



## Case 1: Left Hemisphere Stroke Syndrome

Student Name: \_\_\_\_\_ Date of Test: \_\_\_\_\_

**Prehospital scenario:** "The patient is a 71-year-old man whose wife noticed that he had weakness and speech difficulty. She was very upset and phoned 9-1-1."

**In-hospital scenario:** "The patient is a 71-year-old man who presents with weakness and difficulty with speech."

**General notes to instructor:** Speaking as the family member, provide answers to any questions that the patient can't answer. If the student asks for the time of symptom onset or last known well, answer, "About 20 minutes."

Vital signs	General notes to standardized patient
<b>Pulse:</b> 88/min <b>Respiratory rate:</b> 16/min <b>Blood pressure:</b> 205/100 mm Hg <b>Oxygen saturation:</b> 98% <b>Blood glucose:</b> 112 mg/dL	The patient has right face, arm, and leg weakness. The patient also has a left conjugate gaze deviation. In response to questions, he struggles to find words and uses related but incorrect words (eg, "five" when he means "fifty"). You should enunciate clearly (the patient has aphasia, not dysarthria).

BEFAST: Left Hemisphere				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Balance:</b> Have the patient perform finger-to-nose and ask questions.				
<i>Normal:</i> able to smoothly move finger from patient's nose to examiner's finger <i>Abnormal:</i> ataxia or dysmetria on movement Ask patient about trouble walking, dizziness, or loss of coordination	<input checked="" type="checkbox"/> <b>Instructor Note:</b> Normal on the left, unstable on the right.	<input type="checkbox"/>	<input type="checkbox"/>	Perform the finger-to-nose test normally with your left arm. Do not perform the test with your right arm (because of severe weakness).
<b>Eyes:</b> Ask questions and check for gaze deviation.				
<i>Normal:</i> no new vision abnormalities <i>Abnormal:</i> loss of vision in one or both eyes, blurry or double vision, gaze deviation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Left horizontal gaze deviation: Keep your eyes deviated to the left throughout the examination (the best way to simulate this is to stare at something on the left side of the room). Do not follow the student's fingers to your right beyond the point of looking straight ahead (midline).
<b>Facial droop:</b> Have the patient show teeth or smile.				
<i>Normal:</i> both sides of the face move equally/symmetrically <i>Abnormal:</i> one side of the face does not move as well as the other side	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Right facial droop: Elevate only the left side of your mouth as you smile or try to show your teeth. (The best way to simulate this is to think about not moving the right side of your face at all as you are smiling with the left.)

(continued)

BEFAST: Left Hemisphere				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Arm drift:</b> Have the patient close their eyes and extend both arms straight out with palms up, for 10 seconds.				
<i>Normal:</i> both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) <i>Abnormal:</i> one arm does not move, or one arm drifts down compared with the other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Raise your left arm normally. Right arm weakness: Close your eyes and attempt but fail to lift your right arm. Move the arm a little, but do not lift it up. If the student lifts it up for you, let it fall rapidly.
<b>Speech:</b> Have the patient say, "You can't teach an old dog new tricks."				
<i>Normal:</i> patient uses correct words with no slurring <i>Abnormal:</i> patient slurs words, uses the wrong words, or is unable to speak	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Expressive aphasia: Use minimal speech and incorrect words (for example, when repeating "You can't teach an old dog new tricks," say "truck" only). Display signs of frustration.
<b>Time:</b> Ask the patient or witnesses when symptoms began or what was the time of last known well.				
<i>Record time of last known well.</i>	Time: <input type="checkbox"/> Performed		20 minutes before EMS arrival (from wife)	
<b>The BEFAST is a stroke screening exam. If any abnormality is found during the assessment, it means that there is a possibility of a stroke. A code stroke or stroke alert should be activated.</b>				
<b>What stroke syndrome is this consistent with?</b>				
<input checked="" type="checkbox"/> Left hemisphere <input type="checkbox"/> Right hemisphere <input type="checkbox"/> Brainstem <input type="checkbox"/> Cerebellar <input type="checkbox"/> Not a stroke syndrome				
<b>Prehospital:</b> In your region, where would you transport this patient?				
<b>In-hospital:</b> In your hospital, where would this patient go next?				
<b>Instructor comments:</b>				
<b>Test results:</b> Check <b>PASS</b> for passing or <b>NR</b> for needs remediation:			<input type="checkbox"/> <b>PASS</b>	<input type="checkbox"/> <b>NR</b>
Instructor initials: _____ Instructor number: _____ Date: _____				

Abbreviation: BEFAST, balance, eyes, face, arm, speech, time.



