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The Admissibility of Demonstrative Evidence in Jury Trials: Applying the Principled Approach to the Law of Evidence

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What is the argument on the other side? Only this, that no case has been found in which it has been done before. This argument does not appeal to me in the least. If we never do anything which has not been done before, we shall never get anywhere. The law will stand still whilst the rest of the world goes on; and that will be bad for both.

— Denning L.J.[1]

A. INTRODUCTION

No doubt it would have been difficult for Lord Justice Denning to visualize the progress to be made in the technological world in the fifty-odd years that have passed since he wrote those words. In the field of demonstrative evidence, innovative counsel are running to keep up with the rest of the world, but can the law keep up with them, armed only with the tools currently at its disposal?

As demonstrative evidence becomes increasingly sophisticated and expensive, predictability in its admission is of great concern. The purpose of this article is to offer answers to the questions that often arise:

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1 *Packer v. Packer*, [1953] 2 All E.R. 127 (C.A.) at 129.

what are the limits of oral testimony; how can demonstrative evidence play a role in enhancing the trier of fact's ability to absorb, understand, and integrate the evidence presented; what is the legal basis upon which this evidence can be adduced? The goal is to move towards predictability in the acceptance of demonstrative evidence and ensure its positive effect upon the trier of fact, based upon sound principles of evidentiary law.

Applying the "principled approach" to the law of evidence may introduce predictability in the admission of demonstrative evidence. There continues to be much confusion and inconsistency in the application of the law at all levels. One hopes resorting to basic principles will assist those wishing to make use of this kind of evidence, while offering safeguards to ensure it is not misused.

The power and importance to the litigator of demonstrative evidence cannot be understated. We must cast-off perceptions of how we learn (reading and listening) and seek to understand how jurors learn (seeing, listening, touching, reading, experiencing) in a visual and interactive world. Those of us who went to school when computers were as large as a classroom and lectures combined with texts were the only means of communication cannot assume there is anything superior about that method of learning or that there is something mystical and untrustworthy or inherently suspect about visual learning. The evidence is otherwise. Retention of information presented both visually and orally is greatly enhanced over information presented only orally. Understanding is enhanced—a picture is worth a thousand words. For those who do jury trials, it is critical to understand that in the last forty years, attention spans have declined from over four minutes before a rest or change is required, to a mere seventeen seconds. By the time this article is published, no doubt it will be less than that again. The influence of television and the Internet are undeniably profound. Consider, for example, the amount of information contained on one web page, and how quickly it changes; newscasts with crawl bars; young adults sitting at a computer with a television on in the background, iPod earplug dangling from one ear, texting, all the while browsing the web and flipping between Facebook and MSN. The litigator who ignores the power of demonstrative evidence does so at the client's peril.

B. WHAT IS THE PRINCIPLED APPROACH?

Katherine Chalmers writes:

> What had been lost sight of over the past decades is that there are only a few very basic principles that underlie almost every rule of evidence and exception to those rules. The one basic rule of evidence, of course, is that, if it is relevant, it is admissible. This rule is based on the principle that the function of litigation is the search for the truth. Every other rule or principle of evidence is an exception to the relevance rule and these exceptions are themselves based on specific principles ... the tendency has been for the courts to articulate the underlying principle itself as the rule of evidence to be applied. We refer to this approach as the principled approach to the law of evidence.[2]

It is this principled approach that has led, as in the case of hearsay evidence, to the adoption of a rule that relies on reliability and necessity.[3]

The thesis of this paper is that a return to basic principles of evidence is in order to support, *with certainty*, the introduction of demonstrative evidence.

Since first writing this paper in 1995, a great deal of progress has been made in establishing rules that will apply to permit admission of demonstrative evidence and the use of illustrative aids. We have come so far that more than one lawyer has expressed the view that the failure to use demonstrative evidence in any complicated case approaches negligence. A great deal of caselaw, in particular in Ontario, has developed surrounding rules governing characterization and admissibility, unfortunately without much analysis of the type of evidence being adduced, and the differences between them affecting admissibility. Some cases, *Chilton v. Bell*[4] being one example, were decided without reference to the developing caselaw, which adds to the confusion.

Notwithstanding a few missteps along the way, and despite a lack of clarity in the definition of types or categories of demonstrative evidence,

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2 Katherine Chalmers, "Towards a More Principled Approach to the Law of Evidence" (Paper presented to the Advocates' Society Conference, Toronto, 1994) [unpublished].

3 *R. v. Khan*, [1990] 2 S.C.R. 531 [*Khan*].

4 [1998] O.J. No. 5244 at para. 8 (Gen. Div.). The court in *Chilton v. Bell* ordered a mistrial for a number of reasons, which included the fact that the plaintiff's counsel incorporated visual aids by diagram and photographs with no assurance that they would be successfully introduced in evidence, even though the issue was not raised by counsel for the defendant. Counsel for the defence had seen the aids and made no objection to them. The court stated that in a jury trial, documents will seldom, if ever, be introduced in an opening statement. However, the court cited no caselaw with respect to its ruling.

the courts are moving towards greater acceptance and predictability in the admission of demonstrative evidence.

C. REAL, SUBSTANTIVE, AND ILLUSTRATIVE EVIDENCE

The task of defining and categorizing demonstrative evidence is not an easy one, nor is it problematic in this jurisdiction alone. American authors have struggled with the appropriate definition of the term. In a 1992 article by Brain and Broderick, the authors note:

> . . . no one has yet developed a satisfactory theory explaining the relevance of demonstrative evidence . . . . No one has correctly denoted the characteristics of demonstrative evidence that distinguish it from other forms of trial evidence . . . . Perhaps most surprisingly, there is not even a settled definition of the term.[5]

1) The Alternative Definitions

At least one Canadian author, Elliott Goldstein writing in his text *Visual Evidence*, supports the view that there is no consistency in the use of the term. He notes:

> If you ask lawyers and judges to define "demonstrative evidence," you will receive many different definitions. To some, it is synonymous with real evidence, that is, the in-court production of physical objects such as weapons . . . . To others, it means in-court demonstrations using charts, maps, plans, drawings, overhead projector transparencies, anatomical exhibits, three dimensional models, thermograms, and x-rays etc. to assist a witness (usually an expert) in explaining a procedure, an injury or the basis for an expert opinion . . . (it) is inextricably linked to the testimony of a witness who authenticates the evidence and establishes its relevancy, truth and accuracy, fairness and probative value.[6]

One group of authors describes demonstrative evidence as follows:

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5 R. Brain & D. Broderick, "The Derivative Relevance of Demonstrative Evidence: Charting Its Proper Evidentiary Status" (1992), 25 U.C. Davis L. Rev. 957 at 960 [Brain & Broderick].

6 E. Goldstein, *Visual Evidence: A Practitioner's Manual*, looseleaf (Scarborough, ON: Carswell, 1991–) [Goldstein].

> Demonstrative evidence is used to illustrate, clarify, or explain other testimony or real evidence. When such an exhibit is sufficiently accurate or probative, it may be admitted into evidence and even given to the jury when it retires to deliberate. A closely related type of exhibit is the "illustrative aid," which may be used to assist a witness in explaining testimony.[7]

This is a very helpful definition. First, it illuminates the fact that testimony and real evidence are in the same category, or are at least distinct from demonstrative evidence. Second, it exposes the fact that there are really two types of demonstrative evidence, the illustrative aid, and the "sufficiently accurate or probative" evidence, otherwise described as substantive demonstrative evidence.

Brain and Broderick note that demonstrative evidence and real evidence share the characteristic that each gives the trier of fact a first-hand impression of the information it contains. However they can be different in their proffered use at trial, as noted above. Real evidence is used to help prove directly the existence of a fact of consequence in the action, whereas demonstrative proof is only offered derivatively, to help explain or illustrate other admissible evidence.[8] These authors conclude, persuasively, that demonstrative evidence is "any display that is principally used to illustrate or explain other testimonial, documentary, or real proof, or a judicially noticed fact. It is, in short, a visual (or other) sensory aid."[9]

This definition is not necessarily satisfactory, however, since an argument can be made that demonstrative evidence can under certain circumstances be admitted as substantive evidence of a fact in issue—for example, in the case of accident reconstructions, how an accident occurred. The ultimate definition should therefore exclude real evidence and include both illustrative and substantive demonstrative evidence.

2) Real Evidence

In Sopinka, Lederman, and Bryant, the term "real evidence" is defined to include any evidence where the court acts as a witness using its own senses to make observations and draw conclusions rather than relying

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7 S. Lubet, S. Block, and C. Tape, *Modern Trial Advocacy: Canada*, 2d ed. (Notre Dame, IN: National Institution for Trial Advocacy, 2000) [Lubet *et al.*].

8 Brain & Broderick, *supra* note 5 at 1027 n. 7.

9 *Ibid.* at 968.

on the testimony of a witness.[10] It is suggested that real evidence is otherwise known as demonstrative evidence. Later on, in discussing admissibility, the authors seem to distinguish between the two.

Describing demonstrative evidence as real is not a helpful way to deal with evidence that is prepared by an expert or at the direction of counsel. There is a difference between it and *real* evidence and it lies in the ultimate source of the evidence being adduced. To avoid the exclusion or limitation in use of demonstrative evidence, this difference must be heeded.

