

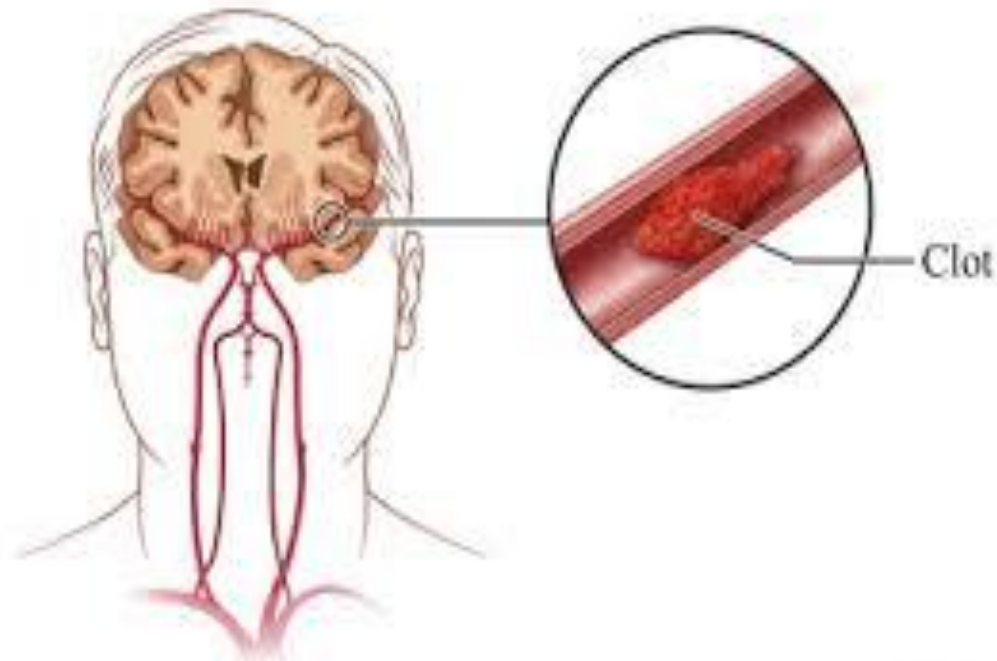


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CLOSING THE GAP IN STROKE CARE

**Safer and Better: Caring for Stroke Patients
Undergoing Endovascular Treatment**

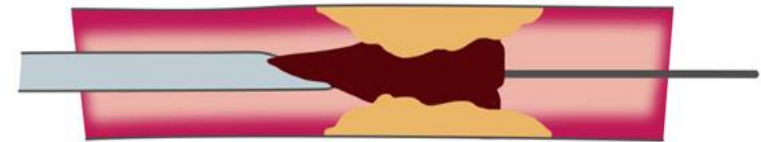
**Lt.Col. Mantana Kweansungnern
Chief Nurse of Radiology Nursing Division
Phramongkutklao Hospital**

