About this book

This dictionary of epilepsy is primarily intended for use by persons with epilepsy, and by other non-physicians. The current English version is a translation of the fourth revised and expanded German edition, which was published in 2004, three years after the previous edition and eight years after the book first appeared in 1996. The present edition, among other important changes, incorporates the recommendations on terminology that were made at a meeting of the International League Against Epilepsy (ILAE) in 2001 by a task force appointed by that organization. Though some of these recommendations were, and still are, somewhat controversial, they have served well to eliminate terminological errors and confusion in a number of different areas. All in all, this book now contains definitions of approximately 1500 abbreviations and 5000 specialized terms.

Though originally intended for a lay audience, the German book turned out to be popular among medical interns and residents, too, as well as among physicians, neuropsychologists, social workers, and other professionals. I have therefore written a separate book in German specifically for these readers, entitled *lexikon der Epileptologie* (Thieme Verlag, Stuttgart – New York 2005 – in press). The present book, for non-professionals, has not only been translated into English, but now also being made available in Hungarian and Italian editions (the latter prepared in collaboration with Stefano Ricci of the Neurology Department at the University of Rome, deceased 2000).

Many persons with epilepsy are highly interested in their illness and want to know as much about it as possible so that they can deal more effectively with the problems that it causes. Fortunately, more and more books about epilepsy are becoming available that are written in easily understandable language, either dispensing with technical terms entirely, or providing a definition whenever such terms arise. Even so, persons with epilepsy are still inevitably and repeatedly confronted with puzzling terminology–perhaps less today in the books that they read, but often in medication package inserts and in physicians' letters and consultation notes. Searching for a definition in one of the standard medical dictionaries may turn out to be fruitless or, worse, misleading. Furthermore, some technical terms mean different things in different medical specialties, and the drawing of precise distinctions is usually beyond the scope of standard dictionaries.

This book is meant to address these problems. While writing it, and in the course of updating and expanding it over the years, I have drawn most of my material from the numerous conversations and interactions that I have had with patients, their families, and significant others, as well as from continuous reading of books and articles, and from further opportunities for encountering and adding new terms, e.g., professional lectures. Nonetheless, it should come as no surprise if the selection of specialized terms defined here, though much more extensive than before, still seems incomplete in places. Words appearing in the text of the definitions, and in the tables, that are themselves defined elsewhere in the dictionary

are indicated with arrows (→), which, it is hoped, will not make the book any less readable.

This book, like any other, almost certainly contains problematic spots, or even frank mistakes, despite the author's best efforts. A wise man once said that dictionaries are like clocks: the worst dictionary is better than none, but even the best one will not be perfectly accurate all the time. Therefore, with a view toward improving this book in each successive edition, I remain expressly grateful to any readers who care to send me their critical comments and suggestions for improvement. Thanks are due to Dr. Tomaschoff for his original cartoons, and for his willingness to accommodate my special requests in this regard. I would also like to thank my secretary, Léonie Müller, as well as Dr. Ethan Taub for the marvellous job he did in translating and adapting the German manuscript. Finally, as always, I would like to thank my wife, Doris, my daughter, Judith, and my son, Dirk, for their constant encouragement and support.

Zurich, Autumn 2004 Günter Krämer

What are epileptic seizures, and what is epilepsy?

Epileptic seizures, often called "seizures" for short, are the visible or otherwise apparent manifestations that are produced when the brain briefly becomes dysfunctional because of an abnormal, excessive electrical discharge in its nerve cells (neurons). There are more than ten different types of seizure (→ Tab. 2 and 3, pp. 12–15) and more than 30 different forms of epilepsy (→ Tab. 4, 5 and 6, pp. 15–20). Individual forms of epilepsy are sometimes associated with more than one type of seizure. Each affected person, as a rule, has only one form of epilepsy, and suffers from seizures of the type, or types, that are associated with it. The interval of time separating one seizure from the next may be as little as a few seconds, or as great as several years or even decades.

