

How Can Advanced Stroke Life Support Course Enhanced the Quality of Patient-Centered Care

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Abstract The Advanced Stroke Life Support (ASLS) Course is a high-quality improvement program designed to enhance the management of stroke patients through rapid response, consistent assessment, timely intervention, and appropriate transportation to specialized facilities. By focusing on these key components, the ASLS Course aims to reduce long-term disability and improve the overall quality of patient-centered care. This program plays a vital role in affecting patient outcomes by leveraging all available resources to provide optimal care. One of the most critical aspects of stroke treatment and management is the ability to identify the necessary level of care required for each patient. The ASLS Course addresses this by offering comprehensive training and education to healthcare providers in both pre-hospital and in-hospital settings. Moreover, the course extends its reach to the community by educating individuals on the proper activation of emergency medical systems. This proactive approach not only helps minimize brain injury but also increases the likelihood of stroke patients' survival. By equipping healthcare providers with the knowledge and skills needed to deliver timely and effective care, the ASLS Course contributes significantly to improving patient outcomes and reducing the burden of stroke-related disabilities. Through ongoing education and training, this program plays a crucial role in enhancing the quality of stroke care and promoting better health outcomes for patients across various healthcare settings

Keywords: Stroke, Advanced Stroke Life Support (ASLS), Hafer Al-Batin, Healthcare Professionals, Emergency Medical System (EMS), transient ischemic attack (TIA)

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1. Introduction

Stroke is the second leading cause of death in Saudi Arabia and a leading cause of disability in adults. Stroke is a preventable and treatable disease. The gap between evidence-based stroke medicine and care in Saudi Arabia is high. The Ministry of Health has identified stroke as a high priority disease that needs to be managed more appropriately. [1]

Hafer Al-Batin is dedicated to enhancing healthcare quality and outcomes for its residents, with a focus on implementing various projects for improvement aligned with the Kingdom's vision for New Models of Care. Part of this commitment involves providing training to all healthcare providers in pre-hospital and in-hospital facilities, specifically in urgent care treatment and stroke management. The identified plans within this project prioritize clinical conditions that require immediate attention, ensuring that patients receive the highest standard of care. By focusing on patient-centered care, these initiatives aim to improve the overall quality of life for individuals in the region.

Through collaboration with the Ministry of Health,

Hafer Al-Batin is working towards implementing sustainable healthcare practices that prioritize the well-being of patients. Training programs for healthcare providers play a key role in ensuring that best practices are followed in delivering urgent care services and managing critical conditions such as stroke. By adhering to these standards and continuously updating skills and knowledge, healthcare professionals can effectively address the healthcare needs of the community.

By emphasizing patient-centered care and continuous training for healthcare providers, Hafer Al-Batin is committed to enhancing the quality of healthcare services in the region. These efforts aim to create a healthcare system that is responsive, efficient, and focused on improving health outcomes for all residents.

The focus of this course will be:

This course will primarily focus on enhancing the rapid response of both the emergency medical system in the pre-hospital setting and healthcare providers in the in-hospital setting. Participants will delve into the importance of consistency in assessment techniques to accurately diagnose and treat patients experiencing stroke or stroke-like symptoms. Immediate intervention strategies will be

emphasized to ensure timely and effective care delivery, aiming to minimize the potential impact of a stroke on the patient's health outcomes.

Furthermore, the course will underscore the critical need for immediate transport of stroke patients to the most appropriate healthcare facility. Through comprehensive training modules and case studies, healthcare professionals will develop a deeper understanding of how to promptly recognize the signs and symptoms of a stroke, enabling them to initiate timely treatment interventions based on the patient's clinical presentation. The course will also address the significance of proper management strategies tailored to each patient's unique assessment findings.

Ultimately, this course is designed to equip healthcare professionals with the knowledge and skills necessary to optimize the care pathway for stroke patients. By honing their ability to swiftly assess, intervene, and transport patients, participants will be better prepared to deliver high-quality care and improve outcomes for individuals experiencing a stroke.

