Roundtable: Expert Perspectives on X-Ray Over-Read Strategies in Urgent Care

Urgent message: To ensure a high quality of patient care and reduce the risk of medical errors while also controlling administrative overhead, every urgent care center should have a clear policy and process for radiologist interpretation of x-ray images, image over-read, or both.

Introduction

As health-care costs continue to multiply, it is important to consider money-saving measures across the board. Radiography is an essential service in differentiating urgent care centers from primary care and other providers, and it enables rapid diagnosis of common presentations, from fractures to pneumonia. But when offering radiography as a service, urgent care operators should be strategic about when and how to read images in-house versus sending them out for interpretation by a third-party radiologist—which can take longer and add expense to the treatment process. Clinicians in urgent care must weigh several factors:

- Speed of service
- Patient satisfaction (from getting a correct diagnosis in a timely manner)
- Liability protection
- Cost

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This roundtable discussion provides insights on questions considered by urgent care operators when choosing and using over-read radiology services.

Policy Basics

Ayers: What are the essential elements of a radiology over-read policy for urgent care?

Cohen: The policy should state its purpose. For example: "To ensure that the patient has quality care, all high-risk x-rays will be over-read by a licensed radiologist." It should also spell out a time frame for over-reads and who will do them. The policy can specify categories for mandatory x-ray over-reads, such as pediatric, chest, cervical spine, skull, and facial bones.

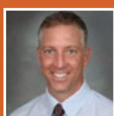
Chou: The first most important element of a radiology over-read policy is to determine what films must be over-read (all films, discretion of the provider, patient

Moderator

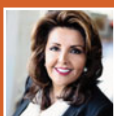
Alan A. Ayers, MBA, MAcc, is Practice Management Editor of the *Journal of Urgent Care Medicine*, a member of the Board of Directors of the Urgent Care Association of America, and Vice President of Strategic Initiatives for Practice Velocity, LLC.

Panelist Profiles

Victor Chou, MD, is Lead Physician at Lake After Hours Urgent Care in Denham Springs, Louisiana.



David Cohen, MD, is Medical Director for Teleradiology Specialists in Phoenix, Arizona.



Soraya Nasraty, MD, MMM, CPE, is Medical Director for Norton Immediate Care Centers and Risk & Safety—Norton Medical Group.

Lee A. Resnick, MD, FAAFP, is Editor-in-Chief of the *Journal of Urgent Care Medicine*.

desire, etc.) and communicate this to the staff and patients so that there are no misunderstandings. The second most important element is to have a mechanism in place to ensure that all films sent for over-read are actually read, and that results are given to the provider to review (and possibly to the patient, depending on the clinic policy).

Nasraty: Agreed. The policy also should define when the x-rays will be over-read (turnaround) and how the provider or center will be notified when the radiologist notices a discrepancy with the preliminary reading by the provider.

Resnick: Some urgent care centers do not require over-reads for long-bone x-rays, whereas some leave it entirely up to the discretion of the provider. Those that demand over-reads for all films will want to set up clear expectations for the teleradiology partner regarding several parameters, including

- Timeliness of over-reads
- Policy for stat reads
- Reporting clinically significant and/or potentially life-threatening findings
- Process for sending and receiving reports
- Reporting discrepancies
- Regular quality-assurance (QA) and performance-improvement programs

Which Films Get an Over-Read?

Ayers: What types of films are typically read by a consulting radiologist in urgent care?

Cohen: Most centers will send all or a majority of cases for interpretation. The percentage of centers sending all studies for over-read increased to 58% (from 51%) in 2015, according to the benchmarking data from the Urgent Care Association of America (UCAOA). The few that send only select cases often will send all chest and abdominal studies.

Nasraty: In our centers all our films are read by a consulting group. They consist of plain films such as chest x-rays, abdominal x-rays, and those of the bones, because we mainly see patients for mild illnesses and injuries.

Chou: I tend to over-read all chest x-rays as well as x-rays that can be complicated, such as cervical spine x-rays, or x-rays with hardware like pacemakers and orthopedic devices. Of course, each urgent care center or practitioner should have their own guidelines as to which films will need to be looked at by a radiologist. There is a financial question to consider as well.

Resnick: It is dependent on the requirements and risk tolerance of each owner or operator. Most of the large networks will choose to apply a more programmatic policy and procedure to mitigate risk. The reason for this is that large groups have less hands-on control over each provider, and they recognize that considerable variability in proficiency and training is the norm in urgent care. Smaller groups may feel more confident in the decision-making of their providers and therefore are more comfortable with less-stringent protocols.

Confirmation Versus Diagnosis

Ayers: What is the difference between reading for confirmation versus reading for diagnosis?

Nasraty: Confirmation is when they are confirming the preliminary read by the provider in the center. Reading for diagnosis would be when there are signs and presenting symptoms and the provider is wanting to get an idea of what is going on. Most of ours are confirmatory because we do not perform ultrasounds or computed tomography scans.

Cohen: The approach is the same for the radiologist. Our reports will always include descriptors and pertinent negatives because the reports will become a part of the patient's medical record.

Clinical Outcomes, the Patient Experience, and Liability

Ayers: How does an effective over-read policy impact clinical outcomes and the patient experience? What about professional liability?

