

Z — Brain and senses

7 statements · Recommended tool: CP-NEURO Brain & Senses Check · Validated scales: GCS, pupils, NIHSS

Z1 Difficulty understanding speech

Group: Brain and senses | Type: Actual problem

Definition: The person hears but struggles to make sense of spoken language.

Possible causes: Stroke; brain injury; dementia; hearing problems

Signs and symptoms: Cannot follow commands; wrong answers; confusion

Scenario. After a stroke, a patient cannot understand simple instructions.

S: "I... what?"

O: Cannot follow commands; wrong answers; hears well; after stroke.

Tools: CP-NEURO · GCS, pupils, NIHSS ****CarePath diagnosis:**** Difficulty understanding speech related to stroke, as evidenced by cannot follow commands and wrong answers. ****Interventions and rationale**** | Intervention | Rationale | ---|---| | Use short sentences. | Short, simple sentences are easier to process when understanding is impaired, so he is more likely to follow what is said. | | Use gestures and pictures. | Gestures and pictures give meaning through another route, supporting words he cannot understand. Pointing, objects and pictures help him show what he needs too. | | Repeat. | Repeating the same words gives more time to process and builds familiarity, rather than changing the message each time. | | Refer to speech therapy. | A speech therapist can assess the type of difficulty and offer exercises and strategies that improve communication. | | Be patient. | Patience keeps him calm and encouraged, whereas rushing or frustration makes understanding harder. A relaxed, unhurried approach gives him time to respond. | ****Expected outcomes**** - Within days: follows one-step commands, uses gestures, speech therapy started. ****Linking the data to the diagnosis**** The patient says, 'I... what?' After a stroke he cannot follow commands, gives wrong answers, and hears well. Because hearing is normal, the problem is with understanding, not hearing loss, so this statement fits better than a hearing statement. The difficulty is present now, so it is actual and not a risk, and it rests on the stroke. The plan aims, within days, for him to follow one-step commands, use gestures and have speech therapy started.

CarePath diagnosis: Difficulty understanding speech related to stroke, as evidenced by cannot follow commands and wrong answers.

Intervention	Rationale
Use short sentences.	Short, simple sentences are easier to process when understanding is impaired, so he is more likely to follow what is said.
Use gestures and pictures.	Gestures and pictures give meaning through another route, supporting words he cannot understand. Pointing, objects and pictures help him show what he needs too.
Repeat.	Repeating the same words gives more time to process and builds familiarity, rather than changing the message each time.
Refer to speech therapy.	A speech therapist can assess the type of difficulty and offer exercises and strategies that improve communication.
Be patient.	Patience keeps him calm and encouraged, whereas rushing or frustration makes understanding harder. A relaxed, unhurried approach gives him time to respond.

Expected outcomes: Within days: follows one-step commands, uses gestures, speech therapy started.

Linking the data: The patient says, 'I... what?' After a stroke he cannot follow commands, gives wrong answers, and hears well. Because hearing is normal, the problem is with understanding, not hearing loss, so this statement fits better than a hearing statement. The difficulty is present now, so it is actual and not a risk, and it rests on the stroke. The plan aims, within days, for him to follow one-step commands, use gestures and have speech therapy started.

Z2 Ignoring one side of the body

Group: Brain and senses | Type: Actual problem

Definition: After brain injury the person may not notice one side of the body or space.

Possible causes: Stroke in one side of the brain

Signs and symptoms: Ignores one side; bumps into things; eats from one side of the plate; neglects a limb

Scenario. A stroke patient eats only the right half of his plate.

S: "I finished eating."

O: Eats only the right half of the plate; ignores the left side; neglects the left arm.