The goals of this course:

1. Describe why early treatment of stroke may result in a marked reduction in risk of disability.
2. To improve speed, accuracy and consistency of stroke assessment and treatment for all patients.
3. To improve the speed of patient transfer to an appropriate stroke facility so that patients can receive rapid diagnosis and treatment.
4. To treat people with suspected stroke as a medical emergency in order to provide optimal treatment and maximize the chances of independent living after stroke.
5. To assess people experiencing a transient ischemic attack (TIA) or minor stroke rapidly in order to minimize the chances of a full stroke occurring.
6. To ensure that all the patients that can benefit from reperfusion therapy are identified as soon as possible and appropriate therapy is administered in an evidence-based manner.

2. Method

This specialized course is meticulously designed to align with both the American Heart Association blended program and the Saudi Stroke Pathway Standard. The primary objective is to establish a harmonized standard for the effective treatment of stroke patients within our region. Spearheaded by the Hafer Al-Batin Skill Development and Training Center, this program is specifically tailored for the Emergency Medical System (EMS) Team of Hafer Al-Batin. It will also cater to the requirements of Primary Health Care Centers and other relevant facilities equipped with stroke units and specialized teams.

The core focus of this course will be to equip participants with the essential knowledge and skills required to manage patients presenting with stroke or stroke-like symptoms. By implementing a structured system of care, commonly referred to as the 'stroke pathway,' we aim to streamline the delivery of timely and coordinated treatment interventions. Through a comprehensive approach, healthcare professionals undergoing this training will enhance their

proficiency in identifying, assessing, and responding to stroke cases effectively.

By integrating best practices from renowned international guidelines and local standards, this program will empower healthcare providers to deliver high-quality care that adheres to evidence-based protocols. Ultimately, the course endeavors to elevate the standard of stroke care in our region, ensuring that patients receive optimal treatment outcomes and experience improved recovery trajectories.

Since 80% of Saudi stroke patients self-refer to emergency rooms [2], thus all hospitals with stroke facility will be categorized according to their capability to treat and manage stroke patients based on the available resources they have. A community awareness program will be conducted to teach the community on how to activate the EMS team whenever there will be a patient with suspected stroke or stroke like symptoms. With this, it will help improve the pre-hospital EMS transfer of stroke patients in terms of speed or rapid response, consistency of assessment and intervention using a stroke assessment tool until they will reach to the appropriate facility in a timely manner. Stroke patients who are taken to the hospital in an ambulance may get diagnosed and treated more quickly than people who do not arrive in an ambulance. [3] For the in-facility treatment and management, there will be a continuous stroke assessment tool that will be utilized to serve as a guide in identifying the type of stroke syndrome and prioritizing the appropriate type of treatment. EMS and member of the stroke team in the in facility will be receiving a training on Advanced Stroke Life Support (ASLS) Course under the curriculum of American Heart Association that will be conducted by the certified ASLS instructors of Hafer Al-Batin Skill Development and Training Center.

Consistency and Quality

The prevailing approach to stroke training worldwide typically emphasizes direct clinical exposure for trainees to gain knowledge and skills while caring for patients. However, this method can create a dilemma between patient-centered care and the educational needs of learners. Balancing patient-centeredness with learner-centeredness within a single learning environment can present significant challenges.

Patient-centered care underscores the importance of treating individuals with dignity, respect, and involving them in decisions about their care. Resolving this challenge is vital for enhancing healthcare delivery. One effective strategy to address this balance is through the implementation of simulation exercises or mock drills specifically tailored for stroke patients. These exercises help immerse healthcare professionals in acute stroke life support (ASLS) practices, allowing them to hone their skills while meeting educational requirements.

Consequently, it may not be possible for a single learning environment to be both patient- and learner-centered. [4] Integrating simulation exercises into stroke care training not only enhances the proficiency of healthcare providers but also elevates the quality of care for stroke patients. By embracing innovative learning methods like tailored simulations, healthcare organizations can effectively bridge the gap between patient-centered

care and learner-centered training needs. This approach demonstrates a commitment to enhancing the standard of care provided to stroke patients while ensuring that healthcare professionals are well prepared to handle critical situations in a patient-centered manner.