## Case 2: Right Hemisphere Stroke Syndrome

Student Name: \_\_\_\_\_ Date of Test: \_\_\_\_\_

**Prehospital scenario:** "The patient is a 72-year-old woman whose husband noticed that she had weakness. He was very upset and phoned 9-1-1."

**In-hospital scenario:** "The patient is a 72-year-old woman who presents with weakness."

**General notes to instructor:** Speaking as the family member, provide answers to any questions that the patient can't answer. If the student asks for the time of symptom onset or last known well, answer, "About 20 minutes."

Vital signs	General notes to standardized patient
<b>Pulse:</b> 91/min <b>Respiratory rate:</b> 16/min <b>Blood pressure:</b> 178/92 mm Hg <b>Oxygen saturation:</b> 98% <b>Blood glucose:</b> 121 mg/dL	The patient has left face, arm, and leg weakness. The patient also has a right conjugate gaze deviation and neglect on the left side.

BEFAST: Right Hemisphere				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Balance:</b> Have the patient perform finger-to-nose and ask questions.				
<i>Normal:</i> able to smoothly move finger from nose to examiner's finger <i>Abnormal:</i> ataxia or dysmetria on movement Ask patient about trouble walking, dizziness, or loss of coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Perform the finger-to-nose test normally with your right arm and hand. Do not perform the finger-to-nose test with your left arm because this patient has plegia (no movement) on the left side.
<b>Eyes:</b> Ask questions and check for gaze deviation.				
<i>Normal:</i> no new vision abnormalities <i>Abnormal:</i> loss of vision in one or both eyes, blurry or double vision, gaze deviation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Right horizontal gaze deviation: Keep your eyes deviated to the right throughout the examination (the best way to simulate this is to stare at something on the right side of the room). Do not follow the student's fingers to your left beyond the point of looking straight ahead (midline).
<b>Facial droop:</b> Have the patient show their teeth or smile.				
<i>Normal:</i> both sides of the face move equally/symmetrically <i>Abnormal:</i> one side of the face does not move as well as the other side	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Left facial droop: Elevate only the right side of your face as you smile or try to show your teeth. (The best way to simulate this is to think about not moving the left side of your face at all as you are smiling with the right).

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BEFAST: Right Hemisphere				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Arm drift:</b> Have the patient close their eyes and extend both arms straight out with palms up, for 10 seconds.				
<i>Normal:</i> both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) <i>Abnormal:</i> one arm does not move, or one arm drifts down compared with the other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Left arm weakness: Close your eyes and attempt but fail to lift your left arm. Move the arm a little, but do not lift it up. If the student lifts it up for you, let it fall rapidly.
<b>Speech:</b> Have the patient say, "You can't teach an old dog new tricks."				
<i>Normal:</i> patient uses correct words with no slurring <i>Abnormal:</i> patient slurs words, uses the wrong words, or is unable to speak	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repeat the sentence correctly and without slurring any words
<b>Time:</b> Ask the patient or witnesses when symptoms began or what was the time of last known well.				
<i>Record time of last known well.</i>	Time: <input type="checkbox"/> Performed		20 minutes before EMS arrival (from husband)	
<b>The BEFAST is a stroke screening exam. If any abnormality is found during the assessment, it means that there is a possibility of a stroke. A code stroke or stroke alert should be activated.</b>				
<b>What stroke syndrome is this consistent with?</b>				
<input type="checkbox"/> Left hemisphere <input checked="" type="checkbox"/> Right hemisphere <input type="checkbox"/> Brainstem <input type="checkbox"/> Cerebellar <input type="checkbox"/> Not a stroke syndrome				
<b>Prehospital:</b> In your region, where would you transport this patient?				
<b>In-hospital:</b> In your hospital, where would this patient go next?				
<b>Instructor comments:</b>				
<b>Test results:</b> Check <b>PASS</b> for passing or <b>NR</b> for needs remediation:			<input type="checkbox"/> PASS	<input type="checkbox"/> NR
Instructor initials: _____ Instructor number: _____ Date: _____				

Abbreviation: BEFAST, balance, eyes, face, arm, speech, time.