Tools: CP-NEURO · GCS, pupils, NIHSS ****CarePath diagnosis:**** Ignoring one side of the body related to stroke affecting one side of the brain, as evidenced by eating only the right half of the plate and ignoring the left arm. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Approach from the affected side. | Approaching from the affected side draws attention toward the neglected side and helps him notice people and objects there. | | Cue him to scan. | Cueing him to look across the whole space trains the habit of scanning toward the neglected side. | | Arrange items. | Placing food and items where he can see them, and moving them gradually toward the left, helps him use what he is not noticing. | | Teach awareness. | Helping him learn about the problem makes him more likely to protect the neglected side and use strategies. | | Refer to therapy. | A therapist can provide specialist retraining to improve attention to the neglected side. This gives structured practice in a safe setting. | ****Expected outcomes**** - Scans the left side. - Eats the whole meal with a cue. - No injuries on the left side. - Therapy started. ****Linking the data to the diagnosis**** The patient says, 'I finished eating.' After a stroke he eats only the right half of the plate, ignores the left side and neglects the left arm. He is not aware of what he is missing, so this is an actual problem and not a risk, and it differs from simple weakness because he does not notice the left side. It rests on a stroke on one side of the brain. The plan aims for him to scan the left side, eat the whole meal with a cue, avoid left-sided injuries and have therapy started.

CarePath diagnosis: Ignoring one side of the body related to stroke affecting one side of the brain, as evidenced by eating only the right half of the plate and ignoring the left arm.

Intervention	Rationale
Approach from the affected side.	Approaching from the affected side draws attention toward the neglected side and helps him notice people and objects there.
Cue him to scan.	Cueing him to look across the whole space trains the habit of scanning toward the neglected side.
Arrange items.	Placing food and items where he can see them, and moving them gradually toward the left, helps him use what he is not noticing.
Teach awareness.	Helping him learn about the problem makes him more likely to protect the neglected side and use strategies.
Refer to therapy.	A therapist can provide specialist retraining to improve attention to the neglected side. This gives structured practice in a safe setting.

Expected outcomes: Scans the left side. · Eats the whole meal with a cue. · No injuries on the left side. · Therapy started.

Linking the data: The patient says, 'I finished eating.' After a stroke he eats only the right half of the plate, ignores the left side and neglects the left arm. He is not aware of what he is missing, so this is an actual problem and not a risk, and it differs from simple weakness because he does not notice the left side. It rests on a stroke on one side of the brain. The plan aims for him to scan the left side, eat the whole meal with a cue, avoid left-sided injuries and have therapy started.

Z3 Risk of seizures ⚠ URGENT

Group: Brain and senses | Type: Risk problem

Definition: Sudden bursts of abnormal brain activity that may cause injury.

Risk factors: Epilepsy; head injury; fever in children; missed medicine

Warning signs: Sudden jerking; loss of awareness; confusion afterwards

Scenario. A patient with epilepsy has vomited for two days and has missed her anti-seizure medicine.

S: "I cannot keep my tablets down."

O: Epilepsy; two doses missed because of vomiting; last seizure 6 months ago; no seizure now; sleep deprived.

Tools: CP-NEURO, CP-FLUID · GCS, pupils, NIHSS, MUST, fluid chart, glucose ****CarePath diagnosis:**** Risk of seizures related to epilepsy and missed medicine (risk factors); no signs of the problem are present yet. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Give anti-seizure medicine on time, and tell the doctor at once if vomiting stops tablets staying down. | Missed doses are a common trigger for seizures; vomiting can stop tablets from being absorbed, so another route may be needed. | | Keep the bed low, padded, and the area clear. | A low padded bed and clear space reduce injury if a seizure does happen. | | Teach seizure precautions to the patient and family. | Knowing the warning signs and first aid helps them act early and stay safe. | | During a seizure: protect the head, time it, put nothing in the mouth, and turn to the side afterward. | Protecting the head and turning to the side prevent injury and keep the airway clear; objects in the mouth can injure the teeth and block breathing. | | Support regular sleep and avoid known triggers. | Sleep loss lowers the seizure threshold, so regular sleep helps prevent seizures. | ****Expected outcomes**** - No seizure during the stay. - No missed doses, or any missed dose reported at once. - Patient and family state seizure precautions. - If a seizure occurs: no injury, airway kept clear, and doctor informed. ****Linking the data to the diagnosis**** This is a risk diagnosis, because no seizure is happening now. The patient has epilepsy, has vomited for two days, and says, "I cannot keep my tablets down," so two doses were missed. She is also sleep deprived. Her last seizure was 6 months ago, so an actual seizure diagnosis would not fit; the risk factors carry the statement. Because a seizure could start without warning, help is called first and the prescriber is told about the missed doses. The plan aims for no injury, safe recovery if a seizure does occur, a review of her medicines, and the patient stating her seizure precautions.

