Although we present these Methods in past tense, all software is currently in use. Microsoft software was used (Windows server 2008 R2, ASP.Net v4.0, and ASP.NET AJAX).

The SQL Server (Clarity) relational database is populated early each morning from the primary EPIC Anesthesia Information Management System (EPIC, Verona, WI) database (Chronicles). A scheduled task was set up on a local web server to run subsequently each morning. Each day, the anesthesia provider time-stamped data were extracted. Three tables of case numbers and times were built. One table was for the starting and ending times that each anesthesiologist spent on each case. These are the actual minutes supervised as used in the analyses (Table 3). The second computer table was the same, but for each resident physician rather than anesthesiologist. The third table was the same but for each CRNA. Residents and/or CRNAs who cared for patients with each anesthesiologist were determined by examining their starting and ending times for each case. Interactions of interest (≥ 60 minutes) were written to our local SQL Server database.

Supervision evaluations were completed via a web page on the department’s Intranet, following validation of the user’s credentials. Supervision evaluations were completed via a secure web page, customized for the rater's browser and device type (mobile or desktop). We validated that the web form rendered properly on all popular browsers and mobile devices.

An evaluation was opened by the rater (resident or CRNA) by clicking on the row of the request-for-evaluations webpage with the pending evaluation’s details. At the top of the specific evaluation page was the anesthesiologist’s name, anesthesiologist’s picture, date of interaction in the OR, and a list of procedures that were performed when the two were working together. The “procedure” displayed was defaulted to the scheduled primary procedure, unless updated by the circulating nurse in the OR. Responses were recorded in the SQL Server database.

There was a 99.93% uptime rate of the server. The 0.07% down time during the evaluation period was for scheduled maintenance. The number of connections made using mobile devices was calculated from the server log files, counting the number of times that the mobile style sheet was loaded. Most evaluations were completed using desktop-based browsers (86.8%). Although there were unlikely any Windows 7 and Windows 8 devices used for evaluation, they would appeared in the server logs as regular desktop devices instead of mobile devices. Therefore, these desktop device results may be slight overestimates.