Epilepsy Care in Ontario

Ontario Provincial Epilepsy Strategy

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Question from Ontario MOHLTC posed in 2008:

What is the value of neuroimaging in the presurgical evaluation in epilepsy surgery candidates, specifically MEG?
History of Provincial Epilepsy Strategy

- Presentation of MEG Field Evaluation to OHTAC, Jan 28, 2011
- Formation of Ontario Epilepsy Working Group in Feb 2011
- Various divisions of the MOHLTC on Mar 4, 2011
- OHTAC presentation, Mar 25, 2011
- Formation of OHTAC Expert Panel April 2011

Epilepsy Care in Ontario

- 90,000 epilepsy
- 30,000 refractory
- 19,500 Surgical candidates
- 750 surgeries
How come only 4% of eligible epilepsy patients in Ontario get potentially curative epilepsy surgery?

- Attitudes/Awareness
- Availability/Organization of Resources
- Geography

Axioms

Strategy has to apply to all patients with epilepsy not just those that are surgical candidates.

Strategy has to apply across the life span continuum
Proposed Epilepsy Care in Ontario

ED → Primary care provider/Neurologist

District Epilepsy Care Centre
Epileptologist; EEG; MRI

Back to referring doc with treatment rec.

Community Epilepsy Liasons

EMU

Sz not controlled

Regional Epilepsy Surgery Centre of Excellence

OHTAC Recommendation

• That the report of the Expert Panel on a Provincial Strategy for Epilepsy Care on improving access to the necessary diagnostic testing for surgical candidacy for epilepsy surgery be used as a resource in developing a provincial approach to addressing this issue.

• OHTAC further endorses the accompanying economic analysis on costing and the high-level implementation plan from the report
The Epilepsy Implementation Task Force (EITF)

The EITF was established in June 2013 to develop and implement a provincial framework to maximize value from the system of epilepsy care in Ontario.
Objectives of EITF

- Improving access along the full continuum of care by coordinating resources and wait lists
- Establishing standardized diagnostic and surgical protocols across centres

- Establishing outreach mechanisms and supports for primary care, community neurologists, and hospitals without specialized epilepsy programs.
- Development of knowledge translation strategy regarding medical and surgical epilepsy care, targeted at primary care providers as well as community neurologists.
DISTRICT EPILEPSY CENTRES

Resource for community health providers

Evaluate Medically refractory patients for medial and surgical treatment

COMPREHENSIVE EPILEPSY PROGRAM
  Epileptologist
  EEG + EEG video
  MRI w/standardized epilepsy imaging protocols
  Neuropsychology
  Social Work
  Dietitian
  Community Epilepsy Liaison

DISTRICT EPILEPSY CARE CENTRES

Ottawa
Hamilton
Sudbury

Thunder Bay
Kingston
**Regional Epilepsy Surgery Centres of Excellence**

- DEC for Catchment Area
- Evaluate Referrals from DEC for surgery
- Comprehensive Epilepsy Program + MEG/PET/SPECT/3TMRI
- Capability for Epilepsy Surgery
  - Lesionectomy; temporal lobectomy, corpus callosotomy
  - Hemispherectomy
- Intracranial monitoring for localization of seizure focus and brain function + epilepsy surgery if indicated
- VNS, DBS

**Epilepsy Care in Ontario**

- ED → Primary care provider/Neurologist
- District Epilepsy Care Centre
  - Epileptologist; EEG; MRI
- Community Epilepsy Liaisons
- EMU
- Sz not controlled
- Back to referring doc with treatment rec.
- Regional Epilepsy Surgery Centre of Excellence
Regional Epilepsy Surgery Centres of Excellence

Toronto Western Hospital (UHN)
Hospital for Sick Children (Toronto)
London Health Sciences Centre

Epilepsy Guideline Series

- February 2014
  - Provincial Epilepsy Monitoring Unit (EMU) Guidelines for Ontario

- January 2015
  - Provincial Guidelines for Managing Epilepsy in Adults and Children

- September 2015
  - Provincial Guidelines for Epilepsy Surgery Referrals in Ontario
  - Provincial Guidelines for Epilepsy Surgery Centres

- October 2015
  - Management of Medically Refractory Epilepsy in Adults and Children who are not Candidates for Epilepsy Surgery

- December 2015
  - Provincial Guidelines for Transitional Care Between Paediatric and Adult Epilepsy Programs
Ontario Guidelines