Endovascular Thrombectomy



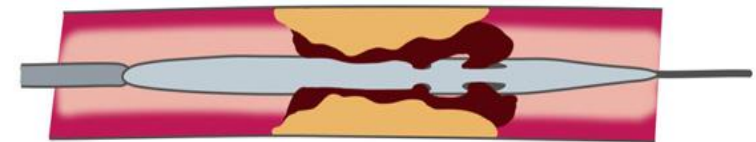
Thrombectomy

Catheter aspiration thrombectomy



Blood clot is removed using suction

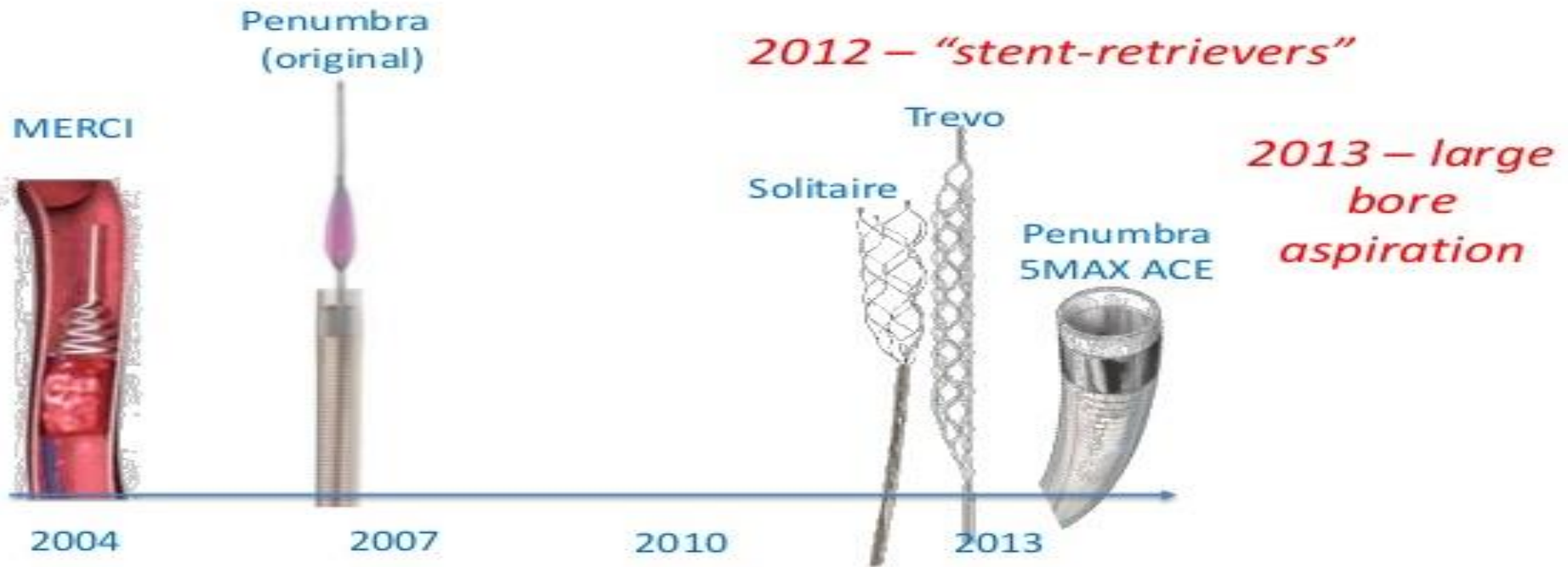
Mechanical thrombectomy



Blood clot is broken up into small pieces and removed



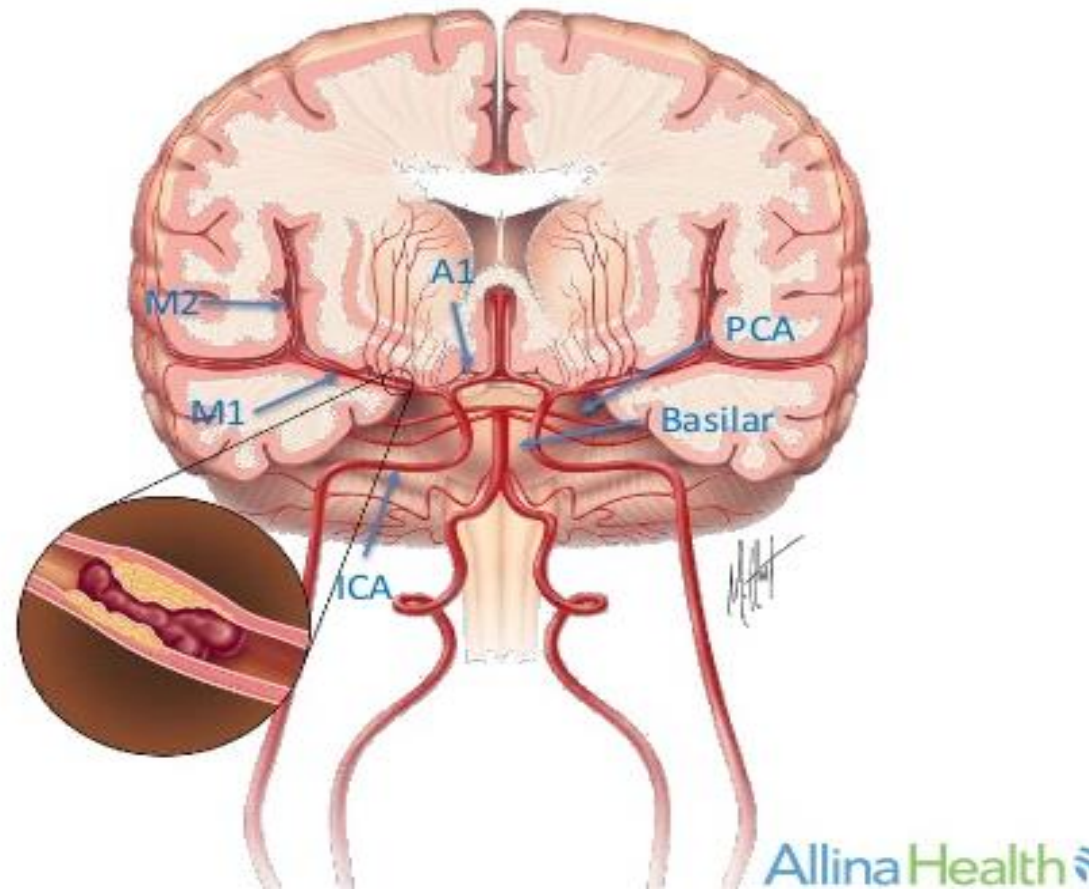
Thrombectomy Devices



Allina Health 

Large Vessels of the Brain

- Main Vessels Treated with Thrombectomy
 - MCA – M1 & M2
 - ACA (A1)
 - ICA
 - Basilar
 - PCA



Endovascular Treatment: Stroke

- In combination with IV alteplase treatment of acute onset stroke
- Utilize endovascular therapy for patients with criteria excluded from systemic rt-PA
 - Stroke onset beyond 4.5 hrs.
 - Post-operative patients
 - On warfarin with elevated INR
 - On direct thrombin inhibitors or Factor X inhibitors
- In select population can extend the treatment window beyond 6 hrs. (DAWN 6-24 hrs., DEFUSE-3 6-16 hrs.)

(Clements, 2018)



Level I Class A	Level IIB Class B-R, C-EO	Thrombectomy Eligibility	New Level I Class A Level Ila B-R DAWN	DEFUSE-3
≥ 18 years		Age	≥ 18 years	18-90 years
Groin puncture w/In 6 hrs. LSW		Time window	6-24 hrs. since LKW	6-16 hrs. since LKW
