



# ENDOSCOPIC ASSISTED NEUROSURGERY IN SABAH, MALAYSIA: HOW HAVE WE PROGRESSED?

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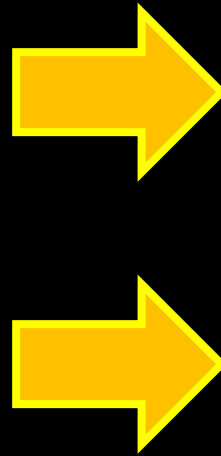
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# DISCLOSURE & CONFLICTS OF INTEREST :

➤ NONE

# DENIAL vs REALITY



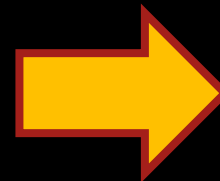
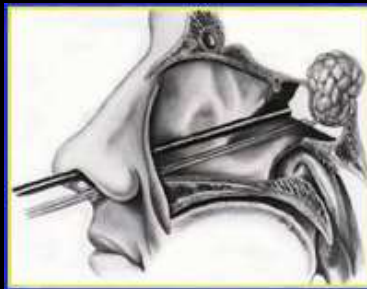
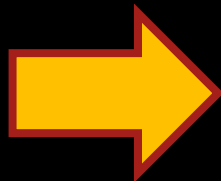
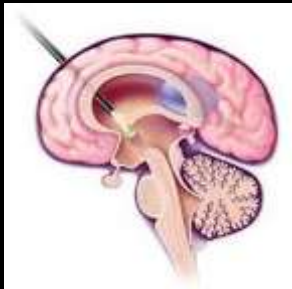
**HAVE WE ACCOMPLISHED ENOUGH ?**

**-GEORGE WASHINGTON-**

**START WHERE YOU ARE WITH WHAT YOU HAVE,  
MAKE SOMETHING OF IT & NEVER BE SATISFIED.**

# ENDOSCOPIC ASSISTED NEUROSURGERY

- Intraoperative direct visibility
- Complex intracranial corridors
- Anatomical delineation & various angles



# OBJECTIVE

- Revisit the journey of our centre in the field of neuroendoscopy since conception in 2004.
- Assess if we are on par with the rest of the world in the field of neuroendoscopy.



# METHODOLOGY

- We analysed all endoscopic procedures for :
  - Operative demographics
  - Surgical indications
- Data period :
  - January 2004 till December 2016.

