

‘Section Time’, an iPhone application that captures key timings during operative birth, created with the help of ChatGPT

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Introduction

Operative births can require time critical anaesthetic management. Timings may be scrutinised up to years later should a poor outcome occur. Accurate documentation is therefore essential, however not easy when simultaneously providing clinical care under pressure. Anaesthetists often currently mark key timings intermittently on paper, a now outdated, inefficient and inaccurate practise. As smart phones are now often used to support anaesthetic practice¹, a mobile technology led method of logging data was developed, thus improving ease and accuracy of documentation and reducing cognitive burden.

Methods

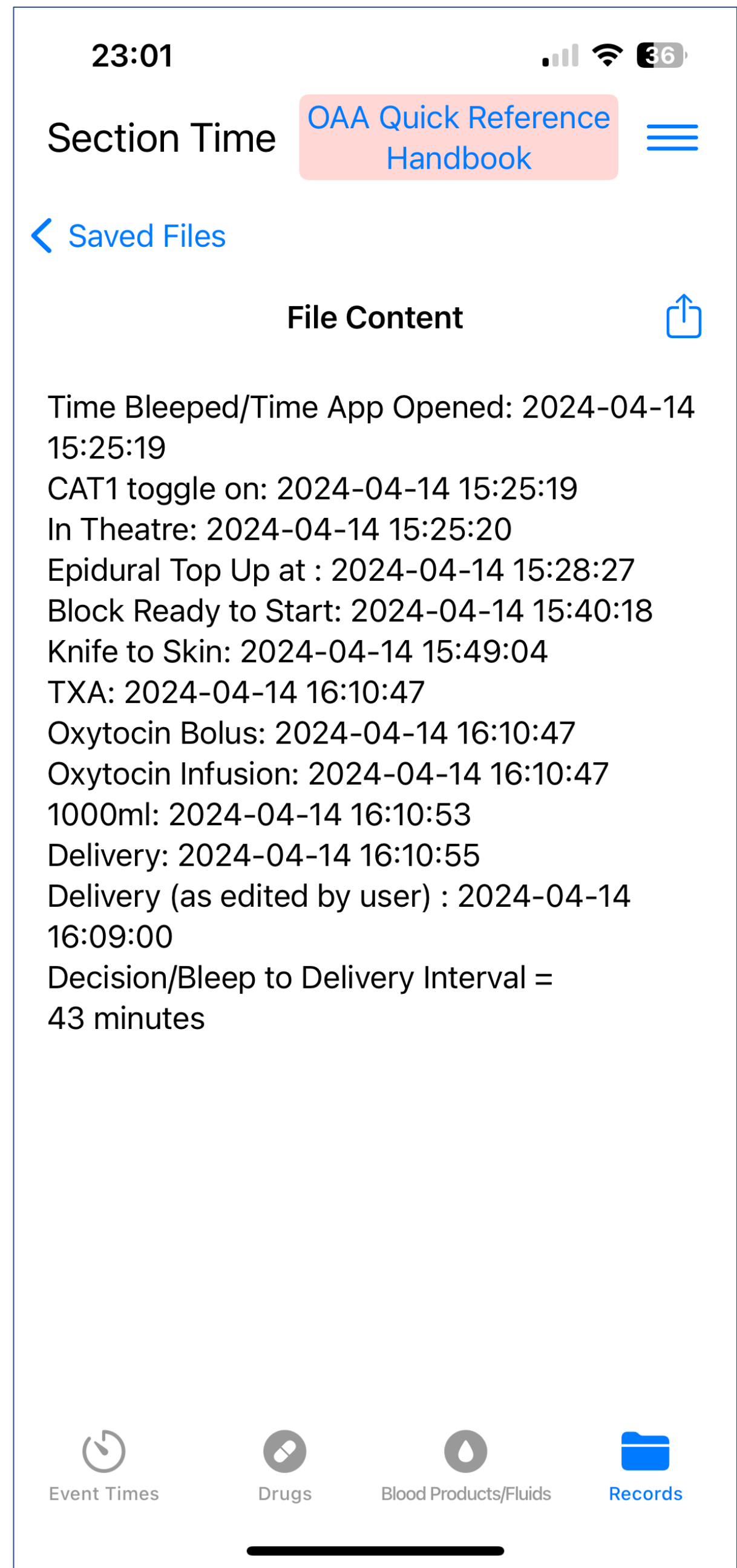
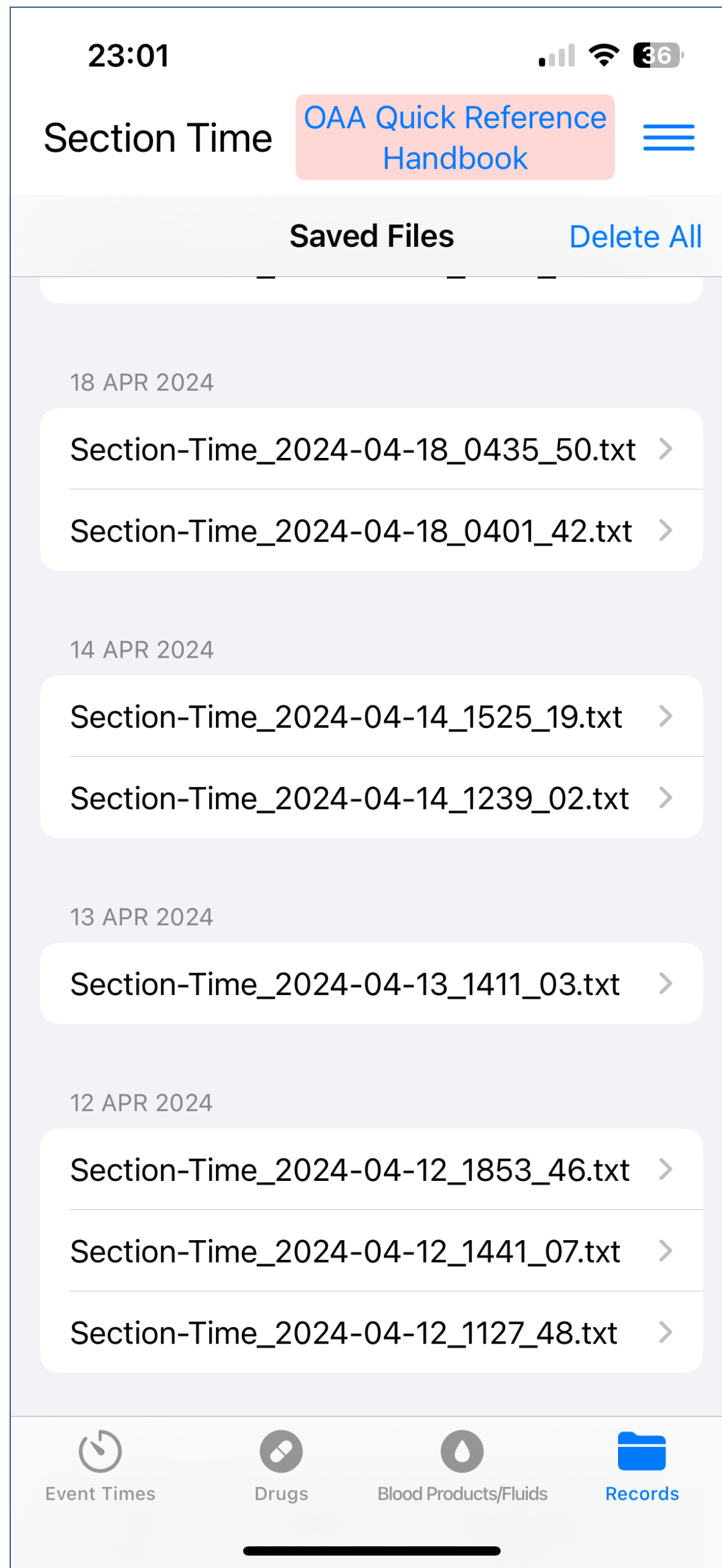
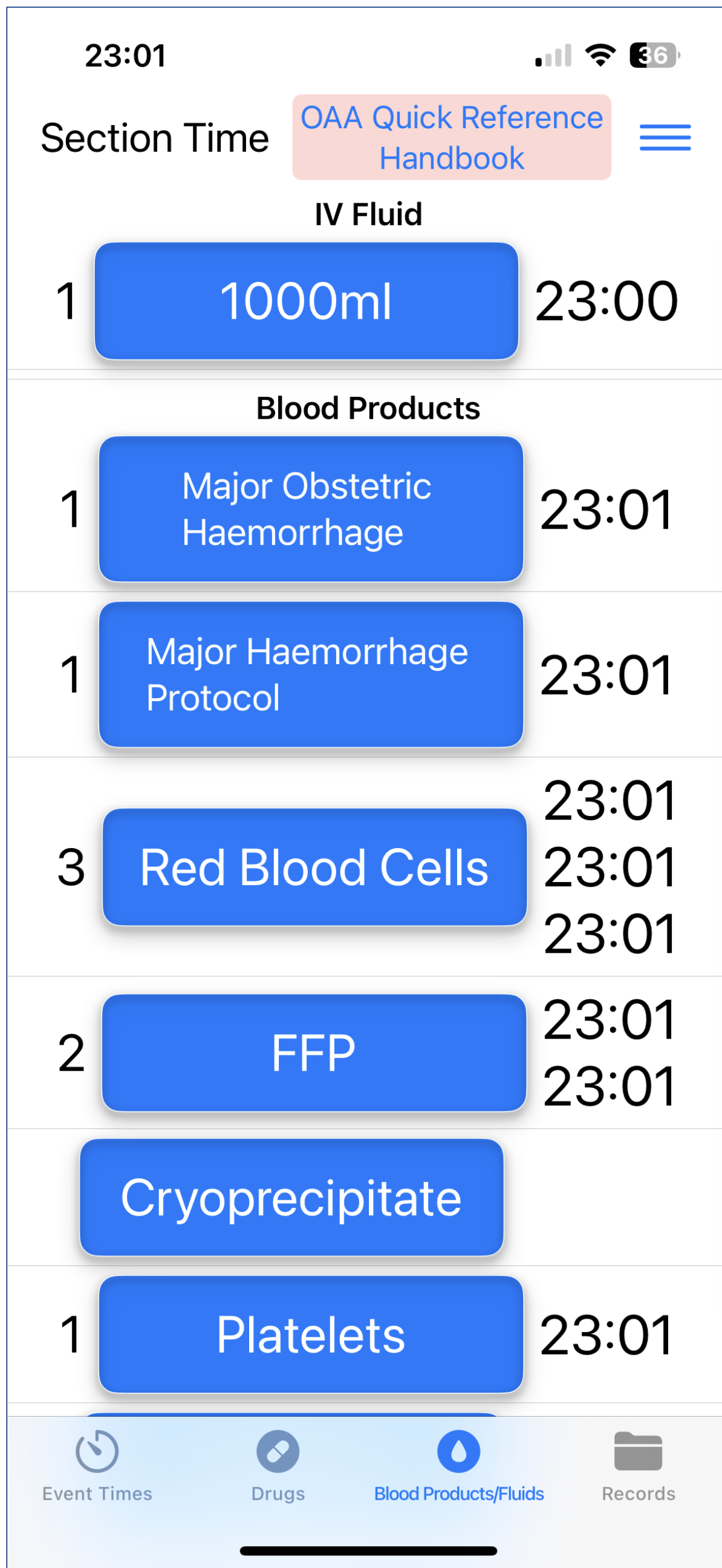
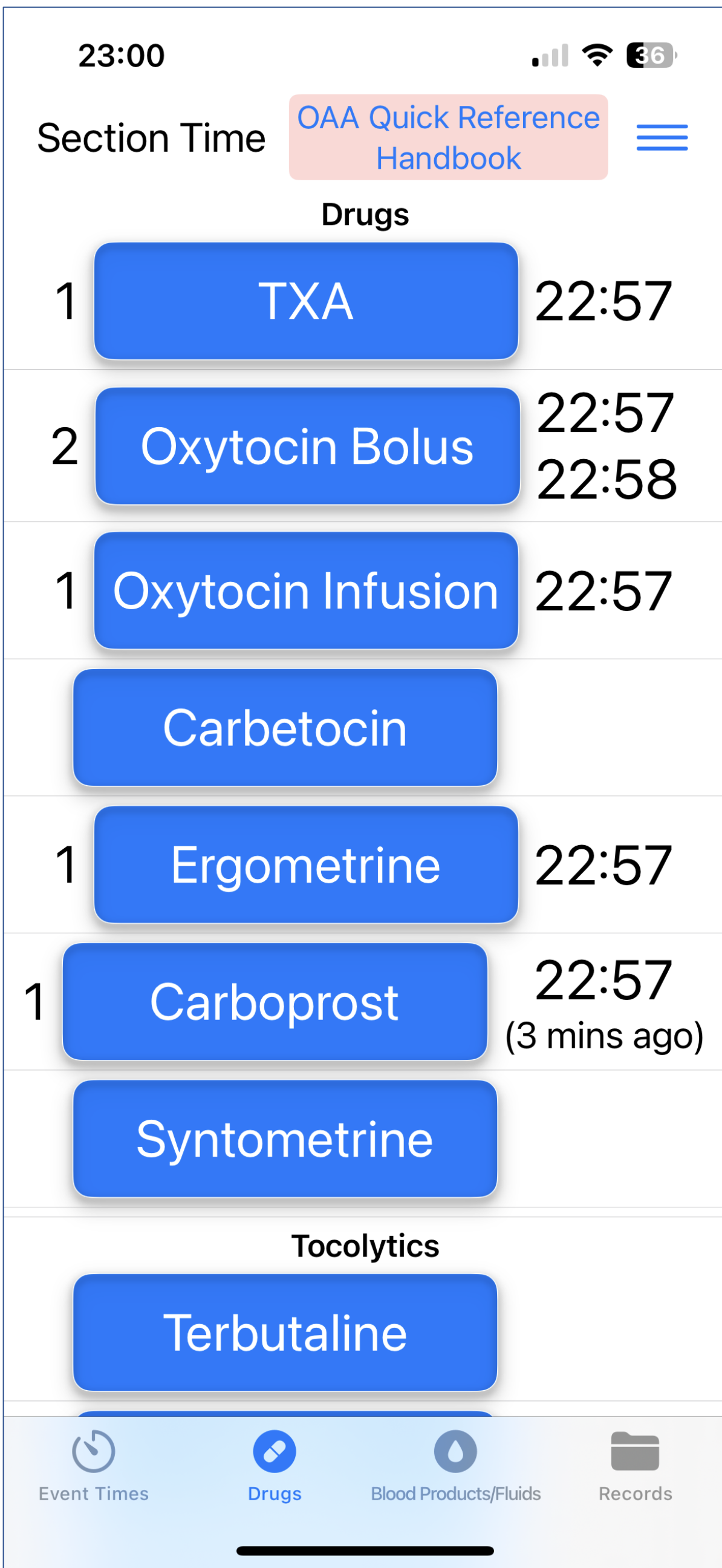
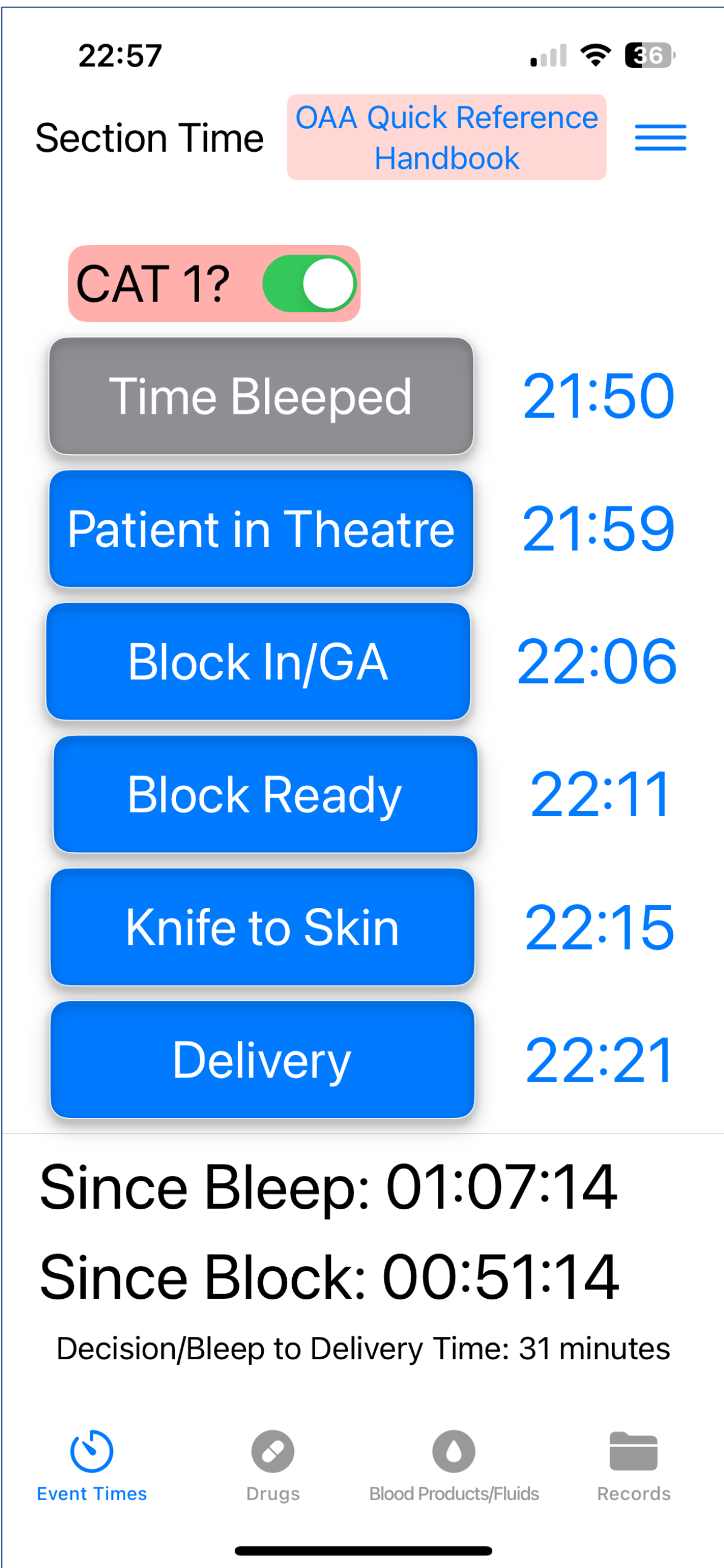
An iPhone application (app) was created to record timings from when the anaesthetist is first informed of a theatre case and then all subsequent key events. The generative artificial intelligence technology ChatGPT 4.0² assisted with creating the software code required for the application development. It was able to rapidly and iteratively generate code and troubleshoot any errors. I extensively and thoroughly tested the functionality of the app on all modern iPhone models using Xcode simulators. It took around two months of spare time to create the app.

