circulation | Type: Actual problem

Definition: The heart is not moving enough blood to meet body needs, which may cause tiredness, swelling, or low blood pressure.

Possible causes: Heart failure; heart attack; weak heart muscle; rhythm problems

Signs and symptoms: Tiredness; swollen legs; fast pulse; low blood pressure; breathless lying flat; weight gain

Scenario. A man with heart failure gains 2 kg in 3 days and cannot lie flat.

S: "I'm so tired and my ankles are swollen. I need three pillows to sleep."

O: Weight up 2 kg in 3 days; pulse 110/min; blood pressure 92/60; pitting swelling in both ankles; crackles at the lung bases.

Tools: CP-BREATH, CP-SKIN, CP-FLUID · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart, MUST, fluid chart, glucose **CarePath diagnosis:** Weak heart pumping related to heart failure, as evidenced by tiredness and swollen legs. **Interventions and rationale** | Intervention | Rationale | ---|---| | Check pulse, blood pressure, and weight daily. | Daily pulse, blood pressure and weight show how well the heart is pumping. Quick weight gain signals fluid build-up before it becomes severe. | | Give heart medicines as ordered. | Heart medicines strengthen the pumping, slow the heart rate or remove extra fluid, which lowers the heart's workload. | | Limit fluid and salt if ordered. | Less salt and fluid means less water held in the body, which reduces swelling, lung congestion and strain on the heart. | | Plan rest. | Rest lowers the heart's oxygen demand and workload, and planning it between activities saves energy for what matters. | | Report sudden changes. | Sudden changes such as fast weight gain or worse breathlessness may mean heart failure is getting worse and needs prompt treatment. | **Expected outcomes** - Within 3 days: weight stable or falling toward target, pulse 60-100/min, no new swelling. - Sleeps with no more than two pillows. - Patient lists 3 warning signs to report. **Linking the data to the diagnosis** The patient has heart failure and is gaining weight fast: 2 kg in 3 days. He has a pulse of 110/min, blood pressure 92/60, pitting swelling in both ankles and crackles at the lung bases. He says he is very tired and needs three pillows to sleep. This is an actual problem because the heart is already failing to move enough blood. Fluid build-up in the body describes the extra water, but this statement names the cause, the weak pump, and so fits better. The plan aims for stable or falling weight, a pulse of 60-100/ min, no new swelling, sleep on two pillows or fewer, and three warning signs named within 3 days.

CarePath diagnosis: Weak heart pumping related to heart failure, as evidenced by tiredness and swollen legs.

Intervention	Rationale
Check pulse, blood pressure, and weight daily.	Daily pulse, blood pressure and weight show how well the heart is pumping. Quick weight gain signals fluid build-up before it becomes severe.
Give heart medicines as ordered.	Heart medicines strengthen the pumping, slow the heart rate or remove extra fluid, which lowers the heart's workload.
Limit fluid and salt if ordered.	Less salt and fluid means less water held in the body, which reduces swelling, lung congestion and strain on the heart.
Plan rest.	Rest lowers the heart's oxygen demand and workload, and planning it between activities saves energy for what matters.
Report sudden changes.	Sudden changes such as fast weight gain or worse breathlessness may mean heart failure is getting worse and needs prompt treatment.

Expected outcomes: Within 3 days: weight stable or falling toward target, pulse 60-100/min, no new swelling. · Sleeps with no more than two pillows. · Patient lists 3 warning signs to report.

Linking the data: The patient has heart failure and is gaining weight fast: 2 kg in 3 days. He has a pulse of 110/min, blood pressure 92/60, pitting swelling in both ankles and crackles at the lung bases. He says he is very tired and needs three pillows to sleep. This is an actual problem because the heart is already failing to move enough blood. Fluid build-up in the body describes the extra water, but this statement names the cause, the weak pump, and so fits better. The plan aims for stable or falling weight, a pulse of 60-100/ min, no new swelling, sleep on two pillows or fewer, and

three warning signs named within 3 days.

B5 Poor blood flow to hands or feet

Group: Breathing and circulation | Type: Actual problem

Definition: The limbs receive too little blood and may look pale or blue, feel cold, or have weak pulses.

Possible causes: Narrowed arteries; diabetes; smoking; blood clot; tight dressings

Signs and symptoms: Cold, pale, or blue hands or feet; weak pulses; slow wound healing; leg pain when walking

Scenario. A diabetic patient has a cold, pale left foot with a weak pulse and a slow-healing toe sore.

S: "My left foot always feels cold and my toe sore will not heal."

O: Left foot cold and pale; weak foot pulse; capillary refill 5 seconds; toe sore 1 cm and not healing for 3 weeks; blood sugar 12 mmol/L.