To illustrate the distinction, take for example the evidence adduced by the prosecution in the O.J. Simpson case. A glove alleged to have been found at the scene was put in evidence by the officer who found it. The glove was identified as real evidence by an eyewitness. However, the jury had to believe the glove was actually found at the scene and not planted there by an allegedly racist policeman. Real evidence will invariably be admitted based on its identification by a witness or a rule dispensing with the need to call the witness. There are no issues about accuracy, weight, or probity versus prejudice. If it is relevant, necessary evidence that is identified by a witness, it is admitted.

Demonstrative evidence is one-step removed: it is not probative without the assistance of a witness to testify as to the accuracy of the representation put before the jury and to tie it to the issues in the lawsuit. Recalling the distinction made by Brain and Broderick,[11] real evidence is direct proof, while demonstrative is derivative. It represents something that is relevant. That puts the information being utilized by that witness directly in issue. In the case of real evidence, the exhibit plays a role in the events giving rise to the case. Its identification is the most important step in its acceptance.

3) Illustrative and Substantive Demonstrative Evidence

In Goldstein's *Visual Evidence*, an exceptionally comprehensive manual on the law relating to visual forms of evidence, evidence is divided into three types:

1. real or tangible;
2. testimonial; and
3. documentary.

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10 J. Sopinka, S. Lederman, & A. Bryant, *The Law of Evidence in Canada*, 2d ed. (Toronto: Butterworths, 1999) at 17 [Sopinka *et al.*].

11 *Supra* note 5.

Real or tangible evidence is sub-divided into:

a) Original real evidence, and
b) Demonstrative evidence.[12]

The author argues that the legal effect of real or tangible evidence on the outcome of the action is determined by the sub-type of tangible evidence being adduced. In the case of *original real evidence*, it is substantive and probative and of the same effect as testimonial evidence. In the case of *demonstrative evidence*, it can be substantive in that it has independent probative value, or non-substantive, in which case its use is corroborative/illustrative or discrediting/impeaching and not conclusive evidence of a fact in issue. In this model, how the evidence is classified determines the legal consequences of the evidence tendered, and affects the rules respecting its admissibility and its weight. This point is made by others using the term "illustrative" in place of "demonstrative."[13]

In Canada, the cases struggle with attempts to define demonstrative evidence and distinguish it from real evidence; this has led to a confusing array of rulings and contributes to the lack of predictability in the acceptance of evidence and its ultimate use at trial. In contrast, the original real/demonstrative model satisfies one's intellectual and common-sense concerns with the evidence and is consistent with the attempts of the cases to deal with the evidence without having articulated the distinction. To date, in Canada, the definition of demonstrative evidence has tended to be by description of the type of evidence being adduced, rather than by enumeration of the common characteristics of this category of evidence.[14] It is submitted that this lack of precision has led to the underuse of demonstrative evidence in Canada, and has led to some judicial

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12 J.S. Gruber, in Goldstein, *supra* note 6 (1994) Release-1 at 5-89.

13 Obermaier & Ray, *infra* note 81, where the authors use these definitions:

> Real evidence includes any item that played a direct role in the events giving rise to the case (citing *McCormick on Evidence*).
>
> Illustrative Evidence is any item that was specifically prepared to explain or clarify other testimony (and) includes charts, graphs, diagrams and computer simulations.

14 J. Morse & G. Bowers, "Use of Demonstrative Evidence during Trial" (1989), 7 Can. J. Ins. L. 72. In this very helpful article on adducing evidence at trial, the authors never define the evidence but deal with specific examples and the admissibility of each example. The danger of course is the confusion by the court with respect to the purpose for which the evidence is adduced, and the application of rules of admissibility that may not in fact be appropriate.

hesitance in its admission where such is in fact entirely supportable by current legal principles.

4) Illustrative Evidence or Aid: Can a Line Be Drawn?

The problem may be caused by the fact that many aids have similar characteristics, making it difficult to distinguish between substantive and non-substantive or illustrative evidence.

> The line between "evidence" and "aid" cannot be clearly drawn, but it is possible to imagine a continuum based on accuracy. Scale exhibits, such as models, maps, and diagrams, are extremely accurate and are usually considered demonstrative evidence. Rough, free-hand drawings may be useful devices, but their lack of precision makes them more likely to be limited to use as visual aids.[15]

The use to which the evidence will be put can assist in its characterization. Consider a doctor testifying about his patient's injury. Much testimony may be required to describe the location, extent, and functional impact of a calcaneus fracture. A medical diagram will illustrate the doctor's testimony readily. The doctor can clarify that it is merely an illustration, intended to assist the trier of fact in appreciating the testimony. If movement is impaired, a series of illustrations, or a video, can illustrate the doctor's testimony further. It will have the advantage of ensuring that the jury understands what the doctor intends them to understand, rather than being misled and potentially conjuring up some other part of the body or mechanism of injury.

The use the doctor is making of either a diagram or video is to illustrate his testimony, not substitute it for testimony. In the end, it is his opinion that is the evidence upon which the trier of fact will base the decision, while the illustrative aid will have only assisted in understanding that opinion.

Another example may demonstrate the impact an illustrative aid can have at trial. In a medical negligence action, I sought to use a diagram of the colon and appendix in opening statement. The diagram depicted a retrocecal appendix, retrocecal meaning one that is tucked up behind the cecum of the colon, and not dangling downward. The defence objected, stating that the location of the appendix was controversial and thus the exhibit potentially not admissible. This position confused the purpose of the medical illustration. It was not to be tendered as substantive evidence of the location of the appendix (in this case, there was no

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15 Lubet *et al.*, *supra* note 7.

direct evidence of its location). Its purpose was only to illustrate the testimony of the doctor who would offer an opinion about its location. As long as the doctor was of the view that the illustration would accurately depict her testimony, it is submitted that it was permissible to use the exhibit. Without it, counsel and physician are left with the unenviable task of attempting to describe this to the jury. No doubt the focus of the defence in that case was to keep information from the jury and to obscure the theory of the plaintiff.

If the distinction between illustrative and substantive evidence was appreciated, judicial reticence to receive illustrative aids would diminish significantly. The court would have better control over its use, and be able to limit its abuse if any. It would also assist counsel in properly adducing and using the evidence in court.

5) Conclusion

There should be clarification of the type of visual evidence being adduced at the time of its introduction to permit the court to properly rule on its admissibility. The categories are as follows:

1. Real evidence, having the same value as testimony once identified
   - It is directly probative
2. Demonstrative evidence
   - It is derived from other evidence
   - It is either
     a) Substantive
     b) Non-substantive or illustrative

This evidence is not subdivided by any hard and fast rule, but rather is evidence that is on a continuum of accuracy and probity, and purpose. If the purpose is only to illustrate testimony, it is non-substantive. If it is intended to be a substitute for an event in the lawsuit, it is substantive. The greater the accuracy and probity, the more likely it will be received as substantive.

D. ENSURING ADMISSIBILITY: THE PRINCIPLED APPROACH

The rules of evidence exist only to control the presentation of facts before the court. Sopinka *et al.* list four goals of the law of evidence from which all rules of inclusion and exclusion flow:

1. *The search for truth.* It is in this search that unreliable evidence is excluded and inherently reliable evidence is included.
2. *Enhance the efficiency of the trial process.* The requirement that the evidence adduced is relevant to a fact in issue, and the limit to cross examination by the collateral fact rule are examples.
3. *Ensure fairness in the trial process.* The prejudice vs. probative value test is an example.
4. *Safeguard interests that arise outside the litigation process.* The rules which exclude certain confidential relationships are examples.[16]

Evidence that meets these very fundamental goals ought to be admitted by the trial judge. Demonstrative evidence that assists the trier of fact in the search for the truth, enhances the efficiency of the trial process, and is not excluded because of overriding prejudicial effect, is admissible using this approach. How demonstrative evidence fits into those goals is discussed below.

1) The Search for Truth: Inclusion of Reliable Evidence and Exclusion of Unreliable Evidence

The Supreme Court of Canada held that evidence will be reliable where there are circumstantial guarantees of trustworthiness:

> The criterion of "reliability"—or, in Wigmore's terminology, the circumstantial guarantee of trustworthiness—is a function of the circumstances under which the statement in question was made. If the statement sought to be adduced by way of hearsay evidence is made under circumstances which substantially negate the possibility that the declarant was untruthful or mistaken, the hearsay evidence may be said to be "reliable," *i.e.*, a circumstantial guarantee of trustworthiness is established.[17]

Ms. Chalmers notes that the indicia of reliability include

> the fact that the statement was made under oath or in a formal investigative setting, that it was made close to the time of the event related in the statement, that it was made by a person with a peculiar means of knowledge of the matter or that it was made by a person with no incentive to lie and who is not likely to have misperceived the event related.[18]

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16 Sopinka *et al.*, *supra* note 10 at 3–6.

17 *R. v. Smith*, [1992] 2. S.C.R. 915 at 933 (S.C.C.), Lamer J.

18 *Supra* note 2 at 6.

If demonstrative evidence is based upon or derived from reliable sources, be they testimonial or documentary, it meets the first test of reliability. A treatment chronology based upon the clinical notes and records of doctors and therapists, and the business records of a hospital, is an exhibit that meets the test of reliability.[19] Given its relevance, it is beyond dispute that it is of assistance in the court's search for the truth. Medical illustrations based on x-rays and imaging are another example.

The illustration of events, future, past, or unwitnessed is more problematic, but the principles in play are the same. The more remote from current, provable events, the further along the continuum the evidence falls and starts to lean in the direction of illustrative aid instead of substantive evidence.

