Epilepsy System Improvements

New provincial guidelines for medical management of epilepsy patients:

best practices for diagnosis and treatment; resources for physicians and patients

by Epilepsy Implementation Task Force

The new Provincial Guidelines for the Management of Epilepsy in Adults and Children, introduced in January 2015, will provide assistance in the medical management of epilepsy to primary care providers, pediatricians, community neurologists, and others who care for individuals with epilepsy.

The guidelines illustrate best practices for the diagnosis and treatment of epilepsy in adults and children, including special considerations for managing epilepsy as it relates to pregnancy, contraception and menopause. They also include information relevant to:

- Patient education and followup.
- Initiation of drug treatment and monitoring.
- The treatment of those patients with epilepsy who present with a variety of comorbidities.

The guidelines were developed by Critical Care Services Ontario (CCSO) in collaboration with the Epilepsy Implementation Task Force (EITF), a working group under Provincial Neurosurgery Ontario (PNO), composed of surgeons, specialists, primary care providers, administrators and community advocates.

The EITF is mandated to advise on improving access across the continuum of care, establish standardized diagnostic and surgical protocols across epilepsy centres, and develop supports for primary care providers.

Of the approximately 95,000 Ontarians living with epilepsy, 30% have a drug-resistant or "medically refractory" form of the disease.[1] A key objective of the new guidelines is to assist in the diagnosis of, and referral process for, those patients with this condition. When a diagnosis is made, the individual now can be referred to one of seven Comprehensive Epilepsy Programs in Ontario (see sidebar, at right), where they are assessed in an epilepsy monitoring unit for further treatment options. This may include potential referral to one of four provincial Regional Epilepsy Surgery Centres of Excellence for consideration of curative epilepsy surgery.

"There is an 80% chance that appropriately selected patients with medically refractory epilepsy will be seizure-free after surgery, resulting in far better outcomes with respect to seizure freedom, improved quality of life, and reduction of psychosocial comorbidities,"[2] said EITF Co-Chair Dr. Carter Snead, a pediatric neurologist at the Hospital for Sick Children.

Dr. Snead noted that recent investments in diagnosis and treatment of med-

Comprehensive Epilepsy Programs In Ontario

District Epilepsy Centre (DEC)
The following DECs house a comprehensive epilepsy program that provides all appropriate epilepsy-related clinical services except epilepsy surgery:

- Health Sciences North
- Hamilton Health Sciences (Adult and Pediatric)
- The Ottawa Hospital
- Children's Hospital of Eastern Ontario

Regional Epilepsy Surgery Centre of Excellence (RESC)
The following RESCs provide a comprehensive epilepsy program that offers all the services available in a DEC, as well as epilepsy surgery, including facility for intracranial monitoring:

- London Health Sciences Centre (Adult and Pediatric)
- Hospital for Sick Children
- University Health Network (Toronto Western Hospital)

ically refractory epilepsy have improved access and capacity for surgery.

"We want community practitioners to know surgery is a viable option, and system improvements have been made to provide Ontarians with epilepsy more choices to manage their condition and improve quality of life," he said.

Currently, less than 2% of the potential surgical candidates obtain surgery in Ontario.[3] These epilepsy system improvements speak to a broader effort to ensure that Ontarians affected by epilepsy are able to access comprehensive, evidence-based, quality health care at the right time and in the right place.

The guidelines form part of a series of publications developed by CCSO and the EITF. The next set of guidelines will focus on transitional care for adolescent patients with epilepsy who are moving from family-centred pediatric care to individual patient-centred adult care.

The complete Provincial Guidelines for the Management of Epilepsy in Adults and Children are available online at www.criticalcareontario.ca (click on "Toolbox" and then "Library").

To help ensure that patients receive the right care at the right time, the Epilepsy Implementation Task Force has also developed a flow chart, entitled "Epilepsy Patient Flow by Provider" (see page 26). The chart is a high-level depiction of the process each provider should follow in order to appropriately diagnosis and manage a patient with epilepsy. ■

References

1. Critical Care Services Ontario; Provincial Neurosurgery Ontario; Epilepsy Implementation Taskforce. Provincial guidelines for the management of epilepsy in adults and children. [version 1.0]. Toronto, ON: Critical Care Services Ontario; 2015 Jan.
2. Bowen JM, Snead OC, Chandra K, Blackhouse G, Goeree, R. Epilepsy care in Ontario: an economic analysis of increasing access to epilepsy surgery. *Ont Health Technol Assess Ser* 2012;12(18):1-41.
3. Ontario. Health Quality Ontario. Making evidence relevant. [e-bulletin]. [Internet]. Toronto, ON: Health Quality Ontario; 2011 Dec.

Outline For Seizure Assessment

The following information appears in Appendix 3: Outline for Seizure Assessment,[1,2] of the Provincial Guidelines for the Management of Epilepsy in Adults and Children, available online at www.criticalcareontario.ca.

