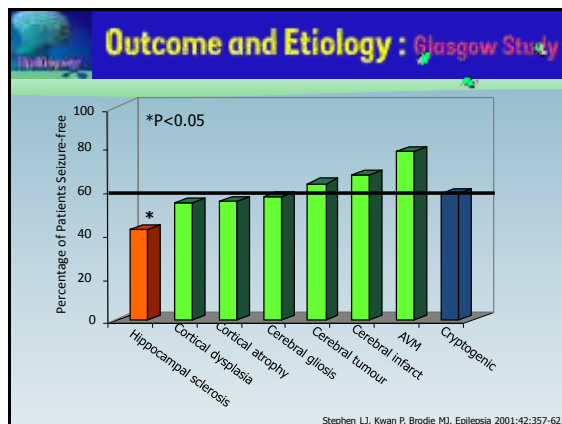


- ### Natural History of Treated Epilepsy
- Outcome with respect to treatment course
 - Response to the first drug, second drug ... etc
 - When to use polytherapy ?
 - What are useful combinations ?
 - When is drug resistant epilepsy recognised ?
 - Can refractory epilepsy be identified early ?

- ### What are Prediction Factors?
- Seizure type
 - Etiologies
 - Frequency of seizures
 - Response to first AED
 - Genetic?



MDR1 and Epilepsy

- P-glycoprotein encoded by *MDR1* (or *ABCB1*)
- Pumps drugs out of cells
- Expressed in cerebral capillary endothelium (BBB)
- Over-expressed in patients with refractory epilepsy
- Induced by experimental seizures
- Certain AEDs are substrates of P-gp

Hypothesis: Over-expression of *MDR1* causes drug resistance by reducing AED access to the epileptogenic lesion

Cordon-Cardo et al, 1989; Tishler DM et al, 1995; Kwan P et al, 2002; Sills GJ, Kwan P et al, 2003

Newly Diagnosed Epilepsy

"Two-population Theory"

Good Outcome

Low seizure no./freq.
No brain lesion
Respond to 1st drug
Moderate doses in most
(Genetic polymorphism)

60% 40%

Difficult-to-treat de novo

High seizure frequency
Structural brain lesion
Failed 2 AEDs
(Genetic polymorphism)

Brodie MJ and Kwan P, Neurology 2002;58(8 Suppl 5):S2-8.

โรคแทรกซ้อนที่รักษายาก

1. วินิจฉัยผิดว่าเป็นอาการชัก
2. มีสาเหตุที่ไม่ได้รักษา
3. มีปัจจัยกระตุ้นที่ไม่ได้แก้ไข
4. ผู้ป่วยทานยาไม่สม่ำเสมอ
5. ได้รับยาที่ไม่เหมาะสม
6. ไม่ได้รับการปรับยาอย่างเหมาะสม

โรคลมชักรักษายาก

↓

แก้ปัจจัยและหาสาเหตุ

↓

ควบคุมการชัก

↓

ได้

ไม่ได้

↓

โรคลมชักไม่ตอบสนองต่อการรักษา

•Patient-compliance (100%) over 1-year was	56.9%
•Misunderstanding of need long-term treatment	48.4%
•Forgetfulness	16.1%
•Economic problem	12.8%
•Misbelieve (take AEDs only in full moon)	6.5%
•No caregiver to escort them to hospital	6.5%

Compliance with Treatment of Adult Epileptics in a Rural District of Thailand. J Med Assoc Thai 2003;86:46-51.

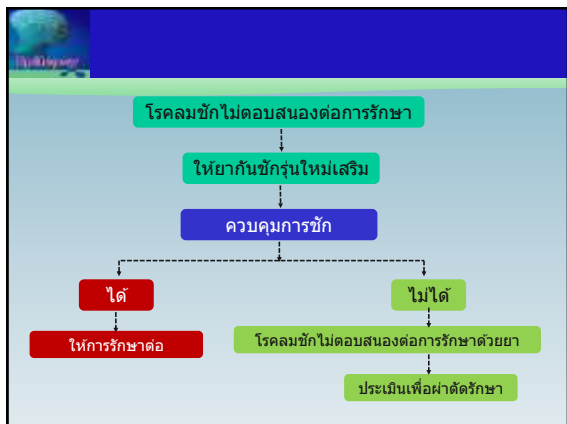
Newly Diagnosed Epilepsy

Probability of seizure-freedom

Percentage of patients

Successive antiepileptic drug regimens

Kwan P and Brodie MJ, Neurology 2002;58(Suppl 5):S2-58



Comparisons severity between epilepsy and other diseases in rural of Khon Kaen

Epilepsy more serious than stroke, AIDS, malignancy, renal failure because PWE may be sudden dead, injury, and easily attack

Knowledge of Epilepsy among Teachers in Khon Kaen Province, Thailand

Somsak Tamkoo MD*

Narong Aansavitchayapat MD**, Suwanna Arunpongquaisai MD***, Apornnee Chayyakom BCT****, Suthipun Jitpimolmasard MD*, Warinthorn Phumtharak MD*****, Kutcharin Phumakhom MD*****, Jiamjitt Saengsawan MD*****, Surin Saetang MD*****, Sudfa Vannasrasahit MD*****