The word "epilepsy" comes from a Greek word meaning "to be taken hold of" or "to be seized or gripped," and thus, metaphorically, "to be affected by something beyond one's control" (note the similar origin of the English word "seizure"). In ancient times, epilepsy was called "morbus sacer," Latin for "the holy disease"—reflecting a feeling, which partly survives to this day, that this disease, among all others, belongs in a special category.

Many people think epileptic seizures are easy to describe. Out of a clear, blue sky, a person suddenly lets out a shout, loses consciousness, becomes stiff, perhaps bites his or her tongue, and then drops to the ground. The sufferer stops breathing, turns blue, and then twitches in the arms and legs for a certain period of time, before falling, exhausted, into a kind of deep sleep. Afterward, the person may complain of exhaustion, headache, dizziness, or muscle pains, or may note that he or she has involuntarily passed urine during the seizure. While it is true that this is an accurate description of one common type of epileptic seizure (the socalled grand mal seizure or generalized tonic-clonic seizure), this type is only one of many.

In fact, epileptic seizures come in many different types. Not every seizure begins with a shout followed by loss of consciousness; not every seizure includes stiffness, tongue-biting, or falling; not every seizure causes the sufferer to turn blue or twitch. Some seizures are so inconspicuous that the sufferer never notices anything out of the ordinary and no one but an expert observer would even realize that a seizure had occurred. Some seizures consist of no more than a fleeting "funny feeling," a loss of attentiveness lasting only a few seconds, or brief twitching of a single arm.

If we wish to define epileptic seizures in a general way that applies to all types of seizure, we can say the following: epileptic seizures are suddenly appearing, relatively brief alterations of consciousness, thinking, behavior, memory, sensation, emotion, or muscle tension that are caused by a transient functional disturbance of neurons in the brain consisting of excessive electrical discharges. Though this

definition is correct, it is much too long to remember and put to use in everyday life. We can thus simplify the matter and say that epileptic seizures are an expression of a temporary dysfunction of neurons, whose particular effects depend on the function or functions that these neurons normally have.

Every neuron and every group of neurons in the brain has the potential to become "epileptic," and thereby have its normal activity disturbed or interrupted. If the affected cells are normally responsible for the sense of smell, for example, then this sense may be disturbed; if they are responsible for vision, the result may be a perception of lightning-like or other visual phenomena. If the affected cells take part in the complicated processes underlying memory and behavior, the result may be an impairment of learning, and perhaps also a temporary loss of consciousness, leaving behind a permanent gap in the individual's recollection of events.

As we have seen, the expression "epileptic seizure" is a collective term that covers a wide variety of different diseases and functional disturbances. For many affected individuals, though, even the sophisticated diagnostic methods available today will fail to reveal the cause of their seizures. And it should be remembered that the mere occurrence of an epileptic seizure does not necessarily imply that the affected individual suffers from epilepsy. Epileptic seizures occur, for example, in almost all persons suffering from a local bacterial infection of the brain (a so-called brain abscess), a major traumatic brain injury, an insufficient supply of oxygen to the brain, or an overdose of certain medications. Such persons might continue to have seizures for as long as the responsible condition lasts, but they still cannot be said to have epilepsy. Epilepsy is said to be present only when an individual sustains at least two epileptic seizures, spaced at least 24 hours apart, for which no immediate cause or precipitating factor can be determined (so-called "spontaneous" seizures). This definition does not, however, exclude seizures due to permanent changes in the brain, such as birth injuries or other types of longstanding brain damage.

Thus, to repeat the usual definition, epilepsy is said to be present when an individual sustains at least two spontaneous epileptic seizures spaced at least 24 hours apart. Another important component of the definition is the requirement that the underlying cause of seizures in the brain is continually present in unaltered form, not just during the seizures, but between them as well. In some cases, the seizures occur very rarely and at very long intervals. Patients affected in this way were previously said to suffer from "oligoepilepsy" (from a Greek word meaning "rare"), though in recent years there has been a change in usage, so that they are simply said to have rare seizures, rather than epilepsy.