Quality Improvement can be defined as the design, development, and evaluation of complex interventions aimed at the redesign of health care systems to produce improved process control measures and outcomes. [5]

In this course, we will be utilizing the Plan-Do-Check-Act (PDCA) Cycle, also known as the Deming Wheel or Deming Cycle. This dynamic and iterative model offers a structured approach to problem solving and change management. A continuous loop facilitates the enhancement of quality and the measurement of outcomes. By incorporating the PDCA Cycle into our training program, we aim to uphold the standard of excellence and consistency in hands-on training delivery.

Our commitment to quality assurance involves implementing a systematic follow-up process with all certified Advanced Life Support (ASLS) providers. This ongoing evaluation is crucial for assessing performance and monitoring outcomes regularly. We will employ standardized criteria and tools to measure providers' effectiveness and satisfaction, ensuring that they are translating their acquired knowledge and skills into practice effectively.

By adhering to the principles of the PDCA Cycle, we can streamline our quality improvement efforts and drive continuous enhancement in the delivery of training. This structured approach not only fosters a culture of

accountability and continuous learning but also empowers our ASLS providers to deliver exceptional care in real-world scenarios. Through regular assessments and feedback, we can identify areas for improvement, address challenges proactively, and optimize the overall training experience for all participants.

3. Procedure

The Advanced Stroke Life Support (ASLS) course is essential for healthcare professionals across various settings involved in the management of acute stroke patients. This advanced training program is particularly beneficial for individuals such as stroke coordinators, nursing students, nurses, paramedics, emergency medical personnel, physicians, residents, fellows, medical students, and respiratory therapists.

ASLS equips healthcare professionals with the specialized knowledge and skills required to effectively assess, treat, and manage acute stroke cases. Participants learn evidence-based practices, clinical guidelines, and the latest advancements in stroke care to enhance patient outcomes and reduce the risk of long-term disabilities.

For stroke coordinators, ASLS provides a comprehensive understanding of stroke protocols, quality improvement initiatives, and strategies for optimizing stroke care delivery within healthcare facilities. Nursing students and nurses benefit from the course by gaining proficiency in rapid stroke assessment, critical interventions, and post-stroke care techniques.

