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Enhanced persuasion: Effective use of demonstrative evidence at trial

[Ed. Note: The following material was presented at CAALA's Annual Convention, September 2009]

Throughout your case you will be telling your client's story. Look to who your audience is. Alter your presentation to fit your audience. Whether your audience is the insurance company, the defendant, defense counsel, the mediator/arbitrator, judge or jury; how you communicate your client's case can take various forms. Whether you do a face-to-face meeting; send a letter; video or other materials is a decision to be made on a case-by-case basis. Only you can decide how to best present your client's story.

Modern research studies show that individuals learn 75 percent of all they know through the sense of sight. That being the case, the most effective way for a lawyer to communicate information to a jury is through the use of demonstrative evidence. However, the majority of trial attorneys rely heavily on verbal presentation when communicating with a fact finder, whether insurance adjuster, defense lawyer, judge or jury. The result oftentimes is that the recipient of the information is bored or confused by the myriad of facts and dates involved in a particular case.

Psychological studies suggest that after 72 hours, most people retain only about 20 percent of what they see and 10 percent of what they hear. But their retention rate rises to 65 percent when they simultaneously hear and see the facts depicted.¹ These figures are especially important when a trial is expected to last several days. Visual presentations can communicate more information faster and the recipient will retain more data with greater accuracy for a longer period of time. A study by the Poynter Institute showed that using color on visu-

al aids increased attention value 130 percent and retention value increased 235 percent over black and white.

It is a rare occasion to find a lawsuit in which demonstrative evidence cannot be used. Indeed, the use of demonstrative evidence dates back to the eighteenth century.² The use of demonstrative evidence at trial is limited only by the lawyer's ability to portray it. Federal Rules of Evidence encourage the use of demonstrative evidence with its liberal rules of admissibility. Virtually anything that appeals to the senses of the trier of fact may be offered into evidence.

Demonstrative evidence defined

The term "demonstrative evidence" is often used to describe all evidence from which the trier of fact may derive a relevant firsthand sense impression in contrast to the traditional presentation of oral testimony and the introduction of documentary exhibits.³

Demonstrative evidence should be distinguished from "real" or "substantive evidence" which involves the production of an object which generally played a direct or indirect part in the incident, e.g., a murder weapon.⁴ The latter is admitted into evidence and taken into the jury room while the former is not.⁵ Demonstrative evidence includes such things as a model, map, chart, photograph, video, X-ray or demonstration. It is further distinguished from real evidence in that it has no probative value itself, but serves merely as a visual aid to the jury in comprehending the verbal testimony of a witness or other evidence.⁶ Thus, demonstrative evidence is used only for the purpose of illustration and clarification.

Demonstrative evidence may be displayed and referred to without being formally admitted into evidence; however, it is preferable to offer and introduce

demonstrative evidence into the record as part of the witness's testimony.⁷

Demonstrative evidence can be a powerful and convincing tool. On the other hand, its use can potentially create a risk of misleading or confusing the jury about the issues.⁸ In addition, certain demonstrative evidence, such as gruesome photographs, may give rise to a danger of unfair prejudice.⁹ However, such evidence is not automatically excluded; rather its admissibility is determined by employment of a balancing test.¹⁰

Relevancy

As with any other evidence, demonstrative evidence is relevant and thus, admissible if its appearance or other physical characteristics render a fact of consequence to the determination of the action more or less probable than it would be without the evidence.¹¹ The requirement is met by demonstrative evidence which promotes understanding of other relevant evidence. The verbal testimony, which the demonstrative evidence aids in understanding, must, of course, itself be relevant to a fact of consequence in the litigation.¹² Relevant evidence may be excluded, however, if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury.¹³

Types of demonstrative evidence

A witness's use of visual aids to explain testimony, particularly in a medical malpractice case, is increasingly common in a courtroom. A word of caution, however: unless the illustration is essential to an undertaking of the testimony, it is largely cumulative in effect, and admission or exclusion rests theoretically within the discretion of the trial judge.¹⁴ In practice, however, the use of models,

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drawings and charts is now almost universally permitted.