Tools: CP-BREATH, CP-SKIN, CP-FLUID · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart, MUST, fluid chart, glucose **CarePath diagnosis:** Poor blood flow to hands or feet related to narrowed arteries, as evidenced by cold, pale, or blue hands or feet and weak pulses. **Interventions and rationale** | Intervention | Rationale | |---|---| | Check pulses, color, and warmth. | Checking pulses, color and warmth shows how well blood reaches the foot and picks up worsening supply early. | | Keep limbs warm but avoid heat pads. | Gentle warmth helps keep vessels open, but heat pads can burn skin that has poor blood flow and reduced feeling, and cannot carry the heat away. | | Avoid tight clothing. | Tight clothing can squeeze vessels and further reduce blood flow that is already poor. | | Encourage no smoking. | Smoking narrows blood vessels and lowers the oxygen carried by blood, so stopping improves flow and wound healing. | | Report sudden pain or color change. | Sudden pain or color change may mean a clot has blocked the artery, which threatens the limb and needs urgent treatment. **Expected outcomes** - During the stay: foot stays warm and pink with a felt pulse. - Within 2 weeks: wound smaller. - Patient states foot care steps and accepts support to stop smoking. **Linking the data to the diagnosis** The patient is diabetic and has a cold, pale left foot with a weak pulse, capillary refill of 5 seconds and a 1 cm toe sore that has not healed for 3 weeks. She says the foot always feels cold. Blood sugar is 12 mmol/L. This is an actual problem because the poor circulation is already visible in color, temperature and slow healing. A skin or wound statement would miss the underlying cause, which is too little blood reaching the foot. The plan aims for a warm, pink foot with a felt pulse during the stay, a smaller wound within 2 weeks, and the patient stating foot care steps and accepting help to stop smoking.

CarePath diagnosis: Poor blood flow to hands or feet related to narrowed arteries, as evidenced by cold, pale, or blue hands or feet and weak pulses.

Intervention	Rationale
Check pulses, color, and warmth.	Checking pulses, color and warmth shows how well blood reaches the foot and picks up worsening supply early.
Keep limbs warm but avoid heat pads.	Gentle warmth helps keep vessels open, but heat pads can burn skin that has poor blood flow and reduced feeling, and cannot carry the heat away.
Avoid tight clothing.	Tight clothing can squeeze vessels and further reduce blood flow that is already poor.
Encourage no smoking.	Smoking narrows blood vessels and lowers the oxygen carried by blood, so stopping improves flow and wound healing.
Report sudden pain or color change.	Sudden pain or color change may mean a clot has blocked the artery, which threatens the limb and needs urgent treatment.

Expected outcomes: During the stay: foot stays warm and pink with a felt pulse. · Within 2 weeks: wound smaller. · Patient states foot care steps and accepts support to stop smoking.

Linking the data: The patient is diabetic and has a cold, pale left foot with a weak pulse, capillary refill of 5 seconds and a 1 cm toe sore that has not healed for 3 weeks. She says the foot always feels cold. Blood sugar is 12 mmol/L. This is an actual problem because the poor circulation is already visible in color, temperature and slow healing. A skin or wound statement would miss the underlying cause, which is too little blood reaching the foot. The plan aims for a warm, pink foot with a felt pulse during the stay, a smaller wound within 2 weeks, and the patient stating foot care steps and accepting help to stop smoking.

B6 Unstable blood pressure

Definition: Blood pressure may swing too high or too low because of illness, medicine, or fluid changes.

Risk factors: Stroke; bleeding; fluid loss; blood pressure medicine; infection

Warning signs: Large swings in readings; dizziness; headache; fainting

Scenario. A patient with a past stroke starts new blood pressure tablets while recovering from a stomach bug with fluid loss.

S: "I have been vomiting and I started new tablets for my blood pressure."

O: Blood pressure 148/90 on admission; vomiting for 2 days with poor fluid intake; new blood pressure tablets started today; past stroke; no dizziness or fainting.

Tools: CP-BREATH, CP-SKIN, CP-FLUID · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart, MUST, fluid chart, glucose ****CarePath diagnosis:**** Unstable blood pressure related to new blood pressure medicine, fluid loss and past stroke (risk factors); no signs of the problem are present yet. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check blood pressure at ordered times with the right cuff size, lying and standing. | A correct cuff size gives accurate readings, and comparing lying and standing values reveals drops on standing caused by fluid loss or tablets. | | Give medicines as ordered and note the time of each dose. | Giving medicines on time and noting dose times lets the team link pressure changes to the medicine and avoid missed or doubled doses. | | Encourage fluids as allowed and record intake. | Vomiting has lowered body fluid, which can drop blood pressure. Drinking replaces it, and recording intake shows whether enough is taken. | | Teach to sit up slowly. | Rising slowly gives blood pressure time to adjust, lowering the chance of dizziness, fainting and falls. | | Report readings outside the ordered range, dizziness, headache or fainting at once. | Readings out of range may mean pressure is too high, raising stroke risk after a past stroke, or too low, reducing blood to the brain. Prompt action prevents harm. | ****Expected outcomes**** - Within 24 hours: blood pressure stays within the doctor's range with no symptom-causing readings. - No fainting or falls during the stay. - Patient names her medicines and when to take them. ****Linking the data to the diagnosis**** This is a risk statement: the problem has not happened yet. The patient had a past stroke, has been vomiting for 2 days with poor fluid intake, and started new blood pressure tablets today. Blood pressure was 148/90 on admission, and there is no dizziness or fainting. The diagnosis rests on these risk factors, not on any swings in readings. A statement about dizziness on standing would be wrong because no drop has been found. The plan aims to keep pressure within the doctor's range with no symptom-causing readings in 24 hours, no fainting or falls, and the patient naming her medicines and when to take them.

