



# FOR COMMUNITY NEUROLOGISTS: WHEN TO REFER FOR FURTHER EVALUATION

## BACKGROUND

There are approximately 90,000 Ontarians with epilepsy, and around 6,500 will develop epilepsy each year. In 2014, The Epilepsy Implementation Task Force (EITF), supported by Critical Care Services Ontario, began releasing a series of evidence-based recommendations to standardize epilepsy care and improve access to treatment. To learn more, please visit [OntarioEpilepsyGuidelines.ca](http://OntarioEpilepsyGuidelines.ca).

While anti-epileptic drugs (AEDs) remain the first-line treatment for epilepsy, 1 in 3 patients will experience seizures that do not respond to AED treatment.

Individuals are considered to have drug-resistant (or medically refractory) epilepsy if they are not seizure-free after trying two tolerated, appropriately chosen and used AEDs (either as monotherapy or in combination).

## WHAT DO I NEED TO KNOW ABOUT EPILEPSY SURGERY?

Surgery may be an effective intervention for patients with drug-resistant epilepsy – rates of seizure freedom following surgery are reported to be 60-80%. However, it is estimated that less than 2% of potential candidates access surgical treatment.

All patients with drug-resistant epilepsy should be referred to an epileptologist at a District Epilepsy Centre (DEC) or a Regional Epilepsy Surgery Centre (RESC) to assess suitability for surgery and other treatment options.

Both DEC/RESCs provide multidisciplinary management of individuals with complex epilepsy. A RESC provides all of the services of a DEC plus epilepsy surgery and intracranial EEG monitoring. A free online tool is available at [www.toolsforepilepsy.com](http://www.toolsforepilepsy.com) to help you identify patients who may benefit from an epilepsy surgery evaluation.

## WHAT ARE THE ALTERNATIVES TO SURGERY?

Approximately 1 in 3 patients with drug-resistant epilepsy will not be considered surgical candidates and will be referred back to you with treatment recommendations. A DEC/RESC can offer alternative treatments for drug-resistant epilepsy, including drug therapy, diet therapy, immunotherapy or neurostimulation.

- ◆ **Drug therapy:** Newer AEDs may have different mechanisms of action, better side effect and pharmacokinetic profiles, and improved tolerability.
- ◆ **Immunotherapy:** Adjunctive immune-modulating or immunosuppressive medication may reduce autoimmune-related seizure occurrence.
- ◆ **Diet therapy:** The ketogenic diet (4:1 ratio of fats to protein/carbohydrates) or a modified version can be used to treat seizures in children and adults.
- ◆ **Neurostimulation:** Focal techniques such as vagus nerve stimulation, deep brain stimulation or trigeminal nerve stimulation may reduce the risk of seizures.

## WHY SHOULD I REFER?

Mortality rates are 4-7 times higher in patients with drug-resistant epilepsy. Uncontrolled seizures are associated with an increased risk of sudden unexpected death in epilepsy (SUDEP) and psychosocial comorbidities. Complete seizure freedom should be the goal of treatment for both children and adults.

## WHAT DO I NEED TO DO?

- ◆ **Identify** which DEC you should be referring to and connect with the staff there.
- ◆ **Familiarize** yourself with the diagnosis, treatment and referral pathway on the back of this sheet.
- ◆ **Screen** for depression and anxiety and refer as appropriate
- ◆ **Consider** epilepsy surgery in every child and adult with drug-resistant epilepsy. Surgical treatment should never be considered a last resort.