A recent example of the exclusion of a demonstrative aid for what appear to be erroneous reasons occurred in a civil case in Ontario.[20] The trial judge permitted three medical illustrations of the plaintiff's past and current condition but not one depicting future prognosis to be used in opening to the jury. The trial judge's reasons for refusing the fourth are set out:

> Counsel for the plaintiff argues that all of these illustrations are demonstrative aids which would be used during the trial to inform and assist the jury in understanding their responsibilities. He argues that their probative value outweighs the prejudicial effect.
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> Counsel for the defence on the other hand argues that all these depictions will have an inflammatory effect on the jury and that the prejudicial effect of allowing them to be tendered into evidence far outweighs the probative value. The defence argues that this is especially true with respect to the fourth illustration which depicts a possible future outcome that does not currently exist and which may never occur.
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> I have examined each of the illustrative aids that counsel intends to tender. As well, I have carefully considered the positions of both counsel and I am of the view that the first three illustrative aids are informative depictions which will be of great assistance to the jury in their overall understanding and assessment of the evidence. I find those illustrations are not inflammatory or excessive and that their

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19 Treatment chronologies, work absence summaries, and other such demonstrative aids have been admitted regularly in Ontario courts. See for example: *Houle v. Choice Reefer Systems*, unreported (September 1994) North Bay Doc. 1236/91, Boland J.; *Brandon v. Hickling*, unreported (November 1994) Barrie, Jenkins J.; *Haly v. Coleangelo*, unreported (June 1994) Toronto Doc. 02640U/90, Jennings J.; *Calic v. Ontario*, [1996] O.J. No. 154 (Gen. Div.) [*Calic*].

20 *Reis v. Doman*, [2004] 10 C.P.C. (6th) 305 (Ont. S.C.J.).

> probative value far outweighs their possible prejudicial effect. I therefore find that the plaintiff is allowed to use the first three illustrations to aid the jury in understanding the evidence.
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> With respect to the fourth illustration, I agree with defence counsel's argument and rule that it is not admissible as its prejudicial effect in this case far outweighs the probative value. This illustration is a concept of possible future outcome, not a reflection of the current state of the injury. There is no certainty that what is depicted in the illustration will ever be a reality. Therefore, this illustration ought not to be tendered into evidence nor referred to by counsel.[21]

The trial judge failed to consider the exhibit against what would be the standard of proof required for proof of future events. Mere possibilities will be considered. As in *Schrump v. Koot*,[22] if one assumes that the plaintiff's doctor will testify about the plaintiff's prognosis, then the illustration is merely an aid to the jury's understanding of that prognosis. Prohibiting the doctor from testifying as to his opinion about the possibilities of what might occur to the plaintiff's hip would clearly be preposterous and legally wrong. To exclude the diagram on that basis alone is, with respect, equally untenable. The learned trial judge's ruling requires, in essence, that either only evidence of future events that are a certainty may be heard, or that illustrations of opinions of less than certain future events must be excluded. The first is clearly wrong, and the second is without basis.

If the doctor is a properly qualified expert, the illustrative aid ought not to be excluded. It is produced and verified by a reliable source: the expert. It illustrates a relevant issue in the action.

2) Enhancing the Efficiency of the Trial Process

Relevant evidence is *prima facie* admissible, but can be excluded if its cost to the trial outweighs its benefit. Logically, if it *enhances* trial efficiency it should be admitted. Consequently, aids that enhance retention of information by the jury,[23] summarize large amounts of information in an understandable fashion, simplify complex information, and assist the witness in explaining his testimony, all add to trial efficiency. It is

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21 *Ibid.* at paras. 5–8.

22 (1977), 18 O.R. (2d) 337 at 339–40 (C.A.).

23 Retention is significantly increased when information is presented both visually and orally.

for this purpose that much demonstrative evidence has been admitted in the past.[24]

The comments of the trial judge in *Teno v. Arnold* illustrate the point:

> As trial judge, I was afforded the utmost opportunity to see the dreadful extent of such disabilities in her daily life and in this connection I would be remiss, if I failed to acknowledge the assistance that I received from her counsel in the presentation of the evidence with respect to this in a most imaginative and, I believe, unique way in trials to date in Canada. Arrangements has [*sic*] been made by counsel to have the technical crew of a local television station in Windsor, attend at the Teno home in August, 1973, and record on video tape with sound track about one-and-a-half hours of Diane's daily life with her mother and brothers and sister. This evidence was introduced after a proper foundation had been laid as to the technical aspects of the equipment, by use of closed circuit television, with commentary from time to time of doctors who were familiar with the child. I cannot conceive of a more graphic portrayal of what I must try to express in words. I should also mention that all counsel concede that the evidence was properly admitted. After all, it is only a marked improvement on ordinary motion pictures which have been used at trial for many years.[25]

Expediency or convenience can also sometimes be a ground for the introduction of hearsay evidence, and arguably should influence the court in admitting other types of evidence. For example, in *Rocchio v. Willets*[26] the court allowed the plaintiff in a motor vehicle accident action to file letters from universities about the cost of tuition on the basis of reliability of the letters and convenience. The right of the defendant to cross-examine was outweighed by the disproportionate cost of the attendance of the authors of the documents. It is important to note that the right to cross-examine is now not inviolate post-*Khan* and cases such as *Rocchio* following it. *Rocchio* represents a relaxing of otherwise stringent rules where safeguards of reliability co-exist with a need for efficiency.

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24 In *Calic, supra* note 19, Hockin J. stated at para. 19: "Mr. Calic's medical history since the accident is lengthy and complicated. Counsel for Mr. Calic usefully summarized the history by tracing Mr. Calic's five-year journey from one specialist to another in documentary form (exhibit 5)." (The exhibit referred to is a treatment chronology.)

25 (1974), 7 O.R. (2d) 276 at 297, Keith J., var'd on other grounds (1976), 11 O.R. (2d) 585 (C.A.), Court of Appeal decision reversed by [1978] 2 S.C.R. 287.

26 (1993), 10 Alta L.R. (3d) 15 (Q.B.) [*Rocchio*].

It is the goal of efficiency that led to the expression of the necessity test for the admissibility of hearsay evidence in some circumstances.[27] The necessity test requires that relevant, direct evidence is not available. It is not that the party seeking to use the evidence could not prove its case without that evidence, but that the evidence of the same value cannot be expected from the same or other sources. It may be that a case could be tried with fewer expert witnesses, and therefore at less expense in terms of time and money, if demonstrative evidence, properly prepared and supported by the expert witness being called, is used.

Probably of greatest concern in the current environment of trial delay, backlog, and excessive trial duration, is the ability to use any device that will shorten the length of the trial in a fair and reasonable fashion. Good demonstrative evidence can accomplish that end. It focuses testimony and can often give short shrift to issues that are in reality red herrings and shorten the length of time a witness is in the box.[28]

3) Ensure Fairness in the Trial Process

If the rules of evidence are based on the principle that the process should be fair to the witnesses, counsel, and the court, then the exclusion of demonstrative evidence on the basis of some wide and undefined judicial discretion is not supportable. Rather, the development of criteria that permit predictability is desirable because it promotes fairness from all parties' point of view. As noted above, one of the primary criteria adopted for the admission of demonstrative evidence is that its probative value outweighs its prejudicial effect.

It seems, from a review of the cases, that the real argument about admissibility of demonstrative evidence is based on fairness, and that is expressed in terms of weighing probity against prejudicial effect.

The following section examines the rules for admissibility of demonstrative evidence and is an attempt to define a fair and reasonable set of criteria that will ensure fairness in the trial process to all of the litigants.

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27 *Khan, supra* note 3; *R. v. Smith, supra* note 17.

28 In *MacPherson v. Webber,* [1996] O.J. No. 1343 (Gen. Div.), there was an issue about the plaintiff's pre-existing condition. The treatment chart put into evidence was referred to throughout the trial, and the court's findings of fact were largely taken from the information in the chart. Although problems existed in the past, they were largely resolved before the crash, as supported by the number of visits made before compared to after the injury.

E. DEFINING THE CRITERIA FOR ADMISSIBILITY

Relevant evidence is admissible. However, the court has the discretion to exclude admissible evidence under certain circumstances. Sopinka *et al.* note this discretion is most often used when an attempt is made to introduce real or demonstrative evidence.[29] As will be seen, if the conditions of relevance, substantial accuracy of input data, guarantees of trustworthiness, and availability of a witness to testify and be cross-examined on the item are met, then demonstrative evidence is *prima facie* admissible.

1) Real Evidence

In a discussion that seems to relate primarily to the admission of original real evidence, Sopinka *et al.* note that "demonstrative evidence" cannot be produced before a court without prior testimonial evidence, or at least an admission in order to establish the identity of the thing. The level of authentication required for admitting real evidence is relatively low. Once the evidence has been admitted it is for the trier of fact to determine what weight to give it.[30]

2) Demonstrative Evidence

The courts have been struggling with the admission of novel evidence without much guidance. For example, a statement of the criteria for the admission of a computer simulation of an accident was this:

> If proven to be accurate, then it should be admitted like any other piece of demonstrative evidence, such as a chart or map . . . . Overall it must be proven that the procedures used to feed the data into the computer were reliable and that someone checked the accuracy of the data and the computer operations . . . . The court must be careful not to attach undue weight to evidence that might confuse, mislead, or overwhelm the trier of fact.[31]

The court in that case recognized that the evidence could be admissible subject to comment upon its weight, especially if it was considered to be confusing, misleading, or overwhelming. This case is helpful since it

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29 *Supra* note 10 at 34.