CarePath diagnosis: Unstable blood pressure related to new blood pressure medicine, fluid loss and past stroke (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Check blood pressure at ordered times with the right cuff size, lying and standing.	A correct cuff size gives accurate readings, and comparing lying and standing values reveals drops on standing caused by fluid loss or tablets.
Give medicines as ordered and note the time of each dose.	Giving medicines on time and noting dose times lets the team link pressure changes to the medicine and avoid missed or doubled doses.
Encourage fluids as allowed and record intake.	Vomiting has lowered body fluid, which can drop blood pressure. Drinking replaces it, and recording intake shows whether enough is taken.
Teach to sit up slowly.	Rising slowly gives blood pressure time to adjust, lowering the chance of dizziness, fainting and falls.
Report readings outside the ordered range, dizziness, headache or fainting at once.	Readings out of range may mean pressure is too high, raising stroke risk after a past stroke, or too low, reducing blood to the brain. Prompt action prevents harm.

Expected outcomes: Within 24 hours: blood pressure stays within the doctor's range with no symptom-causing readings. · No fainting or falls during the stay. · Patient names her medicines and when to take them.

Linking the data: This is a risk statement: the problem has not happened yet. The patient had a past stroke, has been vomiting for 2 days with poor fluid intake, and started new blood pressure tablets today. Blood pressure was 148/90 on admission, and there is no dizziness or fainting. The diagnosis rests on these risk factors, not on any swings in readings. A statement about dizziness on standing would be wrong because no drop has been found. The plan aims to keep pressure within the doctor's range with no symptom-causing readings in 24 hours, no fainting or falls, and the patient naming her medicines and when to take them.

B7 Fluid in the lungs ▲ URGENT

Group: Breathing and circulation | Type: Actual problem

Definition: Extra fluid collects in the lungs, causing breathlessness, cough, or crackling breath sounds.

Possible causes: Heart failure; kidney failure; too much intravenous fluid

Signs and symptoms: Crackling breath sounds; cough with frothy mucus; breathlessness; low oxygen

Scenario. A patient with heart failure coughs up pink frothy mucus and cannot lie flat.

S: "I can't breathe lying flat and I keep coughing."

O: Frothy pink sputum; crackles in both lungs; oxygen saturation 86%; respiratory rate 32/min; swollen legs.

Tools: CP-BREATH · NEWS2, SpO₂, ECG ****CarePath diagnosis:**** Fluid in the lungs related to heart failure, as evidenced by crackling breath sounds and cough with frothy mucus. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Sit upright. | An upright position lets fluid settle lower in the lungs and gives the diaphragm room to move, so breathing is easier. | | Give oxygen and diuretics as ordered. | Oxygen treats the low blood oxygen, and diuretics make the kidneys remove extra fluid, reducing the fluid in the lungs. | | Monitor fluid balance and weight. | Fluid balance and weight show whether fluid is leaving the body and whether treatment is working. | | Call for urgent help if severe. | Severe fluid in the lungs can quickly lead to respiratory failure, so urgent help brings faster, stronger treatment. | ****Expected outcomes**** - Within 6 hours: comfortable breathing at rest, oxygen saturation at target, clearer lungs. - Within 48 hours: weight and fluid balance moving toward the doctor's targets. ****Linking the data to the diagnosis**** The patient has heart failure and is coughing up pink frothy mucus, with crackles in both lungs, oxygen saturation 86%, breathing rate 32/min and swollen legs. He cannot breathe lying flat. This is an actual, urgent problem, so help is called first, then the nurse sits him upright and starts oxygen as ordered. Weak heart pumping describes the heart cause, but the frothy sputum and very low oxygen show fluid is already in the lungs, so this statement is the right one. The plan aims for comfortable breathing at rest, oxygen at target and clearer lungs within 6 hours, with weight and fluid balance moving toward targets by 48 hours.

CarePath diagnosis: Fluid in the lungs related to heart failure, as evidenced by crackling breath sounds and cough with frothy mucus.

Intervention	Rationale
Sit upright.	An upright position lets fluid settle lower in the lungs and gives the diaphragm room to move, so breathing is easier.
Give oxygen and diuretics as ordered.	Oxygen treats the low blood oxygen, and diuretics make the kidneys remove extra fluid, reducing the fluid in the lungs.
Monitor fluid balance and weight.	Fluid balance and weight show whether fluid is leaving the body and whether treatment is working.
Call for urgent help if severe.	Severe fluid in the lungs can quickly lead to respiratory failure, so urgent help brings faster, stronger treatment.

Expected outcomes: Within 6 hours: comfortable breathing at rest, oxygen saturation at target, clearer lungs. · Within 48 hours: weight and fluid balance moving toward the doctor's targets.

Linking the data: The patient has heart failure and is coughing up pink frothy mucus, with crackles in both lungs, oxygen saturation 86%, breathing rate 32/min and swollen legs. He cannot breathe lying flat. This is an actual, urgent problem, so help is called first, then the nurse sits him upright and starts oxygen as ordered. Weak heart pumping describes the heart cause, but the frothy sputum and very low oxygen show fluid is already in the lungs, so this statement is the right one. The plan aims for comfortable breathing at rest, oxygen at target and clearer lungs within 6 hours, with weight and fluid balance moving toward targets by 48 hours.

B8 Low blood oxygen needing support ▲ URGENT

Group: Breathing and circulation | Type: Actual problem

Definition: Oxygen levels stay below a safe level unless extra oxygen or other support is given.

Possible causes: Pneumonia; lung disease; shallow breathing; opioid overdose

Signs and symptoms: Oxygen readings below target; fast breathing; blue lips; restlessness

Scenario. A patient with COPD drops to 85% oxygen when walking to the bathroom.

