



Case Study

Zeto EEG: Meeting the Emergency Department Needs of Community Hospitals with Portability, Ease of Use and Patient Comfort





St. Joseph Healthcare, a 112-bed acute care community hospital in Bangor, Maine, and a member of Covenant Health, has recently implemented Zeto EEG system in its emergency department. **John Lee, RN, CEN, TNS, NE-BC, Director of Emergency Services and Respiratory Care Services**, shared his insights on how Zeto EEG has been addressing the Emergency Department's needs for rapid, portable EEG testing.

● **What's the biggest challenge your Emergency Department faces with respect to EEG access?**

The primary challenge in our department involves the timely execution of EEG tests and getting all staff on board. Our emergency department techs and certified nursing assistants (CNAs), who also perform EEGs when needed, sometimes view this as an added burden. To increase efficiency, we've developed a protocol: doctors place EEG orders in EPIC, triggering a notification to a designated pager. The tech then retrieves patient details, conducts the test, and informs the doctor upon completion for review and documentation in EPIC, streamlining the process and improving test management.

When we implemented Zeto, we trained all the techs in our emergency department to use Zeto headset for EEG exams. Over time, I've come to realize the benefits of having dedicated personnel for EEGs within our department, as proficiency increases with frequent use. Consequently, we plan to specifically assign techs within our emergency department for EEG tasks four days a week, for 10 hours each day. This approach should significantly enhance the efficiency of EEG services in our emergency department. While not conducting EEGs, these techs will assist with other departmental tasks. We'll consider expanding this model based on its success.

● **When do you need an emergency EEG? What are some typical scenarios?**

Typical situations necessitating EEGs include cases of altered mental status, alcohol withdrawal, seizure activity, and unresponsiveness.

● **Did you use different EEG equipment before switching to Zeto?**

Before Zeto, we utilized a traditional EEG machine with wired electrodes.

- **Why did you switch from traditional EEG to Zeto's Wireless, Rapid Portable EEG System?**

The switch to Zeto was influenced by the retirement of our experienced EEG tech and the aging state of our previous equipment, which, while still functional, was considered outdated and less efficient for training new staff. The discovery of Zeto system, recognized for its user-friendly design and ease of training, presented a timely opportunity to upgrade.

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A significant benefit of Zeto EEG helmet for us was its portability, allowing for flexible use across different rooms without the cumbersome process of moving patients or equipment.

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- **How long does it take to set up Zeto EEG?
How long is an average recording?**

It varies, largely dependent on the individual's experience. Newer technicians, including those without a college education who we're actively training, are finding success and developing valuable skills. For seasoned technicians, the process is naturally quicker. Patient cooperation and physical conditions also play a role, but on average, setup is about 15-20 minutes, with the EEG recording itself lasting around 35-40 minutes. As I mentioned before, proficiency increases with frequent use, so the setup time decreases if techs use it often.

- **How long did it take to set-up and record with the traditional EEG system you had before Zeto?**

I'd say the setup was longer because it involved individual lead, head measurements, and gel application, among other things. Clean up afterward was also quite time-consuming.

- **With Zeto headsets, do you typically run routine 20 to 40 minute EEGs, or longer?**

We only use Zeto for routine EEGs, it typically lasts between 30-40 minutes, aiming for a 20-minute session at minimum.

- **How was the training? When your team started using Zeto, how challenging was it initially?**

Using Zeto right after training is quite straightforward, making the process feel accessible from the start. The main challenge lies in administrative tasks like logging into the computer and resetting passwords, which initially consumes the most time. Properly fitting the helmet for optimal signal quality requires precision, slowing down the set up for beginners. However, with practice, understanding these nuances becomes second nature, enhancing efficiency.



- **How user-friendly does your team find Zeto's cloud platform?**

Our team finds the cloud platform very user-friendly. It's straightforward to operate, requiring only a few steps to enter patient information and start recording. The ability to annotate directly on the EEG waveform enhances our efficiency and accuracy in note-taking. Overall, it has been well-received by the team.

- **Which features of the Zeto system are you utilizing? For instance, are you making use of the artifact reduction or seizure detection tools, or remote access, report writer, or any other features?**

Techs don't generally use those specialized features directly. However, the doctor has the capability to go into the test and utilize tools like artifact reduction and seizure detection as needed during their review of the EEG results.

- **How many EEGs does your team run per week or month average?**

Right now, we are conducting over 15 EEGs per month.

- **How do patients react to Zeto headset? Any feedback?**

The helmet isn't heavy, but it can make staying still a bit awkward for patients. The absence of messy gels is a definite plus for everyone. Zeto's capability is currently limited to shorter sessions, up to six hours, which restricts its use for longer EEG monitoring needs.

“Feedback has been predominantly positive, with appreciation for the cleaner, gel-free setup overshadowing minor complaints”

- **What is the biggest difference between using Zeto and a traditional EEG system?**

The biggest difference really lies in the ease of setup. Traditional EEG systems come with a myriad of wires, but Zeto simplifies this with electrodes integrated within the helmet. This means you can easily see which electrode might not be making proper contact right from the screen (“Contact Quality” tool is very helpful) and adjust more swiftly. This is particularly user-friendly for novices, and seasoned EEG techs might find it even simpler, especially in emergency settings.

- **Overall, does Zeto EEG meet your department's EEG needs?**

I believe it's a suitable machine for our needs. While it does have limitations - for instance, it can't perform a 24-hour EEG like some other systems - its portability and user-friendly interface are significant advantages. Anyone can be trained to run a basic 30-minute EEG, which is very convenient. We may need to expand our EEG offering, but currently, it perfectly meets our needs.