Quality & Accreditation Institute

Centre for Accreditation of Health & Social Care

Accreditation Standards for Primary Stroke Centre and Advanced Stroke Centre

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Developed in collaboration with

Requirements for the Programme

QAI provides following accreditation programmes for stroke care:

A. Primary Stroke Centre accreditation (PSC)
B. Advanced Stroke Centre accreditation (ASC)

These Stroke Care Centres may be in the following health care settings:

- Academic/Teaching Hospitals
- District/ Public Hospitals
- Private / corporate Hospitals
- Standalone stroke Centres

A. Minimum requirements to qualify for application under Primary Stroke Centre (PSC) accreditation programme:

1. Availability of a structured system for Stroke care
2. Serve a minimum of 72 patients / year (or 6 per month) of Stroke
3. Have administered IV Alteplase to 6 eligible patients for the initial application
4. Are in current compliance with all applicable statutory requirements at the time of application and at the time of the assessment
5. Acute stroke team available 24/7
6. Neurologist accessible 24/7 via in person or telemedicine
7. Designated stroke beds
8. In-house diagnostic services available 24/7:
    - ECG
    - CT scan
    - Carotid duplex ultrasound
    - Transthoracic echocardiography
    - RBS, CBC, INR, S. Creatinine
9. Ability to provide IV thrombolytic (in-house)
10. Designated Stroke Program Medical Director (SPMD) or however named
11. Designated Nurse Stroke Coordinator
12. Written protocol for Acute Stroke triage and diagnosis
13. Written emergency stroke treatment protocol
14. Neurosurgical coverage plan
15. Telemedicine agreement/ policy and procedure (if applicable)

16. Tracking, monitoring, & reporting of performance measures

Note: The above requirements to be checked and ensured before submitting the application for PSC accreditation.

B. Minimum requirements to qualify for application under Advanced Stroke Centre (ASC) accreditation programme:

1. Availability of a structured system for Stroke care
2. Serve a minimum of 120 patients / year (or 10 per month) of Stroke
3. A minimum of 6 thrombectomies (endovascular procedures) and 12 thrombolysis (medical) for the initial application year
4. Are in current compliance with all applicable statutory requirements at the time of application and at the time of the assessment
5. Acute stroke team available 24/7
6. Neurologist available 24/7
7. Neuro-interventionist
8. Designated neuro-intensive care unit for complex stroke patients with at least four beds.
9. In-house diagnostic services available 24/7:
    - ECG
    - EEG
    - CT scan and CT Angiography
    - MRI and MR Angiography
    - Carotid duplex ultrasound
    - Transthoracic echocardiography
    - RBS, CBC, INR, S. Creatinine
10. Facility of CT Perfusion/ MR Perfusion
11. Cathlab (single or biplane) 24x7
12. Transcranial Doppler (optional)
13. Transesophageal echocardiography (optional)
14. Ability to provide IV thrombolytic
15. Designated Stroke Program Medical Director (SPMD) or however named
16. Designated Nurse Stroke Coordinator
17. Written protocol for Acute Stroke triage and diagnosis
18. Written emergency stroke treatment protocol
19. Neurosurgical coverage plan
20. Telemedicine agreement/ policy and procedure (if applicable)
21. Tracking, monitoring, & reporting of performance measures

Note: The above requirements to be checked and ensured before submitting the application for ASC accreditation.

Chapter 1
Governance and Leadership (GAL)

Introduction

Each centre requires a governance structure that is ultimately responsible for the quality and safety of services provided. This responsibility is derived from its legal identity and operational authority for all activities undertaken by the centre within the ambit of applicable laws and regulations. Each centre, regardless of its complexity, also has a formal structure. Leaders ensure that a system exists that promotes safety and quality, provision of services that meet the needs of patient, availability of adequate resources e.g., human, financial & physical and, monitoring and evaluation of improvement activities.

STANDARDS AND CRITERIA		
Standard	**GAL.1:**	**The governing body is committed to, and actively engaged in, quality and safety and accountable for the quality and safety of care delivered.**
Criterion	**a.**	The governing body documents its vision, mission and values and creates & maintains a culture of safety and quality.
	b.	The centre periodically (minimum annually) updates and controls all documented plans, policies and procedures.
	c.	The governing body has oversight over quality & safety plan and the same is defined & implemented by designated staff.
Standard	**GAL.2:**	**Accountability and responsibility of key leadership functions are assigned.**
Criterion	**a.**	There is a documented and updated organogram.
	b.	Management is aware of applicable laws and regulations and periodically updates the same and complies with the same.
	c.	Ensuring the availability of resources and information necessary to support the operation.
	d.	Implement actions necessary to achieve planned results and continual improvement of the defined processes
	e.	Conducting Program reviews to determine achievement towards goals, objectives and outcomes.
	f.	The centre shall have a written transfer protocol and transfer agreement or a memorandum of understanding (MOU) with at least one facility

		capable of providing timely acute neurosurgical, neuro-endovascular and neuro ICU services 24x7.
Standard	**GAL.3:**	**The centre plans services to meet the needs of the patient population it serves and makes decisions in accordance with its values and ethical principles.**
Criterion	**a.**	The centre provides services that are in alignment with its mission, vision and the needs of its patients.
	b.	The centre coordinates the functioning with departments and external agencies and monitors the progress in achieving the defined goals and objectives.
	c.	The centre develops an annual operating budget including quality & safety to run its services.
	d.	The ethical management framework includes processes for managing issues with ethical implications, dilemmas and concerns.
	e.	The centre discloses its ownership and honestly portrays its affiliations and accreditations.
	f.	The centre shall create necessary awareness in community regarding stroke and its prevention.
Standard	**GAL.4:**	**The leadership ensures that clinical responsibilities of staff are defined and supervised by qualified and experienced personnel.**
Criterion	**a.**	The centre defines clinical responsibilities of staff in consonance with the laws, statutes and regulations.
	b.	The centre ensures supervision of clinical staff by qualified and experienced personnel.