S: "I get so short of breath just walking to the bathroom."

O: Oxygen saturation 85% after walking, 93% at rest on oxygen; respiratory rate 28/ min; lips slightly blue.

Tools: CP-BREATH · NEWS2, SpO₂, ECG ****CarePath diagnosis:**** Low blood oxygen needing support related to COPD (chronic lung disease), as evidenced by oxygen readings below target and fast breathing. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Give oxygen at the ordered flow. | Oxygen at the ordered flow raises the blood oxygen level. The amount is ordered because too much or too little can harm, especially in lung disease. | | Check equipment and tubing. | Leaks, kinks or a disconnected tube can stop oxygen reaching the patient, so checking makes sure the treatment is actually delivered. | | Position upright. | An upright position helps the lungs expand and reduces the effort of breathing. | | Limit exertion. | Activity raises oxygen demand, and his level fell to 85% on walking. Limiting exertion and resting between tasks prevents these drops. | | Report persistent low readings. | Persistent low readings despite oxygen mean the current support is not enough and the doctor needs to adjust treatment. | ****Expected outcomes**** - Within 48 hours: oxygen saturation stays at the doctor's target at rest and with activity. - No blue lips. - Completes bathroom trips with rest pauses and no distress. ****Linking the data to the diagnosis**** The patient has COPD and his oxygen saturation drops to 85% after walking to the bathroom, compared with 93% at rest on oxygen. His breathing rate is 28/min and his lips are slightly blue. He says he gets very short of breath just walking. This is an actual, urgent problem, so help is called first if readings stay low. Poor oxygen exchange in the lungs is a similar statement, but this one focuses on the need for oxygen support to keep levels safe. The plan aims to keep saturation at the doctor's target at rest and with activity within 48 hours, with no blue lips and bathroom trips done with rest pauses.

CarePath diagnosis: Low blood oxygen needing support related to COPD (chronic lung disease), as evidenced by oxygen readings below target and fast breathing.

Intervention	Rationale
Give oxygen at the ordered flow.	Oxygen at the ordered flow raises the blood oxygen level. The amount is ordered because too much or too little can harm, especially in lung disease.
Check equipment and tubing.	Leaks, kinks or a disconnected tube can stop oxygen reaching the patient, so checking makes sure the treatment is actually delivered.
Position upright.	An upright position helps the lungs expand and reduces the effort of breathing.
Limit exertion.	Activity raises oxygen demand, and his level fell to 85% on walking. Limiting exertion and resting between tasks prevents these drops.
Report persistent low readings.	Persistent low readings despite oxygen mean the current support is not enough and the doctor needs to adjust treatment.

Expected outcomes: Within 48 hours: oxygen saturation stays at the doctor's target at rest and with activity. · No blue lips. · Completes bathroom trips with rest pauses and no distress.

Linking the data: The patient has COPD and his oxygen saturation drops to 85% after walking to the bathroom, compared with 93% at rest on oxygen. His breathing rate is 28/min and his lips are slightly blue. He says he gets very short of breath just walking. This is an actual, urgent problem, so help is called first if readings stay low. Poor oxygen exchange in the lungs is a similar statement, but this one focuses on the need for oxygen support to keep levels safe. The plan aims to keep saturation at the doctor's target at rest and with activity within 48 hours, with no blue lips and bathroom trips done with rest pauses.

B9 Needs breathing machine support

Group: Breathing and circulation | Type: Actual problem

Definition: The person cannot breathe well alone and relies on a ventilator or similar device.

Possible causes: Respiratory failure; surgery; brain injury; severe weakness

Signs and symptoms: Connected to a ventilator; unable to breathe alone; sedated; breathing tube in place

Scenario. A sedated ICU patient after a head injury relies fully on a ventilator.

S: (Sedated and unable to speak.) Family: "He couldn't breathe on his own after the accident."

O: On a ventilator with ordered settings; sedated; oxygen saturation 96%; secretions suctioned every 2 hours; head of bed raised 30 degrees.

Tools: CP-BREATH · NEWS2, SpO₂, ECG ****CarePath diagnosis:**** Needs breathing machine support related to respiratory failure, as evidenced by connected to a ventilator and unable to breathe alone. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check tube position and ventilator settings. | Correct tube position ensures air reaches both lungs, and checking settings confirms the machine delivers the ordered breaths and oxygen. | | Suction as needed. | Suction removes secretions that a sedated patient cannot cough up, keeping the tube and airways open. | | Give mouth care. | Mouth care reduces germs that could be breathed into the lungs and cause ventilator-related pneumonia. | | Keep head raised. | A raised head lowers the chance that stomach contents or mouth secretions run into the lungs. | | Prevent tube pulling. | Pulling out the breathing tube can cause sudden loss of the airway and injury, so securing it and preventing tugging is vital. | | Keep talking to the patient. | Hearing is often kept during sedation, so talking reassures the patient, reduces distress and respects dignity. | ****Expected outcomes**** - Oxygen saturation stays at target. - No accidental tube removal. - No ventilator-related pneumonia. - Weaning begins when the doctor orders. - Mouth care done every 4 hours. ****Linking the data to the diagnosis**** The patient is sedated in intensive care after a head injury and relies fully on a ventilator. Family say he could not breathe on his own after the accident. The nurse records oxygen saturation 96%, secretions suctioned every 2 hours and the head of the bed raised 30 degrees. This is an actual problem because he cannot breathe alone now. Poor oxygen exchange in the lungs would describe lung failure in general, but this statement fits because the care centers on the machine and the breathing tube. The plan aims to keep oxygen at target, prevent tube removal and ventilator-related pneumonia, start weaning when ordered, and give mouth care every 4 hours.