## DISTRICT EPILEPSY CENTRES:

### Hamilton Health Sciences (HHS)

Adult: 905-527-4322 x 46755  
Pediatric: 905-521-2100 x 78517

### The Ottawa Hospital (TOH)

Adult: 613-761-5353 x 0

### Children's Hospital of Eastern Ontario (CHEO)

Pediatric: 613-738-4879

### Kingston Health Sciences Centre (KHSC)

Adult: 613-548-7835

## REGIONAL EPILEPSY SURGERY CENTRES :

### London Health Sciences Centre (LHSC)

Adult (Fax:): 519-663-3753  
Pediatric: 519-685-8332

### Hospital for Sick Children (SickKids)

Pediatric: 416-813-7998

### University Health Network - Toronto Western Hospital (UHN)

Adult: 416-603-5232

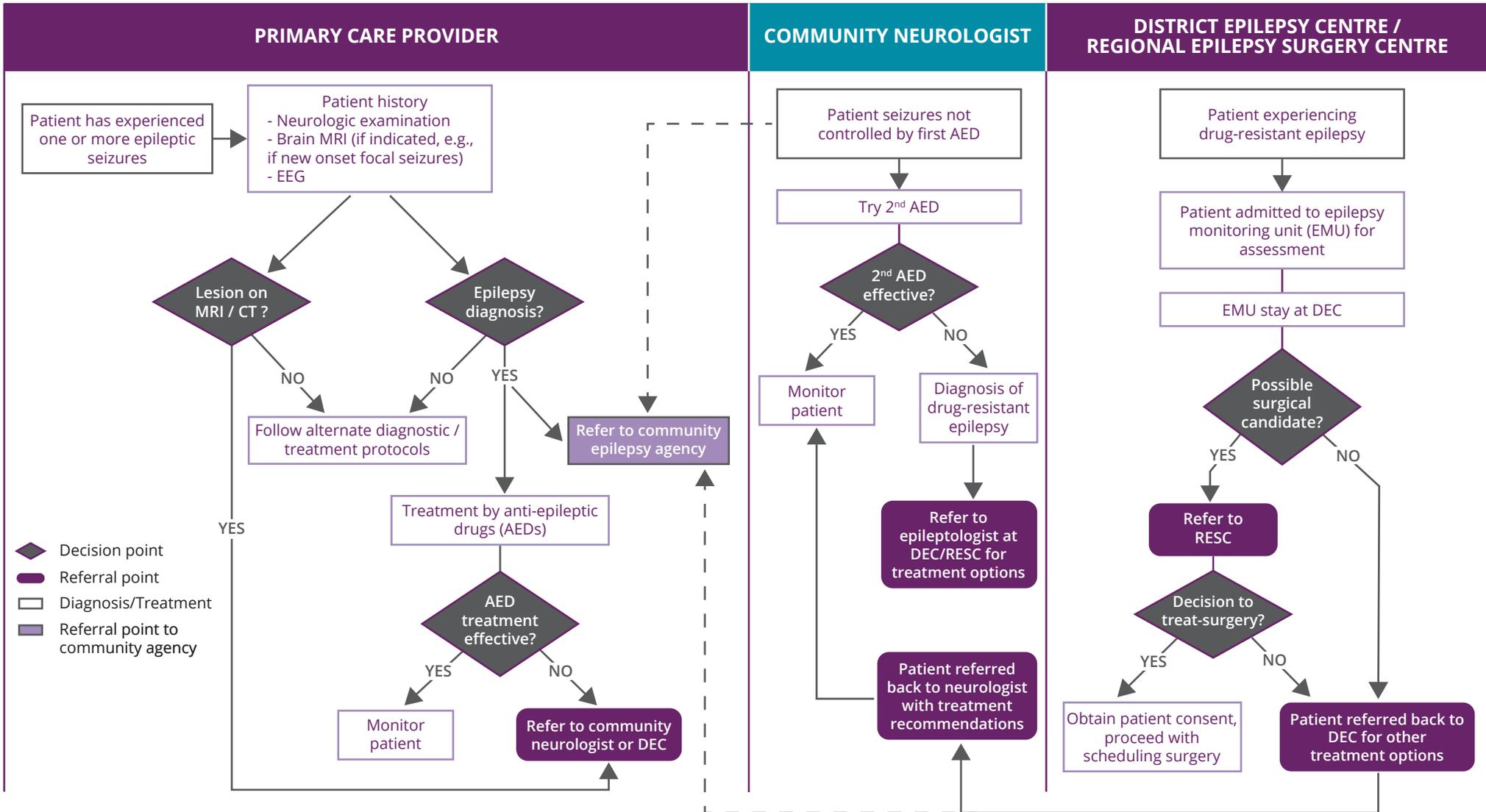
## COMMUNITY EPILEPSY AGENCIES:

For additional support, patients should be given contact information or a referral to their local community agency. To contact your local agency, call 1-866-EPILEPSY.



Uncontrolled seizures, even one per year, are linked to increased mortality, health risks and lower quality of life. Every patient with drug-resistant epilepsy should be treated as a surgical candidate until proven otherwise.

# EPILEPSY PATIENT REFERRAL PATHWAY



Local Health Integration Network (LHIN)	PEDIATRIC		ADULT	
	DEC	RESC	DEC	RESC
Erie St. Clair	LHSC	LHSC	LHSC	LHSC
South West	LHSC	LHSC	LHSC	LHSC
Waterloo Wellington	HHS	SickKids	LHSC/HHS	LHSC
HNHB	HHS	SickKids	HHS	LHSC
Central West	SickKids	SickKids	UHN	UHN
Mississauga Halton	SickKids	SickKids	UHN	UHN
Toronto Central	SickKids	SickKids	UHN	UHN

Local Health Integration Network (LHIN)	PEDIATRIC		ADULT	
	DEC	RESC	DEC	RESC
Central	SickKids	SickKids	UHN	UHN
Central East	SickKids	SickKids	UHN	UHN
South East	KHSC	SickKids	KHSC	UHN
Champlain	CHEO	SickKids	TOH	UHN
North Simcoe Muskoka	SickKids	SickKids	UHN	UHN
North East	CHEO	SickKids	LHSC	LHSC
North West	LHSC	LHSC	LHSC	LHSC

Note: This referral pathway has been endorsed by the EITF and Provincial Neurosurgery Advisory Committee (PNAC). These recommendations are not intended to supersede existing referral relationships. Referring practitioners are encouraged to check with DEC's for average wait times when making referrals. Where possible, it is suggested to offer patients options to enhance their timely access to care.