Guidelines for Managing Epilepsy in Adults and Children

- target audience includes family physicians, nurse practitioners, pediatricians, internists, emergency physicians, community epilepsy agencies and neurologists. This should be shared with anyone involved in the care of patients with epilepsy.
## Epilepsy Snapshot: Guideline Highlights

<table>
<thead>
<tr>
<th>Diagnosis:</th>
<th>Women with Epilepsy:</th>
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<tbody>
<tr>
<td>• Description of the event/seizure</td>
<td>• Pregnancy, contraception, menopause</td>
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<tr>
<td>• Associated symptoms</td>
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<tr>
<td>• Ancillary information</td>
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<tr>
<td>• Neurologic examination</td>
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<tr>
<td>• EEG, MRI of brain</td>
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<tr>
<td><strong>Treatment:</strong></td>
<td></td>
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<tr>
<td>• Antiepileptic drug (AED)</td>
<td></td>
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<tr>
<td>• Surgery</td>
<td></td>
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<tr>
<td><strong>Patient/Caregiver Education:</strong></td>
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<tr>
<td>• Lifestyle and psychosocial implications</td>
<td></td>
</tr>
<tr>
<td>• Seizure types, syndromes and treatment options</td>
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</tbody>
</table>

**Patient Referrals:**
- All patients who fail to respond to the first AED should be referred to a specialist
- All patients with medically-refractory epilepsy should be referred to an epileptologist at a District Epilepsy Centre to assess surgical candidacy

**Follow Up:**
- Seizure types, efficacy and side effects for AEDs
- Follow up recommendations:
  - Age 1-12 years, every 3-6 months
  - Age 13 and up every 6-12 months

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**PROVINCIAL GUIDELINES FOR EPILEPSY SURGERY REFERRALS IN ONTARIO**

Epilepsy Implementation Task Force
Version 1.0, Critical Care Services Ontario | September 2016

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**Hot off the press!**
Medically refractory Epilepsy

- Failure of adequate trials of 2 tolerated appropriate AEDs to achieve sustained seizure freedom

- 30% of all patients with epilepsy

- The question of whether an adult or child with medically refractory epilepsy is a candidate for surgery should always be asked sooner rather than later
Medically refractory Epilepsy

- Any adult or child with medically refractory focal epilepsy is a candidate for epilepsy surgery until proven otherwise

Barriers to Care: epilepsy surgery

Hrazdil et al, Epilep Behav 2013
Patients Overestimate Risks

How dangerous is epilepsy surgery in carefully selected patients?

Brain surgery should be considered as a last resort.

Hrazdil et al, Epilep Behav 2013

Balancing Risks

In general, brain surgery for epilepsy/seizure disorders is more dangerous than having seizures that are not controlled.

Hrazdil et al, Epilep Behav 2013
Barriers to epilepsy surgery

- The majority (>60%) of patients with epilepsy overestimate surgical risks.
- 93% trust their health care providers.
- It is our privilege and responsibility to properly inform patients, dispel myths and allow them to make informed decision about epilepsy surgery.

Hrazdil et al, Epilep Behav 2013
Neurologist barriers to epilepsy surgery

- 425 Canadian neurologists answered a questionnaire of which 327 followed people with epilepsy in their practice.

- ~50% were not familiar with current clinical practice guidelines for temporal lobe and localized neocortical resections from the American Academy of Neurology.

- ~20% viewed epilepsy surgery as a last resort for patients with epilepsy.

- Resource limitations were identified as the biggest barrier to epilepsy surgery.

Roberts et al, *Neurology* 2015

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**Barriers to Epilepsy Surgery**

- **Attitudes/Awareness**
  
  Government  
  Community Neurologists  
  Primary Care providers  
  Patients & Families
Barriers to Epilepsy Surgery

• Availability/Organization of Resources
  Government

• Geography
  Government
  Primary Health Care Providers + Neurologists
Strategies to Overcome Barriers to Epilepsy Surgery

- Education of physicians and patients

- **Wide** Dissemination of Guidelines
- Enable Use of Guidelines – user friendly
- Incentives to Use Guidelines, e.g. CME, etc
Strategies to Overcome Barriers to Epilepsy Surgery

Continue to Engage Government

EPILEPSY SURGERY SHOULD NEVER BE CONSIDERED AS A TREATMENT OF LAST RESORT IN ANY ADULT OR CHILD WITH MEDICALLY REFRACTORY EPILEPSY
Access to Provincial Epilepsy Guidelines

www.criticalcareontario.ca

Go to toolbox library

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How can we spread the word and make this work?
Strategies to Overcome Barriers to Epilepsy Surgery

Continue to Engage Government