PHILIPS

Informed Perspectives

A discussion with Dr. Julie Steele

Dr. Julie Steele is the Department Chair of Pathology for Scripps Clinic Medical Group and the Service Line Director for Oncologic Pathology for the Scripps MD Anderson Cancer Center.

Q: What challenges is your department facing?

Dr. Steele: Our challenges are that we are spread out, covering three hospitals, trying to make sure we cover the frozen sections and the procedures at all those hospitals while at the same time, maintaining subspecialty sign out, and having the most appropriate pathologist sign out a particular cancer type. That's probably our biggest challenge, being spread out while trying to be subspecialized.

Q: Can you describe your workflows?

Dr. Steele: We have a very complex workflow process. Tissue comes in and it goes through many, many stages of being "touched" through the process, so the tissue has to be what we called "grossed" by the PAM pathologist. Then it goes into a cassette where it then has to be taken off to a histology laboratory.

It has many, many points where it's touched. Then eventually once it comes out of the histology laboratory, we have glass slides. Then that workflow then leads to distributing those slides to the pathologists across the system. You have to have a pretty well thought out process to make sure that the slides are distributed evenly to people and also to the right people. You don't want to overload any one pathologist, but you also want to make sure that the pathologist that subspecialize in certain areas get the right types of biopsies and surgical specimen. It's a complex workflow.

Q: What kind of workflow challenges do you face?

Dr. Steele: We have a lot of challenges, particularly related to keeping a specimen identity, making sure we keep that patient's identification on that specimen throughout the entire process. Obviously, the worst case scenario is if anything ever got mixed up and mislabeled. There are many, many points in the process where that could possibly happen. We go through, go to great lengths to make sure that does not happen, but it's always a risk and it's one of the biggest things we worry about in pathology.

We currently have a fairly manual process, unfortunately. It's making sure that everything gets checked and triple checked. We do have some technology that helps us. We have cassette labelers that print the number onto the cassette and link it to the case in the computer. As we go forward, we hope to link our EMR to the specimen process so that there's barcoding throughout the entire process. Then also link that to our EMR through barcoding to our specimens digitally as well. We haven't reached that point yet, but that's the goal by summer of next year to get to that point - to interface the EMR with the digital pathology.

Q: How did COVID-19 affect your department?

Dr. Steele: So the biggest challenges we face with COVID is that our clinical lab has been extraordinarily busy. Within anatomic pathology, we initially, when everything kind of shut down, we went to 50% because our workload drastically dropped because they just shut everything down. There was no elective surgery, there was no biopsies, just a few critical cancer cases were coming through. We kind of had to cut back our staffing and keep about half the department at home kind of on standby just to make sure we protected the department and to keep things moving still.

Q: How has technology changed the role of pathology?

Dr. Steele: I think we have been very far behind most other specialties for quite a while. We've watched radiology advance and use complete digital and get all kinds of IT support, and pathologists have been kind of stuck in the dark ages with our wonderful microscopes. I think finally, in the last five to ten years, we have started to shift towards being able to use more digital images in both our Tumor Boards, in our presentations to each other, showing cases to one another. Finally now, we can sign out a primary diagnosis. We're just getting started with that, but it's very exciting.

I think digital pathology, by allowing us to have experts in remote sites real time read a case with us, I think it basically just shrinks the world. It makes us have access to people. It might take a greater amount of time to send a case to them, but I think it'll bring us closer together and give us the ability to give patients even better quality diagnoses.

Q: What difference does digital pathology make to your workflow?

Dr. Steele: Digital pathology is revolutionary for us because, as I was explaining before, in our workflow, it's so complicated - we're spread out on different hospitals, we're covering different services and we have subspecialists that are isolated at different sites. Currently, or up until now, we have had to move glass slides with couriers, which takes time, to all these different sites. Now, with digital pathology, we're able to move those images instantly to each other and show each other cases and sign out cases when we're stuck at this little hospital up in North County. At any point, where we're not at our supposed home base office, we can receive our slides in a much more timely manner.

Manual processes lead to error, generally. I think we have a lot higher risk of error with a manual process, but we still have a lot of manual processes. Like I said, until we're able to interface our digital pathology with our EMR, we will just continue to have some risk of those kinds of mistakes.

Q: Why is standardization of workflows necessary?

Dr. Steele: Standardization is important. We've certainly been faced with those challenges in the last couple years because we've merged two different pathology groups that covered two, three different hospitals. We merged into one. In the last three years, we've been faced with trying to standardize all of our processes. It's so important, because it helps to minimize error if you have staff doing things the same way at both sites. It helps to reduce the risk of error, so it's very important and it's not always easy to implement though.

Standardization, for the patient means patient safety. It means that they can feel more comfortable that their specimen is being handled the same way no matter which hospital they go to and that they'll get a quality result in a timely manner. I think that's important to patients from that perspective. Even if they don't think about it or realize it's happening.

Q: How will digital pathology affect patients?

Dr. Steele: I think there's multitudes of impacts on the patient that digital pathology can have, whether the patient realizes it or not. The clinicians are going to see an immediate impact first. Say a surgeon takes a breast specimen, and there's a positive margin. The pathologist has called that margin positive and the surgeon maybe is questioning, "I don't know. I don't really believe that that margin is positive. I'm sure I got around it." I can call her up and we can look on the computers screen together and look at that margin. I can show her exactly where that tumor extends to that margin. Then she more confidently can go back and talk to the patient and say, "Yeah, the, the tumor did unexpectedly go to the margin, so we need to go back and get more tissue."

Then, of course, being able to show more experts cases more easily. That benefits the patient too because they get a better quality diagnosis, a more confident diagnosis if more people had been able to review the case quickly.

Q: What impact does digital pathology have on staff?

Dr. Steele: I think this technology is going to help the pathologist immensely in reducing some of our stress. That is mainly because we're here, we're ready to do our work, and sometimes we're just waiting. Then you'll get a pile of slides on your desk and you've got to finish that in a few hours, and you feel like you wasted two hours before that and you could've just been moving through your cases.

I think that digital pathology, with the way we're going to set it up with being able to scan in the histology lab as soon as the slides come off of the stainers, they will appear in our work lists, on our desks immediately. We won't have to wait for that courier process, the collating with the paperwork, all that stuff. It'll be much more real time. I think that's going to make the pathologist much happier and feel like their day is much more efficient.

Q: How will digital pathology change workflows?

Dr. Steele: I think digital pathology will immensely improve the workflow and efficiency of the pathologists themselves and their overall happiness, because it's going to allow us to receive our slides in a much more real time fashion. Whereas right now, we wait for the slides to be packaged up from the histology laboratory, sent to us, collated with paperwork. We have to wait for all of this. Sometimes we're sitting there in our offices for a couple hours between those packets of slides, those dumps of slides. Then, you get a huge stack of slides on your desk towards the end of the day and you just panic because you have to get all this work done before the end of the day.

This way, I think the slides will come out in a more real time fashion where they're scanned as they come off of the stainers. We will be able to read them just sort of continuously all day long and have a much more smooth and efficient work day.

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