



Content

This poster will describe our experience in implementation and utilization of whole slide imaging (WSI) as a teaching tool for the pathology residents in Henry Ford Hospital, Detroit as well as our initial efforts to use WSI at institutional tumor boards.

Technology

- Health system network
- Roche Ventana iScan HT Whole Slide Scanner (Roche Diagnostics Corporation, Indianapolis, IN). Capable of scanning up to 400 slides at one time.
- Internet Explorer 11 for access to Roche Ventana Virtuoso WSI viewing software
- Basic Windows workstations as deployed throughout HFHS
- CoPathPlus (Sunquest Information Systems)

Design

- Glass slides were scanned for practice over several weeks
- Experience quickly showed that the iScan HT could be used to improve quality and efficiency of weekly unknown slide conference
- A proposal was made and accepted to pilot this process
- Usernames and passwords were given to all the residents
- Initial reluctance and resistance from the group to use WSI
- Concordance studies were presented in monthly journal club
- Autopsy presentation was given using WSI
- Informatics lectures, luncheon meetings
- Grand rounds presentation on novel ways to use WSI were shared with the residents and other members of the department

This resulted in marked increased interest. Following this a schedule was established to scan slides...

--Who scans slides?

--How do they know to go look at this?

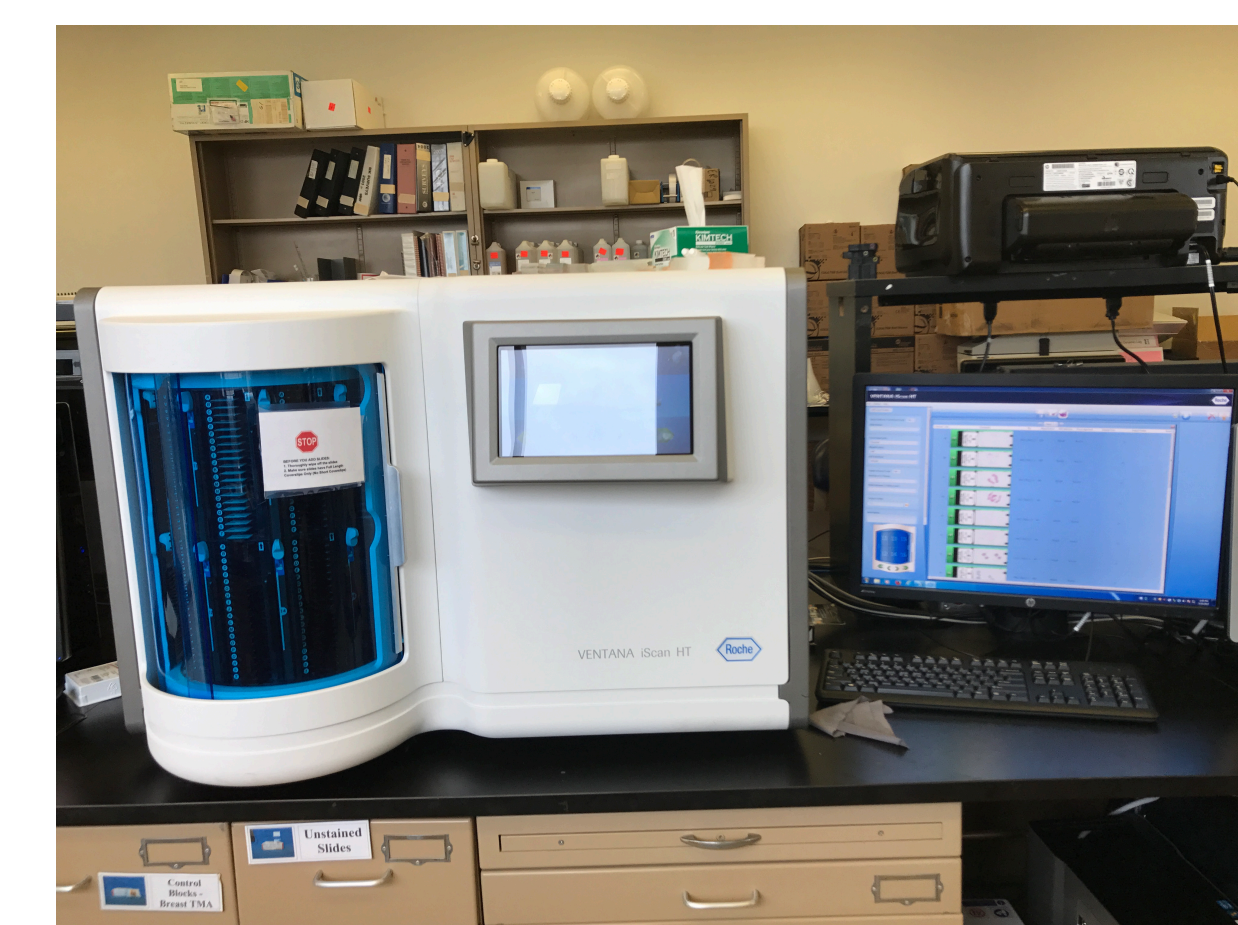
Soon interest grew from attending physicians to use WSI for a subset of tumor boards. Same procedures used for scanning slides for unknown conference were applied.