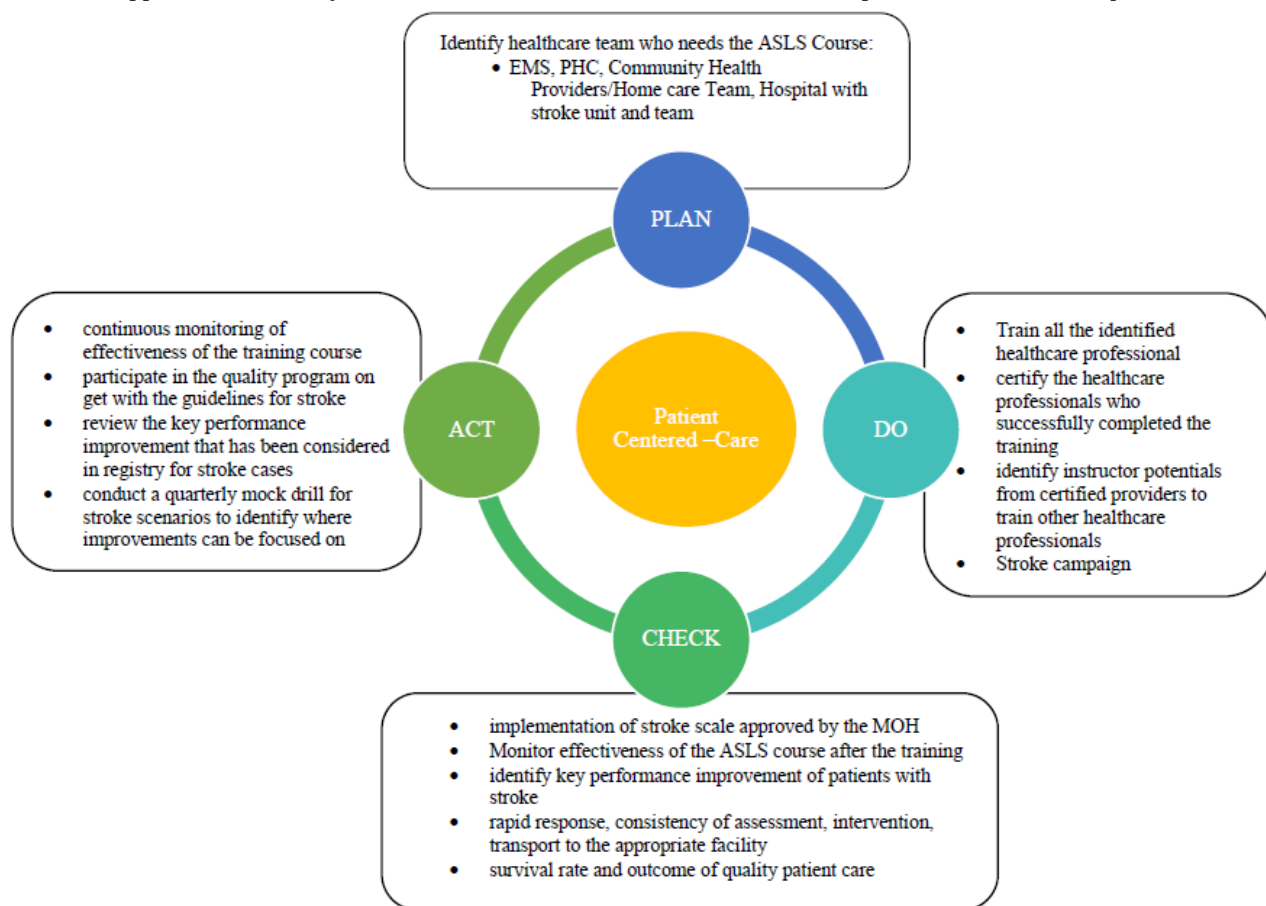


Figure 1. PDCA Cycle

Paramedics and emergency medical personnel enhance their ability to recognize stroke symptoms, initiate time-sensitive treatments, and ensure seamless transitions of care from prehospital to hospital settings.

Physicians, residents, and fellows develop advanced diagnostic skills, treatment decision-making abilities, and interdisciplinary collaboration approaches essential for managing complex stroke cases.

Moreover, medical students and respiratory therapists expand their knowledge base, clinical competencies, and communication skills through ASLS training, enabling them to contribute effectively to multidisciplinary stroke care teams.

Overall, ASLS is a vital educational program that empowers healthcare professionals with the expertise and confidence to deliver high-quality care to acute stroke patients and improve outcomes in both prehospital and in-hospital settings.

In our region, the Ministry of Health has approved a specific stroke assessment tool for use by healthcare providers, aligning with the curriculum of the American Heart Association (AHA) that is being taught during our course. This tool will standardize the assessment process and ensure consistency in evaluating stroke patients.

A critical step in accessing emergency treatment for stroke is the immediate activation of Emergency Medical Services (EMS) and dispatching them promptly to the patient's location. As part of our initiative, we will conduct a stroke campaign to educate laypeople, bystanders, and concerned individuals on how to activate EMS efficiently. This training will focus on enabling the dispatch system to identify stroke calls and adhere to the FAST criteria, ultimately improving the delivery of patient-centered care.

The FAST criteria emphasize three key physical indicators of a stroke or suspected stroke: facial droop, arm weakness, and speech abnormalities. Any individual witnessing these symptoms in a patient should promptly activate EMS to ensure timely intervention and appropriate care.