Models, e.g., skeleton: the advantages are:

- flexible – most have moving parts
- the jury can touch and interact with it
- the jury can use the model as a teaching aid
- **Charts and Graphs** – the primary objectives of a chart or graph are education and persuasion. It must convey information which is understandable and convincing.

The best way to communicate with charts:

- sequence of events
- flow and organization
- bold, vivid colors

Blow-Ups/Enlargements

Medical Records

Once medical records have been authenticated and admitted into evidence, portions of the record can be read to the jury. In many instances vital segments of the records may be enlarged or shown by use of a visual presenter. These documents will have much more impact and allow the jury to follow along with the reading of the medical record. Enlargements displayed in front of a jury are effective because they exhibit information vital to the case's support; and the information exhibited is kept on display during the testimony thus embedding itself in the minds of the jurors. Specific portions of the medical record can be highlighted by using acetate overlays and/or laminates which can be written on and erased several times.

Posters

Poster-size enlargements mounted on foam boards can graphically depict the plaintiff's injuries in a manner that would have a significant impact on the jury, quite unlike a small snapshot. Enlargements should not exceed life-size because they may be objectionable as overly prejudicial, thus, inadmissible.

Trial attorneys should make use of blowups/enlargements in the following instances:

- Pretrial disclosure
- Opening Statements (if admitted into evidence)

Photographs

The old adage, "a picture is worth a thousand words," has never held more truth than in a medical malpractice setting. Once properly authenticated, a photo is admitted into evidence if it aids the trier of fact's understanding of a fact of consequence in the litigation.¹⁵ However, relevant photographic evidence may be excluded on the basis of unfair prejudice or the danger of misleading the jury. Photos are admitted solely to illustrate the testimony of a witness and not as substantive evidence. The following is a list of how photography may best be utilized:

- Documentation of a client's injuries, if visually apparent. This should be done at various stages. Photographs depicting the client before the injuries should be obtained for comparison.
- Photographs should be taken as early as possible since scars and abrasions tend to fade over time, especially in children.
- Graphic injuries such as open wounds, severed limbs and other gruesome injuries should be photographed both in color and in black and white because color photographs may be overly prejudicial and, therefore, inadmissible.
- It may be well worth the investment to have photographs professionally taken to avoid inadmissibility due to poor quality.
- Photographs taken at a hospital facility depicting a client's pain and suffering may aid early settlement of a case before judicial intervention, unless, of course, the medical malpractice occurred at the same facility.

Foundation: Sufficient foundation for a photograph is laid by testimony of a person with personal knowledge that the photograph is a fair and accurate representation of the subject matter depicted at the time.¹⁶

Videotapes

On the average, people are more comfortable and familiar with a television

screen than with any other medium.

One's attention is captured and held longer with a television format than any other form of communication.

Admissibility: Videotapes are admissible on the same basis as photographs and are admitted for illustrative purposes only. Under Rule 1001(2) of the Federal Rules of Evidence, videotape is included within the definition of "photograph."

Foundation: The same foundation required to authenticate a photograph – testimony that it fairly and accurately portrays its subject – is required for authenticating a videotape.¹⁷

Relevance: In addition, a videotape must be relevant. Relevance can be determined by looking at the object depicted. If the judge or jury could appropriately view it in person during the course of trial, the tape is in all likelihood relevant.

Relevancy Rules of Exclusion: Although relevant, a tape will be excluded if its probative value is substantially outweighed by the risk of unfair prejudice or confusion or if it is cumulative or unduly time consuming.¹⁸ A tape is not necessarily prejudicial, however, merely because it tends to arouse the emotions.¹⁹ Nor is it impermissibly confusing simply because the depiction is not identical in every respect to the events or conditions at issue in the case.²⁰ Moreover, a tape is not cumulative merely because it portrays something that has been the subject of testimony, as opposed to other photographic evidence.²¹

Best Evidence Rule Inapplicable: Fed. Rules Evid. § 1001(3) "any print" of a videotape is an "original" and thus outside the scope of the best evidence rule.

Discovery Rules Are Applicable: (i.e., must be made available to opposing counsel.)

