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Leveraging Electronic Patient Diaries to Forecast Seizure Risk

TS Alliance Town Hall

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Disclosures

- Patent related to systems for cluster detection

Gaps and research priorities in acute repetitive seizures (ARS) – aka seizure clusters

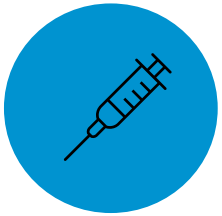
Variability in ARS definitions

Individualized ARS detection

Difficulty quantifying / recording ARS

Linkage with seizure diaries

Gaps in doctor-patient communication



Export algorithm outputs to EHR

Uncertainty about ARS timing

Predicting ARS

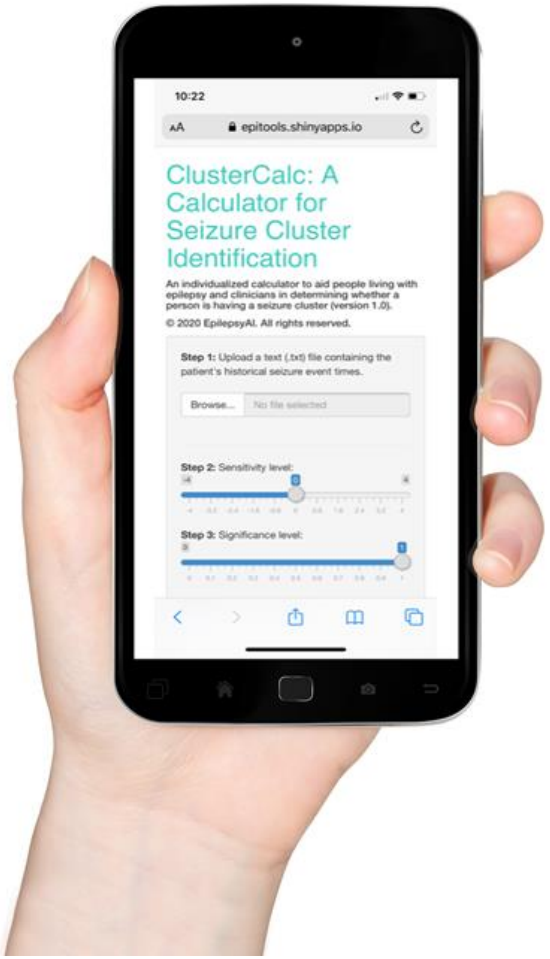
Acute repetitive seizures (ARS)

- Acute repetitive seizures are closely grouped series of seizures, with return to baseline between seizures
  - Considered a measure of seizure burden by many doctors – increasing occurrence of ARS may be a sign of worsening seizure burden
- Why is it important to communicate clearly with your doctor about seizure clusters?
  - Alert your doctor when epilepsy is evolving
  - Know when to use rescue therapy

Clinically used definitions

- 2 or more seizures in 48 hours
- 2 or more seizures in 24 hours
- 2 or more seizures in 12 hours
- 2 GTCs in 4 hours
- 3 focal unaware seizures in 4 hours

Software tools to individualize seizure cluster detection



- CLUSTERCALC™
  - Import seizures from e-diary and automatically determine what constitutes a cluster for you
  - For future seizures, tells you whether you should count this as a seizure cluster
  - Used to aid patient-doctor communication