CarePath diagnosis: Risk of seizures related to epilepsy and missed medicine (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Give anti-seizure medicine on time, and tell the doctor at once if vomiting stops tablets staying down.	Missed doses are a common trigger for seizures; vomiting can stop tablets from being absorbed, so another route may be needed.
Keep the bed low, padded, and the area clear.	A low padded bed and clear space reduce injury if a seizure does happen.
Teach seizure precautions to the patient and family.	Knowing the warning signs and first aid helps them act early and stay safe.
During a seizure: protect the head, time it, put nothing in the mouth, and turn to the side afterward.	Protecting the head and turning to the side prevent injury and keep the airway clear; objects in the mouth can injure the teeth and block breathing.
Support regular sleep and avoid known triggers.	Sleep loss lowers the seizure threshold, so regular sleep helps prevent seizures.

Expected outcomes: No seizure during the stay. · No missed doses, or any missed dose reported at once. · Patient and family state seizure precautions. · If a seizure occurs: no injury, airway kept clear, and doctor informed.

Linking the data: This is a risk diagnosis, because no seizure is happening now. The patient has epilepsy, has vomited for two days, and says, "I cannot keep my tablets down," so two doses were missed. She is also sleep deprived. Her last seizure was 6 months ago, so an actual seizure diagnosis would not fit; the risk factors carry the statement. Because a seizure could start without warning, help is called first and the prescriber is told about the missed doses. The plan aims for no injury, safe recovery if a seizure does occur, a review of her medicines, and the patient stating her seizure precautions.

Z4 Adjusting to vision loss

Group: Brain and senses | Type: Actual problem

Definition: The person struggles with safety, independence, or feelings after losing sight.

Possible causes: Eye disease; injury; diabetes; aging

Signs and symptoms: Bumping into things; missing steps; anxiety; withdrawal

Scenario. A man who is newly blind cannot move safely at home.

S: "I can't see anything now."

O: Newly blind; bumps into things; anxious; withdrawn.

Tools: CP-NEURO, CP-MIND · GCS, pupils, NIHSS, PHQ-9, GAD-7, C-SSRS ****CarePath diagnosis:****

Adjusting to vision loss related to eye disease, as evidenced by bumping into things and missing steps.

****Interventions and rationale**** | Intervention | Rationale | |---|---| | Orient him to the space. | A newly blind person has lost the mental map of the room. Walking through the layout with him builds a new map, so he can find furniture and exits and bump into things less. | | Label items. | Labels in large print, raised letters or texture let him identify belongings by touch or with help, which supports independence and cuts down on mistakes and frustration. | | Teach safe mobility. | Learning cane use and sighted-guide technique lets him detect obstacles and steps before he hits them, which lowers the risk of falls and rebuilds confidence in moving around. | | Offer counseling. | Sudden sight loss often brings fear, grief and withdrawal. Counseling gives him a safe place to talk about these feelings and learn coping skills, which supports adjustment. | | Refer to rehabilitation. | Rehabilitation services offer trained mobility, daily living and technology teaching that a ward cannot provide, helping him regain long-term independence and connect with others in the same situation. | ****Expected outcomes**** - Within 1 week: moves safely in the room, uses a cane, states coping steps, joins rehabilitation. ****Linking the data to the diagnosis**** This is an actual problem because the difficulty is already present. The man is newly blind, says, "I can't see anything now," bumps into things, is anxious and is withdrawn. These are the signs of struggling to adjust, and they fit better than a risk of injury statement because he is already moving unsafely. The diagnosis covers both safety and feelings, so the plan works on both. The nurse orients him to the room, teaches safe movement and offers counseling. The aim is that within 1 week he moves safely in the room, uses a cane, states coping steps and joins rehabilitation.

CarePath diagnosis: Adjusting to vision loss related to eye disease, as evidenced by bumping into things and missing steps.

