

STANDARD OPERATING PROCEDURE

SPONTANEOUS INTRACEREBRAL HEMORRHAGE (sICH)

Diagnosis and Management

Special Region (1)

Union of Myanmar

Version: 1.0

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Approved by: Internal Medicine Unit

1. Purpose

To provide standardized guidance for diagnosis, acute stabilization, blood pressure control, neurocritical care, dysphagia management, rehabilitation, prognosis counseling, and secondary prevention of spontaneous intracerebral hemorrhage (sICH).

2. Definition

Spontaneous intracerebral hemorrhage (sICH) is non-traumatic bleeding into the brain parenchyma confirmed by neuroimaging.

Common causes include chronic hypertension, cerebral amyloid angiopathy, anticoagulant-related hemorrhage, and vascular malformations.

sICH is a medical emergency with highest risk of hematoma expansion within the first 24 hours.

3. Initial Assessment

- ABC stabilization
- Capillary blood glucose
- GCS scoring
- Establish time of symptom onset / last known well
- Urgent CT brain (non-contrast)
- Baseline labs
- ECG

4. Imaging

Non-contrast CT Brain (URGENT – within 20–30 minutes)

- Confirms hemorrhage – please look for Blend sign and Swirl sign, which are the predictors of hematoma expansion.
- Repeat CT if neurological deterioration or suspected hematoma expansion

5. Laboratory Investigations

- Full blood count
- Urea, Creatinine, eGFR
- Electrolytes
- Random blood glucose
- ECG
- Coagulation profile (PT/INR, aPTT) if:
 - Patient on anticoagulants
 - Known cirrhosis
 - Suspected acute liver impairment
 - Suspected bleeding tendency

6. General Management

- Head elevation 30°
- Lateral positioning if aspiration risk
- Avoid unnecessary catheterization
- Prevent constipation (bowel chart, hydration, stool softener)
- Pressure ulcer prevention (2-hourly repositioning)
- Keep NPO until swallow assessment
- DVT prevention (IPC, mobilization when safe)
- Treat fever promptly
- Eye care and pulmonary hygiene
- Early family communication

7. Blood Pressure Management

If SBP 150–220 mmHg:

- Lower to 140–150 mmHg
- Avoid SBP <130 mmHg
- Initiate within 1 hour and maintain for first 24 hours

If SBP >220 mmHg:

- Continuous IV infusion
- ICU monitoring

First-line: IV Labetalol

- 10–20 mg IV initial
- Repeat 20–40 mg every 10 min (max 300 mg)

Alternative: IV GTN infusion

After controlling BP for 24 hours (SBP target 130–150 mmHg), transition from IV to oral antihypertensive should be processed.

8. Reversal of Anticoagulation

- Warfarin: Vitamin K + PCC
- DOAC: Specific reversal agent if available
- Platelet transfusion only if procedural indication

9. Dysphagia Management

All sICH patients must undergo bedside swallow screening before oral intake.

If screening fails:

- Keep NPO
- Insert NG tube
- Refer to Speech & Swallow Therapist

Short-term feeding: NG (first 2–3 weeks)

Long-term: Consider PEG if persistent (>3–4 weeks)

Refer the patient to the center which is available for VFSS or FEES if persistent dysphagia.

10. Neurosurgical Consultation

Urgent referral if:

- Cerebellar hemorrhage >3 cm
- Obstructive hydrocephalus
- Brainstem compression
- Progressive deterioration

11. Secondary Prevention

- Strict BP control (around 130/80 if tolerated)
- Lifestyle modification
- Specialist review before restarting antithrombotic

12. Follow-up Checklist

- mRS or NIHSS assessment
- BP management if hypertension
- Optimize other comorbid conditions
- Reassess swallowing if dysphagia develops or patients with in-situ nasogastric tube feeding or PEG feeding
- Joint care with rehab team
- Screen depression

12.1 Modified Rankin Scale

Score	Description	Clinical Interpretation
0	No symptoms	Completely asymptomatic
1	No significant disability despite symptoms	Able to carry out all usual activities
2	Slight disability	Unable to perform all previous activities but able to look after own affairs without assistance
3	Moderate disability	Requires some help but able to walk without assistance
4	Moderately severe disability	Unable to walk without assistance and unable to attend to bodily needs without help
5	Severe disability	Bedridden, incontinent, requires constant nursing care
6	Death	—

12.2 Post-stroke Depression Screening

Post-stroke depression occurs in 25–35% of patients. Routine screening is recommended at follow-up.

PHQ-9 (Patient Health Questionnaire-9)

Ask patient: **Over the last 2 weeks, how often have you been bothered by the following problems?**

Questions	Not at all (0)	Several days (1)	>Half the days (2)	Nearly every day (3)
Little interest or pleasure in doing things				
Feeling down, depressed, or hopeless				
Trouble sleeping				
Feeling tired or low energy				
Poor appetite or overeating				
Feeling bad about yourself				
Trouble concentrating				
Moving or speaking slowly or being restless				
Thoughts of self-harm				

PHQ-9 Scoring

Total Score	Severity
0–4	Minimal
5–9	Mild
10–14	Moderate
15–19	Moderately severe

Action Threshold

- **Score ≥ 10 → Treat or refer**
- Any positive answer to Question 9 → Immediate psychiatric evaluation

13. Rehabilitation

- Early mobilization within 24–48 hours if stable
- Multidisciplinary rehabilitation referral

14. Prognosis

Mortality:

- Approximately 30–40% 30-day mortality
- ~40–45% mortality at 1 year

Functional Recovery:

- ~30% achieve good functional outcome (mRS 0–2)
- Recovery may continue up to 12 months

ICH Score may be used for 30-day mortality prediction.

Variable	Criteria	Points
GCS	3–4	2
	5–12	1
	13–15	0
Hematoma Volume	≥30 mL	1
	<30 mL	0
Intraventricular Hemorrhage (IVH)	Present	1
	Absent	0
Infratentorial Origin	Yes (brainstem/cerebellum)	1
	No (supratentorial)	0
Age	≥80 years	1
	<80 years	0
ICH Score	30-Day Mortality (%)	

0	0%
1	~13%
2	~26%
3	~72%
4	~97%
5	~100%
6	~100%

15. References

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