

Public Health Impact of Hemorrhagic Stroke

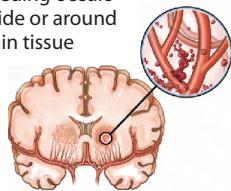
- 15% of Strokes are Hemorrhagic¹
- Higher predilection in racial & ethnic minorities²
- Currently, Standard of Care is Medical Management of Symptoms
 - High Rate of Mortality - 32-50% Mortality at 30 days³
 - High Rate of Disability - Only 20% of Survivors are Functionally Independent⁴

In Hemorrhagic Stroke... Time is Brain

STEP 1

Artery Rupturing

Bleeding occurs inside or around brain tissue



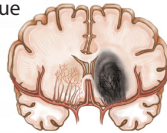
STEP 2

Blood Accumulating/Clotting
Formation of blood clot






STEP 3

Brain Tissue Necrosis
Region of decreased blood flow resulting in the development of dead brain tissue



General Clinical Considerations

- Age
- Hematoma: Location Volume
- Symptom Onset
- Pre-ICH Disability

Glasgow Coma Scale		
Eye Opening	Verbal Response	Motor Response
		
Spontaneous > 4	Oriented > 5	Obeys commands > 6
To sound > 3	Confused > 4	Localising > 5
To pressure > 2	Words > 3	Normal flexion > 4
None > 1	Sounds > 2	Abnormal flexion > 3
	None > 1	Extension > 2
		None > 1
GLASGOW COMA SCALE SCORE		
Mild 13-15	Moderate 9-12	Severe 3-8

Non-Candidates

- Anticoagulants that cannot be rapidly reversed
- End stage renal disease or liver failure
- Bilateral fixed and dilated pupils
- Active systemic bleeding (gastrointestinal, etc)
- Substantial drug or alcohol dependence
- Comfort care or DNR

¹National Stroke Association: <http://www.stroke.org/understand-stroke/what-stroke/hemorrhagic-stroke>

²Mayo Clinic: <http://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/dxc-20117265>

³Mayfield Brain & Spine: Intracerebral Hemorrhage (ICH): <http://www.mayfieldclinic.com/PE-ICH.HTM#.Vdq2H3qW3N>

⁴American Heart Association: let's talk about Hemorrhagic Stroke fact sheet, 2012

⁵Mayfield Brain & Spine: Intracerebral Hemorrhage (ICH): <http://www.mayfieldclinic.com/PE-ICH.HTM#.Vdq2H3qW3N>

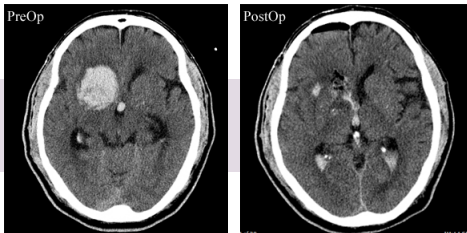
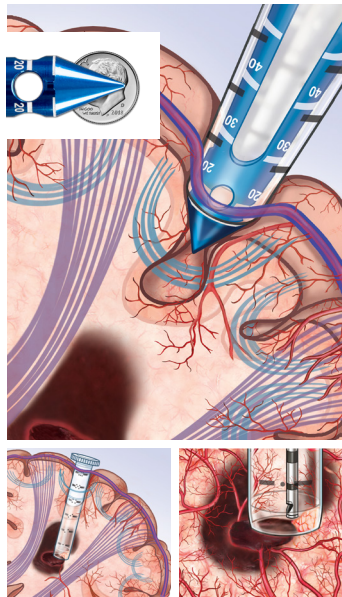
⁶Saver JL. Time is Brain-quantified. Stroke. 2006;37(1):263-6

What is the BrainPath Approach?®

The NICO BrainPath changes how surgeons can move through the natural folds and delicate fibers of the brain.

The tip of the BrainPath's obturator is designed to minimize injury to healthy tissue. It moves between the brain fibers to the targeted area rather than through them.

The sheath remains in the brain after the obturator is removed. It serves as a protective opening to maintain access to the surgical site and allow the surgeon enough space to remove the clot.



Example of ICH pre- and post-op images using The BrainPath Approach

Clinical Data
suggests benefit
compared to
matched medical controls
with respect to:

- **Improvement in Post-Operative GCS**
- **Hemorrhage Volume Reduction**
- **30 day Mortality⁵**

NICOneuro.com

NICO BrainPath is a "tool" and not a "treatment". The device enables atraumatic access and visualization to primary and secondary brain tumors, intracerebral hemorrhages that include primary and secondary bleeds, and intraventricular tumors and cysts. BrainPath is not intended to treat, cure, prevent, mitigate or diagnose any specific cranial, ENT, spinal or otolaryngologic disease, including cancer or stroke.

Physicians should use their best judgment and clinical experience when deciding where to use BrainPath. Consult product labeling through your local representative for intended use, contraindications, warnings, precautions, etc. for NICO products.

⁵ Sujjantararat, et al. "Trans-Sulcal Endoport-Assisted Evacuation of Supratentorial Intracerebral Hemorrhage: Initial Single-Institution Experience Compared to Matched Medically Managed Patients and Effect on 30-day Mortality" Operative Neurosurgery, 2017

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