

Ron Davis

Bayani

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Clinical Use of Photography in EMS

The clinical use of photography in Emergency Medical Services can have many profoundly positive effects on patient care, but is not widely used because of a number of unfounded fears. Photography can be used in a number of ways in EMS; this paper will focus on clinical use. Clinical for the purposes of this paper means directly related to the medical care of patients. Other uses can include education, research, and promotion of the agency.

The information give in EMS reports is also not very accurate. Most of the research into the accuracy of patient care reports was done on motor vehicle collisions (MVC) because it is easier to compare what is in the report to what happened on scene. Also these incidents are not just documented by the EMS personnel. At an MVC, police officers also write a report and in some cases professional crash investigators also review and investigate the collision. This gives an easy way to compare what was written in the EMS run reports and what really happened. EMS run reports often don't include vital information like the point of impact or the severity of impact (Hunt et. al). In a study by Grant, Gregor, Beck, and Maio, they hired crash investigators to compare what EMS providers wrote in their run reports, what police officers wrote in their reports, what the Emergency Department reported, and what the crash investigator found to have actually happened. Data used as variables were whether the airbags deployed, if the patient was restrained, and the type of impact. Accuracy of report by provider is shown in the table below.

	Police	EMS	ER
Restraint Use			
Unrestrained	29	31	34
Restrained	80	82	82
Shoulder Only	16	0	16
Airbag deployment			
Deployed	80	50	60
Not Deployed	90	36	86
Type of impact			
Frontal	90	81	72
Driver side	88	47	47
Passenger side	47	17	29
Rear End	90	90	90
Rollover	100	86	100

(Grant, Gregor, Beck, and Maio 895)

Actually no one's reports were at the level of accuracy a physician would want for treating a patient. Police reports were only 59% accurate, which only looks good when compared to EMS's 33. A study of emergency physicians by Santana and Martinez showed "Nearly three-fourths (74%) of all cases had at least one discrepancy when compared with the Police Accident Reports, while 46% of these had multiple discrepancies." While there is conflict in EMS over an over-dependence on Mechanism of Injury in triage criteria, studies have shown there is in fact a correlation between MOI and associated injuries. Newgard, Martens, and Lyons did a study comparing actual impact areas and the resulting injuries. They showed that frontal impacts were associated with head, facial, and lower-extremity injuries, while rear crashes were associated

with spinal injuries (924). To do this study they didn't depend on EMS run reports or even police reports because "Hunt et al. noted that the area and severity of vehicle damage could be determined in only 52% and 39% of cases, respectively" (927).

Actual crash scene photography represents the best way of transmitting what actually happened to the doctors at the emergency department. When Newgard, Martens, and Lyons studied the use of crash scene photography, they had "one photograph of the primary point of external vehicular impact and a second photograph of the occupant compartment at the scene of passenger vehicle crashes when patients were transported to participating hospitals" (925). Hunt et al. reported that "assessment of photographs from the same vehicles provided accurate information for these variables [area and severity of impact] in 100% of cases" (927). Newgard, Martens, and Lyons found that of 502 photographs, "Impact site was unable to be categorized in 18 photographs (3%), while impact severity could not be categorized in six photographs (1%), due to poor quality" (926). For their purposes, Newgard, Martens, and Lyons eliminated those cases from their study. If EMS were to provide MVC photography along with a run report, they would have to take into account the photographs that were unusable. A failure rate of 1-3% would be a major improvement over the gross inaccuracy of EMS run reports now.

It is possible that part of the reason EMS run reports are so bad at reporting impact severity and area is because EMS personnel do not believe MOI is that important. When an EMS provider thinks something they were taught to do has little impact or relevance, they begin to ignore it. Since they are ignoring it, they do not get the information in the first place and therefore do not include it in a report. Also the widespread attitude of "it won't affect how I treat the patient" contributes to this attitude as well. It is true that if a patient is severely injured, with multi-system trauma and signs of shock, the medics transporting are going to be focused on

treating the most life-threatening injuries. But in the hospital they will be treating all of the patient's injuries over a longer period of time and could benefit from information that may not affect the medic's treatment of the patient en route.