Chapter 2
Human Resources Management (HRM)

Introduction

Human Resources include all the people that work in, for or with the centre and they are integral ensuring the delivery of quality, patient- centred and safe care. The centre must be able to assure the public or patients that it can meet their needs and deliver quality and safe care through a team of dedicated and qualified staff. The support includes the management team providing a safe physical environment for staff to work in, which is free from harassment or accidents.

STANDARDS AND CRITERA		
Standard	**HRM.1:**	**The centre has a documented process for human resource planning with adequate professional and technical staff.**
Criterion	**a.**	The centre has suitably qualified and trained adequate manpower to provide the defined scope of services.
	b.	The centre shall have a group of professionals, as required, whose quality and quantity meet the care needs of the patients.
	c.	The centre shall have adequate clinical, nursing and paramedical staff.
	d.	The centre shall have adequate support staff to support clinical and non-clinical functions.
	e.	The centre shall have a defined recruitment process for all types of staff.
Standard	**HRM.2:**	**The centre has a documented performance evaluation process.**
Criterion	**a.**	The centre has a standardised documented process for evaluating the performance of its staff.
	b.	Performance evaluation is done on the pre-determined criteria including necessary competence and frequency.
Standard	**HRM.3:**	**The centre has a continuous training and professional development programme for its staff including outsourced staff.**
Criterion	**a.**	Staff are provided required technical training at regular intervals and when job responsibilities change/ new equipment or department introduced.
	b.	Staff are trained on organization safety programme, safety related to occupation, organization disaster management plan, fire and non-fire emergencies, surrounding environment and quality improvement programmes.
	c.	Centre shall have documented evidence of initial orientation and ongoing

		training for the staff involved in the care of acute stroke patient.
	d.	Staff are provided continuing education or other equivalent educational activity at least annually.
	e.	Centre shall maintain appropriate records of education, training, skills and experience.
Standard	**HRM.4:**	**A documented disciplinary and grievance handling system exists in the centre.**
Criterion	**a.**	Disciplinary and grievance handling policies and procedures including those for violence and harassment are documented.
	b.	These policies and procedures also address requirements of applicable laws.
	c.	Staff are made aware about such policies and procedures.
	d.	Actions are taken to address the grievances and complaints and same is documented.
Standard	**HRM.5:**	**A documented policy exists to address health and safety needs of staff.**
Criterion	**a.**	The staff is subjected to a pre-employment/annual medical examination and including vaccination as needed.
	b.	Health issues including occupational health hazards of staff are addressed as per documented policy.
	c.	The centre has measures in place for prevention and handling of workplace violence's.
Standard	**HRM.6:**	**The centre has a documented system of competence, credentialing and privileging of medical, nursing and paramedical staff.**
Criterion	**a.**	Centre verifies credentials of medical, nursing and paramedical staff.
	b.	Medical, nursing and paramedical staff are privileged to provide required care as per their credentials based on education, training, competence and experience.
	c.	Medical, nursing and paramedical staff privileges are periodically reviewed.
Standard	**HRM.7:**	**The centre has a documented system of maintaining personnel files for all staff members.**
Criterion	**a.**	Personnel file is a document that contains at least the personal information, qualifications; credential and privileges; results of evaluation and appraisals, employment history, trainings attended, job description and disciplinary actions.
	b.	A personnel file is updated as necessary for each staff member and their confidentiality is ensured.
Standard	**HRM.8:**	**The centre has a Stroke Programme Medical Director (SPMD) (or designate/s).**
Criterion	**a.**	The SPMD (or designate) for the centre must have significant amount of

		training and expertise/knowledge required for stroke care/cerebrovascular disease.
	b.	The SPMD (or designate) shall be available to provide leadership and manage medical and administrative issues.
	c.	The SPMD (or designate) shall have clearly defined authority and responsibilities to provide leadership and manage medical and administrative issues.
	d.	The SPMD (or designate) shall be involved in the care of patients and provide consultative advice to other treating physicians.

Chapter 3
Facility and Risk Management (FRM)

Introduction

The centre will prevent people from receiving unsafe care and treatment and prevent avoidable harm or risk of harm. Safe, high-quality care and support is intrinsically linked to how resources are used including how they are planned, managed and delivered. Centre must assess the risks to people's health and safety during any care or treatment and make sure staff have the skills, experience and competence to keep patients safe. Premises and equipment must be safe and available in sufficient quantities. Good clinical and good laboratory practices are followed in all its operations. Centre must prevent the spread of infection.

STANDARDS AND CRITERIA		
Standard	**FRM.1:**	**Facility is appropriate to scope of services and is managed in accordance with applicable laws and regulations.**
	a.	The management ensures the availability of adequate infrastructure (building, space, equipment, manpower and supplies etc.) to provide the defined scope of services.
	b.	Documented procedures govern procurement, handling, storage, distribution, usage and replenishment of medical gases.
	c.	Medical gases are handled, stored, distributed, tested and used in a safe manner and alternate sources for medical gases, vacuum and compressed air are provided in case of failure.
Standard	**FRM.2:**	**There is a documented plan focusing on safety and security.**
Criterion	**a.**	The centre has a plan to address identified safety and security threats.
	b.	Documented plan includes those hazardous materials are identified, sorted, labelled, handled, stored, transported, disposed and used safely within the organization as per applicable laws and regulations and staff is also trained on the same.
	c.	The organization has facilities for the differently-abled.
	d.	There is signage both internally and externally available in the centre in a language understood by patient, family and community.
	e.	The centre conducts facility inspection at least once every quarter of the year to identify security and safety threats and findings from inspection are acted upon.