CarePath diagnosis: Needs breathing machine support related to respiratory failure, as evidenced by connected to a ventilator and unable to breathe alone.

Intervention	Rationale
Check tube position and ventilator settings.	Correct tube position ensures air reaches both lungs, and checking settings confirms the machine delivers the ordered breaths and oxygen.
Suction as needed.	Suction removes secretions that a sedated patient cannot cough up, keeping the tube and airways open.
Give mouth care.	Mouth care reduces germs that could be breathed into the lungs and cause ventilator-related pneumonia.
Keep head raised.	A raised head lowers the chance that stomach contents or mouth secretions run into the lungs.
Prevent tube pulling.	Pulling out the breathing tube can cause sudden loss of the airway and injury, so securing it and preventing tugging is vital.
Keep talking to the patient.	Hearing is often kept during sedation, so talking reassures the patient, reduces distress and respects dignity.

Expected outcomes: Oxygen saturation stays at target. · No accidental tube removal. · No ventilator-related pneumonia. · Weaning begins when the doctor orders. · Mouth care done every 4 hours.

Linking the data: The patient is sedated in intensive care after a head injury and relies fully on a ventilator. Family say he could not breathe on his own after the accident. The nurse records oxygen saturation 96%, secretions suctioned every 2 hours and the head of the bed raised 30 degrees. This is an actual problem because he cannot breathe alone now. Poor oxygen exchange in the lungs would describe lung failure in general, but this statement fits because the care centers on the machine and the breathing tube. The plan aims to keep oxygen at target, prevent tube removal and ventilator-related pneumonia, start weaning when ordered, and give mouth care every 4 hours.

B10 Swollen legs or feet

Group: Breathing and circulation | Type: Actual problem

Definition: Fluid builds up in the lower limbs, causing puffiness, tightness, or heaviness.

Possible causes: Heart failure; kidney problems; long sitting; low protein; vein problems

Signs and symptoms: Puffy or tight skin; a dent that stays when pressed; shoes feel tight; heavy legs

Scenario. An older woman's ankles are swollen and leave a dent when pressed.

S: "My shoes don't fit and my legs feel heavy."

O: Both ankles swollen with pitting 2+; weight up 1.5 kg in a week; skin tight and shiny; blood pressure 140/85.

Tools: CP-BREATH, CP-SKIN, CP-FLUID · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart, MUST, fluid chart, glucose **CarePath diagnosis:** Swollen legs or feet related to fluid retention, as evidenced by 2+ pitting swelling of both ankles, weight up 1.5 kg in a week, and tight, shiny skin. **Interventions and rationale** | Intervention | Rationale | |---|---| | Raise legs when sitting. | Raising the legs uses gravity to help fluid drain back toward the heart, which lowers swelling. | | Weigh daily. | Daily weight is a reliable way to see fluid gain or loss, since about 1 kg of weight is roughly 1 liter of fluid. | | Follow salt and fluid advice. | Less salt and controlled fluids reduce the water held in the body and so the swelling. | | Check skin for breakdown. | Swollen, tight skin is fragile and has less blood supply, so it breaks down easily. Checking finds early damage. | | Give diuretics as ordered. | Diuretics help the kidneys remove extra fluid and salt, which reduces swelling. | **Expected outcomes** - Within 3 days: swelling reduced and weight moving toward target. - Skin stays intact. - Patient raises legs correctly and states salt and fluid advice. **Linking the data to the diagnosis** The older woman has both ankles swollen with 2+ pitting, tight shiny skin, weight up 1.5 kg in a week and blood pressure 140/85. She says her shoes do not fit and her legs feel heavy. This is an actual problem because the swelling is already present and leaves a dent when pressed. Fluid build-up in the body is a wider statement about total body fluid, while this one is limited to the legs and feet and so fits the local findings. The plan aims for less swelling and weight moving toward target within 3 days, intact skin, and the patient raising her legs correctly and stating the salt and fluid advice.

CarePath diagnosis: Swollen legs or feet related to fluid retention, as evidenced by 2+ pitting swelling of both ankles, weight up 1.5 kg in a week, and tight, shiny skin.

Intervention	Rationale
Raise legs when sitting.	Raising the legs uses gravity to help fluid drain back toward the heart, which lowers swelling.
Weigh daily.	Daily weight is a reliable way to see fluid gain or loss, since about 1 kg of weight is roughly 1 liter of fluid.
Follow salt and fluid advice.	Less salt and controlled fluids reduce the water held in the body and so the swelling.
Check skin for breakdown.	Swollen, tight skin is fragile and has less blood supply, so it breaks down easily. Checking finds early damage.
Give diuretics as ordered.	Diuretics help the kidneys remove extra fluid and salt, which reduces swelling.

Expected outcomes: Within 3 days: swelling reduced and weight moving toward target. · Skin stays intact. · Patient raises legs correctly and states salt and fluid advice.

Linking the data: The older woman has both ankles swollen with 2+ pitting, tight shiny skin, weight up 1.5 kg in a week and blood pressure 140/85. She says her shoes do not fit and her legs feel heavy. This is an actual problem because the swelling is already present and leaves a dent when pressed. Fluid build-up in the body is a wider statement about total body fluid, while this one is limited to the legs and feet and so fits the local findings. The plan aims for less swelling and weight moving toward target within 3 days, intact skin, and the patient raising her legs correctly and stating the salt and fluid advice.

