

Welcoming in the 21st Century: Incorporating Photography into the Electronic Record

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Introduction

We established a program incorporating airway assessment photographs in the Presurgical Clinic (PSC) at UFHealth. Patients arrive prior to surgery at the PSC for patient education, information collection, optimization, and risk assessment. Now, three airway assessment photographs are taken using the Epic[†] Canto application and directly transmitted to the patient's medical record. This process is HIPPA compliant and generally accepted by our patients who come to the PSC

There were 3 main groups of barriers to overcome during its implementation: (1) hurdles with IT, (2) inertia to change, (3) issues with equipment. Insight into these issues may help other institutions transition more smoothly. We are looking for future collaborators to help improve the process and potentially work towards empowering patients to perform as much of the preassessment as possible from the comfort of their own home.

Barriers to implementation

Obtaining various IT permissions to launch the program proved challenging because although the technology was in place, leadership had not approved support for multi-user devices in Canto. In addition, different IT support services had separate roles in the implementation process: (1) registering the iPad minis with UFHealth IT for a fleet use capacity, (2) configuring the designated iPad minis, (3) granting access to Canto with UFHealth IT, (4) installing AirWatch Apple Management Platform, (5) assigning all users appropriate Epic credentials to be able to authenticate within the Canto application and use the devices.

Implementation of this new technology was problematic; the steep learning curve was met with some resistance from the new users. A month prior to the go-live date a trained nurse introduced the program in the PSC, taking the airway photographs of patients at the same time the medical technicians took their vitals. By the go-live date, the medical technicians had grown accustomed to the iPad mini 2 (Apple Inc., Cupertino, CA), thereby easing the addition of the technology to their workflow.

Illumination was also a problem since the iPad does not have a camera flash built in – the camera on the iPad was intended for FaceTime use, not serious photography. Multiple iPad camera flash attachments were tried to find the best for ease of use, battery life, and manipulability to angle into patient's mouth.

The perisurgical clinic routinely sees about 75 patients/day. Incorporating photographs to correlate to in-person airway assessment during the preoperative assessment visit was challenging. Since vital signs (VS) are routinely collected by the medical technicians in a discrete area in the PSC, this was the most opportune time in our clinic to obtain the photographs.

Go Live!

Train Medical Technicians on how to take a picture with Canto and upload to Epic:

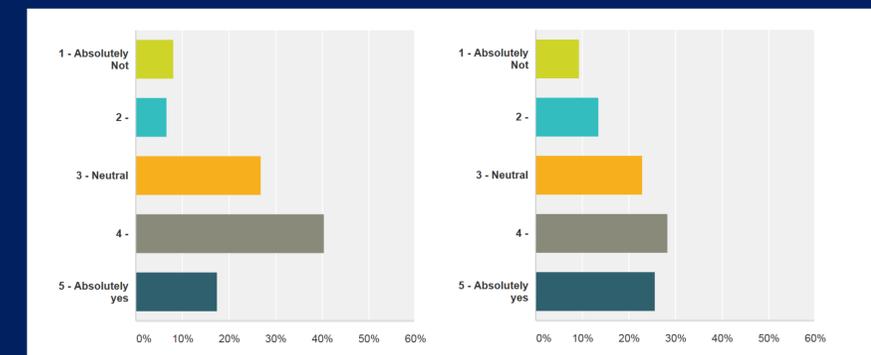
Airway Exam 1 "Please open your mouth as wide as you comfortably can and say "Aaaaaa".

Airway Exam 2 "The next picture will be a profile view. I need you to jut your lower jaw out as far as is comfortably possible, extending your lower jaw and teeth, if present, past your upper teeth."

Airway Exam 3 "For the last picture, please scoot up on the chair a few inches. Next, as comfortably as is possible for you, tip your head back and look up at the ceiling."

Please see video to demonstrate use in our clinic!

Results



"Did the pictures you see, help prepare you to take care of your patient?" (p<0.0001)

"Did the pictures of the airway assessment improve your satisfaction with the preoperative assessment?" (p<0.0001)

Future Directions

Currently patients can use the MyChart[®] app to communicate with their physician, look at future appointments, and see their medications. Other institutions are using similar apps to give NPO instructions and parking direction. Incorporating images, such as these, into an app or via telemedicine could improve patient satisfaction without reducing quality for anesthetic preassessments. We are looking for partners to move forward in that direction.



[†] - Epic (Epic Systems Corporation, Verona, WI) is an electronic health record software used by a large portion of Hospitals. More information about Canto can be found at <https://itunes.apple.com/us/app/epic-canto/id395395172?mt=8>

^{*} - AirWatch (AirWatch, LLC, Atlanta, GA) Apple Management Platform is a multi-user, standard lock-down profile, with wireless connectivity and the ability to track assets on devices

[®] - MyChart (Epic Systems Corporation, Verona, WI) can be found at <https://itunes.apple.com/us/app/mychart/id382952264>