Standard	**FRM.3:**	**The centre has round the clock provision of potable water and electricity.**
Criterion	**a.**	The centre ensures round the clock availability of potable water and electricity.
	b.	Inspection, maintenance and testing of the systems including alternative sources to be ensured on regular basis.
Standard	**FRM.4:**	**There is a documented emergency response plan.**
Criterion	**a.**	The centre has plans and earmarked resources to manage fire and non-fire emergencies.
	b.	There is a maintenance plan for fire related equipment and support infrastructure.
	c.	Staff are educated on the fire safety plan and non-fire safety plan.
Standard	**FRM.5:**	**There is a documented programme for the facility, engineering support services, utility system and biomedical equipment management.**
Criterion	**a.**	The centre maintained a list of all biomedical and engineering equipment and utility system required and usage logs are maintained.
	b.	There is a documented operational and maintenance (preventive/ breakdown) plan for all equipment.
	c.	Equipment is periodically inspected and calibrated as applicable to ensure proper functioning.

Chapter 4
Information Management System (IMS)

Introduction

An effective information management system is based on the information needs of the centre. The system should be able to capture, transmit, store, analyse, utilise and retrieve information as and when required for improving clinical outcomes as well as individual and overall performance of the centre. Information can be in any form- paper or electronic or a mix of both.

STANDARDS AND CRITERIA		
Standard	**IMS.1:**	**Documented policy and procedure exist to meet the information needs of the centre.**
Criterion	**a.**	Documented policies and procedures to meet the information needs exist.
	b.	Information management and information technology including telemedicine or EMR are in accordance with the laws and documented policies and procedures.
	c.	The information needs of the centre are identified and are appropriate to the scope of the services being provided by the centre.
Standard	**IMS.2:**	**The centre defines what constitutes a medical record and maintains complete and accurate medical record for every patient.**
Criterion	**a.**	Every medical record has a unique identifier.
	b.	Entry in the medical record is named, signed, dated and timed.
	c.	The medical record provides a complete, up-to-date and chronological account of patient care.
	d.	The medical record contains information regarding reasons for admission/ observation, assessment and re-assessment, diagnosis, investigation/ tests carried out, procedure(s) performed, monitoring and the care provided.
	e.	When patient is transferred to another centre/hospital, the medical record contains the details of the transfer.
	f.	The medical record contains a copy of the treatment note/ summary duly signed by appropriate and qualified personnel.
	g.	The medical record shall include documentation indicating reason if an eligible ischemic stroke patient does not receive IV thrombolytic therapy.
Standard	**IMS.3:**	**There is a documented policy and procedure exists regarding retention time of records, data and information.**

Criterion	**a.**	Documented policy and procedure are in place on retaining the patient's clinical records, data and information in accordance with best practices, local or national laws and regulations.
	b.	The destruction of medical records, data and information is in accordance with the laid-down policy.
Standard	**IMS.4:**	**The centre has documented policy and procedure in place for maintaining confidentiality, integrity and security of records, data and information and a system for medical record audit.**
Criterion	**a.**	Documented policy and procedure exist for maintaining confidentiality, security and integrity of records, data and information are in accordance with the applicable laws.
	b.	The medical record audit is periodically conducted and appropriate corrective and preventive measures, against any deficiency observed, are undertaken within a defined period of time and are documented.
Standard	**IMS.5:**	**The centre regularly conducts medical record audit.**
Criterion	**a.**	The medical record audit is periodically conducted.
	b.	The audit is conducted by trained individuals.
	c.	The audit covers timeliness, legibility and completeness of the medical records.
	d.	The audit includes records of both active and discharged patients.
	e.	Appropriate corrective and preventive measures, against any deficiency observed, are undertaken within a defined period of time and are documented.

Chapter 5
Continual Quality Improvement (CQI)

Introduction

Quality Improvement recognises that the safety of the patient is paramount. A centre that is focused on quality improvement continually looks for ways to promote patient safety and quality of care. Quality and safety improvements in healthcare include a patient-safety improvement programme that requires healthcare providers to proactively identify risk and to plan, implement and evaluate necessary changes to improve the quality and safety of services.

The centre ensures regular evaluation of these programme through performance indicators and benchmarks to identify both positive outcomes and areas for improvement. Any necessary actions to improve the quality and safety of the services are implemented and learning is disseminated both internally and externally.

STANDARDS AND CRITERIA		
Standard	**CQI.1:**	**The management plans and leads a structured quality improvement and safety programme in the centre.**
Criterion	**a.**	The leaders of the centre are accountable for service performance.
	b.	The leaders and management are involved and allocate resources for improvement in quality and safety.
	c.	Comprehensive quality improvement and patient safety programme is developed, documented, implemented, maintained and reviewed by multidisciplinary quality improvement and safety committee.
	d.	There is an interdisciplinary stroke committee that may include the SPMD (or designate), the nurse stroke coordinator, a quality representative and/or any other discipline representatives and practitioner at the discretion of the centre leadership.
	e.	This interdisciplinary stroke committee shall conduct quality and clinical reviews.
	f.	Appropriate corrective and preventive actions are implemented and documented based on the identified gaps (optional for PSC and mandatory for ASC).
	g.	There is a designated individual (s) for coordinating the quality improvement and safety programme.
	h.	The designated quality and safety programme is communicated and coordinated amongst all the staff of the centre through appropriate training mechanism.