Even today, misapprehensions and prejudices about epilepsy and persons suffering from it abound among the general public, which is surprising in view of the major advances in medical knowledge in this area that just the last few decades have brought. Hippocrates, the famous physician of ancient Greece (460-375 BC), already realized that epilepsy was due to a disturbance of the brain, but it was not until the nineteenth century that this basic concept began to be reflected in medical practice and–very slowly at first–in the understanding of the public at large. Some correct and incorrect statements about epilepsy are presented in Table 1.

Table 1: Correct and incorrect statements about epileptic seizures and epilepsy

INCORRECT	CORRECT
Any person who has had an epileptic seizure has epilepsy.	The definition of epilepsy requires at least two seizures, spaced at least 24 hours apart, without any identifiable cause or precipitating factor.
Epileptic seizures are always obvious and dramatic.	Some types of epileptic seizure, such as absence seizures and certain focal seizures, are only mild or barely noticeable, and even experts may have difficulty detecting them.
Epilepsy is a disease.	Strictly speaking, epilepsy is not a disease, but rather a *disturbance* of the brain. A disease, in medical terminology, is a typical combination of symptoms and signs that have a single underlying cause. There are, however, many different types of epilepsy, each with its own symptoms and signs, and the causes of epilepsy are manifold. (Note: This explanation is provided for those who want to use terms very precisely. In the end, however, it only involves matters of definition and will not be very helpful to persons suffering from epilepsy.)
The manifestations of epilepsy are always the same.	There are many different types of epilepsy; in fact, there are more than 20 types, ranging from very mild to very severe.
Epilepsy is hard to treat.	60 to 70 percent of persons with epilepsy are well treated with medication, i.e., they have very few or no seizures and suffer from no major side effects of medication. There are also cases of epilepsy that require no treatment at all and resolve by themselves over time.
All “epileptics” are just about the same.	There is no such thing as a typical “epileptic.” Persons with epilepsy differ from each other as much as persons with diabetes or high blood pressure.
Epilepsy is a mental illness.	Epilepsy is a neurological illness, not a mental illness.
Persons with epilepsy are mentally impaired (“retarded”).	The vast majority of persons with epilepsy (more than 90 %) are not mentally impaired.
Epilepsy is hereditary.	It is true that the hereditary transmission of a “seizure tendency” plays a role in many types of epilepsy, but parents with epilepsy still have children without epilepsy in more than 90 % of cases.

Classification of the major types of seizure and of epilepsy

The major types of seizure and of epilepsy are listed in Tables 2 through 6. Tables 2 and 3 present the systems of classification devised in the 1980s by experts from the International League Against Epilepsy (ILAE), which are now used by most doctors around the world. Inevitably, individual cases sometimes arise that are difficult to classify; to deal with these, an ILAE task force in May 2001 proposed the new terms and classifications presented in Tables 4 through 6. The task force's recommendations also included the rejection, or re-evaluation, of a number of terms previously in use. Recommendations of this type are noted in this book in due course whenever the relevant terms come up, but, as no new overall classification of epileptic seizures or of epilepsy has been adopted to date, the tables still present the original ILAE classification of both in unaltered fashion. These tables, of course, teem with specialized terms that laymen will find unintelligible. All of them can be looked up in the definition section of this book.

• Table 2: Epileptic seizure types and precipitating stimuli for reflex seizures (recommendations of the ILAE task force, 2001; see also in the definition section for → each individual term)

Self-limited seizure types

Generalized seizures

- Tonic-clonic seizures (includes variations beginning with a clonic or myoclonic phase)
- Clonic seizures
  - Without tonic features
  - With tonic features
- Typical absence seizures
- Atypical absence seizures
- Myoclonic absence seizures
- Tonic seizures
- Spasms
- Myoclonic seizures
- Eyelid myoclonus
  - Without absences
  - With absences
- Myoclonic atonic seizures
- Negative myoclonus
- Atonic seizures
- Reflex seizures in generalized epilepsy syndromes

Table 2: (Continued)