Advantages of Video

- more persuasive and thus efficient
- can be previewed instantly and if the desired result is not reached, it can be redone
- versatility – if the tape is not accepted by the court, it can be quickly edited and presented in an altered form

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- sound – videotapes frequently include narration
- lasting impression

CAUTION: Be careful not to overplay videos, as a jury may become desensitized after several viewings, as evidenced by the jury's decision after viewing the video depicting the Rodney King beating.

Day-in-the-life Videos

In many instances the medical malpractice case requires a videotape depicting a day in the life of the injured party. These videos expose the jurors to the claimant's daily routines and provide an insight into the claimant's pain and suffering and the extent of the injury. The determination of the admissibility into evidence of the video is done on a case-by-case basis.

Additionally, a videotape may be excluded on the ground that it is overly prejudicial; that its prejudicial impact outweighs its probative value. Tapes which are routinely excluded are those which zoom in for close-ups of agonized grimaces or tears; those which create an unrepresentative view of the injured party's condition for any reason.

Videotaped Depositions

Videotaping depositions serves to preserve the testimony of the deposed. This preservation of testimony is warranted where the claimant may be unable to have her day in court due to terminal or severe illness. Videotaped depositions are also common when the deponent will be unable to testify live in a courtroom.

X-rays, CT Scans, MRIs

Because X-rays show images not visible to the naked eye, they require foundational proof to establish the correctness of the portrayal. This requires an expert, usually a radiologist, to explain the information displayed. The expert draws a comparison to what she saw through a fluoroscope or by proving skill in X-ray techniques, proper working conditions and accuracy of the equipment, manner of taking the picture, and correctness of result based on experience. X-rays are commonly reproduced photographically and enlarged to "blow-up" or

"poster size." Under general evidentiary principles, an X-ray is admissible if:

- The X-ray is authenticated, i.e., proof that the X-ray is a photograph of a party whose injury it is offered to prove; and
- expert testimony must be offered to interpret the X-ray.

Technique: Some attorneys prefer to utilize X-ray positives. These are easier for juries to relate to because they turn the white areas on the X-ray into black areas, making for example, the bones look solid and any orthopedic hardware clearly distinguishable.

Advantages to using X-ray positives:

- no light box needed to view them
- positives can be mounted on foam boards
- X-ray positives can be easily duplicated
- work well in video depositions
- can be labeled and written on
- small CT Scans and MRI positives can be enlarged and mounted for easy viewing from a distance

Computer Animation

The most recent type of demonstrative evidence is computer animation. Computer-generated animation recreates an accident, event or medical process or procedure, and allows the jury to see what happened. The jury views the animation on a large screen or a television. Played with a computer rather than a videotape, it can be edited, replayed in certain sections or edited if necessary to meet any of the courts' concerns about admissibility.

Animation allows the judge and jury to retain key concepts. "Without animation, jurors listening to an oral presentation may create their own differing versions of the process or event. . . . [W]ith animation, all the jurors see the exact same event at the same time and to some degree become witnesses."²²

With animation the jurors see processes as they develop step by step. Sometimes animation is the best and only way to explain spatial relationships and complex time processes. Animation can also condense difficult and boring testimony into a more effective and shorter presentation. Shorter presentation short-

ens trial time which may shorten costs. At least one study related to use of visuals in the courtroom found "100 percent increase in juror retention of visual over oral presentations, and a 600 percent increase in juror retention of combined visual over oral presentations alone."²³

Creating the Animation

"Understanding each step involved in creating animated sequences for the courtroom is important for every attorney and paralegal. It is key to note that the expert or witness testifying to the animation's accuracy must be involved in and approve each phase of the process. Depending on the context of each case, some steps in the process may be omitted. Here are the two basic phases of creating an animation.

Phase One: Planning

- The first step is to run a conflict check. A conflict check is usually done by both the animation firm and the law firm involved. It determines if there are any conflicts of interest and who can legally work on a specific case.

- Next, the animator or consultant will determine whether an animation is the smartest and most cost-effective method for presenting concepts. To do this they will review case materials such as expert reports, site evaluations, photographs, depositions, and related graphics that have already been completed. To help with the evaluation a statement of the intended purpose of the animation and general budget information should also be exchanged. An evaluation is usually done for free or for a nominal fee.