By following the approved stroke assessment tool, activating EMS promptly, and adhering to the FAST criteria, we aim to enhance the quality of care provided to stroke patients in our region. This comprehensive approach will help streamline the emergency response process and improve outcomes for individuals experiencing a stroke.

Rapid assessment is crucial in identifying and managing stroke patients effectively. Emergency Medical Services (EMS) play a vital role in this process by utilizing the pre-hospital assessment tool, FAST (Face, Arms, Speech, Time) to quickly assess and identify potential stroke patients. This tool helps EMS personnel to recognize the signs and symptoms of stroke, allowing for timely intervention and transportation to the appropriate healthcare facility.

Once a potential stroke is identified, it is essential for EMS to promptly notify the receiving healthcare facility. This notification enables the stroke facility to prepare for the patient's arrival and ensures that the necessary resources and personnel are ready to provide immediate care upon arrival. Effective communication between EMS and the stroke facility is key in coordinating a seamless transition of care for the patient.

Continuous radio communication of pertinent information to the stroke facility is vital in ensuring that the healthcare team is well informed and prepared to deliver the appropriate plan of care for the suspected stroke patient. This real-time exchange of information allows for proactive decision-making and ensures that valuable time is not lost in delivering time-sensitive treatments.

By following these protocols and maintaining clear and constant communication, EMS can help streamline the process of identifying and managing stroke patients, ultimately improving outcomes and increasing the chances of a successful recovery.

Upon arrival at the stroke center, the receiving hospital will utilize the in-facility initial assessment for stroke patients (BEFAST) to identify any abnormalities and assess the stroke syndrome, enabling the initiation of appropriate interventions. Throughout the patient's hospital stay, the stroke team will employ the in-facility rapid stroke assessment scale (NIHSS) to continuously evaluate the patient's progress post-treatment and monitor for any signs of clinical deterioration.

Enrolling in the ASLS course provides healthcare professionals with a comprehensive understanding of the entire stroke care pathway, enhancing their confidence, skills, and expertise in managing stroke patients. The course ensures that all participants are trained uniformly, whether they work in pre-hospital or in-hospital settings, catering to the specific needs of healthcare providers in their respective environments.

By completing the ASLS course, healthcare professionals will be equipped with the knowledge and tools necessary to deliver optimal care to stroke patients, from the initial assessment to ongoing monitoring and treatment. This standardized training will not only enhance the quality of care provided to stroke patients but also contribute to improved outcomes and patient satisfaction. Emphasizing the importance of continuous education and skill development, the ASLS course plays a crucial role in enhancing the overall stroke care delivery and promoting best practices in stroke management across healthcare settings.

4. Discussion

A network of healthcare facilities and community-based healthcare settings, including Emergency Medical Services (EMS), Primary Health Care (PHC), and Home Care Teams, must prioritize the training of healthcare professionals in Advanced Stroke Life Support (ASLS) courses. These specialized training programs are essential for ensuring that healthcare providers are equipped to effectively activate the appropriate healthcare facility or stroke center for the prompt and efficient management of stroke patients.

By undergoing ASLS training, healthcare professionals will become familiar with the proper protocols and procedures for responding to stroke emergencies. This training will empower them to make critical decisions swiftly and accurately, leading to improved outcomes for stroke patients. Additionally, ASLS certification demonstrates a commitment to high-quality care and

ensures that healthcare providers are well prepared to handle the unique challenges presented by stroke cases.

Consistent and appropriate management of stroke patients is crucial for optimizing recovery and reducing the risk of complications. ASLS training provides healthcare professionals with the knowledge and skills necessary to deliver timely and effective interventions, such as administering thrombolytic therapy or coordinating transfers to specialized stroke centers.

In conclusion, investing in ASLS training for healthcare professionals within a network of healthcare facilities and community-based settings is essential for enhancing the quality of stroke care delivery. By ensuring that healthcare providers are trained and certified in ASLS, organizations can improve patient outcomes, enhance operational efficiency, and uphold the highest standards of care in the management of stroke patients.