Focal seizures

- *Focal sensory seizures*
  - *With elementary sensory symptoms (e.g., occipital and parietal lobe seizures)*
  - *With experiential sensory symptoms (e.g., temporo-parieto-occipital junction seizures)*
- *Focal motor seizures*
  - *With elementary clonic motor signs*
  - *With asymmetrical tonic motor seizures (e.g., supplementary motor seizures)*
  - *With typical (temporal lobe) automatisms (e.g., mesial temporal lobe seizures)*
  - *With hyperkinetic automatisms*
  - *With focal negative myoclonus*
  - *With inhibitory motor seizures*
- *Gelastic seizures*
- *Hemiclonic seizures*
- *Secondarily generalized seizures*
- *Reflex seizures in focal epilepsy syndromes*

Continuous seizure types

Generalized status epilepticus

- *Generalized tonic-clonic status epilepticus*
- *Clonic status epilepticus*
- *Absence status epilepticus*
- *Tonic status epilepticus*
- *Myoclonic status epilepticus*

Focal status epilepticus

- *Epilepsia partialis continua of Kozhevnikov*
- *Aura continua*
- *Limbic status epilepticus (psychomotor status)*
- *Hemiconvulsive status with hemiparesis*

Precipitating stimuli for reflex seizures

- Visual stimuli
  - Flickering light (color to be specified when possible)
  - Patterns
  - Other visual stimuli
- Thinking. Music
- Eating
- Praxis
- Somatosensory
- Proprioceptive
- Reading
- Hot water
- Startle

• Table 3: Classification of epileptic seizures still in international use (ILAE task force, 1981; see also in the definition section for → each individual term).

I	**Partial (focal, local) seizures**	
	A	Simple partial seizures (consciousness not impaired)
	1	With motor symptoms:
	1.1	without march
	1.2	with march (= Jacksonian seizures)
	1.3	versive/adversive (= with turning movements of the head or body)
	1.4	postural
	1.5	phonatory (= with vocalization or speech arrest)
	2	With somatosensory or special sensory symptoms:
	2.1	somatosensory (= with sensations such as pins-and-needles, pain, or warmth)
	2.2	visual
	2.3	auditory
	2.4	olfactory (= affecting the sense of smell)
	2.5	gustatory (= affecting the sense of taste)
	2.6	vertiginous (= with dizziness or vertigo)
	3	With autonomic symptoms or signs epigastric sensations [= e.g., pins-and-needles or warmth in pit of stomach), pallor, sweating, flushing, piloerection (= hair standing on end), papillary dilatation, incontinence (involuntary passing of urine or stool)
	4	With psychic symptoms (Caution: such symptoms are rare in the absence of impairment of consciousness, and are usually due to complex focal seizures)
	4.1	dysphasic (affecting language)
	4.2	dysmnestic (affecting memory, e.g., déjà vu)
	4.3	cognitive (affecting thought processes, e.g., dreamlike states, distorted perception of time)
	4.4	affective (affecting emotion, e.g., fear, rage)
	4.5	illusions (misperceptions, e.g., macropsia (things look abnormally large))
	4.6	structured hallucinations (perception of things that are not there, e.g., music, scenes)
	B	Complex partial seizures (with impairment of consciousness)
	1	Simple partial seizures followed by impairment of consciousness (transition to complex partial seizures)
	1.1	with initially simple partial manifestations followed by impairment of consciousness
	1.2	with automatisms
	2	Complex partial seizures with impairment of consciousness from the onset
	2.1	with isolated impairment of consciousness
	2.2	with impairment of consciousness and simple partial manifestations
	2.3	with automatisms

● **Table 3: (Continued).**

C Partial seizures that become generalized
1 Simple partial seizures that become generalized
2 Complex partial seizures that become generalized
3 Simple partial seizures that become complex and then generalized

II Generalized seizures
A Absence seizures
1 Typical absence
a isolated impairment of consciousness
b with clonic components
c with atonic components
d with tonic components
e with automatisms
f with autonomic components
2 Atypical absence
B Myoclonic seizures
C Clonic seizures
D Tonic seizures
E Tonic-clonic seizures
F Atonic (astatic) seizures