30 *Ibid.* at 17.

31 *Owens (Litigation guardian of) v. Grandell*, [1994] O.J. No. 496 at para. 31 (Gen. Div.).

is one of the few in which a real effort has been made to determine the criteria for acceptance of at least one form of demonstrative evidence.

3) A Suggested Test

Returning to the principled approach, the inquiry must be this: does the evidence assist in the search for truth, are there guarantees of fairness, and is efficiency of the trial process enhanced? Using this approach, it is submitted that the appropriate test for the admission of all demonstrative evidence, both substantive and non-substantive, is as follows:

1. Is it relevant?
2. Does it aid the trier of fact in the search for the truth (by supporting the evidence of a witness, explaining or corroborating other evidence, providing detail of a relevant issue, or assisting in the determination of a witness's credibility)?
3. Related to 2, is the evidence produced from a reliable source (such as a capable witness or other evidence upon which the parties and the court can assess the reliability of the evidence, thus ensuring fairness)?
4. Does the evidence tendered enhance the efficiency of the litigation process (by saving time, explaining or illustrating complicated or lengthy evidence, focusing testimony, and enhancing the ability of the trier of fact to come to a decision)?
5. Is it fair (does it have greater probative value than prejudicial effect)?

The evidence should be viewed as existing on a continuum, with more stringent testing applicable to evidence that is sought to be admitted as substantive.

There is support for this view in the test for admission of videotape and photographic evidence, which is very similar:

a. it is relevant;
b. there is accuracy in representation of the facts (it is reliable);
c. fairness and absence of any intention to mislead;
d. verification on oath by a person capable of doing so.[32]

These four criteria match the tests for admissibility using the principled approach: truth, reliability, fairness, and efficiency are addressed.

Using the example of a treatment chronology, it is submitted that it satisfies the criteria set out above by supporting the evidence of the

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32 *R. v. Smith* (1986), 71 N.S.R. (2d) 229 at 237 (C.A.), expanding upon criteria set out in *R. v. Creemer and Cormier*, [1968] 1 C.C.C. 14 (N.S.C.A.).

plaintiff and practitioners as to prior and post-accident treatment, providing the detail of treatment in summary form, and assisting in the determination of the plaintiff's credibility if an issue is pre-accident condition. It is reliable if accurate and prepared from records, and does not contain editorial comment or misleading information.[33]

4) Admission as Substantive Evidence

To be admitted as substantive evidence, the following additional conditions must be satisfied:

1. No privilege can be claimed.[34]
2. The item has been produced prior to trial.[35]
3. It fairly and accurately conveys the data or matter that it purports to convey or depict.
4. If it is based on data, the data is independently admissible.
5. It is authenticated by a capable witness, admission or rule.[36]

If these conditions are met, then there can be no objection to the exhibit going into the jury room during deliberations. Returning to the example of a treatment chart, it is capable of admission as substantive demonstrative evidence if those tests are met. Authentication can be facilitated by serving requests to admit or relying on business records as defined by the *Canada Evidence Act*.[37]

5) Conditional Admissibility

The admission of evidence subject to later proof will be helpful in the early introduction of demonstrative evidence. The issue of the admissibility of a piece of demonstrative evidence may arise due to the fact that

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33 See *Brandon v. Hickling*, *supra* note 19. The court distinguished the plaintiff's exhibits, which were admitted, and the defence's exhibits, which were not, this way. "Exhibit Two and Three simply describe, without argument, dates of visits and prescriptions taken at various dates which are accurate . . . on your [the defence] chart . . . are incomplete and contain some argument."

34 *Rules of Civil Procedure*, R.R.O. 1990. Reg. 194, rule 30.09 [*Rules of Civil Procedure*].

35 *Ibid.*

36 G.P. Joseph, *Demonstrative Evidence* (New York: Practising Law Institute, 1993) PLI No. H4-5171 at 6. There is no clear statement in Canadian jurisprudence of its substantive vs. illustrative admission. Goldstein, *supra* note 6, contains a discussion of the differing uses of demonstrative evidence, also largely based on American sources. Using the outlined criteria, however, it would be difficult to conceive of the argument against the reception of the evidence for the truth of the matter.

37 R.S.O. 1990, c. E.23, s. 35.

the evidence upon which it is based is not yet proven. As with a business record that will be tendered under the exception to the hearsay rule, a treatment chart may be tendered conditionally upon later proof of the visits through the mouth of another or several witnesses. It is a matter for the court's discretion to allow the evidence before the preliminary facts are proven.[38]

In Ontario, the *Rules of Civil Procedure*[39] provide a number of mechanisms that can be used to ensure admissibility before trial. The most efficacious is a combination of the Notice of Intention to File Business Records and the Request to Admit. Concurrently with the service of the Business Records notice, a Request to Admit that the documents are business records and meet the test for same is made. Either the request is ignored, or the admission is made. At the opening of trial, the documents can then be filed on consent or with little further ado. The evidence is then in and the reliability of the demonstrative aid upon which it is based is established.

6) Curative Admissibility

> Where evidence that is technically inadmissible has been received by the court without objection from the opponent, the opponent may present evidence in response, which may also be inadmissible, in order to prevent a distorted picture from being presented to the trier of fact.[40]

7) Exclusion of Relevant Evidence: Objections to Admissibility

a) Probative Value Outweighed by Prejudicial Effect

The court has a wider discretion to exclude relevant evidence in civil cases than in criminal cases. The court's discretion may be exercised *only if it is of the view that the probative value is outweighed by its prejudicial effect* (the efficiency of the trial process objective-cost outweighing benefit, or fairness objective). This has been further modified by *R. v. Smith*, a decision of the Supreme Court of Canada, which held that prejudicial effect is considered *only* when the probative value of the evidence is thought to be *slight*.[41]

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38 Sopinka *et al.*, *supra* note 10 at 43.

39 *Supra* note 34.

40 Sopinka *et al.*, *supra* note 10 at 44.

41 *R. v. Smith*, *supra* note 17.

The leading civil case on the issue of photographic evidence is *Draper v. Jacklyn*[42] from the Supreme Court of Canada. The Court allowed photographs of the operative procedures performed on a plaintiff's face where the issue was quantum of damages but not liability. The jury was allowed to take into account the pain and discomfort and the unattractive nature of the plaintiff's face during the period of convalescence. The rule was stated by Spence J.:

> The occasions are frequent upon which a judge trying a case with the assistance of a jury is called upon to determine whether or not a piece of evidence technically admissible may be so prejudicial to the opposite side that any probative value is overcome by the possible prejudice and that therefore he should exclude the production of the particular piece of evidence . . . . The matter is always one which is difficult for the trial judge and in itself essentially a decision in which the trial judge must exercise his own carefully considered personal discretion.[43]

It is noted by Sopinka *et al.*, however, that in modern trials, the

> circumstances in which a judge in a civil case would exclude evidence because of its inflammatory nature would be rare. People today, because of their exposure to television and motion pictures, can be expected to be much less sensitive to graphic displays of injuries than the average nineteenth or early twentieth century citizen.[44]

A more contemporary reference can be found in *R. v. A.D.*:

> In approaching the issue of prejudice, I confess to sharing the view articulated by LaForme J. in *R. v. Kinkead*, [1999] O.J. No. 1498. At paragraph 17–18 of his ruling, he stated:
>
> > All of the oral evidence in this trial will describe the brutality of this crime and the jury will know its nature. They will know there was a crime committed that resulted in a considerable amount of blood, damage and death to the two sisters. Indeed, they will know this probability exists when they hear Mr. Kinkead arraigned. *In my view, and in my experience, juries are generally not surprised, horrified or inflamed to the point of hatred by the scenes they expect to see from a horrific crime. It is certainly true that we live in a time when communications are extraordinarily rapid, comprehensive and complete. The public is deluged*

42 [1970] S.C.R. 92.

43 *Ibid.* at 96–97.

44 *Supra* note 10 at 37.

> *with graphic accounts of horrible and dreadful news delivered both in orally pictorial detail assisted by visual depictions. Movies and television shows leave nothing to the imagination. While I would not go so far as to say the Canadian public is totally numb to violence and brutality, I have no hesitation in arriving at the conclusion that it is not always surprised or stunned by it.* All of which is to say, I nonetheless continue to believe that we must remain cautious and accept that people can still be horrified and inflamed by what they see. Consequently this exercise continues to be necessary, however, any prejudice alleged must be based upon contemporary common sense and have an air of reality to it.[45]

It should be noted that the cases cited deal with the possible prejudicial effects of photographs. Less "inflammatory" evidence should, logically, be less subject to exclusion on the basis of judicial discretion. It would appear that to be prejudicial, some demonstration that the jury would take leave of its objectivity should be shown. There is support for this view in *R. v. Smith*, where Justice Lamer in the Supreme Court of Canada stated that the Court should only exclude evidence that has slight probative value on the ground of its prejudicial effect.[46]

Mr. Justice Binnie identified a number of principles to be considered in balancing prejudice with probative value in *R. v. Handy*:[47]

1. The issue in question must first be identified—probative value cannot be assessed in a vacuum, but requires consideration of whether it tends to advance or refute a live issue;
2. The relative importance of that issue should be assessed; and
3. The strength of the inference should be assessed—the degree of relevance of the evidence to the issue identified, and its cogency in establishing the inference sought to be drawn obviously bear on the probative value of the evidence.