	i.	Regular audits are conducted to ensure continuous compliance to the quality and safety programme. (minimum annually for PSC and bi-annually for ASC)
Standard	**CQI.2:**	**The centre measures clinical and managerial structures, processes and outcomes to promote quality improvement.**
Criterion	**a.**	Data collection requirements, including verification, for measurements of clinical and managerial structures, processes and outcomes are defined.
	b.	Measurements are used to determine areas for improvement and results of measurements are communicated to all concerned.
	c.	Centre shall define and measures at a minimum the following key indicators for clinical structure, process and outcomes. **For PSC:** i. Door to Physician ≤10 min ii. Door to stroke team ≤15 min iii. Door to CT/MRI initiation ≤20 min iv. Door to CT /MRI interpretation ≤30 min v. Order to lab results ≤30 min, if ordered vi. Connected contact (computer linkage, phone, or whatever form the organization utilizes) to telemedicine consultant from the time when determined medically necessary by ED physician ≤20 min vii. Door to IV Alteplase bolus (≥75% compliance) ≤60 min [Achieving Door to needle times (time of bolus administration) within 60 minutes in 75% or more of acute ischemic stroke patients treated with IV Alteplase] **And** Door to IV Alteplase bolus (≥50% compliance) ≤45 min [Achieving Door to needle times (time of bolus administration) within 45 minutes in 50% or more of acute ischemic stroke patients treated with IV Alteplase] **For ASC:** i. Door to Physician ≤10 min ii. Door to stroke team ≤15 min iii. Door to CT/MRI initiation ≤20 min iv. Door to CT /MRI interpretation ≤30 min v. Order to lab results ≤30 min, if ordered vi. Connected contact (computer linkage, phone, or whatever form the organization utilizes) to telemedicine consultant from the time when determined medically necessary by ED physician ≤20 min vii. Door to IV Alteplase bolus (≥75% compliance) ≤60 min [Achieving Door to needle times (time of bolus administration) within 60 minutes in 75% or more of acute ischemic stroke patients treated with IV Alteplase]

		And Door to IV Alteplase bolus (≥50% compliance) ≤45 min [Achieving Door to needle times (time of bolus administration) within 45 minutes in 50% or more of acute ischemic stroke patients treated with IV Alteplase] viii. Door to puncture time ≤90 min.
	d.	In addition to the indicators above at 'c', centre shall also measure: **For PSC:** i. Percentage of ischemic stroke patients eligible for intravenous thrombolysis who receive it within the appropriate time window. ii. Ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration ≥ 4-point increase on NIHSS and brain image finding of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) within (≤) 36 hours after the onset of treatment with intra-venous (IV) thrombolytic (t-PA) therapy only. **For ASC:** i. The periprocedural complication rates after correcting for various comorbidities. ii. The periprocedural mortality rate for surgical or interventional procedures. iii. Percentage of all stroke/TIA patients who have a deficit at the time of the initial note, ED Physician or Neurology consultation note for whom an NIHSS score is documented. iv. Percentage of ischemic stroke patients eligible for intravenous thrombolysis who receive it within the appropriate time window. v. Percentage of patients who are treated for acute ischemic stroke with intravenous thrombolysis whose treatment is started within 60 minutes after arrival. vi. Time from arrival to the start of initial imaging workup for all patients who arrive within 24 hours of last known well. vii. Median time from arrival to start of treatment for acute ischemic stroke patients undergoing an endovascular intervention. viii. Percentage of ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration ≥ 4-point increase on NIHSS and brain image finding of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) within (≤) 36 hours after the onset of treatment with intra-venous (IV) or intra-arterial (IA) thrombolytic (t-PA) therapy, or mechanical endovascular reperfusion procedure (i.e., mechanical endovascular thrombectomy with a clot retrieval device). ix. Percentage of patients undergoing CEA, or carotid angioplasty or stenting, having stroke or death within 30 days of the procedure. x. Percentage of patients undergoing intracranial angioplasty and/or

		stenting for atherosclerotic disease having stroke or death within 30 days of the procedure. xi. Percentage of patients with ischemic or TIA transferred from another hospital with documentation of the time from the first call from the transferring hospital to the centre (to a member of a stroke team or to a centralized transfer center) to arrival time at the centre. xii. Percentage of patients with stroke or death within 24 hours of diagnostic cerebral-angiography. xiii. Percentage of patients who have a diagnosis of ischemic stroke who undergo EVD and then develop ventriculitis. xiv. Percentage Ischemic stroke patients with a post-treatment reperfusion grade of TICI 2B or higher in the vascular territory beyond the target arterial occlusion at the end of treatment with intra-arterial (IA) thrombolytic (t-PA) therapy and/or mechanical endovascular reperfusion therapy. xv. Percentage Ischemic stroke patients with a large vessel cerebral occlusion (i.e., internal carotid artery (ICA) or ICA terminus (T-lesion; T-occlusion), middle cerebral artery (MCA) M1 or M2, basilar artery) who receive mechanical endovascular reperfusion (MER) therapy (time of first pass or deployment of device) within 120 minutes (≥ 0 min. and ≤150 min.) of hospital arrival and achieve TICI 2B or higher at the end of the treatment. xvi. Percentage Ischemic stroke patients with a large vessel cerebral occlusion (i.e., internal carotid artery (ICA) or ICA terminus (T-lesion; T-occlusion), middle cerebral artery (MCA) M1 or M2, basilar artery) who receive mechanical endovascular reperfusion (MER) therapy (time of first pass or deployment of device) and achieve TICI 2B or higher ≤60 minutes from the time of skin puncture.
	e.	Centre defines and measures key indicators for managerial structure, process and outcomes.
	f.	Centre defines and measures key indicators for safety structure, process and outcomes.
	g.	Centre shall define and measures the following key indicators for infection control structure, process and outcomes. • Hand hygiene • Catheter Associated Urinary Tract Infection (CAUTI) • Central Line Associated Blood Steam Infection (CLABSI) • Ventilator Associated Pneumonia (VAP) • Surgical Site Infection (SSI)
Standard	**CQI.3:**	**Centre has implemented robust incident reporting and monitoring mechanism.**
	a.	Type of reportable incidents and its management is defined and

		implemented.
	b.	Sentinel events are identified, reported, analysed and corrective action is taken.
	c.	Various stakeholders are informed of the incidents, analysis results and corrective and preventive actions implemented.