III Seizures that cannot be classified as partial or generalized because of insufficient information
e.g., some types of seizures in the newborn

● **Table 4: Epilepsy syndromes and related conditions (recommendations of the ILAE task force, 2001; see also in the definition section for → each individual term)**

- Benign familial neonatal seizures
- Early myoclonic encephalopathy
- Ohtahara syndrome
- * Migrating partial seizures of infancy
- West syndrome
- Benign myoclonic epilepsy in infancy
- Benign familial infantile seizures
- Benign infantile seizures (non-familial)
- Dravet's syndrome
- HH syndrome
- * Myoclonic status in nonprogressive encephalopathies
- Benign childhood epilepsy with centrotemporal spikes
- Early onset benign childhood occipital epilepsy (Panayiotopoulos type)
- Late onset childhood occipital epilepsy (Gastaut type)
- Epilepsy with myoclonic absences
- Epilepsy with myoclonic-astatic seizures

Table 4: (Continued)

- Lennox-Gastaut syndrome
- Landau-Kleffner syndrome
- Epilepsy with continuous spike-and-waves during slow-wave sleep (other than LKS)
- Childhood absence epilepsy
- Progressive myoclonus epilepsies
- Idiopathic generalized epilepsies with variable phenotypes
  - Juvenile absence epilepsy
  - Juvenile myoclonic epilepsy
  - Epilepsy with generalized tonic-clonic seizures only
- Reflex epilepsies
  - Idiopathic photosensitive occipital lobe epilepsy
  - Other visual sensitive epilepsies
  - Primary reading epilepsy
  - Startle epilepsy
- Autosomal dominant nocturnal frontal lobe epilepsy
- Familial temporal lobe epilepsies
- * Generalized epilepsies with febrile seizures plus
- * Familial focal epilepsy with variable foci
- Symptomatic (or probably symptomatic) focal epilepsies
  - Limbic epilepsies
    - Mesial temporal lobe epilepsy with hippocampal sclerosis
    - Mesial temporal lobe epilepsy defined by specific etiologies
    - Other types defined by location and etiology
  - Neocortical epilepsies
    - Rasmussen syndrome
    - Other types defined by location and etiology

CONDITIONS WITH EPILEPTIC SEIZURES THAT DO NOT REQUIRE A DIAGNOSIS OF EPILEPSY

- Benign neonatal seizures
- Febrile seizures
- Reflex seizures
- Alcohol withdrawal seizures
- Drug or other chemically-induced seizures
- Immediate and early post traumatic seizures
- Single seizures or isolated clusters of seizures
- Rarely repeated seizures (oligo-epilepsy)

* syndromes in development

● Table 5: An example of a classification of epilepsy syndromes (recommendation of the ILAE task force, 2001; see also in the definition section for → each individual term)

Groups of Syndromes	Specific Syndromes
Idiopathic focal epilepsies of infancy and childhood	benign infantile seizures (non-familial) benign childhood epilepsy with centro-temporal spikes early-onset benign childhood occipital epilepsy (Panayiotopoulos type) late-onset childhood occipital epilepsy (Gastaut type)
Familial (autosomal dominant) focal epilepsies	benign familial neonatal seizures benign familial infantile seizures autosomal dominant nocturnal frontal lobe epilepsy familial temporal lobe epilepsy familial focal epilepsy with variable foci*
Symptomatic (or probably symptomatic) focal epilepsies	limbic epilepsies ● mesial temporal lobe epilepsy with hippocampal sclerosis ● mesial temporal lobe epilepsy defined by specific etiologies ● other types defined by location and etiology neocortical epilepsies ● Rasmussen syndrome ● hemiconvulsion – hemiplegia syndrome ● other types defined by location and etiology ● migrating partial seizures of early infancy*
Idiopathic generalized epilepsies	benign myoclonic epilepsy in infancy epilepsy with myoclonic-astatic seizures childhood absence epilepsy epilepsy with myoclonic absences

● Table 5: (Continued).