As to prejudice, Justice Binnie divided the considerations into categories:

1. Moral prejudice—this relates to the risk of an unfocussed trial and of a wrongful conviction in a criminal case arising from the improper inference of guilt from evidence of general disposition or propensity. The concern is that a conviction, or a finding, may be based on prejudice rather than proof.

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45 2004 CarswellOnt 6583 at para. 9 (S.C.J.) [emphasis added].

46 *Supra* note 17.

47 [2002] 2 S.C.R. 908.

2. Reasoning prejudice—this relates to a concern about distracting the jury from their proper focus. The distraction can flow from:
   (a) Inflammatory evidence;
   (b) The creation of a distracting side issue; and
   (c) The undue consumption of time.
3. Unfairness to the witness.
4. Unfair surprise.

Justice Binnie made these observations in the context of an application by the Crown in a criminal proceeding to adduce similar fact evidence. The Court was called upon to weigh probative value against the prejudicial effect of the evidence. In the context of a civil action, dealing with demonstrative evidence, this case is useful. First, in passing, the burden of proof is noted to be on a balance of probabilities. Second, it offers a framework, heretofore absent from caselaw, for the consideration of any allegation of prejudicial effect.

b) Hearsay

The old rule against hearsay was based on fairness to the litigants: out-of-court statements could not be cross-examined upon and were therefore excluded. The danger was the inaccurate recounting of the overheard statement.[48] Many cumbersome exclusions to the rule against hearsay were developed. In the landmark case of *R. v. Khan*[49] the court preferred a necessity and reliability test to the admission of evidence in an attempt to return to the principles underlying the law of evidence.

The hearsay issue is raised in the admission of most demonstrative evidence since it may be based upon the evidence of the plaintiff or others given out of court, or other hearsay evidence. As was noted by Goldstein,

> The *Khan* case reflects a movement towards a flexible approach, which is motivated by the realization that, as a general rule, reliable evidence ought not to be excluded simply because it cannot be tested by cross-examination.[50]

The test of reliability and necessity are subject only to the

> residual discretion of the trial judge to exclude the evidence when its probative value is slight and undue prejudice might result to the accused. Properly cautioned by the trial judge, juries are perfectly capa-

48 *R. v. B.(K.G.)*, [1993] 1 S.C.R. 740, Lamer C.J.C.
49 *Supra* note 3.
50 *Supra* note 6.

> ble of determining what weight ought to be attached to such evidence and of drawing reasonable inferences there from.[51]

Although a criminal case, the principle is the same in a civil proceeding[52] and the ultimate test is not the application of the technical rules but rather the common-sense approach and assessment of the value of the evidence compared to any potential prejudice.

Perhaps the leading case in Ontario on the admissibility of demonstrative evidence is *R. v. Zundel*,[53] in which the court allowed into evidence a motion picture film made by the U.S. army during the liberation of the concentration camps. The film was admitted but the accompanying narrative was not. The issue in *Zundel* was the truth or falseness of the pamphlet "Did Six Million Jews Really Die?" produced by the defendant. The Court of Appeal held that:

> The film is factually explicit and was relevant to show that many of the statements made in the pamphlet were false. *But the narrative goes beyond what is shown* and contains a great deal of information about facts stated in the pamphlet. This additional information is hearsay and inadmissible unless it falls within some exception to the hearsay rule.[54]

It is first of all noteworthy that this case was decided before *Khan*. The information in the narrative went well beyond a recitation of factual information. Indeed there was a great deal of editorializing, using such phrases as "the atrocity story is told by the few who managed to survive," "a Gestapo agent lured 220 starving prisoners into a big wooden building," and "machine guns . . . mowed down many victims . . . some miraculously escaped." The court had much to say about the reliability of the information contained in the narrative. The origins of the narration of the film were obscure. The narrator was unknown, the author of the narrative was unknown, and the source of the information was frequently not revealed. It was ultimately excluded as not coming within a class of exceptions to the hearsay rule. If the test for admissibility was as it is proposed in this paper, it is unlikely that the result would be different since it would fail on the reliability test.

Contrast this with a medical training film, sometimes used to explain the mechanism of a particular injury. If the person preparing the

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51 *R. v. Smith*, *supra* note 17 at 915.

52 See, for example, *Rocchio*, *supra* note 26.

53 (1987), 31 C.C.C. (3d) 97 (Ont. C.A.), rev'd on other grounds [1992] 2 S.C.R. 731 [*Zundel*].

54 *Ibid.* at 164 (Ont. C.A.) [emphasis added].

film is known, the source material is known, or there is a witness in the box who can give evidence and be cross-examined upon the content of the film, then the deficiencies of concern to the court in *Zundel* are overcome.

The *Zundel* case is of interest, in combination with the Supreme Court of Canada cases, when considering the admissibility of medical training films and pre-taped expert testimony such as films depicting the biomechanics of whiplash. If the input data is accurate, and the voice-over is supported by testimony as being accurate, then, on the strength of this line of cases, the evidence that is otherwise reliable should be admitted. It would of course be subject to scrutiny on the grounds of prejudicial effect and weight, but, if properly supported by expert testimony, it should meet these objections. As a secondary position, the Court should permit the admission of the film with the description being given by the expert witness in the box.

Any narration that is argumentative, editorial, or containing broad statements or statements determinative of the matter in issue are at a greater risk of being considered to be prejudicial or rejected as hearsay, or as offending rules relating to expert testimony.

c) Self-serving and Cumulative

Evidence is cumulative if it is merely repetitious of other evidence, as with colour photographs that depict the same thing as black and white photographs already in evidence depict. Cumulative evidence, although relevant, is subject to exclusion.[55]

Day-in-the-life films have been excluded on the basis that they are self-serving. However the Ontario Court of Appeal specifically approved of the use of this type of evidence in Ontario courts. Sopinka *et al.* note that the complaint with this type of evidence is the risk of fabrication.[56] If the maker of the evidence is in court, or the subject of the video or other

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55 *R. v. Kissick*, unreported (18 October 1950) (Man. Q.B.), as cited in Goldstein, *supra* note 6 at 8–14; and *R. v. Tookey* (1981), 58 C.C.C. (2d) 421 (Alta. Q.B.), but also see *R. v. Green* (1972), 20 C.R.N.S. 340 (N.S.C.A.), where colour photographs were admitted despite admission of the same black and white photographs where a separate and helpful use of the photos was found to exist. *Graat v. The Queen* (1982), 2 C.C.C. (3d) 365 (S.C.C.); *R. v. Doe*, [1986] O.J. No. 1412 (Dist. Ct.); *R. v. Tookey, ibid.*, but also see *R. v. Green, ibid.*, where colour photographs were admitted despite the admission of the same black and white photographs, where a separate and helpful use of the photos was found to exist.

56 Sopinka *et al.*, *supra* note 10 at 313.

demonstrative aid is in court and available to testify, then that objection is answered.[57]

d) Objections to Reconstructions and Re-enactments

Reconstructions and re-enactments of events, operations, mechanism of injury, and the like are admissible in Ontario courts. Objections relate primarily to the similarity of the re-enactment or reconstruction to the actual event being described. In Goldstein, it is suggested that the following are grounds for objection:

1. the depiction is not sufficiently similar (*quaere* if this is not an argument that relates to weight, and not admissibility);
2. the depiction is misleading (the jury must not be led to believe that what they are seeing actually happened, but rather it is the opinion of the expert and the client's version of the facts); and
3. the ultimate issue doctrine (subject to the law as developing following *R. v. Mohan*).[58]

The adducing of evidence in a fair manner—with a witness in the box who is first qualified as an expert, and who testifies that she is offering *her opinion*—answers the objections outlined above. Returning to the purpose of this paper, it is not the goal of demonstrative evidence to mislead; it is the goal of such evidence to assist in the appreciation, recall, and understanding of the issues and evidence in the action. If it misleads, it ought not, under any logical test, be admitted.

e) Admissibility of Expert Testimony Using Demonstrative Aids

Many experts testify with the aid of some demonstrative evidence. Their technical and often boring but important testimony is lost on the juror who cannot follow or is uninterested in following the evidence of the expert. While the trial judge is allowed in our system of justice to take copious notes, the jury is expected to sit and only listen. Without some sort of aid to assist in the comprehension of technical evidence, the juror is at risk of making wrong decisions. It is for that reason many experts have been allowed by the modern judiciary to use visual aids to demonstrate and illustrate their testimony. Consideration of what the expert

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57 *Nag et al. v. McKellar et al.*, [1969] 1 O.R. 764 (C.A.): the offering of a motion picture demonstrating the extent of the plaintiff's injuries in a personal injury action is not grounds for dispensing with the jury. See also the comments of the trial judge in *Teno v. Arnold*, *supra* note 25, strongly supportive of this type of evidence.

58 Goldstein, *supra* note 6. See, generally, c. 10, especially 10-15 to 10-18; *Mohan*, *infra* note 62.

will use in support of his testimony well in advance of trial is important to ensure its admissibility.

Rule 53.03 of the *Rules of Civil Procedure*[59] requires that the report of an expert be served within certain timeframes. If the report contains a reference to a demonstrative aid or it is intended that the witness shall refer to a demonstrative aid that can be considered to be a document, it must be produced for inspection not later than ten days before trial. A letter to the other side outlining the evidence sought to be produced should suffice and in my experience has done so.