Medical personal at emergency departments are much more likely to take crash scene photographs seriously. In one study Dickinson, O'Connor and Krett found a 47% change in physician perception after seeing actual photographs from a crash scene. This study actually had the doctors listen to the paramedic's verbal report and rate severity before allowing them to see the photographs. A total of 85% of them rated the severity of the MVC higher once they saw the photographs. They changed treatment in 59% of the cases. Again there were just two photographs taken, one of the interior and one of the exterior of the vehicle. It should be noted that this study showed an increase in cost of treatment for patients who were not admitted, but released directly from the ER. Length of stay and cost for patients admitted was similar.

Another reason EMS may be resistant to taking crash scene photographs is the belief that doing so will take time away from patient care. This is based on the focus on the "golden period" and the standard of care that wants medics to be on scene under ten minutes in trauma cases. As noted previously, a wealth of information can be obtained from just two photographs. In the Newgard, Marten, and Lyons study, Polaroid cameras were distributed to Chicago fire departments and training in their use was given. They were told "If there was any question of compromising patient care or transport time, the photographs were not taken unless backup firefighters or police were available" (925). Photographs were taken with this caveat. "Of the 377 patients transported during the six-months of the study, 224 (59%) had photographs taken" (926). The authors gave no reason for why the others did not have photographs taken. They did think photographs might contribute to selection bias on the part of out-of-hospital providers,

because the most severely injured patients would be less likely to have photographs taken. This was backed up by the fact that only 2% of those with photographs were rated as severe (928). This finding is consistent with the idea that EMS providers believe taking photographs, or waiting on them to be taken, shouldn't be done in severe cases because it has a negative impact on patient care.

EMS providers do not want to waste time, but it takes very little time to actually take the photographs. In the Hunt et al. study, EMTs were actually asked how long it took them to take the photographs. "Time reported by EMTs to take the photographs was 1 minute or less in 204 of 288 (70.9%) of motor vehicle crashes and 2 minutes or longer in 12 of 288 (4.2%) of motor vehicle crashes." This is a self-reported measure. Hunt et al. also reviewed one EMS agency's on-scene times during the study. They found that the "48 scene times during which photographs were taken were, on average, 1.5 minutes shorter than 48 scene times immediately before implementation of on-scene crash photography." Based on that data, the case could be made that photographs improved patient care while reducing on-scene time in trauma cases. This might be due to the pressure of on-scene photography increasing the EMTs impression of urgency and thus decreasing their on-scene time in trauma cases.

Another fear may be that EMTs could not accurately photograph areas of impact. Hunt et al. found during their study where EMTs were told to take 2 photographs, EMTs reported they could determine both area and severity of damage in 92% of cases, therefore only missing 8% of the time. But when the photographs were actually studied, area and severity were able to be determined in all but 0.7% of cases.

This review of literature shows that clinical photography can have a major positive impact on the treatment patients receive when they get to the emergency department. Some fears

of doing clinical photography have been addressed in the research cited above, mostly dealing with the clinical aspects, such as time on-scene and accuracy of the photography. Some of the biggest barriers to the use of photography by EMS are not clinical; they are ethical and legal.

In the United States it is almost always legal to take a picture of someone in a public place. According to attorney, Bert P. Krages, “The general rule in the United States is that anyone may take photographs of whatever they want when they are in a public place or places where they have permission to take photographs” (1). The right to take photographs is protected by the First Amendment and that means unless there are specific laws against a specific use of a photograph, anyone can take it. When taking a photograph the question is not “Can I take this image?” but “Is there a law against taking it?”

If there are no recognizable people in the image, anyone can take and use that image. According to Hudson, the answer to the question “Does the photo NOT include as a significant element a recognizable: person, celebrity, artwork, logo, trademark, cartoon character, professional sporting event, or view from a paid entrance?” is yes. Most of the limits to photography are based on violation of other people’s rights. So if there are not people, or they are not recognizable, then the picture can be taken and used without limitations. If there are recognizable people in the image and/or it was not taken in a public place, its use is limited by law.

