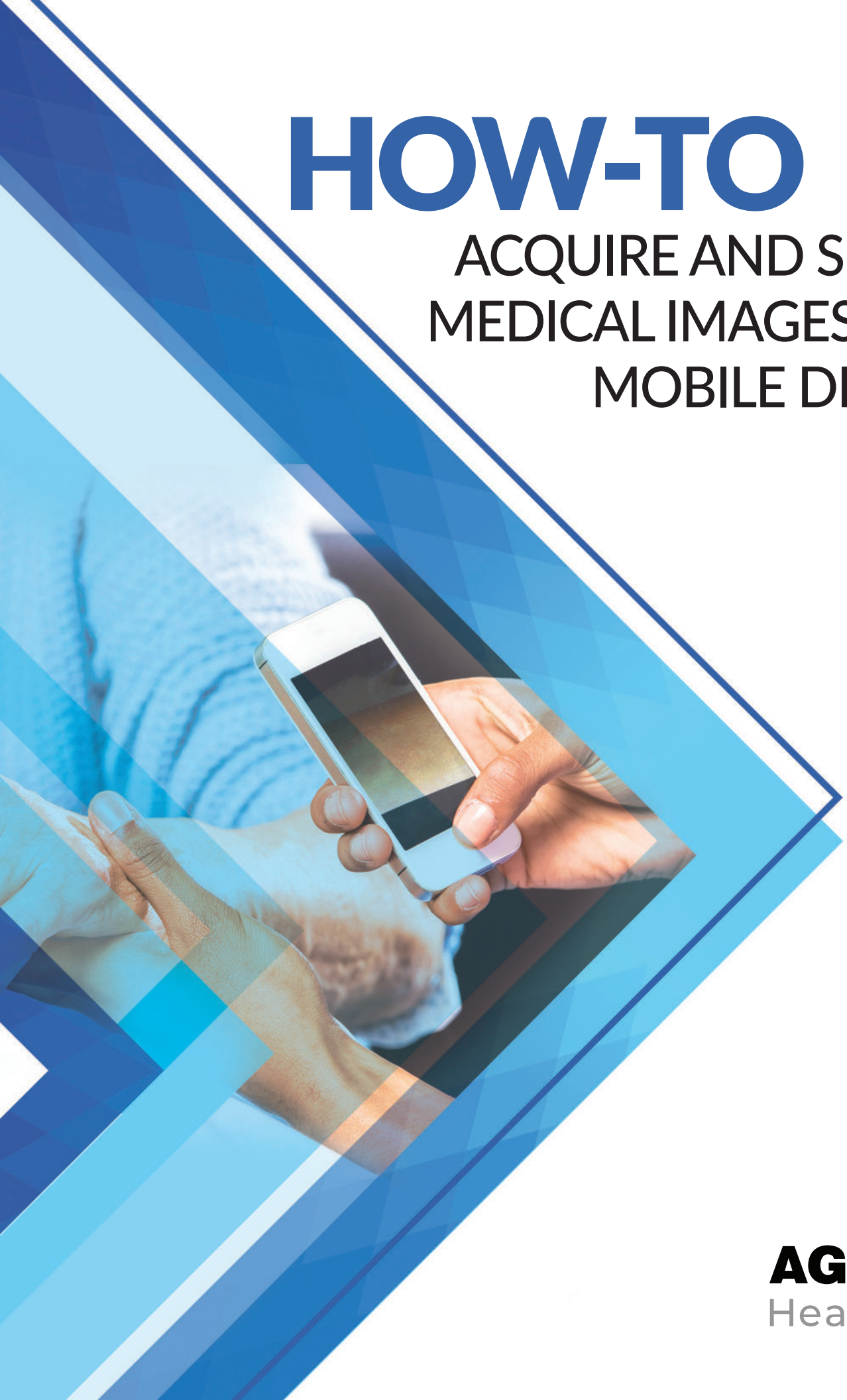
HOW-TO

ACQUIRE AND SECURE MEDICAL IMAGES WITH MOBILE DEVICES



By Dave Pearson
Presented by
Agfa HealthCare

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For healthcare providers capturing medical photos on smartphones and tablets, these are the best of times and the worst of times.

Without question, many of today's mobile devices can take pictures to rival high-end digital SLR cameras in image quality. The capability is demonstrably proving a powerful care aid and care management tool across vast swaths of enterprise imaging, most conspicuously in dermatology, ophthalmology, wound care and reconstructive surgery.

However, such sensitive yet slippery material can easily fall into the hands of people who would scoff at HIPAA privacy rules and may have nefarious intentions. Patients themselves may unwittingly abet such shady characters by, for example, downloading photos from a protected portal only to naively share them over social media.

Caught between legitimate stakeholders on all three sides of this conundrum—patients, clinicians and enterprise IT—what is hospital leadership to do?

First, firmly instruct clinical departments snapping photos to think of their mobile devices as mobile *medical* devices, advises Paul Lipton, product manager and innovation leader for enterprise imaging (EI) at Agfa HealthCare.