NIHSS ≥ 6	NIHSS < 6	Stroke severity	NIHSS ≥ 10	NIHSS ≥ 6
MCA M1 ICA	M2 M3 ACA, Vertebral, Basilar, PCA	Occlusion location	MCA M1 or Intracranial Internal Carotid Artery Occlusion	
Pre-mRS 0-1	Pre-mRS > 1	Baseline functional status	Pre-mRS 0-1	Pre-mRS 0-2
ASPECTS ≥ 6	ASPECTS < 6	Infarct burden	Infarct core < 51 ml	Infarct core < 70 ml
			Clinical core mismatch	Target mismatch on perfusion imaging

(Clements, 2018)

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Pre-Procedure Nursing

Non-Interventional Hospital	Interventional Hospital
IV rt-PA if indicated	IV rt-PA if indicated
BP Management	BP Management
Frequent Neuro Assessment	Frequent Neuro Assessment
IV maintained	IV maintained
Dysphagia screening	Dysphagia screening
Communication	Eliminate unnecessary steps
Quick turn around to interventional center (goal < 60 min)	Communication

(Clements, 2018)

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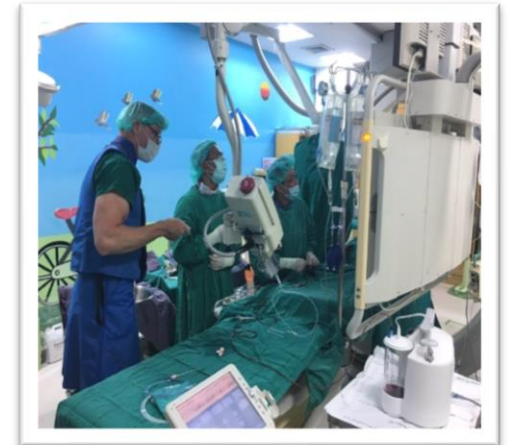
Neuro-interventional Nursing

In Suite:

- Neuro exam
- Neurovascular assessment prior to groin puncture:
right and left dorsalis pedis, posterior tibial
- Blood pressure pre-procedure < 185/110 mmHg prior