Table 3. Score of knowledge in each item

Item	Score (n=100/100)
What is seizure? (1)	1.93 ± 2.07
What are the causes of epilepsy? (1)	2.26 ± 2.02
What are the types of seizure? (10)	3.78 ± 2.55
Is epilepsy a mental disease? (1)	4.12 ± 1.92
How to take oral antiepileptic drugs? (5)	3.84 ± 2.19
What is the first antiepileptic drug used? (10)	2.26 ± 2.18
How to manage acute seizure? (10)	6.70 ± 2.85
Total (5)	31.76 ± 7.95

- Cannot eat pork 6%
- Eating pork caused epilepsy 11%
- No sexual intercourse 2%
- Cannot marry 2%
- Give AED during attack 16%
- Put something into mouth 64%
- Must stop AED during pregnant 25%

Knowledge in Epilepsy

	Family	Teacher	Medical student
What is seizure?	38.5	78.4	94.5
Alcoholic withdrawal	12.8	34.3	5.5
Genetic disorder	66.7	74.5	53.4
2 years AEDs	33.3	56.9	47.9
Stop driving	89.7	79.4	79.5
Put something into mouth	80	64	50



Epilepsy & Behavior
 Journal homepage: www.sciencedirect.com/journal/S09201292

Public familiarity with, knowledge of, and predictors of negative attitudes toward epilepsy in Thailand

- A form insanity 32.3%
- Related by evil spirit 4.5%
- Feared infectious contact PWE 7.5%
- Would not marry with PWE 35.1%
- Would not stay, social contact with PWE 17%

Epileptic Status in Developing Country

	Target coverage	Current Coverage	Adherence
Thailand	95.6	69.4	71.3
Brazil	96.0	72.0	77.0
China	78.1	58.8	51.9
Egypt	72.2	57.2	60.0
Ghana	84.4	56.3	52.5
India	83.0	44.8	45.0
Mexico	77.5	61.3	67.5
All countries	83.8	59.9	60.7

Soc Psychiatry Epidemiol 2004;39:218-27

Outcome of treatment in Srinagarind epilepsy clinic

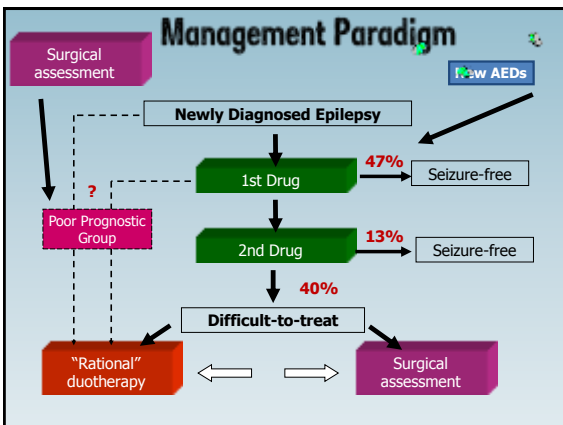
- Seizure free 62.3 %
- Marked improvement 7.2 %
- Moderate improvement 2.2 %
- Un-control 28.2 %

Quality of Life in Patients of Epilepsy in Srinagarind Hospital

Wilaya Cheri, M.D. *, Suwanee Anzpongpaikul, M.D. **, Somrak Tiantsao, M.D. *, Sutipan Jitpimolmarit, M.D. *

	Min	Max	Mean	SD
Physical function	10	100	92.68	14.83
Role limitation due to physical health	0	100	84.50	32.72
Role limitation due to emotional problem	0	100	83.50	33.80

Conclusion: Epileptic patients have many problems include low education, unemployment, low incomes and dependency. Epilepsy affected to general health perception, vitality and depression. But they can perform well in physical and social functioning.



REVIEW

Epilepsy surgery utilization: who, when, where, and why?

KEY POINTS

- Epilepsy surgery is highly effective (NNT = 2), has durable benefits, and improves quality of life.
- Despite class I evidence and Clinical Practice Guidelines, epilepsy surgery remains underutilized.
- The spectrum of patients who may benefit from epilepsy surgery has expanded considerably including younger and older patients and those without apparent MRI lesions.
- Internationally accepted criteria are needed to determine when a patient with DRE should be referred for consideration of epilepsy surgery.
- Systematic efforts are needed to translate evidence into practice among clinicians caring for patients with DRE.