Intervention	Rationale
Orient him to the space.	A newly blind person has lost the mental map of the room. Walking through the layout with him builds a new map, so he can find furniture and exits and bump into things less.
Label items.	Labels in large print, raised letters or texture let him identify belongings by touch or with help, which supports independence and cuts down on mistakes and frustration.
Teach safe mobility.	Learning cane use and sighted-guide technique lets him detect obstacles and steps before he hits them, which lowers the risk of falls and rebuilds confidence in moving around.
Offer counseling.	Sudden sight loss often brings fear, grief and withdrawal. Counseling gives him a safe place to talk about these feelings and learn coping skills, which supports adjustment.
Refer to rehabilitation.	Rehabilitation services offer trained mobility, daily living and technology teaching that a ward cannot provide, helping him regain long-term independence and connect with others in the same situation.

Expected outcomes: Within 1 week: moves safely in the room, uses a cane, states coping steps, joins rehabilitation.

Linking the data: This is an actual problem because the difficulty is already present. The man is newly blind, says, "I can't see anything now," bumps into things, is anxious and is withdrawn. These are the signs of struggling to adjust, and they fit better than a risk of injury statement because he is already moving unsafely. The diagnosis covers both safety and feelings, so the plan works on both. The nurse orients him to the room, teaches safe movement and offers counseling. The aim is that within 1 week he moves safely in the room, uses a cane, states coping steps and joins rehabilitation.

Z5 Adjusting to hearing loss

Group: Brain and senses | Type: Actual problem

Definition: The person struggles with communication, safety, or feelings after losing hearing.

Possible causes: Aging; infection; noise; injury

Signs and symptoms: Asks people to repeat; withdrawn; misses safety cues

Scenario. An older woman answers conversation questions wrongly.

S: "What did you say?"

O: Asks people to repeat; withdrawn; hearing test shows loss; misses alarms.

Tools: CP-NEURO · GCS, pupils, NIHSS **CarePath diagnosis:** Adjusting to hearing loss related to aging, as evidenced by asks people to repeat and withdrawn. **Interventions and rationale** | Intervention | Rationale | | Face the patient. | Facing the patient lets her see lip movements and facial expressions, which give extra clues to the words and help her follow the conversation. | | Reduce noise. | Background noise from televisions, machines and other voices makes it harder to pick speech out of sound. Lowering it helps her hear and answer correctly. | | Speak clearly. | Speaking slowly and clearly at a normal volume, without shouting, keeps words distinct. Shouting distorts speech and can feel demeaning, while clear speech is easier to understand. | | Check hearing aids. | A hearing aid that is dirty, flat or fitted badly gives poor sound. Checking it makes sure she gets the full benefit of the device she already has. | | Refer. | A hearing specialist can assess the loss, adjust or supply aids and teach communication skills, giving her longer-term help than ward care can give. **Expected outcomes** - Uses hearing aid effectively. - Communicates clearly. - Safe. - Says she feels less isolated. **Linking the data to the diagnosis** This is an actual problem because hearing loss is already affecting her daily life. The older woman says, "What did you say?", asks people to repeat, withdraws, misses alarms and answers questions wrongly. The hearing test confirms loss, and missing alarms adds a safety concern. The statement is about adjusting to the loss, not only the loss itself, because communication and mood are affected. The nurse improves how people speak to her, checks her aids and refers her. The aim is that she uses her hearing aid well, communicates clearly, stays safe and says she feels less isolated.

CarePath diagnosis: Adjusting to hearing loss related to aging, as evidenced by asks people to repeat and withdrawn.

Intervention	Rationale
Face the patient.	Facing the patient lets her see lip movements and facial expressions, which give extra clues to the words and help her follow the conversation.
Reduce noise.	Background noise from televisions, machines and other voices makes it harder to pick speech out of sound. Lowering it helps her hear and answer correctly.
Speak clearly.	Speaking slowly and clearly at a normal volume, without shouting, keeps words distinct. Shouting distorts speech and can feel demeaning, while clear speech is easier to understand.
Check hearing aids.	A hearing aid that is dirty, flat or fitted badly gives poor sound. Checking it makes sure she gets the full benefit of the device she already has.
Refer.	A hearing specialist can assess the loss, adjust or supply aids and teach communication skills, giving her longer-term help than ward care can give.

Expected outcomes: Uses hearing aid effectively. · Communicates clearly. · Safe. · Says she feels less isolated.