The pronouncements of the Supreme Court of Canada in recent years on the use and limits of expert testimony bear upon the admission of demonstrative evidence used to support or explain the opinion evidence of an expert. See the line of cases starting with *R. v. Lavalee*[60] and *R. v. Abbey*,[61] and so on.

Justice Sopinka in *R. v. Mohan* summarized the acceptance of experts and the admissibility of evidence adduced through them as follows:

> Admission of expert evidence depends on the application of the following criteria:
> (a) relevance;
> (b) necessity in assisting the trier of fact;
> (c) the absence of any exclusionary rule;
> (d) a properly qualified expert.[62]

In discussing relevance, Justice Sopinka stated that relationship to a fact in issue is not the end of the inquiry. He goes on to state that there is a further, "cost benefit" analysis that must be entered upon:

> This further inquiry may be described as a cost benefit analysis, that "is whether its value is worth what it costs": see *McCormick on Evidence*, 3d ed. (1984), at p. 544. Cost in this context is not used in its traditional economic sense but rather in terms of its impact on the trial process. Evidence that is otherwise logically relevant may be excluded on this basis, if its probative value is overborne by its prejudicial effect, if it involves an inordinate amount of time which is not commensurate with its value or if it is misleading in the sense that its effect on the trier of fact, particularly a jury, is out of proportion to its reliability.[63]

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59 *Supra* note 34.
60 [1990] 1 S.C.R. 852.
61 (1982), 138 D.L.R. (3d) 202 (S.C.C.).
62 (1994), 89 C.C.C. (3d) 402 at para. 17 (S.C.C.) [*Mohan*].
63 *Ibid.* at para. 18.

And further:

> Whether it is treated as an aspect of relevance or an exclusionary rule, the effect is the same. The reliability versus effect factor has special significance in assessing the admissibility of expert evidence. There is a danger that expert evidence will be misused and will distort the fact-finding process. Dressed up in scientific language which the jury does not easily understand and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight than it deserves.[64]

In his view, the comments of Justice Moldaver in *R. v. Melaragini* regarding "a new scientific technique or body of scientific knowledge" should be considered:

(1) Is the evidence likely to assist the jury in its fact-finding mission, or is it likely to confuse and confound the jury?
(2) Is the jury likely to be overwhelmed by the "mystic infallibility" of the evidence, or will the jury be able to keep an open mind and objectively assess the worth of the evidence?[65]

Regarding necessity, he rejects the qualifier "helpful" as too low a standard, but equally cautions against too strict a standard. "What is required is that the opinion be necessary in the sense that it provide information 'which is likely to be outside the experience and knowledge of a judge or jury,'" or that "ordinary people are unlikely to form a correct judgment about it, if unassisted by persons with special knowledge."[66] This test will also come under scrutiny to assess its potential to distort the fact-finding process. It is important to note, however, his conclusion: "The possibility that evidence will overwhelm the jury and distract them from their task can often be offset by proper instructions."[67]

It is of interest to note that, in Sopinka *et al.*, published in the same year that *Mohan* was released, Justice Sopinka has this to say about expert testimony on the ultimate issue:

> The majority of the Supreme Court of Canada in *R. v. Lupien, [1970] S.C.R. 263* dismissed the proposition (the ultimate issue doctrine), and held that a psychiatrist could testify on the very fact in issue which the court had to decide. Having gone that far, it is not surprising to

64 *Ibid.*
65 (1992), 73 C.C.C. (3d) 348 at 353 (Gen. Div.).
66 *Mohan, supra* note 62 at para. 22.
67 *Ibid.* at para. 23.

> see courts permitting experts to express their opinions in the context of the very words which comprise the legal definition which the court must apply.
>
> It is now generally said that if expert testimony is rejected it is excluded not because of any "ultimate issue" doctrine, but because such evidence is superfluous in that the court can just as readily draw the necessary inference without any assistance from an expert. However, even when the evidence may be helpful, courts are still nervous about the extent of the expert's influence over juries, in particular when the expert gives an opinion on the very fundamental issues that they themselves must decide.[68]

The explanation for the apparent inconsistency between judgment and text may lie in the fact that in *Mohan* Sopinka J. was commenting on novel and new scientific evidence being adduced at trial. In *Mohan*, he confirms that exclusion of expert evidence on the ultimate issue is no longer of general application, but that, in the case of some expert evidence, the concerns underlying the rule have led to the exclusion of evidence on the ultimate issue. It is significant however, that in each case cited, credibility and oath-helping were the issues upon which the evidence was excluded. In *Mohan* the issue was the disposition of the accused to commit a crime and that was held inadmissible under this test.

The Court concludes with this statement:

> In summary, therefore, it appears from the foregoing that expert evidence which advances a novel scientific theory or technique is subjected to special scrutiny to determine whether it meets a basic threshold of reliability and whether it is essential in the sense that the trier of fact will be unable to come to a satisfactory conclusion without the assistance of the expert. The closer the evidence approaches an opinion on an ultimate issue, the stricter the application of this principle.[69]

In a lecture presented to the Advocates' Society[70] Mr. Justice Carruthers commented negatively on the acceptance of computer-generated evidence. His view was based upon *Mohan*, and the opinion that it is not often necessary to have the expert's testimony on the illustrated issue.

With respect, I must disagree. Computers can no longer be considered to be new or novel. Their use is widespread and operation well understood. Their ability to allow the visualization of the scene and the

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68 Sopinka *et al.*, *supra* note 10 at 636 and 641.

69 *Mohan*, *supra* note 62 at para. 28.

70 Toronto (22 October 1994).

movement of vehicles in an accident reconstruction enhances the ability of the jury to see and judge for themselves the event under scrutiny. In many respects, the information is superior to that of eyewitnesses whose testimony can be very suspect. Since the computer can only rely upon the data that it is provided, colouring of the impression is less likely, not more, than in that of the eyewitness. The safeguards of cross-examination and the right of the opponent to adduce her own evidence should be sufficient to overcome any concerns the court may have about the undue influence that may be exerted by the expert's testimony. The court can charge the jury appropriately as to its function and the function of the computer simulation. As noted above by Sopinka *et al.*, to exclude the evidence is to lose much valuable assistance.[71]

F. DISCLOSURE OF DOCUMENTARY EVIDENCE

Rule 30 of the *Rules of Civil Procedure* provides for the timely disclosure of any document and for its inspection, unless privilege is claimed for the document.

Documents are defined to include "a sound recording, videotape, film, photograph, chart, graph, map, plan, survey . . . and any information stored by any device."[72]

Models do not appear to be included here. In *Allore et al. v. Greer et al.*,[73] the court considered what a model is under the rules.

> While I am convinced that the document falls within some dictionary definitions of "model", I do not agree that it is a model within the meaning of the tariff. In the context of the tariff, the word "model" must be of the same nature or type as a "plan or photograph" as opposed to a "report of an expert" used at trial. In this regard, I agree with the approach taken in *Morganstern v. Faludi*, [1962] O.W.N. 189 at p. 192, where it was said as follows:
>
> > My conclusion is that the word plan appearing in item 33 (6) of tariff B means a graphic, visual representation or diagram; something in the nature of a surveyor's sketch of survey, with boundaries, measurements, compass points and the like. I find

71 This issue is further discussed and updated in B. Legate, "Acceptance of Novel Scientific Evidence," online: http://legate.ca/documents/91.pdf.

72 *Rules of Civil Procedure, supra* note 34 at r. 30.01 (a).

73 [1980] O.J. No. 3789 (H.C.J.).

> that the word plan in its context here takes its quality from the other words which accompany it, *viz*: model and photograph. These things are graphic or visual representations. If I were to hold otherwise, I think that I would have to go the whole way and say that plan is so compendious that it includes that which may only exist in the mind. I am not ruling out the possibility that a plan as contemplated by the tariff may be in writing . . . .[74]

If a document for which privilege is claimed is intended to be used at trial for a purpose other than impeaching the credibility of a witness, it must be disclosed and the claim abandoned not less than ten days before trial, or leave of the court must be obtained to adduce the evidence. This rule is a significant consideration relating to the admissibility of demonstrative evidence and should be reviewed before trial.

G. WEIGHT

If the evidence is *prima facie* admissible, then the court ought to allow it to be admitted subject to any concern the court may wish to express about its weight. Already noted is the assertion by the Supreme Court of Canada that a properly instructed jury is quite capable of considering the weight that ought to be accorded hearsay evidence (Lamer J. in *R. v. Smith*).[75] It is important that the court, and counsel submitting evidence, bear in mind the distinction between admissibility and weight. If the tests for admissibility are met, then any concerns with the evidence's value should be addressed with reference to the weight to be accorded it.

For example, the Court of Appeal has stated:

> We are also of the opinion that the trial judge effectively took away from the defence the value of the demonstrative evidence which had been led by the Crown. The trial judge should have left it to the jury to determine its value.[76]

And, in considering the evidence of an accident-reconstruction expert, the court also stated: "the erroneous assumptions made by the expert, upon which his opinion was based, made his opinion of no weight or

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74 *Ibid.* at para. 6.

75 *Supra* note 17.

76 *R. v. Illes*, [1994] O.J. No. 536 (C.A.).

value whatsoever."[77] Any controversy as to accuracy goes to the weight, not admissibility.[78]

Goldstein suggests the following factors may be considered in addressing the weight to be given (with some liberty by this author to address media other than videotape):

1. the veracity of the authenticating witness;
2. the kind, form degree and nature of any distortion present in the medium used;
3. the quality of the reproduction or re-enactment;
4. likelihood that there was tampering before the evidence was tendered.[79]

Added to that would be

5. the accuracy of the data used; and
6. the degree to which there is substantial similarity to the event being described or re-enacted.