"Put out the word that smartphones and tablets deployed for clinical purposes are, in fact, a modality of medical imaging," Lipton says. "They're like CT scanners you can hold in your hands."

To this Lipton's colleague Jason Knox, the company's solutions manager for EI, adds that it's useless to try standing against the good intentions driving the sometimes-risky actions. Instead, seek to strike a balance between the interests of administrators—security, privacy and high-quality metadata—with the interests of users delivering the frontline patient care: speed, usability and quality.

> "Think of it like a balancing act," Knox says. "If the pendulum swings too far to either side, you've probably got a situation you need to deal with. Guarding against that kind of problem is all about finding and sustaining a healthy balance between both sets of interests."

From that broad starting point, Lipton and Knox share some specific best practices for managing mobile medical imaging they've observed among Agfa HealthCare EI clients. Here are several imperatives that, the two agree, deserve emphasis.

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Ensure good governance.

In most cases, hospitals start EI programs with DICOM-based imaging from radiology, cardiology or both, Knox notes. Ideally, a governing body should already be in place by the time the hospital begins adding departments that use mobile-acquired medical images.

In any case, whenever the project reaches that point, "you really need a physician champion to join the governance group from each of these departments well before they come online with EI," Knox says. "That way the committee isn't telling the department, for example, which vendor's system they have to buy; instead, the group lists functions that any solution they select will have to perform."

The governing group also helps to standardize image descriptions within each department and across the enterprise, Lipton says. "When users open the EI application to access or manage those images, the nomenclature really needs to be consistent," he notes, "whether it's for body part, imaging order or anything else open to customizing silo by silo."

Lipton and Knox agree that EI governance committees succeed when they include high-level representatives from not only the clinical departments but also enterprise IT, EHR management and the hospital's C-suite—preferably

the CIO, CMIO, CTO, chief information security officer or chief health information officer.

Hammer this home: An unprotected image shared is potentially a private image stolen.

Photos taken with devices lacking specialized software for medical photography will almost certainly get uploaded to the cloud, Lipton warns. In fact, "you may have already broken a HIPAA rule just by taking that photo," he says, adding that even deleted images are stored for a time in a cloud trash bin.

> "It isn't hard to retrieve supposedly deleted images from the cloud," Lipton says. "Someone might want them for a good reason, like training a promising medical AI algorithm, but not even a noble aim like that would justify violating a patient's privacy."

The easy preventative to such a scenario is investing in proper software. "You don't have to go out and specifically acquire a mobile capture solution," Knox says. "You can simply make sure your enterprise's image-management system includes a module for mobile and check that you're current with updates and upgrades."

Normalize metadata processes with an eye on protecting patients from being identified by distinguishing body features.

Your software needs to supply a way of alerting users when a tattoo, scar or other readily recognizable trait is visible in a photo. "You have to have some way of annotating the presence of any additional identifying image data in the pixels," Knox says. "Make sure all of that is catalogued, and make sure your enterprise imaging platform can easily and automatically hide sensitive photos and studies so they're only available to the most privileged users with a 'break the glass' mechanism."

Bear in mind that mobile-acquired medical images immediately become an integral part of the patient's longitudinal imaging record.

That's a key overarching vision of enterprise imaging in the first place, Knox underscores. It's worth coming back to this vantage point because, among other reasons, smartphone photography is everywhere. It can be dangerously easy to lose sight of the critical distinction between casual photos and medical records.

Wherever medical photos and videos are stored—a separate discussion in its own right, the two point out—the imaging needs to be accessible via the EHR if it's to fulfill its mission, Lipton notes. "This is important because clinicians can immediately get clinical context and metadata access in the EHR," he says. "The good news is that context and metadata can be uploaded from the EHR to your image-capture software. This equips the clinical department with both speed and ease of use, which of course is crucial to clinicians."

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>
> Jason Knox, Solutions Manager for EI, Agfa HealthCare

Count on—and plan for—the continuing growth of virtual care.

Along with the terrible pain and suffering it has caused, the COVID crisis also has presented healthcare systems with a tremendous opportunity, Lipton says. "Telehealth is now much more widely accepted not only by patients and providers but also by payers," he points out. "We're even seeing potential in giving patients the option of taking pictures of their own wounds and dermatological concerns for initial remote diagnosis."

"We live in an image-centric world," adds Knox. "As long as we cover the bases on privacy, security and ease of use for all stakeholders in medicine, there's no reason healthcare shouldn't embrace 'image centricity' to as high a degree as we see throughout our broader society."

"The growth of mobile applications for enterprise imaging gives physicians in enterprises of all sizes"—from a small group practice to a multisite health system—"a fresh chance to revitalize their desire to provide the best patient care they're capable of providing," Lipton says. "We really are at an inflection point in the evolution of medical imaging."

"Agreed," says Knox. "Mobile-enabled clinicians can optimize their care improvement while also working more efficiently and in a way that's more satisfying to them as care professionals. With a little planning to balance privacy, security and ease of use, those who embrace this emerging technology will be among the best doctors anywhere on the planet."

Dave Pearson is a digital editor at Radiology Business and Innovate Healthcare.