CPNI
Cyprus Paediatric Neurology Institute
Παιδονευρολογικό Ινστιτούτο Κύπρου

INFORMATION FOR PATIENTS AND FAMILIES

Wearable devices for epilepsy monitoring

“Wearable” devices are small, comfortable sensors, worn on the wrist, arm or head or in the ear, that can detect possible seizures and send an alert to a caregiver’s phone or a bedside alarm. Some also help to record seizures more accurately, since roughly half of seizures in children go unnoticed by caregivers.

Why might my doctor suggest one?

- ✓ To warn a caregiver quickly if a seizure happens, so help can arrive sooner.
- ✓ To reduce the risk of injury, and possibly of SUDEP (sudden unexpected death in epilepsy), especially for children who sleep alone or in a separate room.
- ✓ To get a more accurate seizure count, which helps when adjusting treatment.
- ✓ To help during clinical research studies.

Which devices are currently available

Device	What it does	Age	Detection accuracy*	Approx. cost	Notes / availability
EmbracePlus (wrist)	Detects convulsive (tonic-clonic) seizures using motion, heart rate, skin temperature and skin conductance. Sends an alert via a smartphone app to chosen contacts.	6+	Sensitivity ~98% (GTCS ≥20 sec); false alarms ~0.05/day at rest	≈ $399 device + $17–53/month subscription	Ships to many countries, but Cyprus is not yet an officially supported country; check with the supplier before ordering.
Epi-Care Free (wrist or mattress sensor)	Detects convulsive seizures using movement only (accelerometer).	Wrist 10+; mattress 6 months+	Sensitivity ~90% (GTCS); false alarms ~0.1–0.2/day	≈ €2,000 (reimbursed by health insurance in Germany)	Available via a European distributor; ships to Europe.
NightWatch+ (armband, night-time use)	Detects night-time convulsive and generalised tonic seizures using heart rate, movement and body position. Sounds an alarm on a bedside base station; no phone or internet needed.	4+	Sensitivity ~86–100% (varies by study); false alarms ~0.03–0.04/hour	≈ €1,890 new (≈ €1,325 refurbished); 30-day trial	Ships to Europe.
EpiWatch (Apple Watch app)	Detects convulsive seizures using heart-rate changes and repetitive movement or falls.	5+	Sensitivity ~94% (GTCS); false alarms ~0.08/24 h (about 1 every 12 days)	Prescription-based, subscription pricing	Currently available in the USA only.
EpiHunter (headband with in-ear EEG sensors)	Detects absence seizures (brief lapses of awareness) using a simplified EEG. Records a short video before and after the event.	4+	Sensitivity ~92% (absence seizures); false alarms ~0.5/hour (many patients: none)	≈ £55–59/month (includes headset)	Ships to the UK and EU.
EPISERAS (custom in-ear device)	Aims to predict certain focal seizures 1–3 minutes before they start, sending an early warning to a phone.	12+	Sensitivity ~83–91% (varies by study); false alarms ~0.3–0.5/day	≈ €1,000–1,400	Spain-based company; availability and import should be confirmed locally.

*Sensitivity and false-alarm figures are taken from published clinical studies; real-world performance can vary by seizure type, patient age and how consistently the device is worn. GTCS = generalised tonic-clonic seizures. Prices and availability may change.

To see pictures of these and other devices, visit Epilepsy Action's epilepsy technology guide (epilepsy.org.uk) or the manufacturers' websites.

Smartphone apps such as SeizAlarm, OpenSeizureDetector or Inspyre (for Apple and Android smartwatches) are also available at lower cost. These are not medically certified (no FDA or CE clearance as a medical device); discuss them with your doctor before relying on them.

Important things to know

- ✓ No single device detects every seizure type. Your doctor will recommend the type that best matches your child's seizures.
- ✓ A device is only useful if it is worn consistently, and if a caregiver can respond within a few minutes of an alarm.
- ✓ Even the best devices occasionally miss a seizure or give a false alarm. They support supervision; they do not replace it.
- ✓ So far, no clinical study has proven that these devices reduce the risk of SUDEP or injury, although this is considered likely and is an active area of research.
- ✓ Cost and insurance coverage vary a great deal by country and device; ask your provider about reimbursement.
- ✓ Caregivers should also complete first-aid and seizure-response training.

Contact CPNI

Please discuss with Dr Paola Nicolaides, or your child's neurologist, which device, if any, may suit your family's needs. Call +357 22 476 627 or email cpni2007@gmail.com.

More leaflets and information: www.cpni.com.cy

This leaflet gives general information. It does not replace advice from your child's doctor.

Reviewed by Dr Paola Nicolaides, Consultant Paediatric Neurologist, November 2026.

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