H. USE OF DEMONSTRATIVE EVIDENCE IN OPENING AND CLOSING

1) In the Opening

It is not permissible to refer to inadmissible evidence, or evidence which is not provable, in an opening. One can include in opening statement only evidence which, in good faith, counsel believes is both available and admissible at trial.[80]

The absence of any pretrial procedure in Ontario practice to determine the admissibility of any exhibit limits the use of demonstrative evidence in openings in a practical sense. If the exhibit is not ultimately admitted, the risk of the jury being discharged is run. Trial management hearings have started in some Ontario jurisdictions. The only matter that could be dealt with by the judge at the hearing (the presiding justice is not the trial judge) and of assistance in this area would be joint document briefs. However, if the procedure could be expanded to involve the

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77 *Bothwell v. Gallaway*, [1951] O.R. 50 (C.A.).

78 Morse & Bowers, *supra* note 14, citing *Simpson Timber Co. (Saskatchewan) Ltd. v. Borville et al.*, [1986] 5 W.W.R. 180 (Sask. Q.B.).

79 Goldstein, *supra* note 6.

80 Mauet *et al.*, *Fundamentals of Trial Techniques*, Canadian ed. (Boston: Little Brown, 1984) at 332–33.

trial judge, rulings on admissibility could be obtained in advance. One would then be left with three kinds of evidence: admissible, not admissible, and subject to ruling.

In the United States, various forms of motions exist to deal with the problem. The underlying rule is the same: if it is probable that the proposed exhibit is admissible, the court will allow it to be used in the opening. In the U.S. there is a further requirement that counsel opposite does not object. However, there, a procedure exists to determine that in advance of trial and, if needed, to determine the issue in most cases.[81]

Given the underlying rule, counsel should be permitted to show and use maps of an accident scene, photographs of the scene, documents, medical models, and such other demonstrative evidence as may assist the jury in following the evidence. Charts and boards that are prepared specifically for the opening statement are admissible under the same rules as what would be admissible if the information were given orally by counsel. Although the reference is American, the rules for reference to evidence in opening are the same and the theory, therefore, should be accepted here.[82]

As a practical matter, if opposing counsel are advised of its existence and given an opportunity to review it and are then required to list any objections, the matter can in fact be dealt with in advance of trial.

The Ontario Court of Appeal dealt with the mentioning of the intended use of video surveillance by the defendant in front of the jury in the case of *Nag et al. v. McKellar et al.*[83] The plaintiff brought a motion to strike the jury. The court had this to say:

> During the course of the trial the defendants' counsel announced in front of the jury that he intended to introduce a motion picture film taken of the male plaintiff who claimed very serious incapacitating physical injuries. The learned trial Judge decided to look at the film himself first and after looking at the film he dismissed the jury solely on the ground that the defendants' counsel had stated in front of the jury that he had a film he intended to introduce and that the learned

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81 Obermaier & Ray, *Using Real and Demonstrative Evidence in the Opening Statement and Summation* (New York: Practising Law Institute, August 1993) PLI No. H4-5171 at 3 [Obermaier & Ray].

82 *Ibid.* at 5: visual aids should contain only information that is "relevant, will be supported with admissible evidence, does not contain personal opinions or assertions of knowledge and is not argumentative." See also Mauet *et al., Fundamentals of Trial Techniques, supra* note 80.

83 *Supra* note 57.

> trial Judge thought the film might be misinterpreted by the jury. The film was admitted in evidence.
>
> We are of the view that this was not a sufficient ground for striking out the jury. The parties in an action of this kind have a right to have their action tried by a jury if they so desire and the jury can only be struck out on good and sufficient grounds. In our view, the evidence proposed to be tendered was relevant and admissible evidence in the circumstances of this case . . . .[84]

A new trial was ordered.

The court established the important principle that counsel may refer to evidence not yet in the record, and, by extrapolation, in opening. It is not for the judge to rule presumptively before it has been admitted. If one adds the rulings with respect to prejudice versus probity to this case, it is submitted there are grounds for dismissal of the jury only if it can be shown that the exhibit would offend on those bases.

In *Whitford v. Swan*,[85] the court grappled with the use of demonstrative aids in opening. While, in my respectful submission, the judge did not get it quite right, the case is some guidance for counsel when faced with objections to the use of demonstrative aids in opening. The court recognized a general entitlement to use the aids in opening. Justice Logan stated that "each aid must be assessed on its own merit."[86] He required counsel to undertake to prove the aid during the course of trial.[87] Clearly, counsel ought to be prepared to so undertake. Finally, Justice Logan appeared to deal with the probity versus prejudice argument, but did so using an unfortunate choice of words. He suggested that the aid ought not to inflame, mislead, or be unduly demonstrative. More accurately, the test ought to be the test for admissibility on a probity- and prejudice-basis.

Given the undertaking requirement, and in particular when using diagrams illustrating the mechanism of injury, the evidence that will be used to support the aid must be carefully considered and prepared before trial.

Generally, it is expected that counsel will seek the permission of the court before using demonstrative evidence in opening. The reason for this is obscure. One does not seek the permission of the court to refer to

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84 *Ibid.* at 764–65.

85 [1995] O.J. No. 4189 (Gen. Div.).

86 *Ibid.* at para. 4.

87 It is of note that the requirement that counsel undertake to prove the item at trial has become the standard.

other forms of evidence in opening, so the rule logically should be the same for demonstrative evidence. In my view, this is a relic of the lingering discomfort the courts have with demonstrative evidence. Counsel have responsibilities to the court and to the process. We do not serve our clients well to refer to evidence that we do not expect will be received in evidence. It is not proper to refer to such evidence in opening. The same rule should apply, both to counsel and the court, as concerns demonstrative evidence.

2) In the Closing

It is not permissible to misstate the evidence or the law, to appeal to the jury's prejudice, bias, or pecuniary interest, or make prejudicial or inflammatory arguments. Any evidence that has been received in evidence is then capable of use in the closing.

However, the extent of its use and whether it goes into the jury room is not without controversy. Most problematic is the use of videotape in edited form. It would not be helpful or efficient to require the whole of a video to be replayed if playing a fairly edited portion will suffice. The overriding factor again is fairness.

Joseph[88] suggests that in the U.S., the general rule is that only exhibits received for their truth may be received in evidence and taken into the jury room. If this rule is equally applicable in Ontario, then the purpose for which the exhibit is tendered should be carefully considered by counsel, and the criteria for the acceptance of the exhibit as substantive evidence should be followed closely to ensure that it goes into the jury room.

Items not in evidence may be used in the closing. Counsel may summarize evidence on a blackboard or large pad of paper; the limitation is only that no new evidence may be used in the closing.

I. CONCLUSION

Demonstrative evidence is a fact of life in Ontario trials. Although not well articulated and conveniently compiled, there is a growing body of appellate and trial level decisions supporting its admissibility.

The Supreme Court of Canada has led the way in the acceptance of novel evidence, where sufficient guarantees of reliability are present. The Court's direction that evidence shall be received based upon the

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88 *Supra* note 36.

principles underlying the rules of evidence, rather than excluded on the basis of cumbersome and complex rules, will greatly influence the course of the law of evidence, including the law pertaining to the admission of demonstrative evidence. Trial courts will use and indeed are using a more flexible approach in the consideration of various items of demonstrative evidence.

Promotion of the efficiency in the trial process demands, in the modern context, admission of reliable and fair demonstrative evidence. The challenge awaiting counsel is to ensure that the evidence produced by creative minds is admitted and its effect not diluted by concern over its accuracy, and that it ultimately finds its way into the jury room to continue its persuasive effect to the benefit of your client's cause.

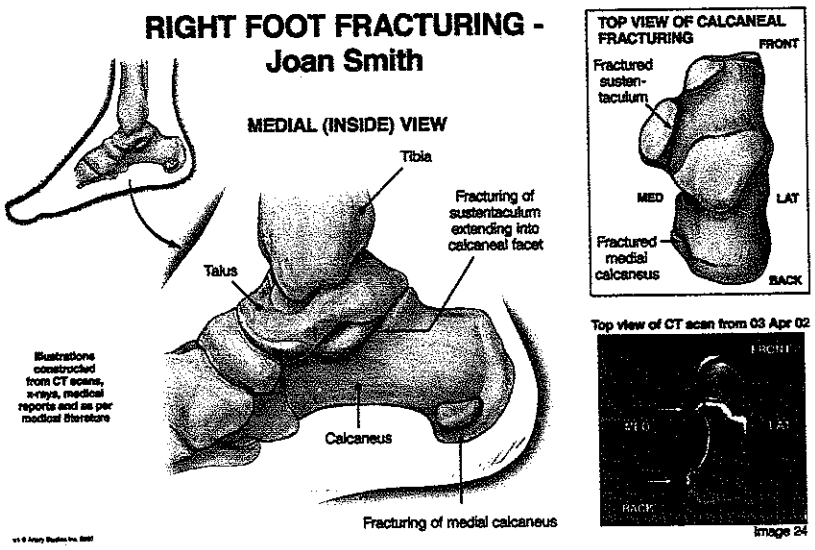


Figure 1.

Example of a medical illustration exhibit, which simplifies complex medical information into a readily understood visual presentation.