B11 Irregular heartbeat

Group: Breathing and circulation | Type: Actual problem

Definition: The heart rhythm is too fast, too slow, or uneven, which may cause palpitations, dizziness, or weakness.

Possible causes: Heart disease; electrolyte imbalance; stimulants; stress

Signs and symptoms: Pounding or skipping heartbeat; uneven pulse; dizziness; fainting; chest discomfort

Scenario. A patient says "my heart is skipping" and the monitor shows an uneven rhythm.

S: "My heart is skipping and I feel dizzy."

O: Pulse irregular at 120/min; monitor shows uneven rhythm; blood pressure 105/68; oxygen saturation 96%.

Tools: CP-BREATH, CP-SKIN · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart ****CarePath diagnosis:**** Irregular heartbeat related to heart disease, as evidenced by pounding or skipping heartbeat and uneven pulse. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check pulse and blood pressure. | Pulse and blood pressure show how the uneven rhythm is affecting blood flow, since a fast irregular rhythm can lower the heart's output. | | Connect to monitor if ordered. | A monitor shows the exact rhythm continuously, so changes are seen promptly and the doctor can identify the type. | | Report symptoms. | Reporting symptoms such as dizziness or chest pain gives the doctor the information needed to judge urgency and treat. | | Give heart rhythm medicine as ordered. | Rhythm medicines help control the heart rate or restore a steady rhythm, which improves pumping. | | Keep the patient calm. | Anxiety releases stress hormones that can speed the heart and worsen palpitations, so staying calm helps. | ****Expected outcomes**** - Heart rate and rhythm within the doctor's range. - No dizziness or fainting. - Patient names when to report palpitations or chest pain. ****Linking the data to the diagnosis**** The patient says his heart is skipping and he feels dizzy. The nurse finds an irregular pulse of 120/min, an uneven rhythm on the monitor, blood pressure 105/68 and oxygen saturation 96%. This is an actual problem because the abnormal rhythm is already present and measured. Weak heart pumping could follow if the rhythm lowers blood flow, but the finding here is the rhythm itself, so this statement is the better fit. The plan aims for heart rate and rhythm within the doctor's range, no dizziness or fainting, and the patient naming when to report palpitations or chest pain.

CarePath diagnosis: Irregular heartbeat related to heart disease, as evidenced by pounding or skipping heartbeat and uneven pulse.

Intervention	Rationale
Check pulse and blood pressure.	Pulse and blood pressure show how the uneven rhythm is affecting blood flow, since a fast irregular rhythm can lower the heart's output.
Connect to monitor if ordered.	A monitor shows the exact rhythm continuously, so changes are seen promptly and the doctor can identify the type.
Report symptoms.	Reporting symptoms such as dizziness or chest pain gives the doctor the information needed to judge urgency and treat.
Give heart rhythm medicine as ordered.	Rhythm medicines help control the heart rate or restore a steady rhythm, which improves pumping.
Keep the patient calm.	Anxiety releases stress hormones that can speed the heart and worsen palpitations, so staying calm helps.

Expected outcomes: Heart rate and rhythm within the doctor's range. · No dizziness or fainting. · Patient names when to report palpitations or chest pain.

Linking the data: The patient says his heart is skipping and he feels dizzy. The nurse finds an irregular pulse of 120/min, an uneven rhythm on the monitor, blood pressure 105/68 and oxygen saturation 96%. This is an actual problem because the abnormal rhythm is already present and measured. Weak heart pumping could follow if the rhythm lowers blood flow, but the finding here is the rhythm itself, so this statement is the better fit. The plan aims for heart rate and rhythm within the doctor's range, no dizziness or fainting, and the patient naming when to report palpitations or chest pain.

B12 Dizzy when standing up

Group: Breathing and circulation | Type: Risk problem

Definition: Blood pressure drops on standing, so the person may feel faint or fall.

Risk factors: Dehydration; blood pressure medicine; long bed rest; older age

Warning signs: Light-headedness or darkening vision on standing; holding on to furniture; falls

Scenario. An older man on a water tablet and a blood pressure tablet has been drinking little and has spent two days in bed.

S: "I have not been drinking much and I have been in bed a lot."

O: Blood pressure 138/82 lying and 128/76 standing; pulse 76/min lying; dry lips; on blood pressure tablets; 2 days in bed; no dizziness reported.

Tools: CP-BREATH, CP-SKIN · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart ****CarePath diagnosis:**** Dizzy when standing up related to dehydration, blood pressure medicine and long bed rest (risk factors); no signs of the problem are present yet. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check lying and standing blood pressure. | Comparing lying and standing blood pressure detects a drop on standing, the early sign of this problem, before symptoms appear. | | Have him sit on the bed edge before standing. | Sitting first lets blood pressure adjust gradually, since blood pools in the legs on standing after time in bed. | | Rise slowly. | Rising slowly gives vessels time to tighten, preventing a sudden drop in blood flow to the brain. | | Encourage fluids. | Drinking restores blood volume lost through poor intake and the water tablet, which supports a stable pressure. | | Assist when walking. | Helping him walk prevents a fall if he becomes light-headed. | ****Expected outcomes**** - Within 48 hours: no fainting or falls and standing blood pressure within 20 mmHg of lying. - Patient demonstrates slow position changes and says why. ****Linking the data to the diagnosis**** This is a risk statement: the problem has not occurred yet. The older man takes a water tablet and a blood pressure tablet, has been drinking little and has spent two days in bed. He has dry lips and reports no dizziness. Blood pressure is 138/82 lying and 128/76 standing, a fall of 10 mmHg, so the drop is not yet significant. The diagnosis rests on risk factors, not on found signs. The plan aims for no fainting or falls in 48 hours, standing pressure within 20 mmHg of lying, and the patient showing slow position changes and saying why.

