

Communicating with Anesthesia Technicians in the 21st Century: An App-Based Approach to Supply-Chain Management

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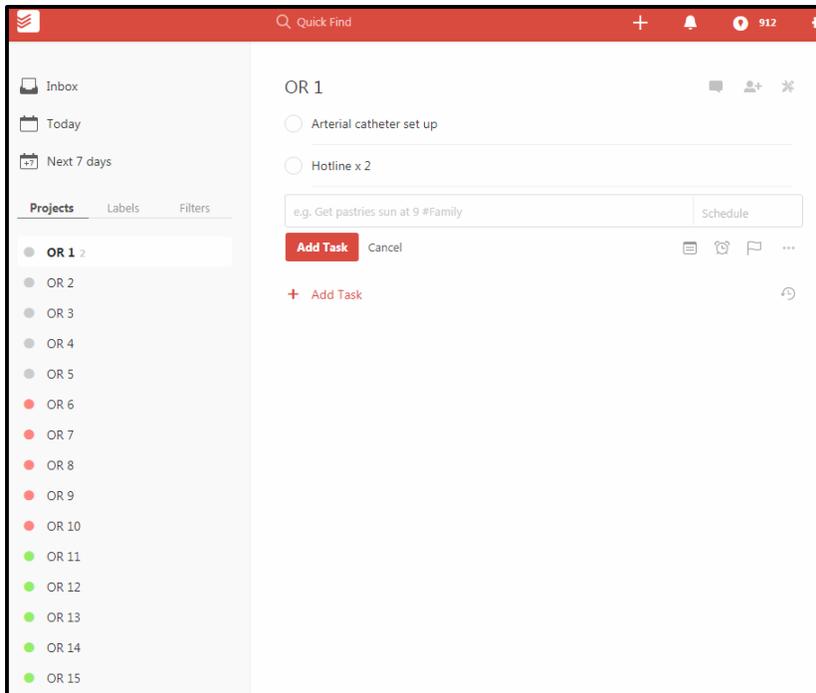
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Background: Primary methods of communicating between anesthesia providers and technicians include the use of telephones, paging systems, written notes, etc. Effective, efficient, and accurate means of communication between providers and technicians is crucial to optimizing operating room turn over and enhancing productivity. There are numerous free third party, web based applications for Windows, Mac, Android, and iOS platforms which offer the ability to create instant, auto-syncing lists of tasks that can be updated and tracked in real time. Integrating this type of application with the already existing internet enabled Local Area Network (LAN) is simple and would allow for a cost-effective method to improve supply and equipment management within the operating room environment.

Methods: *Todoist* is a multiplatform, customizable, auto-syncing web based application that allows one to create and organize lists of tasks. The application was initially setup in a way to include all of the hospital operating rooms from 1-20 as well as all off-site locations such as the GI, IR, and MRI suites. The application itself can be readily accessed with a web browser on Windows and Mac computers and can viewed via the *Todoist* mobile application on Android and iOS platforms. The anesthesia provider simply selects the desired location and then free-texts items that he needs for the first case of the day or next case. The anesthesia technicians check the application and see if there are any pending items associated with any location before case start. The technicians would then select and complete the items as they are finished. In an effort to facilitate use of the application, an iPad was hardwired and mounted on the wall next to the anesthesia stock room so the technicians would be able to easily access the information within *Todoist*. Both anesthesia providers and technicians were given a pre- and post-survey regarding the usefulness of the new application. Likert scales were developed to survey ease of use, convenience, and overall satisfaction.

Results: The pre-survey indicated that both anesthesia providers and technicians believed that the former method of calling or leaving notes could be improved upon. Users of the *Todoist* application reported that it was easy to use and served as a better and more accurate way to communicate between the two groups. The anesthesia providers could update the app the night before and the technicians could start completing their tasks when they arrived early the next morning without having to wait for a call or page. Also, the application could be easily updated between cases in order to facilitate efficient anesthesia operating room turnover.

Conclusion: Auto-syncing, multiplatform, web based task manager applications such as *Todoist* offer a cost-effective and simple way to easily improve communication between anesthesia providers and technicians in the context of improving anesthesia OR room setup ready time and



OR turnover. Having a hard-wired, wall mounted iPad with the *Todoist* application installed near the anesthesia supply room did allow the technicians to fulfill the requested tasks that were updated via the application. Additionally, technicians also were able to install the application on their personal mobile devices to further help facilitate their work. One complaint was the lack of push notifications when updating the application with new tasks/items. Future work will aim to create an

application de novo with this functionality and have it readily available on all OR computers. Also, a study will be done analyzing any difference with respect to anesthesia ready times before and after the integration of this *Todoist*.

Figure 1: Screenshot of *Todoist* web-based portal