Associated Factors

- Age
- Family history
- Developmental status
- Behaviour
- Health at seizure onset
- Precipitating events other than illness — trauma, toxins

First Nonfebrile Seizure

- Health at seizure onset — febrile, ill, exposed to illness, complaints of not feeling well, sleep deprived
- Symptoms during seizure (ictal)
- Aura: subjective sensations
- Behaviour: mood or behavioural changes before the seizure
- Preictal symptoms: described by patient or witnessed
- Vocal: cry or gasp, slurring of words, garbled speech
- Motor: head or eye turning, eye deviation, posturing, jerking (rhythmic), stiffening, automatisms (purposeless repetitive movements such as picking at clothing, lip smacking), generalized or focal movements
- Respiration: change in breathing pattern, cessation of breathing, cyanosis
- Autonomic: pupillary dilatation, drooling, change in respiratory or heart rate, incontinence, pallor, vomiting
- Loss of consciousness or inability to understand or speak
- Duration of seizure

Symptoms Following Seizure (Postictal)

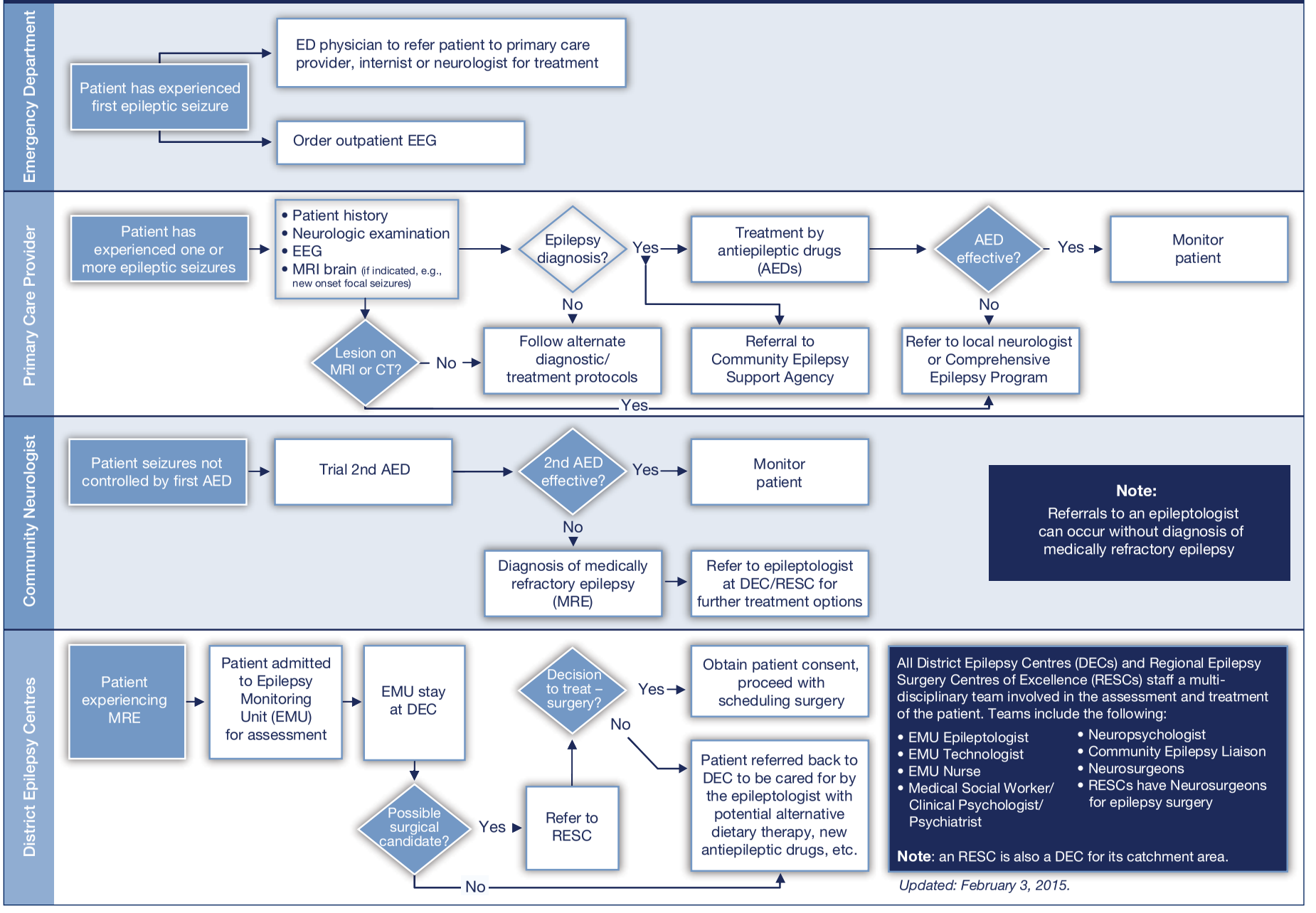
- Amnesia for events
- Confusion
- Lethargy
- Sleepiness
- Headaches and muscle aches
- Transient focal weakness (Todd's paresis)
- Nausea or vomiting

References

1. Hirtz D, et al. (2000) Practice parameter: Evaluating a first nonfebrile seizure in children Report of the Quality Standards Subcommittee of the American Academy of Neurology, the Child Neurology Society, and the American Epilepsy Society. *Neurology* 55, no. 5: 616-623.
2. Krumholz A, et al. (2007) Practice Parameter: Evaluating an apparent unprovoked first seizure in adults (an evidence-based review) Report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Epilepsy Society. *Neurology* 69, no. 21.

Epilepsy Patient Flow by Provider

CCSO Critical Care Services Ontario



Updated: February 3, 2015.