## Case 3: Brainstem Stroke Syndrome

Student Name: \_\_\_\_\_ Date of Test: \_\_\_\_\_

**Prehospital scenario:** "The patient is a 58-year-old man who awakened this morning with severe dizziness and weakness. He vomited, awakening his wife. She noticed that his speech was garbled and phoned 9-1-1."

**In-hospital scenario:** "The patient is a 58-year-old man admitted for atrial fibrillation who awakened this morning with severe dizziness and weakness. He vomited, awakening his wife. She noticed that his speech was garbled and called for help."

**General notes to instructor:** Speaking as the family member, provide answers to any questions that the patient can't answer. If the student asks for the time of symptom onset or last known well, answer, "About 20 minutes."

Vital signs	General notes to standardized patient
<b>Pulse:</b> 87/min <b>Respiratory rate:</b> 16/min <b>Blood pressure:</b> 162/85 mm Hg <b>Oxygen saturation:</b> 98% <b>Blood glucose:</b> 107 mg/dL	The patient presents with dizziness and nausea. The patient has crossed signs with left face weakness and right arm and leg weakness. The patient also has a left conjugate gaze deviation and dysarthria (slurring of speech).

BEFAST: Brainstem				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Balance:</b> Have the patient perform finger-to-nose and ask questions.				
<i>Normal:</i> able to smoothly move finger from nose to examiner's finger <i>Abnormal:</i> ataxia or dysmetria on movement Ask patient about trouble walking, dizziness, or loss of coordination	<input checked="" type="checkbox"/> <b>Instructor Note:</b> Normal on the left, untestable on the right.	<input type="checkbox"/>	<input type="checkbox"/>	Perform the finger-to-nose test normally with your left arm and hand. Do not perform the test with your right arm (because of severe weakness).
<b>Eyes:</b> Ask questions and check for gaze deviation.				
<i>Normal:</i> no new vision abnormalities <i>Abnormal:</i> loss of vision in one or both eyes, blurry or double vision, gaze deviation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Left horizontal gaze deviation: Keep your eyes deviated to the left throughout the examination (the best way to simulate this is to stare at something on the left side of the room). Do not follow the student's fingers to your right beyond the point of looking straight ahead (midline).
<b>Facial droop:</b> Have the patient show their teeth or smile.				
<i>Normal:</i> both sides of the face move equally/symmetrically <i>Abnormal:</i> one side of the face does not move as well as the other side	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Left facial droop: Elevate only the right side of your smile. (The best way to simulate this is to think about not moving the left side of your face at all as you are smiling with the right.)

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BEFAST: Brainstem				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Arm drift:</b> Have the patient close their eyes and extend both arms straight out with palms up, for 10 seconds.				
<i>Normal:</i> both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) <i>Abnormal:</i> one arm does not move, or one arm drifts down compared with the other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Raise your left arm normally. Right arm weakness: Close your eyes and attempt but fail to lift your right arm. You can move arm a little, but do not lift it up. If the student lifts it up for you, let it fall rapidly.
<b>Speech:</b> Have the patient say, "You can't teach an old dog new tricks."				
<i>Normal:</i> patient uses correct words with no slurring. <i>Abnormal:</i> patient slurs words, uses the wrong words, or is unable to speak	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dysarthria: Speak the correct words but slur them so that your words are difficult to understand. (The best way to simulate slurred speech is to speak without moving your tongue.)
<b>Time:</b> Ask the patient or witnesses when symptoms began or what was the time of last known well.				
<i>Record time of last known well.</i>	Time: <input type="checkbox"/> Performed		Unknown (woke up from sleep with symptoms)	
<b>The BEFAST is a stroke screening exam. If any abnormality is found during the assessment, it means that there is a possibility of a stroke. A code stroke or stroke alert should be activated.</b>				
<b>What stroke syndrome is this consistent with?</b>				
<input type="checkbox"/> Left hemisphere <input type="checkbox"/> Right hemisphere <input checked="" type="checkbox"/> Brainstem <input type="checkbox"/> Cerebellar <input type="checkbox"/> Not a stroke syndrome				
<b>Prehospital:</b> In your region, where would you transport this patient?				
<b>In-hospital:</b> In your hospital, where would this patient go next?				
<b>Instructor comments:</b>				
<b>Test results:</b> Check <b>PASS</b> for passing or <b>NR</b> for needs remediation:			<input type="checkbox"/> PASS	<input type="checkbox"/> NR
Instructor initials: _____ Instructor number: _____ Date: _____				

Abbreviation: BEFAST, balance, eyes, face, arm, speech, time.



