



Seizure Behavioral Testing Protocol (ROAR)

A standardized seizure behavioral testing protocol (ROAR) for enhanced diagnosis and care during video EEG monitoring.

IP Status: Copyright

Applications

- Seizure and Spell Behavioral Testing

Key Benefits & Differentiators

- **Concise and simple protocol:** Provides a simple method for seizure ictal and post ictal behavioral testing.
- **Easy to implement:** Protocol consists of a mnemonic that aids in memory for clinical utilization during seizure or spell clinical encounters while on video EEG and it takes less than 60 seconds to implement.
- **Standardization:** Provides a uniform method for assessing seizure semiology and localization, ensuring consistency across different epilepsy centers.
- **Enhanced Data Quality:** Improves the clinical quality of data recorded during vEEG monitoring, beneficial for patient care and research.
- **Research Facilitation:** Supports multi-center research protocols by providing a standardized approach to seizure testing.

Technology Overview

Researchers at the University of Minnesota have developed the ROAR (Remember, Object, Action, Read) seizure behavioral testing protocol that provides a standardized method for evaluating cognitive, memory, behavioral, and language functions during and after seizures. Over a decade of clinical application with 37,000 patients has shown that nurses are quickly able to learn the protocol, implement protocol in clinical practice, recall key components, educate other staff, and sustain this practice. The protocol includes ictal testing, where patients are given a unique word or phrase, shown an object, asked to perform an action, and read a sentence aloud. In the post-ictal testing phase, patients recall the given word and object, answer orientation questions, discuss their seizure experience, and read a sentence aloud again. This systematic approach addresses the current lack of standardized methods in ictal and postictal testing, which is crucial for characterizing seizures, aiding in pre-surgical planning, and diagnosing syndromes. This approach aids seizure doctors in during video EEG monitoring in seizure/spell evaluation and diagnosis.

Phase of Development

ROAR protocol has been successfully applied in patient care with positive feedback from a multidisciplinary team for ease of use and applicability.

Desired Partnerships

This technology is now available for:

Technology ID

2023-105

Category

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Researchers

- [Sima Patel, MD, FAES, FANA](#) Associate Professor, Department of Neurology

References

1. Bai, A., Lykken, L. A., Wang, P. P., Darrow, D., Hattab, T., Mueller, M., Halverson, M., Henry, T. R., & Patel, S. I. (2024, April 15), <https://docs.google.com/presentation/d/14a2rToYEhM2ZI7M4-Fsggz4BcPTeOfWP/edit?usp=sharing&ouid=114998283906841838484&rtpof=true&sd=true>, American Academy of Neurology, Poster Session