During Procedure:

- Neuro assessment
- Point of care testing (POCT) : DTX, ABG
- Document key times
- Emergency roles



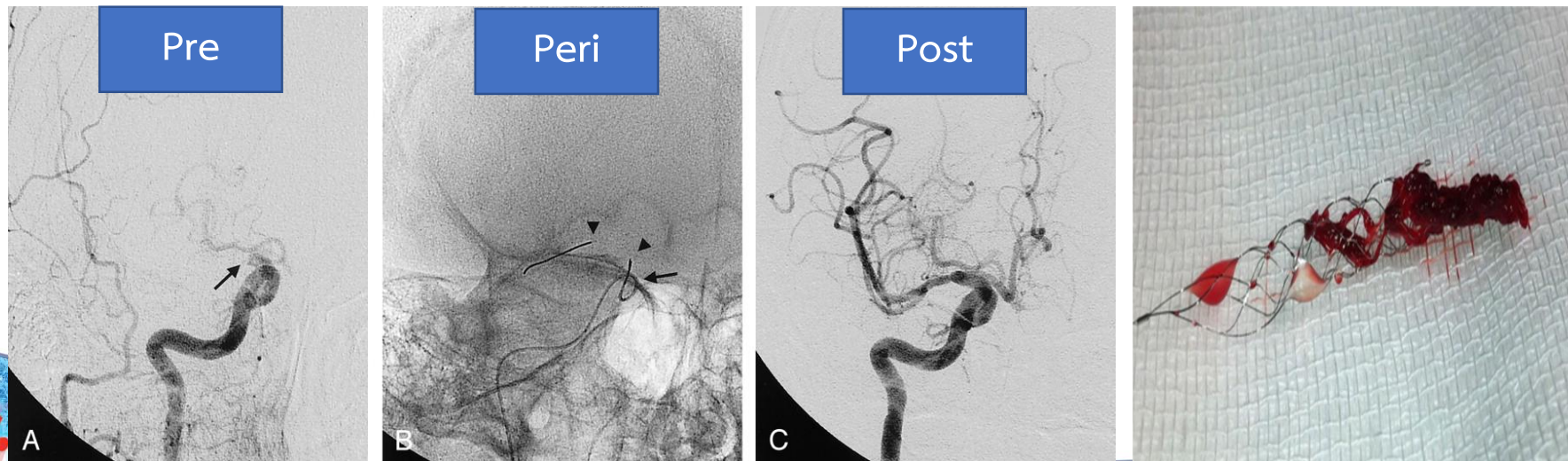
(Clements, 2018)



Neuro-interventional Nursing

Post-procedure:

- Immediate post-procedure neuro exam
- NIHSS
- Groin site assessment
- Blood pressure maintain $< 180/105$ mmHg during & for 24 hrs.



(Clements, 2018)

Endovascular Nursing Care

Interventional Neuroradiology (INR)

- Specially trained, NIHSS certification, ability perform detailed neuro exam
- Conscious sedation with anesthesia or RN
- Detailed documentation: time of groin puncture, clot retrieval, reperfusion score
- Post-procedural neuro assessment, groin site and vital signs
- Anticipation of neurologic emergencies
- NIHSS / neurovascular assessment just prior to intervention and immediate post-procedure
- Sheath removal, manual compression 20-30 minutes or vascular closure device
- Consideration: rt-PA given (Clements, 2018)