People have an expectation of privacy if “...they have secluded themselves in places where they have a reasonable expectation of privacy such as dressing rooms, restrooms, medical facilities, and inside their homes” (Krages 1). People also have the right to privacy in a hospital or other medical setting, which could include the back of the ambulance. The case of *Shulman v. Group W Productions, Inc.* ruled “plaintiffs did have a reasonable expectation of privacy; the

helicopter was essentially an airborne ambulance, and an ambulance in emergency medical use is considered a private space, both by social tradition and by analogy to a hospital room.” This means we don’t automatically have a person’s permission to take their picture if they are in a hospital or the back of our ambulance. Nor do we have a right to come into someone’s home for instance, even if invited in, and take their picture without their permission.

How the images will be used also has a large impact on the right to take and use the photographs. According to McCarthy, a recognized national expert on publicity limitations, it is “the inherent right of every human being to control the commercial use of his or her identity” (3). This right has implications for EMS. “The Right of Publicity prevents the unauthorized commercial use of an individual’s name, image, likeness, reputation, or other recognizable aspects of identity” (Hudson). This is important for EMS to consider, if they want to use the image to promote themselves or their service for commercial gain, instead of for medical purposes.

No one may publish an image of a private person that would bring to light a private or embarrassing issue. The general rule for what constitutes a private matter is “...public disclosures of embarrassing private facts...that would be highly offensive to a reasonable person, and is not a legitimate concern to the public” (Hudson). This is especially relevant to EMS because of the contexts we operate in. Often the mere fact that someone had to call 911 would be considered an embarrassing fact and therefore would not be something they would want an image being published of. There are some exceptions to this privacy right for “public figures,” such as celebrities or politicians.

The general rule of any image that is going to be used for commercial or promotional purposes is that the photographer needs to get explicit permission. This permission is normally in the form of a model release.

Medical guidelines also explicitly limit the taking and use of images without consent. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) states:

It is appropriate to film or videotape patient care activities in the emergency room, provided patients -- or their family members or surrogate decision makers -- give informed consent. In a situation where the patient is comatose or otherwise unable to give informed consent and no surrogate decision maker is available, the hospital may film or videotape itself or retain another to film or videotape patient care activities within a policy stating informed consent is required before that patient's film or videotape can be used for any purpose.

JCAHO allows filming to take place if no one is able to give consent but “the film or videotape must remain in the physical possession of the health care organization and not be released to anyone else or used for educational or other purposes until appropriate informed consent is obtained.”

Of all the guidelines regarding photographs, HIPAA is the one most worried about by EMS personnel. HIPAA restricts distribution of information about a patient without the patient's consent for any reason other than "treatment, payment or healthcare operations" (Sharpe).

According to Sharpe, RN, CCRN, CFRN, “HIPAA does allow for de-identification of protected health information and its subsequent release without patient permission.” According to HIPAA regulations there are eighteen data types that have to be removed or obscured to de-identify someone in an image. Those most important in EMS use of photography would include

“[v]ehicle identifiers and serial numbers, including license plate numbers.... Full face photographic images and any comparable images; and any other unique identifying number, characteristic, or code” (§ 164.514 (b, L)).

HIPAA explicitly allows health care information to be used for treatment and health care operations. This means if the photographs are taken for patient care and clinical purposes, they are part of the patient’s medical record and can be used for those purposes. The examples of photographs taken on scene and shown to emergency physicians are completely within the bounds of HIPAA. This also means an EMS agency is obligated to provide data security for the photographs, just as they are other parts of a patient’s medical records. Kemp suggests a best practice is to develop a comprehensive photography policy and implement appropriate procedures with all personnel.

Given the positive impact photography can have on patient care it is time for EMS agencies to start taking advantage of it. Modern digital photography should be opening a new avenue of communication between medics and the hospital. While some of the legal issues may seem confusing, they are relatively simple and common sense. This paper is just an introduction to why we should be using photography in our practice, and the procedure will require more research.

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