ASLS courses have revolutionized our comprehension of stroke, enabling us to impart our knowledge and skills to fellow healthcare professionals in treating and managing stroke patients to restore blood flow and enhance brain function. Time is of the essence in restoring brain function post-stroke - prompt access to expert assistance significantly enhances the likelihood of a complete recovery. Sharing our expertise in stroke treatment, implementing evidence-based care, and enhancing service quality, efficiency, and consistency are vital to improving patient outcomes.

Establishing rapid response systems to swiftly transport individuals to specialized facilities for appropriate treatment and stroke unit care is crucial. Building stroke networks ensures enhanced service access for patients and optimal resource utilization. Collaborating across these networks, we must deliver integrated stroke care that empowers rather than restricts the capabilities and efforts of emergency medical services, physicians, nurses, therapists, and their broader teams.

By fostering a collaborative environment and emphasizing continuous education and training in stroke management, we can optimize patient care and outcomes. Upholding a commitment to innovation, evidence-based practices, and interdisciplinary teamwork will advance stroke treatment standards and ultimately enhance the quality of life for stroke survivors.

5. Conclusion

Stroke is a significant health concern in Saudi Arabia, being the second leading cause of death and a major cause of disability in adults. To address this issue, the ASLS course has been developed to enhance patient-centered care through ongoing training and the implementation of guidelines utilizing stroke scale tools. Recognizing the gap between evidence-based stroke medicine and care in the region, the Hafer Al Batin Skill Development and Training Center has identified stroke management as a top priority.

By empowering healthcare providers and offering community training, the goal is to prevent and effectively treat strokes, ultimately reducing their incidence and prevalence. It is crucial that stroke patients receive high-quality care promptly, requiring a multidisciplinary

approach and specialized services. The ASLS course focuses on patient-centered care and aims to improve outcomes while also minimizing costs.

In the event of a stroke, certified ASLS providers will act swiftly to ensure the patient is taken to an appropriate facility, such as a stroke center or acute stroke unit, where they will receive care aligned with current standards. Rehabilitation units will cater to stroke patients with disabilities, striving to restore maximum function and facilitate a return to their homes whenever possible.

Through targeted education, timely intervention, and adherence to best practices, the ASLS course endeavors to elevate stroke care in Saudi Arabia, ultimately leading to better outcomes for patients and a more effective healthcare system.

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The views expressed in this manuscript are ours and not an official position of the institution.

Author's Contribution

We have collaborated to the healthcare team in order to monitor the effectiveness of the course to the trained staff focusing on patient centered-care.

Declaration of Conflicting Interest

There is no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval

The administration committee-in-charge of the institution approved this study. Ethical statement is not applicable.

Consent to Participate

Consent was not obtained because this will serve as a monitoring to the staff we trained for ASLS provider course. However, consent to utilize the data for this study was sought and the approving authorities likewise provided permission. A sworn statement that no personal data identification of the participants to the programs be disclosed in any part of the paper and the report shall be anonymized. Patient consent was not required for their paper.

Responsible Use of AI

Quilbot and Google Bard AI to paraphrase and rephrase statements to improve language quality. The writing of the manuscript was original done by us then was subjected to these AI tools to improve on the language quality.

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Attachment

General Directorate of Health Affairs Hafer Al Batin Emergency Medical System Stroke Assessment Scale

Patient Name: _____ Date of Activation: _____ Time EMS was Activated: _____

Age: _____ Nationality: _____ Gender: Male ☐ Female ☐

Date EMS Arrival to the patient location: _____ Date EMS arrival to Stroke Center: _____
 Time EMS Arrival to the patient location: _____ Time EMS arrival to Stroke Center: _____

To all EMS Staff, this form is used to evaluate the clinical status of a stroke patient based on your assessment to the patient. Record your assessment based on the scoring guidelines that corresponds to your observation from the patient and not what you think. You should record the score while administering your assessment and work quickly as you can. Except where indicated, the patient should not be coached such as repeating requests to patients to make a special effort.