Linking the data: This is an actual problem because hearing loss is already affecting her daily life. The older woman says, "What did you say?", asks people to repeat, withdraws, misses alarms and answers questions wrongly. The hearing test confirms loss, and missing alarms adds a safety concern. The statement is about adjusting to the loss, not only the loss itself, because communication and mood are affected. The nurse improves how people speak to her, checks her aids and refers her. The aim is that she uses her hearing aid well, communicates clearly, stays safe and says she feels less isolated.

Z6 Risk of injury from numbness

Group: Brain and senses | Type: Risk problem

Definition: Loss of feeling raises the chance of unnoticed injury.

Risk factors: Diabetes; nerve damage; spinal injury; pressure

Warning signs: Cannot feel touch or pain; injuries unnoticed; tingling

Scenario. A diabetic with reduced feeling in both feet walks barefoot at home.

S: "I cannot feel my feet very well."

O: Reduced feeling to light touch in both feet; diabetic; walks barefoot; skin intact; no injuries seen.

Tools: CP-NEURO, CP-SKIN · GCS, pupils, NIHSS, Braden Scale, TIME wound chart ****CarePath diagnosis:**** Risk of injury from numbness related to diabetes and nerve damage (risk factors); no signs of the problem are present yet. ****Interventions and rationale**** | Intervention | Rationale | |---|---| | Check both feet daily for cuts, blisters and color change. | With reduced feeling she will not notice small injuries. Daily checks of both feet find cuts, blisters and color change early, before they become infected ulcers. | | Protect from heat and cold; test bath water with the elbow. | Numb skin cannot sense dangerous temperatures, so burns and frostbite can happen without pain. The elbow is more sensitive and gives a better warning than the feet. | | Teach to wear shoes and socks at all times and check shoes before wearing. | Shoes and socks protect numb feet from sharp objects, hot ground and friction. Checking inside shoes finds stones or rough seams she could not feel. | | Refer to a foot specialist (podiatry). | A podiatrist can assess nerve and circulation changes, trim nails and calluses safely, and advise on footwear, which lowers the chance of a hidden foot problem. | | Report any new sore, blister or color change the same day. | In diabetes, small foot wounds can worsen quickly because of poor healing and infection risk. Same-day reporting allows early treatment and helps prevent ulcers and serious complications. | ****Expected outcomes**** - No new foot injury during the follow-up period. - Patient states and demonstrates a daily foot-check routine. - Patient wears shoes and socks outdoors and indoors. ****Linking the data to the diagnosis**** This is a risk diagnosis because no injury has happened yet. The patient is diabetic, says, "I cannot feel my feet very well," and has reduced feeling to light touch in both feet. She also walks barefoot at home. Her skin is intact and no injuries were seen, so an actual injury statement would be wrong; the risk factors are the numbness and the barefoot habit. Protecting the feet matters because she cannot feel damage as it happens. The plan aims for no new foot injury, a daily foot check she can state and demonstrate, and shoes and socks worn both outdoors and indoors.

CarePath diagnosis: Risk of injury from numbness related to diabetes and nerve damage (risk factors); no signs of the problem are present yet.

Intervention	Rationale
Check both feet daily for cuts, blisters and color change.	With reduced feeling she will not notice small injuries. Daily checks of both feet find cuts, blisters and color change early, before they become infected ulcers.
Protect from heat and cold; test bath water with the elbow.	Numb skin cannot sense dangerous temperatures, so burns and frostbite can happen without pain. The elbow is more sensitive and gives a better warning than the feet.
Teach to wear shoes and socks at all times and check shoes before wearing.	Shoes and socks protect numb feet from sharp objects, hot ground and friction. Checking inside shoes finds stones or rough seams she could not feel.
Refer to a foot specialist (podiatry).	A podiatrist can assess nerve and circulation changes, trim nails and calluses safely, and advise on footwear, which lowers the chance of a hidden foot problem.
Report any new sore, blister or color change the same day.	In diabetes, small foot wounds can worsen quickly because of poor healing and infection risk. Same-day reporting allows early treatment and helps prevent ulcers and serious complications.

Expected outcomes: No new foot injury during the follow-up period. · Patient states and demonstrates a daily foot-check routine. · Patient wears shoes and socks outdoors and indoors.