- Once it is determined that animation will be used, attorneys, experts, and an animation consultant should meet to discuss potential scenarios in the case and points on which the animation should be focused. The goal is to develop a clear picture regarding the content of the animation, to identify what is expected from each person involved and to set deadlines. In addition, preliminary production schedules are created, contact information is shared and a preferred method of correspondence is determined.

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• As the last step in the planning phase, an animation consultant should provide a written estimate containing an outline stating the work to be performed and its completion schedule; the cost of the proposed animation; information detailing fees for revising or adding to the animation beyond what was originally proposed; estimates of the cost for proposed alternate animation sequences; and details regarding the preferred video format. This written estimate should be treated as a contract after it has been approved.

Phase Two: Creating

• The creation of storyboards is the next step. Storyboards are typically a series of hand-drawn, still images with written details about the action, content, and camera viewpoint below each image. Storyboards are used to resolve any problems with the animation before they become too expensive or difficult to fix. Storyboards also ensure that key points are covered and the content is laid out in the most effective manner. They should be approved by all parties before production begins. Once approved, storyboards become the guide the animator uses to create the animation. Note that in some instances — for example if expert reports are not finished when the animator begins working, or if the scope of the case is expected to change — storyboards are not created.

• The next step, modeling, involves creating every object that resides within the 3D environment on a computer. An animator typically must create each model by hand. When possible, it is sometimes faster and more cost-effective to laser scan an original object. As part of modeling, textures and basic lighting are added to the environment to give a better picture of what the final product will look like.

• Animating, the process of making the objects or point of view move over time, comes next. This can be done by hand, based on expert or witness descriptions, from actual recorded data in evidence, or by using data created by experts or simulation programs over the course of the investigation. Lighting is finalized after

animation is completed and camera moves are set.

• During the production process, it is important to view the animation as it plays in real-time, via a transfer process called rendering, in which animation data is converted into a series of still images, called frames. For each second of animation, 30 individual images are created. A video can then be created from those still images. To hasten this process, a large number of dedicated computers called a rendering farm usually does rendering.

• After rendering, there may be a number of processes needed to finalize the animation during post-production. Frames or video may be edited for timing and content, and certain elements may be highlighted to draw more attention. Titles, labels and captions can be added to identify objects and processes of interest. Still images, graphics and video may be inserted to add realism and credibility.

• The last step is outputting the animation to the preferred delivery media (CD, DVD, hard drive, or VHS) and video format (AVI, MPEG-1, MPEG-2, MPEG-4, or QuickTime).²⁴

Costs of Animation: An animation can be extremely expensive so one must be careful in weighing the costs and benefits. An animation of a single process can cost a few thousand dollars or go to six figures. Federal courts are reluctant to allow taxation of the costs of animation.²⁵

Admissibility: In most states the admissibility will be at the trial court's discretion and subject to adequate foundation that it accurately portrays its subject.²⁶ The animation will be admissible only when it is "authenticated, relevant, and not subject to an exclusionary rule."²⁷ Authentication of the animation will be "accomplished by showing that the evidence in question is what its proponent claims."²⁸ Animations are very powerful and as a result the trial court should "carefully and meticulously examine the proposed animation evidence for proper foundation, relevancy and the potential for undue prejudice. Normally the trial judge should review the video outside of the jury's hearing."²⁹ The side using animation must show that the animation

"fairly and accurately depicts what it represents, whether through the computer expert who prepared it or some other witness who is qualified to so testify, and the opposing party must be afforded an opportunity for cross examination."³⁰

Steps should be taken well in advance to avoid objection at trial as to admissibility, relevance, and/or hearsay. The intended use of animation should be disclosed early. Research admissibility issues in your jurisdiction. Lay your foundation carefully with the animator and/or the witness through whose testimony you intend to introduce the animation. You should avoid any unsupported or extreme imagery.