FAST STROKE SCALE CHECKLIST	Normal	Abnormal
Facial droop: Have the patient show teeth or smile		
Normal—both sides of the face move equally Abnormal—one side of the face does not move as well as the other side	☐	☐
Arm drift: Have the patient close eyes and extends both arms straight out, with palms up, for 10 seconds.		
Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) Abnormal—one arm does not move or one arm drifts down compared with the other	☐	☐
Speech: Have the patient say, “You can’t teach an old dog new trick.”		
Normal—patient uses correct words with no slurring Abnormal—patient slurs words, uses the wrong words, or is unable to speak	☐	☐
Time: Ask the patient, witnesses when symptoms began, or time last known well.		
Record time of last known well.	Time: _____	
The FAST is a stroke-screening exam. If any abnormality is found during the assessment, it means that there is a possibility of a stroke. A stroke alert should be activated to the stroke center.		

Abbreviation: FAST, Face, Arm, Speech, Time, EMS, Emergency Medical System

ASLS Provider(EMS) name: _____ Signature: _____

Date: _____ Time: _____

General Directorate of Health Affairs Hafer Al Batin In-Facility Rapid Stroke Assessment Scale National Institutes of Health Stroke Scale (NIHSS)

Name of Receiving Stroke Center: _____

Name of Physician receiving the patient: _____ Signature: _____

Date: _____ Time: _____

Patient Name: _____

Date of Arrival: _____ Time: _____

Age: _____ Nationality: _____ MRN: _____

Gender: Male ☐ Female ☐

To all clinicians, this form is used to evaluate the clinical status of a stroke patient based on your assessment to the patient. Record your assessment based on the scoring guidelines that corresponds to your observation from the patient and not what you think. You should record the score while administering your assessment and work quickly as you can. Except where indicated, the patient should not be coached such as repeating requests to patients to make a special effort.

Category	Points	Status	Score					
			On Assessment	6hrs	12hrs	24hrs	48hrs	Discharge
1a. LOC (Alert, drowsy, etc)	0 = 1 = 2 = 3 =	Alert Drowsy Stuporous Coma						
1b. LOC questions (Month, age)	0 = 1 = 2 =	Answers both correctly Answers one correctly Incorrect						
1c. LOC commands (Open/close eyes, make fist and let go)	0 = 1 = 2 =	Obeys both correctly Obeys one correctly Incorrect						
2. Best gaze (Eyes open; patient follows examiner's fingers or face)	0 = 1 = 2 =	Normal Partial gaze palsy Forced deviation						
3. Visual (Introduce visual stimulus/threat to patient visual field quadrants. Cover one eye and hold up fingers in all 4 quadrants.)	0 = 1 = 2 = 3 =	No visual loss Partial hemianopsia Complete hemianopsia Bilateral hemianopsia						
4. Facial palsy (Show teeth, raise eyebrows, and squeeze eyes tightly shut.)	0 = 1 = 2 = 3 =	Normal Minor Partial Complete						
5a. Motor arm left (Elevate extremity to 90 degrees and score drift/movement. Count to 10 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)						
5b. Motor arm right (Elevate extremity to 90 degrees and score drift/movement. Count to 10 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)						
6a. Motor leg left (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion						
6b. Motor leg right (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)						
7. Limb ataxia (Finger to nose, heel down shin)	0 = 1 = 2 =	Absent Present in 1 limb Present in 2 limbs						
8. Sensory (Pin prick to face, arms, trunk, and legs; compare sharpness side to side, or no feeling at all)	0 = 1 = 2 =	Normal Partial loss Severe loss						

9. Best language (Name items, describe picture, and read sentences. Don't forget glasses if they normally wear them.)	0 = 1 = 2 = 3 =	No aphasia Mild to moderate aphasia Severe aphasia Mute						
10. Dysarthria (Evaluate speech clarity by patient reading or repeating words on list.)	0 = 1 = 2 = NT =	Normal articulation Mild to moderate dysarthria Near to unintelligible or worse Intubated or other physical barrier						
11. Extinction and inattention (Use information from prior testing or double simultaneous stimuli testing to identify neglect [face, arms, legs, and visual fields].)	0 = 1 = 2 =	No neglect Partial neglect Complete neglect						
Total score (0-42)								
Assessment performed by:								
Signature:								
Time:								
Date:								

