Health Technology Review	
Technology Ref.:	HTA22064
Technology Name:	Stereo-electroencephalography (SEEG)
Approvals by International Bodies:	**FDA. EMA.**
Company name:	**Cleveland Clinic Abu Dhabi**
Agent in UAE:	Florian Roser
Email:	RoserF@ClevelandClinicAbuDhabi.ae

Short Description of the Technology:	Stereoelectroencephalography (SEEG) is a procedure in which intracerebral electrodes are placed in strategical positions of the brain. This is done to localize the origin of epileptic seizures and then offer epilepsy surgery to the patient

Health Technology Assessment Team Recommendation:	**Approve**

Summary of Review:

The technology is minimally invasive procedure (diagnostic surgery), It uses electrodes placed directly in the brain to identify where epileptic seizures start. It helps surgeons to allocate & monitor the seizures in the brain to target it in the surgery. it used in patients with epilepsy not responding to medical treatment, and who are potential candidates to receive brain surgery in order to control seizures.

Advantages	Disadvantages
Device is FDA and CE marked	SEEG surgery lasts about four hours and requires general anesthesia.
SEEG is a well-established procedure, it is a standard of care for drug resistant epilepsy management in Europe and North America.	Less feasible for young children and infants, < 2–3 years
SEEG proved its safety in comparison with other extra operative invasive monitoring methods, it reports a rate substantially lower than the complication rates reported for other methods as per available published studies.	Rare complications including hemorrhage (subdural, epidural, and intraparenchymal). Postoperative hematoma, usually seen as an immediate complication within 24 to 48 hours after surgery, and infections or wound-related problems.
The technique allows to give a full comprehension Neuropsychological evaluation prior surgery. It helps in allocating and pinpoint the seizure location to achieve the ultimate goal for the surgery which is patient seizure-free	
Removal of the electrodes is a simple procedure	

that only takes 10 to 15 minutes under local anesthesia.	
SEEG depth electrodes enable exploration of deeply located structures and lesions, and of buried cortex. SEEG can cover larger brain areas and, very importantly, it can be used to monitor both sides of the brain.	

We recommend an **approval of using this technology** with the following conditions:

1. Approval on Stereo-electroencephalography (SEEG) procedure.
2. Establishing a proper quality monitoring process and reporting of any adverse events or unwarranted consequences including safety issues of employees.
3. Provision of regular updates and reports about the product to DOH upon request.
4. Any other documents or information requested regarding the product and cost to finalize the approval process.

Moreover, DOH has the right to stop the product at any stage if deemed necessary, initial conditions and any subsequent conditions must be satisfied before obtaining final approval. Failure to do so will reflect in provoking the approval.

Technology Image

Population, setting and intended user for Technology "Stereo-electroencephalography (SEEG"

- **Population/ Intended User**;
  - Patients with epilepsy whose seizures do not successfully respond to antiseizure medication therapy is considered to have drug-resistant epilepsy (DRE).
  - Have focal epilepsy and seizures (complex partial seizures) that do not respond to two anti-convulsant medications or medical treatment.
  - Are a potential candidate for epilepsy surgery.
  - If the origin sites of the patient seizures can't be found with other tests.
- **To be performed by**:
  - By neurosurgeons
- **Clinical Setting:**
  - Hospitals, special surgery centers, operating room/theatre
- **Condition of use:**
  - As per the followed standards for epilepsy patients.
- **Exclusion criteria:**
  - Patients who are not eligible for brain surgery.
  - Other conflicting health issue that prevent from doing the surgery.