Cohen: Accuracy should be a top priority for urgent care centers to consider in their over-read policy, not only for the safety of patients but also for the health of the clinic. An x-ray misdiagnosis can lead to a very serious or even life-threatening adverse outcome for the patient, which would result in exposure to medical liability. Additionally, with the widespread use of social media, even a minor misdiagnosis without an adverse patient outcome can have negative impact on the reputation of an urgent care center if the patient chooses to post unfavorable comments online.

Chou: It is vital for an urgent care to have access to over-reads. Urgent care providers are largely not radiologists by training, so it improves clinical outcomes to have a specialist who can review questionable findings. That can result in cost savings to the patient if something that is initially concerning to the urgent care provider ends up being read as benign or not fractured by the radiologist, saving the patient additional time and money.

Nasraty: I think if you have a good policy and turnaround, it not only helps you provide good-quality care efficiently but also makes for a great patient experience. Knowing quickly whether an injury has caused a fracture or a sprain makes a major difference in time lost from work and in quality of life.

Resnick: I agree. Over-reads mitigate much of the risk around x-ray interpretation for urgent care providers. When a nonradiologist reads an x-ray without over-read, they are going to be held to the standard of care of a radiologist reading the same film. So if the urgent care provider misses a Lisfranc injury, for example, that would have clearly been seen by a radiologist, then this failure to diagnose would likely fall below the standard of care. Likewise, a patient may follow up with a specialist who disagrees with your interpretation. Having a radiology over-read to back up your decision-making is very helpful.

Turnaround

Ayers: How important is rapid turnaround for x-ray reads?

Chou: X-rays reads should be turned around within 24 hours, even on weekends and holidays, and a mechanism should be in place for stat reads if needed. Patients expect prompt over-reads when they present to an urgent care. Current technology allows digital films and the ability to send x-rays to off-site radiologists, so in the year 2016 there really is no excuse for more than a day's turnaround time.

Cohen: Providing a rapid read when there is an emergency clinical situation is very important. It is becoming more standard in the indus-

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try, with 28% of reads in 2015 being returned in an hour or less—up from 21% in 2014, according to the UCAOA benchmarking data. In the nonurgent setting, the more important factor is communication of positive findings or findings that are discrepant from the provider's impression at the time of the patient encounter.

Nasraty: This is absolutely key. For us it is 1 to 2 days during the week and 2 to 3 days on weekends, which could be improved upon, especially when there is a long weekend involved.

Resnick: Perhaps the most critical of needs for a typical urgent care provider is rapid turnaround. The reason for this is obvious, given the fact that the urgent care provider is determining a treatment and follow-up plan based initially on a wet read. [*Wet read* originated as a term used to mean a rush read done when hand-processed x-ray films were still drying after time spent in chemical film-developing tanks.] If the plan needs to change on the basis of a formal interpretation, then the sooner, the better.

Quality Assurance

Ayers: What quality-control measures should an urgent care operator expect from a consulting radiology group?

Cohen: Radiology groups must to perform peer-review QA in accordance with the recommendations of the American College of Radiology. We randomly select 2% of cases each day and submit them to the QA committee for review. The QA statistics are calculated weekly and monthly for each radiologist, and recurring QA issues are addressed. In addition, there should be a medical director or chief medical officer within the group who is actively involved in the QA program to review the results regularly. An urgent care operator should expect to have access to the QA data and have the opportunity to discuss any quality or accuracy concerns.

Nasraty: I agree that the radiology group should periodically review the x-rays in connection with injuries, to see whether a fracture or other abnormality was inadvertently missed. We sometimes ask for a reread, but to my knowledge, the group we work with does not give us its measures. It would be good to review chest x-rays in the same manner periodically.

Resnick: Monthly QA review is typical. And the minimum standard is to review all discrepancies between urgent care provider and radiologist. The radiology group's medical director should also do random image audits of a variety of films for each of the radiologists on staff.

Technological Integration

Ayers: How does technological integration affect the process?

Chou: A system that allows for taking digital images offers benefits. For an urgent care network with multiple locations, images can be sent between clinics to assist with patient follow-up. Also, providing images to the patient in the form of disks is easily done. Finally, digital systems allow for near instantaneous transfer of images to a radiologist if stat reads are needed.

Cohen: Technological integration for urgent care centers should be a very easy and straightforward process in most cases. Compression, encryption, and transmission of DICOM [Digital Imaging and Communications in Medicine] x-ray images is standard and can be quickly accomplished in most cases. Older virtual private network technology is no longer required, therefore saving cost and eliminating information technology maintenance requirements.

Nasraty: On the other side, radiologists should have access to the electronic health records so they can see what the patient presented with and what the examination showed. They also should have access to see what the assessment, plan, and discharge instructions were.

Resnick: Electronic medical record integration is a major contributor to the success of a teleradiology program. The integration ensures accurate reporting and timely review of results discrepancies. It also reduces unnecessary scanning and other manual work that creates inefficiencies in work flow.

Conclusion

The experts agree that every urgent care that provides radiography should have a policy for over-read. Practices vary: no outside radiologist used versus selective over-read of non-extremity and pediatric x-rays versus over-read of all x-rays. Over-read is typically for confirmation of the diagnosis made by the urgent care practitioner. An over-read policy that is overly broad, or over-read fees that are too high, can wipe out the center's profit on its radiography program, especially when providers rely heavily on stat reads for diagnosis, with the availability of that leading to increased use by providers. The key is to balance the objectives of providing high-quality medical care, controlling professional liability, and ensuring that radiography is economically feasible to offer in the center. ■