Assessment Reviewed by:

Neuro Consultant Name: _____

Signature: _____

Date: _____

General Directorate of Health Affairs Hafer Al Batin In- Facility Initial Assessment for Stroke Patient (Patient Arrival)

Patient Name: _____ Date of Arrival: _____ Time: _____

Age: _____ Nationality: _____

Gender: Male ☐Female ☐

BEFAST Stroke Scale Checklist	Normal	Abnormal
Balance: 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	☐	☐
Eyes: 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	☐	☐
Facial droop: Have the patient show teeth or smile <i>Normal</i> —both sides of the face move equally/symmetric <i>Abnormal</i> —one side of the face does not move as well as the other side	☐	☐
Arm drift: Have the patient close 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	☐	☐
Speech: 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	☐	☐
Time: Ask the patient or witnesses when symptoms began or time of last known well.		
Record time of last known well.	Time: _____	
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.		
ASLS Provider name: _____ Signature: _____ Date: _____ Time: _____		

ASLS Provider (Nurse) Initial Vital Signs ER Assessment (Note: The ASLS Provider/s must remain with the patient all the time)

Blood Sugar	BP	HR	Temp.	RR	O2 Sat	GCS (Glasgow Coma Scale)		
						Eye Opening ☐	Motor Response ☐	Verbal Response ☐

Immediate Actions

☐ Patient connected to monitor and has patent airway ☐ Blood for CBC, Chemistry Coagulation ☐ Two intravenous cannula (G18 or G20)☐ 12 Leads ECG ☐ Patient Kept NPO

ASLS Provider (Nurse) name: _____ Signature: _____ Date: _____ Time: _____

ASLS Provider (Physician) ER Assessment (Note: Patient main problem is acute stroke)

Symptom onset or when was the patient last known well: _____ Pre Stroke (Modified Rankin Scale) mRs: _____

Immediate Actions

☐ Order head Plain CT ☐ Order brain CT perfusion ☐ Consent for contrast **Contrast Allergy:** ☐ YES ☐ NO
☐ Order MRI brain perfusion ☐ Order CTA of Arachnoid and brain vessels

Stroke Code Activation: ☐ YES Date: _____ Time: _____
☐ NO Why?

ASLS Provider (Physician) name: _____ Signature: _____ Date: _____ Time: _____

CT SCAN RESULT

Patient Arrival Date: _____ Time: _____
Time Plain CT Completed: _____ Time Plain CT Reported: _____ ASPECS (Alberta Stroke Programme Early CT Score): _____

Time CTA / CTP Completed: _____ Time CTA / CTP Reported: _____

CT Report: ☐ Hemorrhage ☐ Early Stroke Changes ☐ Hypodense Areas ☐ No Acute Findings

Radiologists name: _____ **Signature:** _____ **Date:** _____ **Time:** _____

Medical / Neurology Assessment

NIHSS Score: _____ **Pre Stroke MRS:** _____

Stroke History Confirmed: ☐ YES ☐ NO Stroke Mimics Excluded: ☐ YES ☐ NO Evidence of Cerebral Bleeding: ☐ YES ☐ NO

Symptom onset or when was the patient last known well: _____ Contraindications to Alteplase: ☐ YES ☐ NO

Decision:

☐ Alteplase Management ☐ EVT Management ☐ Stroke General Care Management ☐ ICH Management

Neurologists name: _____ **Signature:** _____ **Date:** _____ **Time:** _____

Abbreviations: BEFAST, Balance, Eyes, Face, Arm, Speech, Time, ASPECS, Alberta Stroke Programme Early CT Score, CTA, Computed Tomography Angiography