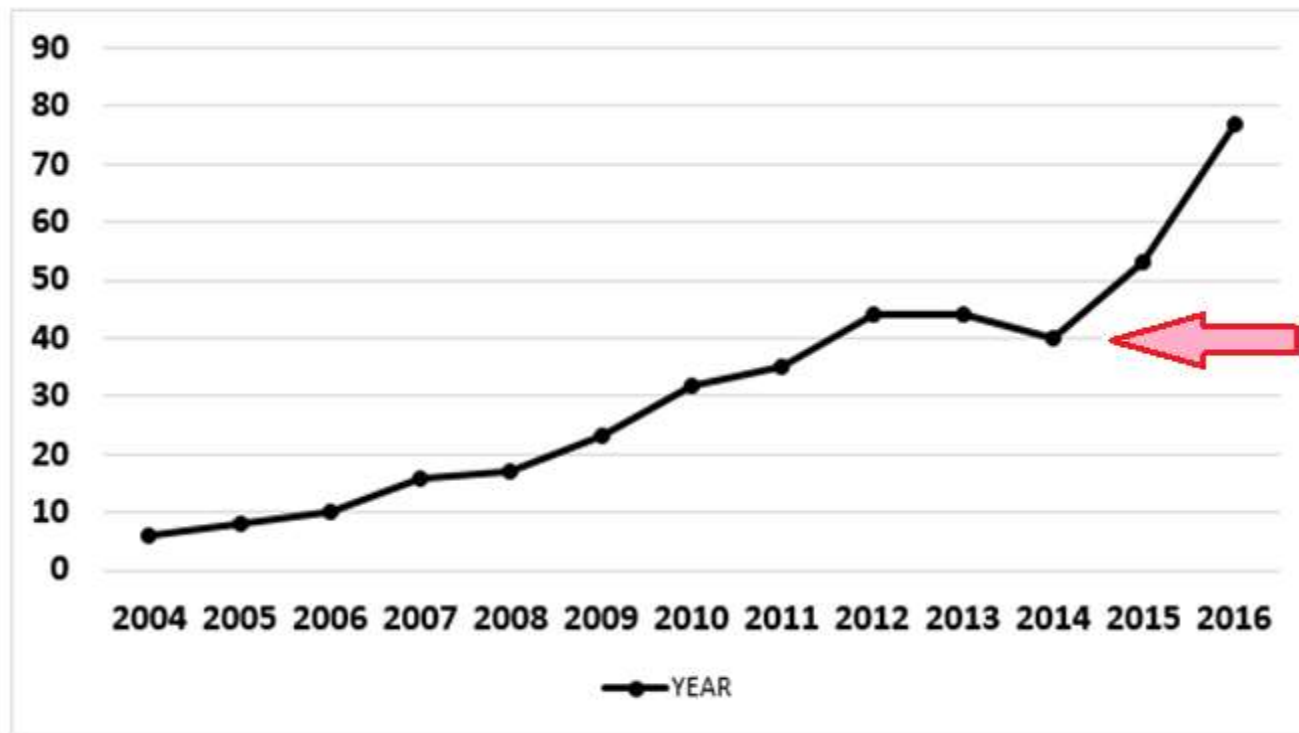


**FOCUS: Endoscopic assisted neurosurgery → rapidly expanding and ample room for newer developments.**

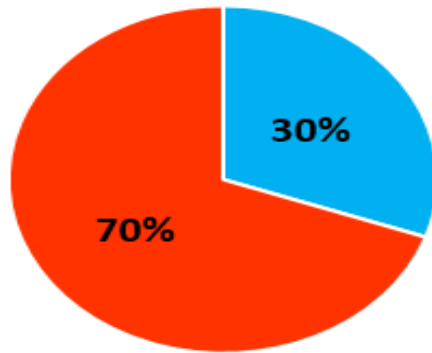
# RESULTS

- In our 13 years of neuroendoscopic experience :
  - Gradual rise in the number of cases.
  - Increase in the indications for endoscopic surgery.