Linking the data: This is a risk diagnosis because no injury has happened yet. The patient is diabetic, says, "I cannot feel my feet very well," and has reduced feeling to light touch in both feet. She also walks barefoot at home. Her skin is intact and no injuries were seen, so an actual injury statement would be wrong; the risk factors are the numbness and the barefoot habit. Protecting the feet matters because she cannot feel damage as it happens. The plan aims for no new foot injury, a daily foot check she can state and demonstrate, and shoes and socks worn both outdoors and indoors.

Z7 Raised pressure in the brain URGENT

Group: Brain and senses | Type: Actual problem

Definition: Increasing pressure inside the skull may cause headache, vomiting, confusion, or drowsiness.

Possible causes: Head injury; tumor; bleeding; swelling; infection

Signs and symptoms: Headache; vomiting; drowsiness; confusion; slow pulse; unequal pupils

Scenario. A head-injured patient becomes drowsy and vomits.

S: "My head is pounding."

O: After head injury; vomiting; drowsy; slow pulse; unequal pupils.

Tools: CP-NEURO, CP-FLUID · GCS, pupils, NIHSS, MUST, fluid chart, glucose ****CarePath diagnosis:****

Raised pressure in the brain related to head injury, as evidenced by headache and vomiting.

****Interventions and rationale**** | Intervention | Rationale | |---|---| | Call for help urgently. | Early help brings a team able to confirm the problem and start treatment. Raised pressure in the brain can worsen fast and cause permanent damage or death. | | Raise the head to 30 degrees and keep the neck straight. | A 30 degree head-up position with the neck straight helps blood drain from the head through the neck veins, which can lower pressure inside the skull. | | Do neurological checks (alertness, pupils, limb movement) as ordered. | Changes in alertness, pupils and limb movement show whether pressure is rising. Regular checks let the team notice decline early and act quickly. | | Avoid straining and keep the airway clear. | Straining and coughing raise pressure inside the skull, and a blocked airway raises carbon dioxide, which widens brain blood vessels. Both can worsen pressure. | | Prepare for urgent scan or treatment. | Scans can find the cause, such as bleeding, and treatment may be needed quickly. Being ready saves time when the brain is at risk. | ****Expected outcomes**** - Help arrives within minutes. - Neurological status checked as ordered. - Treatment started promptly as ordered. ****Linking the data to the diagnosis**** This is an actual and urgent problem, so help is called first. After a head injury the patient is drowsy, vomiting, and says, "My head is pounding." The nurse also finds a slow pulse and unequal pupils. These together point to rising pressure in the skull, not just a headache or a stomach upset. The nurse calls for help, positions the head and neck, and watches neurological signs while preparing for urgent scan or treatment. The aim is that help arrives within minutes, neurological status is checked as ordered, and treatment is started promptly as ordered.

CarePath diagnosis: Raised pressure in the brain related to head injury, as evidenced by headache and vomiting.

Intervention	Rationale
Call for help urgently.	Early help brings a team able to confirm the problem and start treatment. Raised pressure in the brain can worsen fast and cause permanent damage or death.
Raise the head to 30 degrees and keep the neck straight.	A 30 degree head-up position with the neck straight helps blood drain from the head through the neck veins, which can lower pressure inside the skull.
Do neurological checks (alertness, pupils, limb movement) as ordered.	Changes in alertness, pupils and limb movement show whether pressure is rising. Regular checks let the team notice decline early and act quickly.
Avoid straining and keep the airway clear.	Straining and coughing raise pressure inside the skull, and a blocked airway raises carbon dioxide, which widens brain blood vessels. Both can worsen pressure.
Prepare for urgent scan or treatment.	Scans can find the cause, such as bleeding, and treatment may be needed quickly. Being ready saves time when the brain is at risk.

Expected outcomes: Help arrives within minutes. · Neurological status checked as ordered. ·

Treatment started promptly as ordered.

Linking the data: This is an actual and urgent problem, so help is called first. After a head injury the patient is drowsy, vomiting, and says, "My head is pounding." The nurse also finds a slow pulse and unequal pupils. These together point to rising pressure in the skull, not just a headache or a stomach upset. The nurse calls for help, positions the head and neck, and watches neurological signs while preparing for urgent scan or treatment. The aim is that help arrives within minutes, neurological status is checked as ordered, and treatment is started promptly as ordered.