Results

Opening the app starts the clock at ‘Time Bleeped’. Subsequent timings (e.g. ‘Patient in theatre’, ‘Spinal block done’ or ‘GA’, ‘Block ready’) are logged by one touch. There is no need to enter individual times. A stopwatch displays elapsed time since the decision to deliver and the time elapsed since the anaesthetic was completed. The same functionality in the app can be used to record timings of uterotonics, fluids and blood products. Customisable alerts are possible, for example time taken to attempt neuraxial anaesthesia, to reduce the risk of becoming task fixated, and reminders to check the evolving anaesthetic block, so as not to miss the chance to manipulate the block if needed.

Discussion

The application was well-received locally, and following updates based on feedback, it is now available on the app store. Leveraging modern technology, the documentation can be improved during the most time critical of anaesthetic cases. Artificial intelligence has been used by the non-specialist programmer with insight into topical clinical needs. Whether or not current anaesthetic documentation is still paper or has moved to digital records, this product fills the gap in an accessible, simple, rapid, one-touch recording of key operation timings that can be accessed later again to complete full documentation.



References

- Perkins EJ, Edelman DA, Brewster DJ. ‘Smartphone use and perceptions of their benefit and detriment within Australian anaesthetic practice.’ Anaesthesia and Intensive Care. 2020;48(5):366-372. doi:10.1177/0310057X20947427
- ChatGPT 4.0 artificial intelligence, by OpenAI: <https://openai.com/chatgpt>



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