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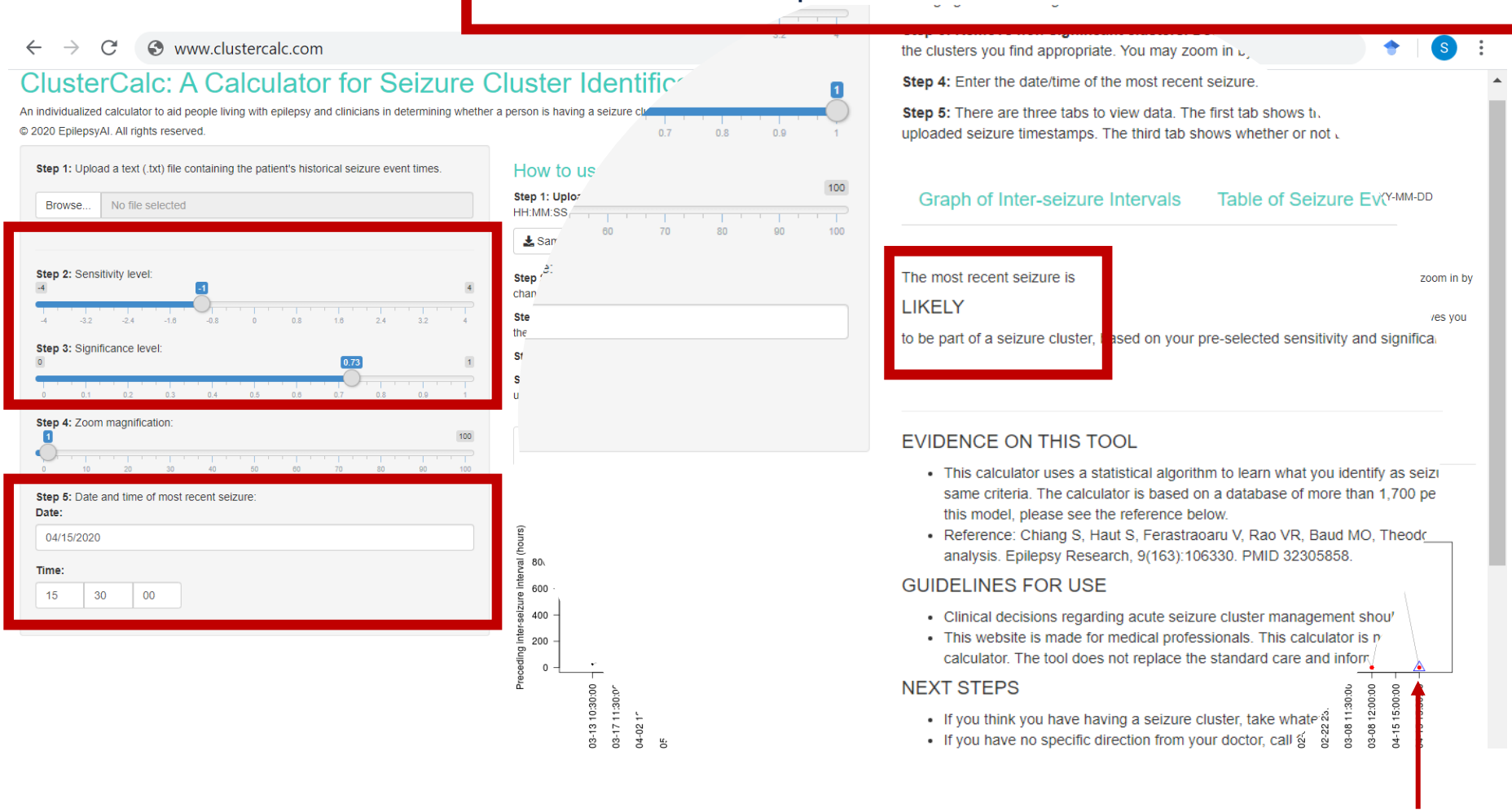
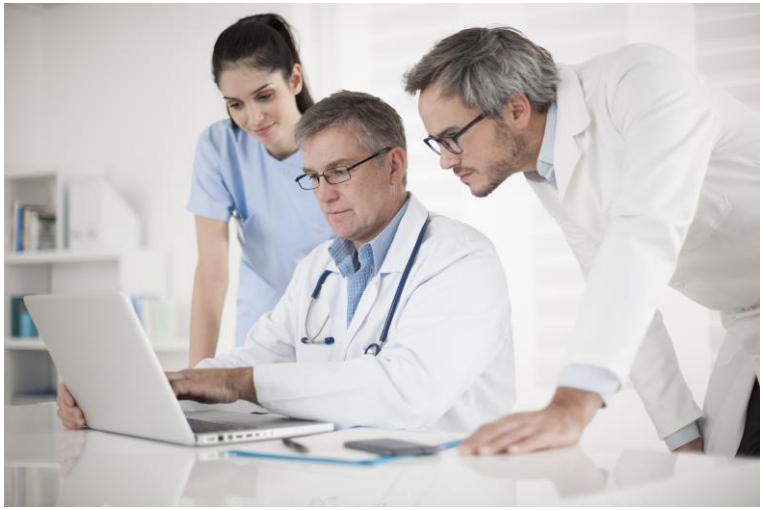
Features

- Thresholds are adjustable and set within patient-doctor communication
- Current tool can accept imported data files
- Can be linked up to electronic seizure diaries



Using e-diary linked algorithms to improve your own care



- Improve patient-doctor communication to tailor rescue medication plans
- Import your discussions directly into Seizure Action Plans
- Help your doctor identify when your epilepsy is worsening
- Communicate to your doctor what you find important to treat as a seizure cluster

On the horizon

- Predicting future high-risk times for seizure clusters
- Predicting when seizures clusters are about to terminate
- Predicting which seizure clusters will turn into status epilepticus