Groups of Syndromes	Specific Syndromes
	idiopathic generalized epilepsies with variable phenotypes ● juvenile absence epilepsy ● juvenile myoclonic epilepsy ● epilepsy with generalized tonic-clonic seizures only
	generalized epilepsies with febrile seizures plus*
Reflex epilepsies	idiopathic photosensitive occipital lobe epilepsy
	other visual sensitive epilepsies
	primary reading epilepsy
	startle epilepsy
Epileptic encephalopathies (in which the epileptiform abnormalities may contribute to progressive dysfunction)	early myoclonic encephalopathy
	Ohtahara syndrome
	West syndrome
	Dravet syndrome (previously known as severe myoclonic epilepsy in infancy)
	myoclonic status in non-progressive encephalopathies
	Lennox-Gastaut syndrome
	Landau-Kleffner syndrome
	epilepsy with continuous spike-waves during slow-wave sleep
Progressive myoclonus epilepsies	see specific diseases
Seizures not necessarily requiring a diagnosis of epilepsy	benign neonatal seizures, febrile seizures, reflex seizures, alcohol withdrawal seizures, drug or other chemically induced seizures, immediate and early post-traumatic seizures, single seizures or isolated clusters of seizures, rarely repeated seizures (oligoepilepsy)
* syndromes in development	

● **Table 6: Classification of epilepsies and epileptic syndromes still in international use (recommendations of the ILAE task force, 1989; see also in the definition section for → each individual term).**

1. Focal (localized, local, partial) epilepsies and epilepsy syndromes

1.1. Idiopathic (with age-related onset)
Benign childhood epilepsy with centrotemporal spikes (Rolandic epilepsy)
Benign childhood epilepsy with occipital paroxysms
Primary reading epilepsy

1.2. Symptomatic
Chronic progressive epilepsia partialis continua of childhood (Kozhevnikov's syndrome)
Syndromes characterized by seizures with specific modes of precipitation (for example, reflex epilepsy)
Epileptic syndromes of high individual variability
Temporal lobe epilepsies
Frontal lobe epilepsies
Parietal lobe epilepsies
Occipital lobe epilepsies

1.3. Cryptogenic (= presumed to be symptomatic, but of as yet unknown cause)

2. Generalized (nonfocal, non-localized) epilepsies and epilepsy syndromes

2.1. Idiopathic (with age-related onset) (in order of age of onset)
Benign neonatal familial convulsions
Benign neonatal convulsions
Benign myoclonic epilepsy in infancy
Childhood absence epilepsy (pyknolepsy)
Juvenile absence epilepsy
Juvenile myoclonic epilepsy (impulsive petit mal)
Epilepsy with grand mal seizures (generalized tonic-clonic seizures) on awakening
Other generalized idiopathic epilepsies
Epilepsies with seizures precipitated by specific modes of activation (reflex epilepsies)

2.2. Cryptogenic or symptomatic
West syndrome (infantile spasms, salaam spasms)
Lennox-Gastaut syndrome
Epilepsy with myoclonic-astatic seizures
Epilepsy with myoclonic absences

2.3. Symptomatic

2.3.1. Nonspecific cause
Early infantile myoclonic encephalopathy

Table 6: (Continued).

Early infantile epileptic encephalopathy with burst-suppression pattern on EEG
Other symptomatic generalized epilepsies

2.3.2. Specific syndromes
Epilepsy due to malformations of the brain (e.g., phakomatoses, Aicardi syndrome, lissencephaly, pachygyria)
Congenital metabolic disorders (e.g. pyridoxine or vitamin B_6 dependency and disorders that frequently cause progressive myoclonus epilepsy)

3. Epilepsies and syndromes that cannot be classified as either focal or generalized

3.1. With both generalized and focal seizures
Neonatal seizures
Severe myoclonic epilepsy in infancy
Epilepsy with continuous spike-wave activity during slow-wave sleep (ESES)
Acquired epileptic aphasia (Landau-Kleffner syndrome)
Other epilepsies that cannot be classified as either focal or generalized