## Case 4: Cerebellar Stroke Syndrome

Student Name: \_\_\_\_\_ Date of Test: \_\_\_\_\_

**Prehospital scenario:** "The patient is a 59-year-old woman whose husband phoned 9-1-1. He mentioned that when his wife was walking to the bathroom, her body was leaning to one side. He was able to catch her and help her to the floor before he phoned 9-1-1."

**In-hospital scenario:** "The patient is a 59-year-old woman whose husband noticed that when she was walking to the restroom, her body was leaning to one side. He was able to catch her and help her to the floor before he called for help."

**General notes to instructor:** Speaking as the family member, provide answers to any questions that the patient can't answer. If the student asks for the time of symptom onset or last known well, answer, "About 20 minutes."

Vital signs	General notes to standardized patient
<b>Pulse:</b> 80/min <b>Respiratory rate:</b> 16/min <b>Blood pressure:</b> 190/96 mm Hg <b>Oxygen saturation:</b> 98% <b>Blood glucose:</b> 92 mg/dL	The patient presents with dizziness and difficulty walking. The patient has ataxia on the right side (arm and leg).

BEFAST: Cerebellar				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Balance:</b> Have the patient perform finger-to-nose and ask questions.				
<i>Normal:</i> able to smoothly move finger from patient's nose to examiner's finger <i>Abnormal:</i> ataxia or dysmetria on movement Ask patient about trouble walking, dizziness, or loss of coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Do not perform the right-side finger-to-nose test normally. Move your right arm in a clumsy and uncoordinated way. During testing, fail to touch both your own nose and the student's finger. The best way to simulate this is to move your right hand (index finger extended) from side to side when you are advancing your arm and bringing it back.  When asked if you have dizziness and trouble walking, say "yes."
<b>Eyes:</b> Ask questions and check for gaze deviation.				
<i>Normal:</i> no new vision abnormalities <i>Abnormal:</i> loss of vision in one or both eyes, blurry or double vision, gaze deviation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	You follow the student's fingers with your eyes, all the way from side to side.
<b>Facial droop:</b> Have the patient show teeth or smile.				
<i>Normal:</i> both sides of the face move equally/symmetrically <i>Abnormal:</i> one side of the face does not move as well as the other side	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	You elevate both sides of your face equally.

BEFAST: Cerebellar				
	Normal	Abnormal	Check if correct	Standardized patient instructions
<b>Arm drift:</b> Have the patient close their eyes and extend both arms straight out with palms up, for 10 seconds.				
<i>Normal:</i> both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) <i>Abnormal:</i> one arm does not move, or one arm drifts down compared with the other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Raise your left arm and hold it steady; don't let it drift downward. Raise your right arm. Don't allow it to drift downward, but simulate ataxia by moving your right arm from side to side in a clumsy, uncoordinated way.
<b>Speech:</b> Have the patient say, "You can't teach an old dog new tricks."				
<i>Normal:</i> patient uses correct words with no slurring <i>Abnormal:</i> patient slurs words, uses the wrong words, or is unable to speak	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Speak the correct words, and articulate the words normally, without slurring them.
<b>Time:</b> Ask the patient or witnesses when symptoms began or what was the time of last known well.				
<i>Record time of last known well.</i>	Time: <input type="checkbox"/> Performed		20 minutes before EMS arrival (from wife)	
<b>The BEFAST is a stroke screening exam. If any abnormality is found during the assessment, it means that there is a possibility of a stroke. A code stroke or stroke alert should be activated.</b>				
<b>What stroke syndrome is this consistent with?</b>				
<input type="checkbox"/> Left hemisphere <input type="checkbox"/> Right hemisphere <input type="checkbox"/> Brainstem <input checked="" type="checkbox"/> Cerebellar <input type="checkbox"/> Not a stroke syndrome				
<b>Prehospital:</b> In your region, where would you transport this patient?				
<b>In-hospital:</b> In your hospital, where would this patient go next?				
<b>Instructor comments:</b>				
<b>Test results:</b> Check <b>PASS</b> for passing or <b>NR</b> for needs remediation:			<input type="checkbox"/> <b>PASS</b>	<input type="checkbox"/> <b>NR</b>
Instructor initials: _____ Instructor number: _____ Date: _____				

Abbreviation: BEFAST, balance, eyes, face, arm, speech, time.