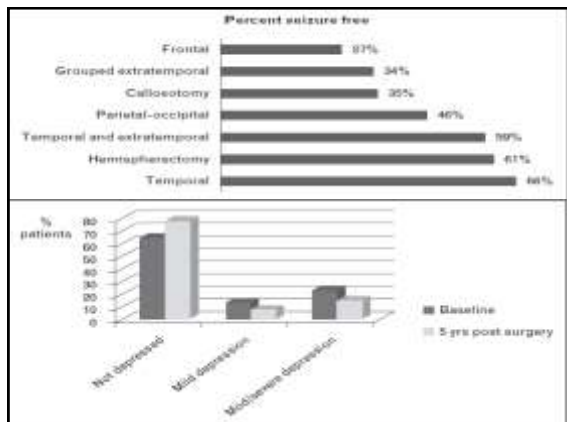
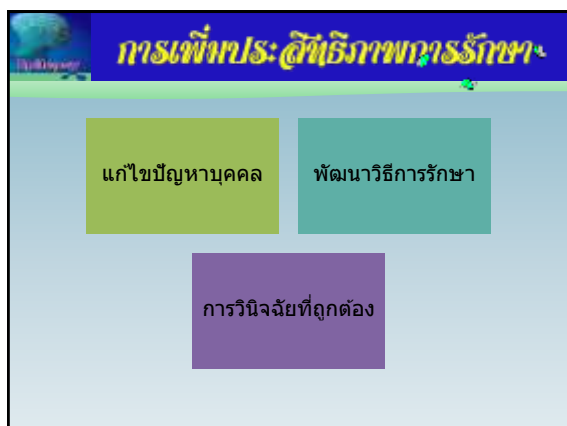
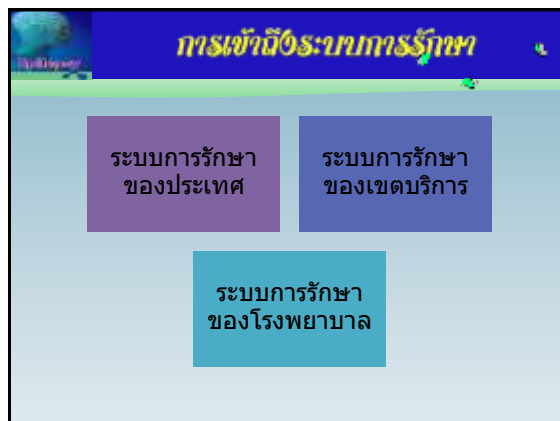


Table 1. Who should be referred to a comprehensive epilepsy program for epilepsy surgery evaluation?

Indication	Comment
Children or adults with epilepsies that cannot be clearly assigned to a known electroclinical syndrome but with stereotyped or lateralized seizures or focal findings	See the ILC proposed new organization of seizures and epilepsies [44]
Children with an MRI lesion amenable to surgical removal regardless of seizure status	Recommended by the Subcommittee for Pediatric Epilepsy Surgery because these children are more likely to relapse, and at high risk of developing epileptic encephalopathy, especially if a younger age [44]
Any child less than 3 years old with epilepsy	

Table 1. Questions used in online tool to determine candidacy for an epilepsy surgery evaluation

Question	Possible answers
5. How many AEDs has your patient tried?	1. 0 2. 1 3. 2 4. 3 or more
6. Does your patient have side effects with their current AED?	1. No 2. Yes
7. What investigations were done?	1. None 2. EEG only 3. MRI only 4. EEG and MRI
8. What was the result of the investigation?	1. EEG and MRI both normal 2. EEG normal, MRI abnormal 3. EEG abnormal, MRI normal 4. EEG and MRI both abnormal



การรักษาที่ได้ยอดัก

H : Humanized
E : Easy access
A : Accountability
R : Referral System
T : Team work

โรดลมชัก รักษาด้วยใจ

Process of service in Epilepsy Clinic

Nurse: Register → **Nurse & PWE: กิจกรรมกลุ่ม** → **Doctor: Treatment**

Pharmacist: Pharmaceutical care → **Nurse: Advice & Appointment**

กิจกรรมกลุ่มสนับสนุนผู้ป่วยโรดลมชัก

แลกเปลี่ยนความรู้สึก ความคิดเห็น บอกเล่าเรื่องที่เป็นปัญหา รับฟังปัญหาของสมาชิกคนอื่นๆ เกิดการเรียนรู้ทั้งการให้และการรับความช่วยเหลือซึ่งกันและกัน

Change and Challenge

1. พัฒนาระบบการส่งต่อให้ได้มาตรฐานใกล้เคียงกัน
2. สนับสนุน กำกับ ติดตามการใช้ CPG
3. จัดตั้ง easy epilepsy clinic
4. สร้างความเข้มแข็งภาคประชาชน
5. การรักษาที่เป็นมาตรฐานควรเข้าถึงได้ง่าย

ระบบยาโรดลมชัก

1. ยามาตรฐานเดียวกัน
2. ผู้ป่วยทุกคนเข้าถึงได้
3. ระบบ re-medication ที่ได้มาตรฐาน
4. ระบบการตรวจวัดระดับยา

ระบบการปรึกษา

1. แบ่งการปรึกษาเป็นเขตบริการ
2. แนวปฏิบัติที่ชัดเจน
3. การเข้าถึงง่าย
4. มาตรฐานใกล้เคียงกัน

แนวทางการปรึกษาโรคทางจิตเวชสำหรับแพทย์เวชปฏิบัติทั่วไป

C : Comfort
P : Practical
G : Generalization

การเข้าถึงง่าย

E : Epilepsy clinic
A : Area based
S : Service mind
Y : You can