Chapter 6
Patient Assessment and Care (PAC)

Introduction

Patients are made aware of the services being offered through different modes. Processes are defined for various activities including registration, admission, referral and discharge. Patients once taken into the centre either as an out-patient or as in-patient are assessed and re-assessed as per policy for their clinical needs and treatment.

STANDARDS AND CRITERIA		
Standard	**PAC.1:**	**The centre defines and displays its services.**
Criterion	**a.**	The centre plans its services as per needs of the community and clearly defines those being provided.
	b.	Services being provided are displayed prominently for easy access of the user.
Standard	**PAC.2:**	**The centre has a documented registration and admission process.**
Criterion	**a.**	The centre has documented policy and procedure for registration of all patients.
	b.	A unique number is generated for each patient upon registration.
	c.	The centre has documented policy and procedure for admission of patients.
Standard	**PAC.3:**	**Centre provides appropriate emergency and ambulance services.**
Criterion	**a.**	Emergency services are planned in accordance with laws, regulations and applicable national/ international guidelines.
	b.	Patients are appropriately assessed and re-assessed as necessary, and these are documented.
	c.	There are pathways, protocols and processes to rapidly identify, evaluate and treat potential stroke patients.
	d.	Staff in the Emergency Department shall demonstrate knowledge and understanding of the stroke protocol in place, including effective communication with ambulance personnel, notification of the stroke team and initiation of the stroke protocol.
	e.	Staff in the Emergency Department shall demonstrate knowledge in the delivery of treatment that can improve a patient's outcome including but not limited to: • Intravenous Alteplase • Intravenous Tenecteplase, if utilized • Reversal of coagulopathies

		• Control and reduction of elevated intra cranial pressure • Control of seizures • Blood pressure management
	f.	The centre shall assess and make treatment decisions ASAP of the arrival to the emergency department.
	g.	The centre shall screen the patient for dysphagia (Swallowing test) before receiving any oral medications, food or fluids.
	h.	The centre shall test the patient for blood glucose levels before thrombolytic eligibility is determined.
	i.	The stroke patient shall be assessed by a qualified nurse or physician member of the acute stroke team.
	j.	Intravenous thrombolytic administered for eligible patients within 4.5 hours of last known well.
	k.	The assessment and treatment of signs and symptoms of blood pressure and neurological deterioration during and post IV thrombolytic therapy as per the current AHA/ASA/ISA guidelines.
	l.	There is recognition, assessment, and management of complications of acute stroke (vital signs, neuro status, angioedema, etc.) and a process for notification of deterioration to medical staff and others.
	m.	The centre shall document the reason in the event an eligible patient with ischemic stroke does not receive IV thrombolytic therapy.
	n.	Patient is assessed for endovascular treatment options whether receiving thrombolytic or if they are not a candidate for thrombolytic with reason. (applicable for PSC)
	o.	Patient is assessed for endovascular treatment options whether receiving Alteplase or if they are not a candidate for Alteplase with reason. (applicable for ASC)
	p.	Specified time frames related to the assessment and initial treatment that have been addressed with the stroke protocol as applicable to the emergency department.
	q.	Publish and maintain a current and complete call schedule (including back-up), with contact information of the physicians on staff and/or available for the centre.
	r.	The emergency department will maintain a log that includes call times, response times, patient diagnoses, treatments, outcomes and dispositions and used for quality data review.
	s.	Emergency department practitioners will have access to appropriately qualified personnel for consultation regarding the use of IV thrombolytic therapy, when obtained from a physician competent and privileged in the

		diagnosis and treatment of ischemic stroke.
	t.	Emergency department practitioners can demonstrate safe use of alteplase.
	u.	Ambulance services is available as per the scope of services.
	v.	Ambulance services meet regulatory / statutory norms.
	w.	The centre shall have a written plan for transporting and receiving patients with stroke symptoms.
	x.	The centre shall have a system of notification when a patient with suspected stroke is being transported to the centre in order to activate the stroke alert.
	y.	The centre defines the circumstances in which it is not able to accept patients.
Standard	**PAC. 4**	**The centre must have a designated stroke team with trained personnel.**
	a.	All members of the stroke team should have current job description available that contains the experience, educational and physical requirements, and performance expectations for their role on the stroke team.
	b.	Annual performance evaluations shall include performance of stroke related duties, activities and fulfilment of education requirements.
	c.	The centre shall define the criteria, qualifications, roles and responsibilities (through plan, policy or procedure) required for designation of qualified practitioners, professionals and other personnel assigned to the stroke team.
	d.	The stroke team is available and on call 24/7.
	e.	The stroke team shall respond to stroke alerts in the Emergency Department. They may also respond to inpatient stroke alerts as designated.
	g.	Members of the stroke team will receive initial orientation and ongoing education.
Standard	**PAC.5**	**Centre provides appropriate and adequate laboratory & imaging services.**
Criterion	**a.**	Laboratory & Imaging services are appropriate to the scope of services of the centre.
	b.	Laboratory & Imaging services are planned in accordance with laws, regulations and applicable national/ international guidelines.
	c.	Laboratory & imaging services must be in house and available 24/7 to complete and interpret initial tests within 15 minutes of being ordered.
	d.	A radiology technician trained in CT techniques must be available for the centre 24/7 in-house.
	e.	There is a system of laboratory & imaging equipment maintenance and calibration.
Standard	**PAC.6:**	**Patients in the centre are appropriately assessed.**
Criterion	**a.**	Assessments include initial assessment and periodic/regular re-assessment as applicable and appropriate for each patient.
	b.	All patients (emergency and in-patients) undergo an assessment based on their needs, age and condition.