3.2. Without unequivocal focal or generalized features
Many generalized tonic-clonic seizures during sleep (sleep grand mal epilepsy)

4. Special epilepsies and epilepsy syndromes

4.1. Situation-related seizures
Febrile convulsions
Isolated seizures or isolated status epilepticus
Seizures occurring only in the setting of an acute metabolic or toxic disturbance
(alcohol, medications, eclampsia, non-ketoacidotic hyperglycemia)

4.2. rare, apparently unprovoked epileptic seizures ("oligoepilepsy")

4.3. epilepsies with specific precipitating factors (reflex epilepsies)

4.4. chronic progressive epilepsia partialis continua of childhood

Medications used to treat epilepsy

The medications that are currently used to treat epilepsy in the United States, Canada, and the United Kingdom are listed in Table 7, along with their generally used international abbreviations. Fortunately, many new antiepileptic medications have been developed and introduced in the last 10 years. Most of them are no more effective than the older medications, but many have fewer side effects.

● **Table 7 Medications used to treat epilepsy in the United States, Canada, and the United Kingdom. The leftmost column gives the so-called generic name of each medication (i.e., the internationally accepted designation of its active ingredient) and the conventionally used abbreviation for it. The other columns give the major trade name(s) under which each medication is sold in each country.** *Note*: no claim is made here that the listing for any particular medication is complete. (For more information, see also in the definitions section under → each individual medication.)

Generic name	Trade name(s): United States	Canada	United Kingdom
Acetazolamide (AZM)	Diamox, Ak-Zol, Storzolamide	Diamox, Novo-Zolamide, Acetazolam	Diamox
Adrenocorticotropic hormone (ACTH)	Cortrosyn	Cortrosyn	
Carbamazepine (CBZ)	Tegretol, Atretol, Depitol, Epitol	Tegretol, Novo-Carbamaz, Mazepine	Tegretol, Teril, Timonil
Clobazam (CLB)	(not FDA-approved)	Frisium	Frisium
Clonazepam (CZP)	Klonopin	Clonapam, Rivotril	Rivotril
Diazepam (DZP)	Valium, Diastat, Dizac	Valium, Diastat, Vivol, Dipam	Valium
Ethosuximide (ESM)	Zarontin	Zarontin	Zarontin, Emeside
Felbamate (FBM)	Felbatol		
Fosphenytoin (FOS)	Cerebyx	Cerebyx	Pro-Epanutin
Gabapentin (GBP)	Neurontin	Neurontin	Neurontin
Lamotrigine (LTG)	Lamictal	Lamictal	Lamictal
Levetiracetam (LEV)	Keppra	Keppra	Keppra

Table 7 (Continued).

Generic name	Trade name(s): United States	Canada	United Kingdom
Lorazepam (LZP)	Ativan	Ativan, Nu-Loraz	Ativan
Mesuximide (MSM)	Celontin	Celontin	
Midazolam (MDZ)	Versed	Versed	Hypnovel
Oxcarbazepine (OXC)	Trileptal	Trileptal	Trileptal
Phenobarbital (PB)	Barbita, Luminal, Solfoton	Ancalixir, Barbilixir	Gardenal
Phenytoin (PHT)	Dilantin, Phenytek	Dilantin, Tremytoine	Epanutin
Pregabalin			Lyrica
Primidone (PRM)	Mysoline, Myidone	Mysoline, Sertan	Mysoline
Sulthiame (STM)	Ospolot (currently approved in Australia, but not in the USA, Canada, or the UK)		
Tiagabine (TGB)	Gabitril		Gabatril
Topiramate (TPM)	Topamax	Topamax	Topamax
Valproate / valproic acid (VPA)	Depacon, Depakene, Depakote, Divalproex	Depakene, Epival, Divalproex, Deproic	Depakote, Valproate, Epilim, Convulex
Vigabatrin (VGB)	(not FDA-approved)	Sabril	Sabril
Zonisamide (ZNS)	Zonegran		