CarePath diagnosis: Dizzy when standing up related to dehydration, blood pressure medicine and long bed rest (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Check lying and standing blood pressure.	Comparing lying and standing blood pressure detects a drop on standing, the early sign of this problem, before symptoms appear.
Have him sit on the bed edge before standing.	Sitting first lets blood pressure adjust gradually, since blood pools in the legs on standing after time in bed.
Rise slowly.	Rising slowly gives vessels time to tighten, preventing a sudden drop in blood flow to the brain.
Encourage fluids.	Drinking restores blood volume lost through poor intake and the water tablet, which supports a stable pressure.
Assist when walking.	Helping him walk prevents a fall if he becomes light-headed.

Expected outcomes: Within 48 hours: no fainting or falls and standing blood pressure within 20 mmHg of lying. · Patient demonstrates slow position changes and says why.

Linking the data: This is a risk statement: the problem has not occurred yet. The older man takes a water tablet and a blood pressure tablet, has been drinking little and has spent two days in bed. He has dry lips and reports no dizziness. Blood pressure is 138/82 lying and 128/76 standing, a fall of 10 mmHg, so the drop is not yet significant. The diagnosis rests on risk factors, not on found signs. The plan aims for no fainting or falls in 48 hours, standing pressure within 20 mmHg of lying, and the patient showing slow position changes and saying why.

B13 Poor blood flow to the brain URGENT

Group: Breathing and circulation | Type: Risk problem

Definition: Reduced blood supply to the brain may cause confusion, weakness, or changes in speech or vision.

Risk factors: Stroke; narrowed neck arteries; low blood pressure; clots

Warning signs: Sudden weakness on one side; slurred speech; vision loss; severe headache; confusion

Scenario. A 74-year-old with an irregular heartbeat and narrowed neck arteries is not taking her blood thinner regularly.

S: "I forget my blood thinner some days."

O: Irregular pulse 92/min; blood pressure 168/96; known narrowing of neck arteries; missed blood-thinner doses; no weakness, speech or vision change.

Tools: CP-BREATH, CP-SKIN · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart ****CarePath diagnosis:**** Poor blood flow to the brain related to narrowed neck arteries, irregular heartbeat and missed blood thinner (risk factors); no signs of the problem are present yet. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check blood pressure and pulse, and do a quick brain check (face, arm, speech) each shift. | Blood pressure, pulse and a quick face, arm and speech check find early changes. High pressure and an irregular rhythm both raise stroke risk. | | Give the blood thinner as ordered and explain why every dose matters. | The blood thinner lowers clot formation caused by the irregular heartbeat. Skipped doses remove that protection, so understanding why helps her take every dose. | | Teach the signs of stroke: face drooping, arm weakness, slurred speech. | Knowing the signs lets the patient and others recognize a stroke fast, because earlier treatment saves more brain tissue. | | If any sign appears: note the time it began, call the emergency team at once and give nothing by mouth. | The onset time decides which clot treatments are possible and the emergency team gives the fastest care. Nothing by mouth because swallowing may be impaired and she could choke. | | Support the patient to stop smoking and follow a pill routine. | Smoking damages arteries and raises clotting risk, and a pill routine helps her remember doses. | ****Expected outcomes**** - No new weakness, speech change or vision loss during the stay. - Patient names the warning signs of stroke and whom to call. - Patient takes the blood thinner on time and states why it matters. - If a sign appears: onset time recorded and emergency team called within minutes. ****Linking the data to the diagnosis**** This is a risk statement: no stroke or brain symptoms have occurred. The 74-year-old has an irregular pulse of 92/min, blood pressure 168/96, known narrowing of the neck arteries and missed blood thinner doses. She says she forgets it some days, and there is no weakness, speech or vision change. The diagnosis rests on these risk factors. The problem is urgent if a sign appears, so help is called first. The plan aims for no new weakness, speech change or vision loss, the patient naming warning signs and whom to call, taking the thinner on time, and onset time recorded with the emergency team called within minutes if needed.

CarePath diagnosis: Poor blood flow to the brain related to narrowed neck arteries, irregular heartbeat and missed blood thinner (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Check blood pressure and pulse, and do a quick brain check (face, arm, speech) each shift.	Blood pressure, pulse and a quick face, arm and speech check find early changes. High pressure and an irregular rhythm both raise stroke risk.
Give the blood thinner as ordered and explain why every dose matters.	The blood thinner lowers clot formation caused by the irregular heartbeat. Skipped doses remove that protection, so understanding why helps her take every dose.
Teach the signs of stroke: face drooping, arm weakness, slurred speech.	Knowing the signs lets the patient and others recognize a stroke fast, because earlier treatment saves more brain tissue.
If any sign appears: note the time it began, call the emergency team at once and give nothing by mouth.	The onset time decides which clot treatments are possible and the emergency team gives the fastest care. Nothing by mouth because swallowing may be impaired and she could choke.
Support the patient to stop smoking and follow a pill routine.	Smoking damages arteries and raises clotting risk, and a pill routine helps her remember doses.