Other things which may torpedo the use of animation are misrepresenting the facts, poor data, exaggerated imagery and unsupported visual outcomes. Any of these will almost guarantee that the animation will be excluded. Because animation takes a long time, it would be wise to start the process early. If an effective animation is done early in the process, showing it to defense attorneys may assist in the settlement of the case. The use of an animation will probably require a specific jury instruction. For example:

This animation is not meant to be a recreation of the events, but rather consists of a computer picture to help you understand Mr. Jason's opinion which he will, I understand, be giving later in the trial and to reinforce the point, the video is not meant to be exact recreation of what happened during the shooting, but rather it represents Mr. Jason's evaluation of the evidence presented.³¹

Conclusion

It is vital that you fully explore the liability, causation and the repercussions of the injury your clients have suffered, in pursuing your case. While I have given you some guidelines to follow, as you prepare your case, keep an open mind and be creative in how you "show" how your client's life has been forever changed by the defendant's negligence. As your client's "voice," you are charged with the responsibility and challenge of assisting

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the trier of fact in finding liability and causation and quantifying the value of the losses suffered by your client. By fully exploring how your client has been affected by their injuries, you can tell a story that will support your client's damages and will lead to fair and substantial awards for their losses.

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Footnotes:

- ¹ WEISS-McGRATH REPORT FOR McGRAW-HILL.
- ² *Thurman v. Bertram*, 20 Alb. L. J. 151, where a baby elephant was brought into one of the English courts, is recited in *The Indiana Car Company v. Parker*, 100 Ind. 181, 199 (1884).
- ³ GRAHAM, HANDBOOK OF FEDERAL EVIDENCE, § 401.2 at 349 (6th ed. 1991).
- ⁴ *Id.* at 149.
- ⁵ Minn. Stat. § 546.15 (2000) (allows the jury to take with them all papers received in evidence).
- ⁶ MCCORMICK, EVIDENCE § 212 at 668-669 (3rd ed. 1984).
- ⁷ *Ibid.*
- ⁸ Fed. Rule Evid. § 403.
- ⁹ *Ibid.*
- ¹⁰ Wyo. Rules Evid., rule 403.
- ¹¹ Wyo. Rules Evid., rule 401.
- ¹² GRAHAM, HANDBOOK OF FEDERAL EVIDENCE, § 401.3 at 352-54 (6th ed. 1991).
- ¹³ Wyo. Rules Evid., rule 403.
- ¹⁴ *Ibid.*
- ¹⁵ MCCORMICK, EVIDENCE § 214 at 671-75 (3rd ed. 1984); Wyo. R. Evid. § 1001 (2).
- ¹⁶ *Ibid.*
- ¹⁷ *Hendricks v. Swenson*, 456 F.2d 503, 506 (8th Cir. 1972).
- ¹⁸ Wyo. Rules Evid., rule 403.
- ¹⁹ *Hahn v. Tri Line Farmers Co-op*, 478 N.W.2d 515 (Minn. Ct. App. 1991).

- ²⁰ *Radtke v. Cessna Aircraft Co.*, 707 F.2d 999, 1002 (8th Cir. 1983).
- ²¹ *State v. Brooks*, 30 Wash. App. 280, 633 P.2d 1345, 1348 (1981).
- ²² Chad Amborn, "Computer Animation in the Courtroom" p. 22 Minnesota Trial, Spring 2008.
- ²³ *Ibid.*
- ²⁴ *Id.* at pp. 42-43.
- ²⁵ *Kohus v. Costco, Inc.*, 282 F.2d 1355 (Fed. Cir. 2002); *Arcadian Fertilizer v. MPW Industrial Services, Inc.*, 249 F.3d 1293 (11th Cir. 2001)
- ²⁶ *Mintan v. State*, 966 P.2d 954, 958-59 (Wyo. 1998).
- ²⁷ *Id.* at 959.
- ²⁸ *Ibid.*
- ²⁹ *Robinson v. Missouri Pacific Railroad Company*, 16 F.3d 1083, 1088 (10th Cir. 1994).
- ³⁰ *Friend v. Time Manufacturing Company*, 2006 WL2135807(d), Arizona at *7.
- ³¹ *Hinkle v. The City of Clarksburg*, 81 F.3d 416, 425 (4th Cir. 1996).

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