	c.	All assessments are documented and signed/ authenticated appropriately by staff.
	d.	Assessments result in formulation/ modification of appropriate care/ monitoring plan and the same is documented.
Standard	**PAC.7:**	**The centre ensures uniform care and continuity of patient care.**
Criterion	**a.**	Documented procedure guides uniform care to patients and care is provided according to the best practices and appropriate laws and regulations.
	b.	The care plan for every patient is individualised and is dependent on their needs at assessment and reassessment by a multidisciplinary approach.
	c.	The organisation adapts evidence-based clinical practice guidelines and/or clinical protocols to guide uniform patient care.
	d.	Clinical care pathways are developed, consistently followed across all settings of care, and reviewed periodically.
Standard	**PAC.8**:	**Resuscitation services are available throughout the centre.**
Criterion	**a.**	Appropriate medical equipment, medications and trained staff provide resuscitation services.
	b.	Events and treatment provided during resuscitation events are recorded and resultant data is analysed by multidisciplinary committee to identify opportunities for improvements.
	c.	Identified improvements are implemented and monitored.
Standard	**PAC.9:**	**Centre provides nursing care in accordance with standard protocols, practices and current evidences.**
Criterion	**a.**	Centre provides appropriate equipment and staff for providing nursing care.
	b.	Patient care assignment and nursing staffing is as per current practice guidelines.
	c.	Nurses are empowered to make decision for patient care as per their scope.
	d.	Nursing care is aligned and integrated with overall patient care.
	e.	The organisation implements acuity-based staffing to improve patient outcomes.
	f.	All the nurses shall require following training but not limited to (when indicated), appropriate to the scope of service: i. Detailed neurologic assessments and scales (i.e., NIHSS, Glasgow Coma Scale). ii. Nursing care of patients receiving thrombolytics and after thrombolytic therapy. iii. Management of post thrombolysis care and other invasive/neurosurgical patients (If provided). iv. Treatment of blood pressure abnormalities with parenteral vasoactive agents. v. Management of intubated/ventilated patients.

		vi. Nursing assessment and management of the function of ventriculostomy and external ventricular monitoring and drainage apparatus. (optional for PSC and mandatory for ASC) vii. Treatment of increased intracranial pressure. (optional for PSC and mandatory for ASC) viii. Management of post thrombectomy and other invasive/surgical patients (optional for PSC and mandatory for ASC)
Standard	**PAC.10:**	**Intensive care services are provided in an appropriate manner.**
Criteria	**a.**	Intensive and high dependency units have adequate and appropriate equipment and trained staff.
	b.	Infection control processes are implemented in accordance with current practice and evidence.
Standard	**PAC.11:**	**Nutritional requirements are assessed and addressed appropriately.**
Criteria	**a.**	Documented procedures define implementation of nutritional screening for all patients.
	b.	Procedures for provision of patient diet including therapeutic diet are implemented in a collaborative manner.
Standard	**PAC.12:**	**Rehabilitation services are consistent and appropriate.**
Criteria	**a.**	Rehabilitation services are aligned with the scope of services of the centre.
	b.	Services are provided in a safe, consistent and collaborative manner.
	c.	Care is guided by functional assessment and periodic reassessments which are done and documented.
	d.	The centre shall require physical, occupational and speech therapists to be readily available seven days per week for patient assessment and therapy during the patient hospitalization.
	e.	Assessments shall be completed within 24 hours of admission or when feasible once the patient is medically stable.
	f.	Physiotherapists must have adequate knowledge regarding neurology/stroke care, care coordination and levels of rehabilitation.
	g.	The centre's post stroke rehabilitation shall focus on: • Training for maximum recovery • Prevent and treat comorbid conditions • Enhance quality of life
	h.	The centre shall use following rehabilitation performance measures to evaluate in-patient's outcomes. i. Pre-Morbid Modified Rankin Score at discharge ii. Modified Rankin Score at discharge iii. Modified Rankin Score 90 days after discharge
Standard	**PAC.13:**	**End of life and palliative care are provided appropriately.**
Criteria	**a.**	Documented procedures guide end of life and palliative care.
	b.	End of life and palliative care is consistent with laws, regulations and best

		practices.
Standard	**PAC 14:**	**A documented discharge process exists and a discharge/ treatment summary is provided to all patients.**
Criteria	**a.**	The centre plans the discharge process in consultation with the patient and/or family.
	b.	Documented policy and procedure exist for patients leaving against medical advice.
	c.	Discharge/ treatment summary contains the patient's name, unique identification number, treating physician name, qualification and registration number, date of admission and date of discharge duly signed by the appropriate qualified medical professional.
	d.	Discharge/ treatment summary contains the reasons for admission, significant findings and diagnosis and the patient's condition at the time of discharge.
	e.	Discharge/ treatment summary contains information regarding investigation results, any procedure performed, medication administered and other treatment given.
	f.	Discharge/ treatment summary contains follow-up advice, medication and other instructions in a manner understood by patient/ family.
	g.	Discharge/ treatment summary incorporates instructions about when and how to obtain urgent care.
	h.	In case of death, patient records include death summary.
Standard	**PAC.15:**	**The centre shall document the type and usage of telemedicine technologies available.**
Criteria	**a.**	The centre shall define the need of required equipment and technologies for telemedicine and the practice shall follow regulation, if any.
	b.	The medical professionals providing teleconsultation shall have required training and expertise.
	c.	The teleconsultation should be available as soon as possible (preferably within 20 minutes) of seeking such services by the emergency physician, in order to meet the ≤60-minute door to needle time.

Chapter 7
Patient Rights and Education (PRE)

Introduction

Patient is in the centre of the care being provided in a centre. It is therefore important that patients' rights are documented and known to patients. It is also important to provide education to patients related to their care. Better patient satisfaction or outcome is achieved when patients are adequately informed about their care, their rights are respected and they are involved in the decision-making process.