Nursing Management in Endovascular Thrombectomy

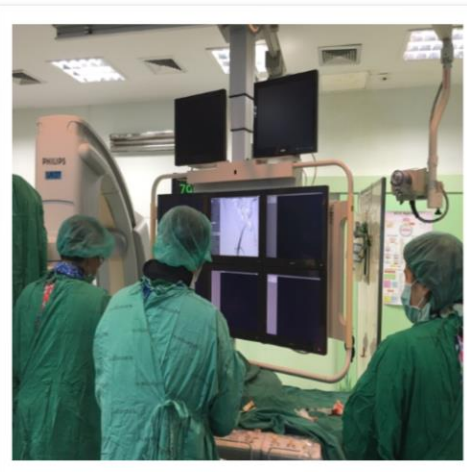
Assessment & Information

Preparation : Patient, Stroke Care Team, Device, Equipment

Procedural care : Prevention of Pre, Peri, & Post-procedural Complications

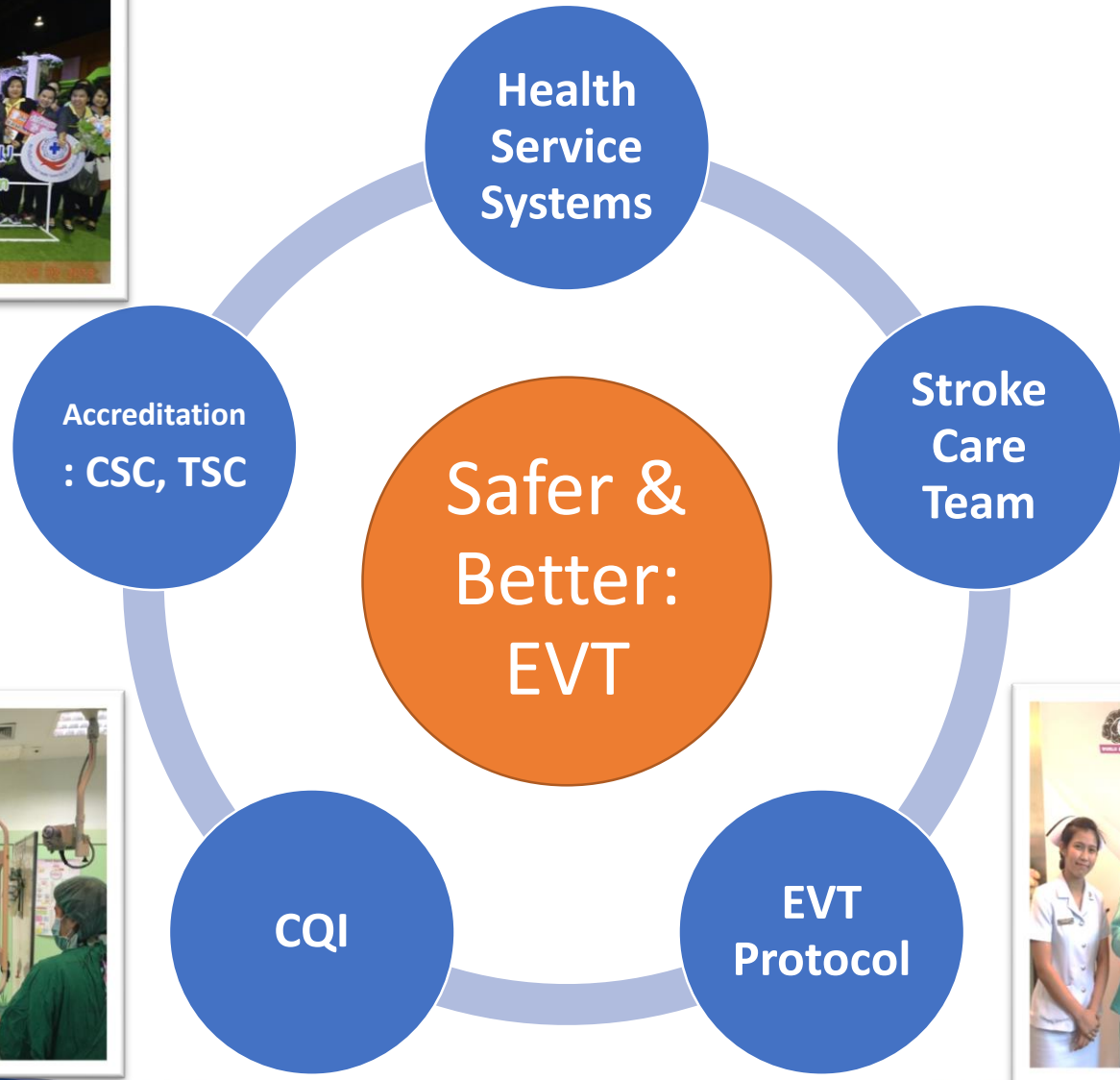
Logistic : Cost & Effectiveness

Evaluation & Continuity of care



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- ### Health Service Systems
1. Identify the right patient
 2. Refer the patient to EVT
 3. Transfer the patient for treatment
 4. Manage the patient after EVT





Thank You

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