CHART 2: NUMBER OF ENDOSCOPIC NEUROSURGERY CASES FROM YEAR 2004- 2016



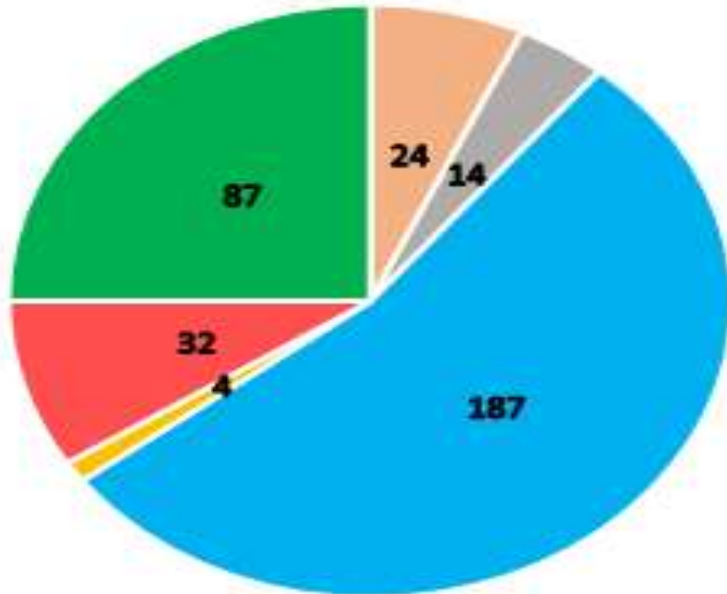
NUMBER OF CASES



- ENDOSCOPIC ASSISTED SURGERY - 120
- ENDOSCOPIC SURGERY - 275

# DISTRIBUTION OF CASES ACCORDING TO TECHNIQUE & INDICATION FROM 2004-2016

NUMBER OF CASES



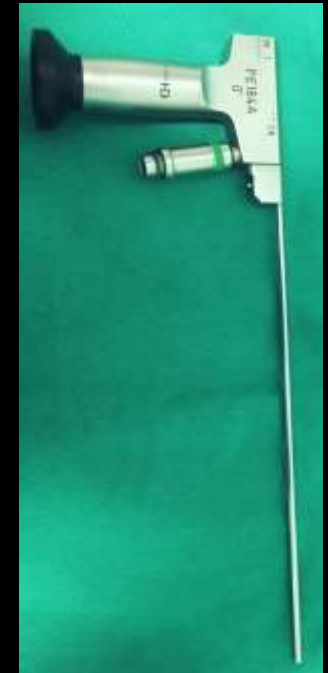
INDICATION	TOTAL
HYDROCEPHALUS	187
SELLAR REGION TUMOURS	87
IVH	32
ANEURYSM	24
CPA LESION	14
ICH	4



- **Commonest endoscopic procedures:**
  - ETV → Septum pellucidotomy → Fenestration of cystic lesions.
- **Indication:**
  - Hydrocephalus of various etiology except secondary to IVH.
- **Commonest endoscopic assisted procedures:**
  - Transphenoidal surgery → aneurysm clipping.
- **Indication:**
  - Sellar region lesions.

# OUR MILESTONE

2004	Started using endoscope in Neurosurgery
2007	Started endoscopic assisted microsurgery → transphenoidal approach.
2010	Endoscopic IVH washout and EVD placement
2013	Combined microscope & endoscope for CP angle lesion surgery.
2014	Confirmation of clip placement and perforators patency in aneurysm cases.
2016	Evacuation of ICH.
2017	Introduction of “PULVIN ENDOASSISTANT PROBE” for various endoscopic assisted procedures.



# NEUROENDOSCOPIC PEARLS

- FAMILIARIZE WITH THE SCOPE SYSTEM.
- GOOD INTRAOPERATIVE ANATOMIC KNOWLEDGE.
- GOOD ASSISTANT.
- WHENEVER ENDOSCOPE IS INTRACRANIAL → SURGEON'S EYES MUST NEVER LEAVE THE MONITOR / SCREEN.
- NEVER ACHIEVE NEW TECHNIQUES OR SKILLS THAT COULD COMPROMISE PATIENT'S OUTCOME.
- DO NOT VENTURE INTO A NEW TECHNIQUE / MODIFICATION UNTIL THE BASIC APPROACH IS MASTERED.
- IF IN DOUBT → ALWAYS GET SECOND OPINION / CONSULT A SENIOR. IDEAS HELP.



# CONCLUSION

- **In our centre :**
  - Usage of neuroendoscopy especially endoscopic assisted neurosurgery has a lot of room for development and progress.

## HOPES FOR OUR FUTURE

- Joint collaboration among various neurosurgical centers.
- Formation of regional wings of IFNE to ensure better flow of expertise and knowledge sharing.
- Surgeon or resident exchange programmes / grants for developing the field of Neuroendoscopy.
- Conferences as a platform to make new friends and exchange ideas for development.



**NEURO SURGERY**  
QUEEN ELIZABETH HOSPITAL, SABAH  
**SABAH BRAIN & SPINE CENTER**

The logo features a stylized blue brain icon above the text. The text is arranged in three lines: "NEURO SURGERY" in large blue letters, "QUEEN ELIZABETH HOSPITAL, SABAH" in smaller blue letters, and "SABAH BRAIN & SPINE CENTER" in large blue letters at the bottom. The entire logo is enclosed in a blue border.



**THANK YOU**