STANDARDS AND CRITERIA		
Standard	**PRE.1:**	**The centre protects rights of patients informs patients about their responsibilities while receiving care.**
Criterion	**a.**	Patient rights and responsibilities are documented and displayed bilingually.
	b.	Violation of rights is reported, and action taken is documented.
Standard	**PRE.2:**	**The centre identifies and documents the rights of patient supporting individual beliefs and values.**
Criterion	**a.**	Patient rights include privacy while receiving care.
	b.	Patient rights include dignity and respect while receiving care.
	c.	Patient rights include confidentiality of information.
	d.	Patient rights include personal safety and security.
	e.	Patient rights include informed consent.
	f.	Patient rights include refusal of treatment.
	g.	Patient rights include information on the expected cost of treatment.
	h.	Patient rights include access to his/her medical records.
	i.	Patient rights include right to complaint and how to voice a complaint.
	j.	Patient rights include information on his treatment and healthcare needs.
	k.	Patient rights include respecting any special preferences, spiritual and cultural needs.
	l.	Patient rights include to seek an additional opinion regarding clinical care.
Standard	**PRE.3:**	**The centre educates the patient and family to make informed decisions and their involvement in care planning.**
Criterion	**a.**	Patients and/or family are informed and explained about the planned care

		and treatment.
	b.	Patients and/or family are explained about their medicines, nutrition, and use of medical equipment.
	c.	The patient and/or family members are explained about the possible complications.
	d.	The patient and/or family members are informed about the results of diagnostic tests and the diagnosis.
Standard	**PRE.4:**	**The centre documents a procedure to obtain informed consent.**
Criterion	**a.**	Documented procedure incorporates the list of situations where informed consent is required and adheres to applicable statutory norms.
	b.	Informed consent includes information regarding the procedure, its risks, benefits, possible complication, alternatives and as to who will perform the procedure in a language that they can understand.
	c.	The procedure describes who can give consent when patient is incapable of independent decision making.
	d.	Informed consent is taken by the person performing the procedure.
Standard	**PRE.5:**	**The centre has a documented feedback (compliment and complaint) system.**
Criterion	**a.**	A documented feedback (compliment and complaint) procedure exists.
	b.	The procedure includes how to receive, investigate and resolve complaints in a timely manner.
	c.	Patient and/or family is made aware of such procedure for giving feedback (compliment and complaint) and the procedure is publically available.
	d.	The centre uses the results of investigation to make improvements.

Chapter 8
Medication Management and Safety (MMS)

Introduction

The purpose of Medication Management is to provide a frame work for safe and effective medication management system. Safe and effective medication management includes the processes for procurement, storage, prescribing, transcribing, preparing, dispensing and administration. All processes of Medication Management of the centre comply with rules and regulations of the law of the land.

STANDARDS AND CRITERIA		
Standard	**MMS.1:**	**Documented policy and procedure exist for the management of medication.**
Criterion	**a.**	There is a documented policy and procedure on medication management and implemented.
	b.	A qualified individual (s) has oversight function of medication management in the centre.
	c.	The medication management complies with the applicable laws and regulations.
Standard	**MMS.2:**	**The centre develops a drug formulary based on the needs.**
Criterion	**a.**	Formulary based on the need as per scope of its services is developed by collaborative process by multidisciplinary committee.
	b.	Formulary is reviewed and updated at least annually.
Standard	**MMS.3:**	**There is a documented policy and procedure for storage of medication.**
Criterion	**a.**	There is a documented policy and procedure for storage of medication.
	b.	The centre ensures that medicines are stored according to manufacturer's recommendation.
	c.	Look-alike and Sound-alike medications are identified and stored physically apart from each other.
	d.	Emergency medications are identified and readily available for use in patient care areas.
Standard	**MMS.4:**	**There is a documented policy and procedure for prescription of medication.**
Criterion	**a.**	Medication prescription is in consonance with the law, good practices and guidelines for the rational prescription of medications.
	b.	Only qualified healthcare providers according to licensure, training or

		certification can prescribe.
	c.	The centre defines and implements minimum requirements of medication prescription as per law.
Standard	**MMS.5:**	**A documented policy and procedure exist for safe dispensing of medications.**
Criterion	**a.**	Documented policy and procedure are implemented for dispensing of medications and return of medication to the pharmacy is included.
	b.	Medication preparation prior to dispensing is done safely and High-risk medications are verified before dispensing.
Standard	**MMS.6:**	**A documented policy and procedure exist for safe administration of medications.**
Criterion	**a.**	Documented policy and procedure exist for medication administration.
	b.	Medications administration is done only by those permitted by law.
	c.	Medication is verified from the order and physically inspected prior to administration.
Standard	**MMS.7:**	**There is a documented policy and procedure for the use of narcotic drugs and psychotropic substances.**
Criterion	**a.**	There is a documented policy for use of such medications in consonance with applicable regulations and best practices.
	b.	A documented procedure is implemented.
	c.	The administration of Narcotic drugs and psychotropic substances is documented.
Standard	**MMS.8:**	**A documented process is used for the management of medical devices and implantable prosthesis.**
Criterion	**a.**	There is a defined process for acquisition of medical devices and implantable prosthesis.
	b.	Sound inventory control practices guide storage of medical devices and implantable prosthesis.
	c.	The batch and the serial number of the implantable prosthesis and medical devices are recorded in the patient's medical record, the master logbook and the discharge summary.

Chapter 9
Surgical Care and Safety (SCS)

Introduction

It is important that the centre has adequate space and knowledge to carry out various procedures which are current and based on evidence as far as possible. Different policies and procedures are required to be in place to ensure that procedures being performed provide desired outcomes and care is safe. Surgical procedures adhere to best practices for use of anaesthesia, use of blood and blood components. Patient safety is an integral component of care.

