

Diagnosis and treatments for epilepsy

A systematic review and assessment of the medical, health economic, social and ethical aspects

SBU ASSESSMENTS | ASSESSMENT OF METHODS IN HEALTH CARE AND SOCIAL SERVICES

MAY 2018 | WWW.SBU.SE/281E

Executive summary

Conslusions

- Most of the diagnostic and treatment methods used in health care for epilepsy are based on scientific evidence.
- ▶ There is strong scientific evidence that surgery is an effective treatment for a select group of people with epilepsy who are resistant to pharmaceutical treatment. Yet, surgery infrequently applied. The estimated cost of surgery per quality-adjusted life year is low to moderate.
- There is moderately strong scientific evidence that a ketogenic diet is an effective treatment for a select group of children with pharmacoresistant epilepsy. The estimated cost per quality adjusted life year is high; the uncertainty is high, but this estimate is uncertain.
- More research is needed in some areas, for instance, regarding the treatment of epilepsy in certain age groups, as well as for the treatment of comorbid conditions such as epilepsy and concurrent depression, psychosis or ADHD.

To be diagnosed with epilepsy a person must have had unprovoked, and usually repeated, epileptic seizures. A seizure is epileptic if it presents in a typical manner and is the result of abnormal brain activity. Epilepsy is usually treated with medication and involves several years of contact with health care services. It is estimated that between 60 000 and 70 000 people have epilepsy in Sweden, and that at least 7 000 people are examined for epilepsy each year.

People with epilepsy continuously run the risk of having a sudden epileptic seizure, which often results in the loss of control and an accompanying concern that a seizure will happen at an inappropriate time. People who have epilepsy are not always aware of their



seizures; they don't know what their seizures look like, and how others around them will react. Epilepsy can have serious or even fatal consequences. Examinations are not always able to clearly identify what causes the seizures, and available treatments rarely cure, but rather reduce or take away the symptoms. Treatments are often accompanied by side effects. Decisions in the diagnosis and treatment process must be made together with that individual, and their parents or guardians, in the case of children or young people. Treatment risks should always be weighed against the potential benefits to the individual. Epilepsy affects not only the lives of the person with epilepsy, but the lives of their entire family - not in the least for children and young people with epilepsy. Many with epilepsy have other disabilities, most commonly intellectual disabilities. These people and their families often need social support services.

The methods that were assessed in this HTA-report, involve diagnostics, pharmaceutical treatments, surgical treatments and some other treatments. It was conducted in accordance with SBU's methodology (www.sbu.se).

Project group

Experts

Torbjörn Tomson (Karolinska Institutet,
Karolinska University Hospital, Sweden)
Roland Flink (Uppsala Universitet,
Uppsala University Hospital, Sweden)
Lars Forsgren (Umeå University,
Norrlands universitetssjukhus, Sweden)
Ingrid Olsson Lindberg (University of Gothenburg,
Sahlgrenska University Hospital, Sweden)
Kristina Malmgren (University of Gothenburg,
Sahlgrenska University Hospital, Sweden)
Viviann Nordin (Karolinska Institutet,
South Hospital, Sweden)

Adjunct expert adviser

Johan Bjellvi (Sahlgrenska University Hospital) Olafur Sveinsson (Karolinska University Hospital, Sweden)

SBU

Sten Anttila (Project Manager)
Martin Eriksson (Health Economist)
Elisabeth Gustafsson (Project Administrator)
Charlotte Hall (Assistant Project Manager
until September 2016)
Margareta Hedner (Project Coworker 2017)
Maja Kärrman Fredriksson (Information Specialist)
Laura Lintamo (Project Coworker 2016)
Tanja Näslund (Assistant Project Manager
until January 2018)
Jenny Odeberg (Assistant Project Manager
until September 2016)
Natalie Peira (Project Coworker 2017)
Karin Rydin (Project Coworker 2016)
Karin Wilbe Ramsay (Assistant Project Manager)

Scientific reviewers

Marit Bjørnvold (Oslo University Hospital, Norway) Morten I Lossius (Oslo University Hospital, Norway)

SBU Assessments no 281, 2018 www.sbu.se/en • registrator@sbu.se

English Proofreading: Rebecca Silverstein, SBU

Graphic Design: Anna Edling, SBU