Old format of unknown conferences

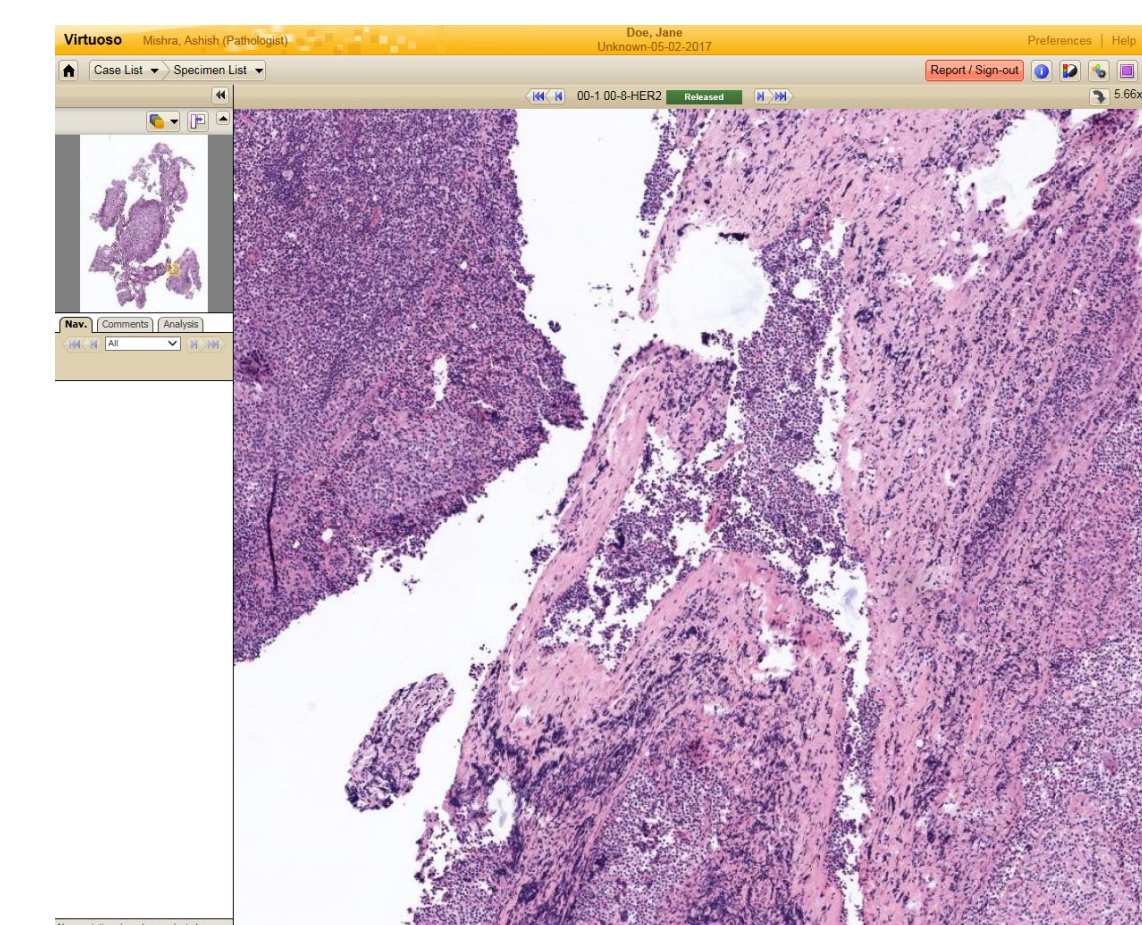
- Ability to accommodate 10 residents (out of 16) on the multi head microscope
- Rest of them look at TV screen connected to the microscope
- Crampy seating
- Neck pain



New format



Roche Ventana iScan HT



Virtuoso software

Advantages of using WSI

- Ability to preview slides from anywhere using VPN
- Much more time for the residents to preview slides
- Ability to zoom out to a very low magnification (useful in slides of globe of the eye)
- Multiple users can preview all the slides
- Less time in preparing for institutional tumor boards
- No limit on the number of participants in a teaching conference
- Teaching is easier and better appreciated

Results

- In Oct 2016, first unknown slide conference was presented using WSI
 - Nuclear contours and nucleoli were clear
 - Navigation was easy
 - Response time was excellent
 - There was no screen lag
 - Residents and attending loved the new format
 - More than 25 unknown conferences have been presented till date using WSI
- Audience in the GYN tumor board want to look at the whole slides and not just snapshots of areas of interest
 - So slides were projected via a microscope connected to TV in the tumor board conference room (stressful and inefficient task)
 - In Nov 2016, GYN tumor board was presented for the first time using WSI
 - It was easy to explain everything in detail using WSI without fumbling
 - Response was overwhelming among attending, clinicians and residents
- Breast radiology – pathology correlation conferences are now being regularly presented using WSI

Conclusion

- WSI is a useful tool for teaching and presentation purposes
- Its easy to implement and integrate into our day to day practice and resident training
- The initial reluctance to use WSI is high BUT enthusiasm increases once it is implemented into regular practice
- Provides efficiency and ease of collaboration in both educational and clinical case review settings such as tumor boards

Future Directions

- Extension of WSI to all institutional tumor boards
- Switch to WSI for all slide conferences and clinical case reviews
- Primary diagnosis using WSI
- Setting up workflow for remote consultations using WSI