Expected outcomes: No new weakness, speech change or vision loss during the stay. · Patient names the warning signs of stroke and whom to call. · Patient takes the blood thinner on time and states why it matters. · If a sign appears: onset time recorded and emergency team called within minutes.

Linking the data: This is a risk statement: no stroke or brain symptoms have occurred. The 74-year-old has an irregular pulse of 92/min, blood pressure 168/96, known narrowing of the neck arteries and missed blood thinner doses. She says she forgets it some days, and there is no weakness, speech or vision change. The diagnosis rests on these risk factors. The problem is urgent if a sign appears, so help is called first. The plan aims for no new weakness, speech change or vision loss, the patient naming warning signs and whom to call, taking the thinner on time, and onset time recorded with the emergency team called within minutes if needed.

B14 Very low blood circulation (shock) ⚠ URGENT

Definition: Circulation may become too weak to supply vital organs, which is an emergency needing rapid action.

Risk factors: Severe bleeding; infection; heart failure; severe allergy

Warning signs: Fast weak pulse; very low blood pressure; cold clammy skin; confusion; little urine

Scenario. A trauma patient with a pelvic fracture is stable but has lost a large amount of blood at the scene.

S: "I feel a little light-headed."

O: Pulse 104/min; blood pressure 112/70; respiratory rate 20/min; skin pale but warm; urine output 40 mL in the last hour; pelvic fracture; estimated blood loss 600 mL.

Tools: CP-BREATH, CP-SKIN, CP-ELIM · NEWS2, SpO₂, ECG, Braden Scale, TIME wound chart, Bristol Stool Chart, bladder scan **CarePath diagnosis:** Very low blood circulation (shock) related to severe bleeding (risk factors); no signs of the problem are present yet. **Interventions and rationale** | Intervention | Rationale | |---|---| | Check pulse, blood pressure, breathing, skin and mental state every 15 minutes. | Frequent checks catch early signs of shock, such as a rising pulse or falling pressure, in time to act, since bleeding can worsen quickly. | | Control any bleeding and keep the patient warm. | Controlling bleeding stops further loss of blood volume, and warmth prevents chilling, which worsens circulation and clotting. | | Give oxygen and fluids or blood as ordered. | Oxygen helps the remaining red cells deliver oxygen to organs, and fluids or blood restore the volume that keeps organs supplied. | | Record urine output every hour. | Urine output reflects blood flow to the kidneys, so falling output is an early sign that organs are not getting enough blood. | | Call emergency help at once if pulse is above 120/ min, systolic pressure below 90, skin cold and clammy, or the patient is confused. | These signs mean shock is developing, which can quickly become fatal, so immediate expert help is needed. | **Expected outcomes** - Pulse and blood pressure stay within the doctor's targets during treatment. - Urine output stays at or above 30 mL/hour. - Skin stays warm and the patient stays alert. - No signs of shock develop; if they do, help is called within minutes. **Linking the data to the diagnosis** This is a risk statement: shock has not developed yet. The trauma patient has a pelvic fracture and an estimated blood loss of 600 mL. He says he feels a little light-headed. Pulse is 104/min, blood pressure 112/70, respiratory rate 20/min, skin pale but warm, and urine output 40 mL in the last hour. These findings are not shock, so the diagnosis rests on the risk from severe bleeding. It is urgent: if the listed warning signs appear, help is called first. The plan aims to keep pulse, pressure and urine output (30 mL/hour or more) in target, with warm skin and an alert patient.

CarePath diagnosis: Very low blood circulation (shock) related to severe bleeding (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Check pulse, blood pressure, breathing, skin and mental state every 15 minutes.	Frequent checks catch early signs of shock, such as a rising pulse or falling pressure, in time to act, since bleeding can worsen quickly.
Control any bleeding and keep the patient warm.	Controlling bleeding stops further loss of blood volume, and warmth prevents chilling, which worsens circulation and clotting.
Give oxygen and fluids or blood as ordered.	Oxygen helps the remaining red cells deliver oxygen to organs, and fluids or blood restore the volume that keeps organs supplied.
Record urine output every hour.	Urine output reflects blood flow to the kidneys, so falling output is an early sign that organs are not getting enough blood.
Call emergency help at once if pulse is above 120/ min, systolic pressure below 90, skin cold and clammy, or the patient is confused.	These signs mean shock is developing, which can quickly become fatal, so immediate expert help is needed.

Expected outcomes: Pulse and blood pressure stay within the doctor's targets during treatment. · Urine output stays at or above 30 mL/hour. · Skin stays warm and the patient stays alert. · No signs of shock develop; if they do, help is called within minutes.

Linking the data: This is a risk statement: shock has not developed yet. The trauma patient has a pelvic fracture and an estimated blood loss of 600 mL. He says he feels a little light-headed. Pulse is 104/min, blood pressure 112/70, respiratory rate 20/min, skin pale but warm, and urine output 40 mL in the last hour. These findings are not shock, so the diagnosis rests on the risk from severe bleeding. It is urgent: if the listed warning signs appear, help is called first. The plan aims to keep pulse, pressure and urine output (30 mL/hour or more) in target, with warm skin and an alert patient.