STANDARDS AND CRITERIA		
Standard	**SCS.1:**	**Documented procedure exists for the performance of various procedures/ surgery.**
Criterion	**a.**	The centre defines and documents processes for various procedures/ surgery.
	b.	Only qualified individuals assess the patients, determine the need for surgery and perform the surgical procedure.
	c.	All phases of surgical care of the patient including pre, intra and post operation are appropriately and adequately planned, monitored and documented.
	d.	The centre adheres to defined consent procedures and statutory norms.
Standard	**SCS.2:**	**The centre follows a documented procedure for surgical care and a structured surgical-safety programme exist.**
Criterion	**a.**	Documented policy and procedure guide surgical care and a documented patient-safety programme is implemented.
	b.	Surgical or invasive procedure site is marked before procedure by the person performing the procedure.
	c.	The centre uses a validated surgical safety checklist (e.g., WHO surgical safety checklist) to document the process.
	d.	The patient-safety programme is comprehensive and covers all the major elements related to patient safety as per the national/ international patient safety goals/ solutions as far as practicable.
Standard	**SCS.3:**	**Documented policy and procedure are used for administration of anaesthesia & sedation.**
Criterion	**a.**	Only qualified individuals conduct pre anaesthesia and pre induction assessments and administer anaesthesia/sedation for patients that require

		anaesthesia services.
	b.	The anaesthesia/sedation care of each patient is adequately planned, informed consent is obtained by anaesthetist and documented.
	c.	Patients/family are educated on the procedure of anaesthesia/sedation which includes the risks, benefits and alternatives and all these are documented in the patient records.
	d.	Patient condition and vitals are monitored during anaesthesia/sedation.
	e.	Patients are monitored after anaesthesia/sedation till transfer out from recovery area and the same is documented.

Chapter 10
Hygiene and Infection Control (HIC)

Introduction

Changing technology and disease profile continue to present new challenges for infection prevention and control within centre. Patients are at risk of developing healthcare associated infections because of decreased immunity among patients; the increasing variety of medical procedures and invasive techniques creating potential routes of infection; and the transmission of drug-resistant bacteria among crowded populations, with poor infection control practices. Healthcare associated infections are among the most common complications affecting patients.

STANDARDS AND CRITERIA		
Standard	**HIC.1:**	**The Centre has a documented infection prevention and control policy.**
Criterion	**a.**	The centre has an infection prevention and control policy based on current evidence and best practices.
	b.	Management provides supervision and adequate resources.
	c.	Infection prevention and control is implemented in accordance with statutory requirements.
Standard	**HIC.2:**	**The Centre has a comprehensive infection prevention and control programme.**
Criterion	**a.**	There is a documented infection prevention & control programme that covers clinical and non-clinical areas and is managed by appropriately trained individual(s).
	b.	Centre has a multidisciplinary Infection Control committee.
	c.	Centre has infection control Team consisting of infection control officer and Infection control nurse (s) for coordination of infection control activities.
	d.	The programme includes hand hygiene practices.
	e.	The programme includes infection prevention and control training for appropriate categories of staff.
Standard	**HIC.3:**	**Infection prevention and control programme includes clinical services.**
Criterion	**a.**	Infection prevention and control programme covers critical care areas.
	b.	Infection prevention and control programme covers surgical services.
	c.	Infection prevention and control programme covers safe infusion and injection practices.
	d.	Infection prevention and control programme covers diagnostic services and blood bank.
Standard	**HIC.4:**	**Infection prevention and control programme includes ancillary services.**

Criterion	**a.**	The Centre has policies and protocols for safe handling for used, soiled and clean linen.
	b.	The centre adheres to kitchen sanitation measures to reduce the risk of infection.
	c.	The centre adheres to housekeeping practices consistent with infection prevention and control.
	d.	The airflow, ventilation, humidity control should be maintained as per guidelines to minimize and to prevent the risk of infection in the centre.
Standard	**HIC.5:**	**There is a documented process to ensure cleaning, disinfection and sterilization practices across the centre.**
Criterion	**a.**	Cleaning, disinfection and sterilization are defined and implemented across the various units.
	b.	The centre has identified area with adequate space for sterilization activities with proper zoning to avoid cross-contamination.
	c.	The process of disinfection & sterilization is performed in accordance with the current good practice guidelines and as per manufacture recommendation (wherever applicable).
	d.	Disinfected and sterilized instruments are stored in designated areas.
	e.	The Centre identifies single use devices meant for reuse as per guidelines.
	f.	Appropriate validation tests are carried out at regular intervals for sterilisation activities in CSSD/sterilisation unit which is documented.
	g.	Recall procedure is in place in case of breakdown in sterilisation.
Standard	**HIC.6:**	**The Centre has a documented policy on biomedical waste segregation and disposal in accordance with statutory regulations.**
Criterion	**a.**	A documented policy on handling biomedical waste exists and complies with statutory requirements.
	b.	Waste segregation is performed at the site of generation.
	c.	Appropriate personal protective equipment is available and used while handling the waste.
	d.	The Centre identifies a centralised area for collection of medical and non-medical wastes in accordance with statutory regulations.
	e.	The centralised area for waste collection is secured and free from pests.
	f.	There is a process of safe transportation within the centre.
	g.	Staff is appropriately trained to handle biomedical waste.
Standard	**HIC.7:**	**The Centre addresses occupational health requirements relating to infection control for staff.**
Criterion	**a.**	The Centre has system for appropriate use and disposal of Personal Protective Equipment (PPEs).

	b.	Staff is appropriately vaccinated and the same is documented.
	c.	Appropriate Post Exposure prophylaxis protocols are implemented.
	d.	Adequate hand washing facilities with liquid soap/disinfectants and hand drying facilities should be available in all patient care areas.
Standard	**HIC.8:**	**The Centre implements monitoring & surveillance for infection prevention and control.**
Criterion	**a.**	Mechanism of prevention and control of HAIs are implemented and monitored.
	b.	Regular audits are in place for infection prevention and control activities.
	c.	Appropriate corrective and preventive actions are implemented and documented based on the identified gaps.