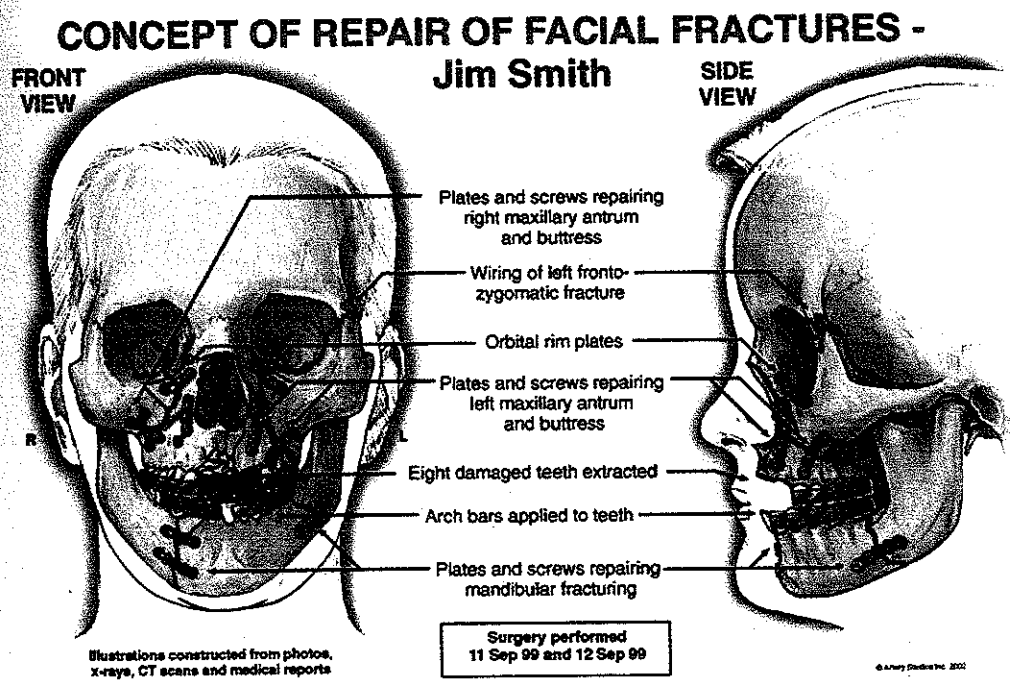


Figure 2.

Concept of repair of facial fracture, Jim Smith

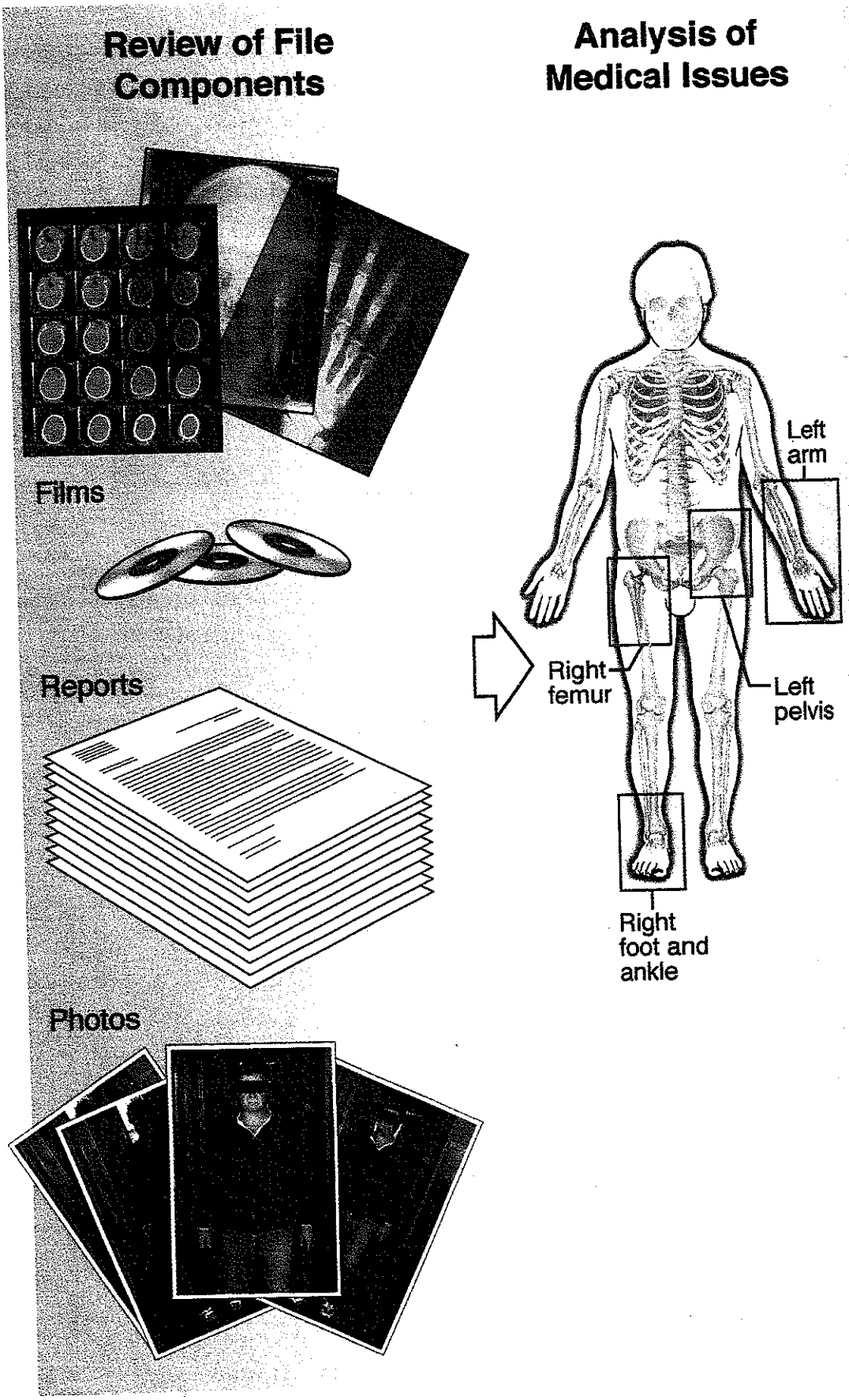
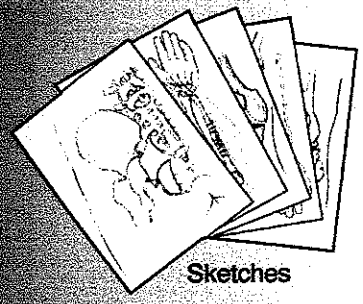


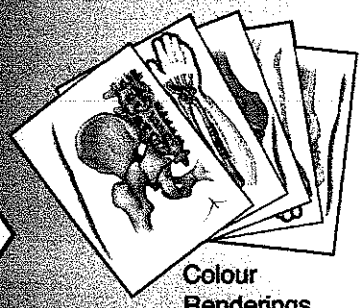
Figure 3.
Summary of how medical-legal visuals are produced.

Production of Visuals

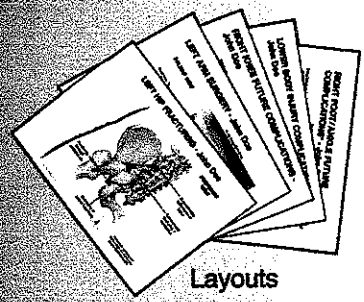


Sketches

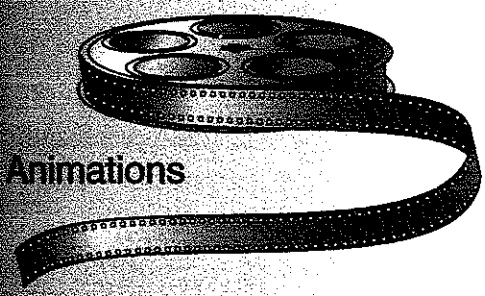
Illustrations



Colour Renderings

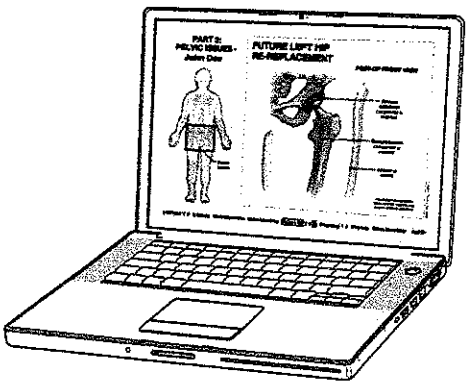


Layouts



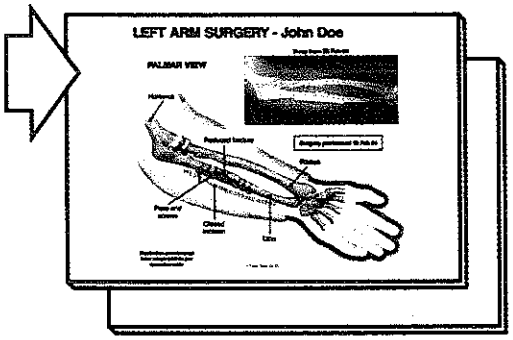
Animations

Printing and/or Programming into Final Presentation Format

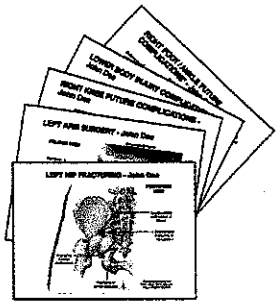




Digital Presentation



Poster Presentation



Colour Prints

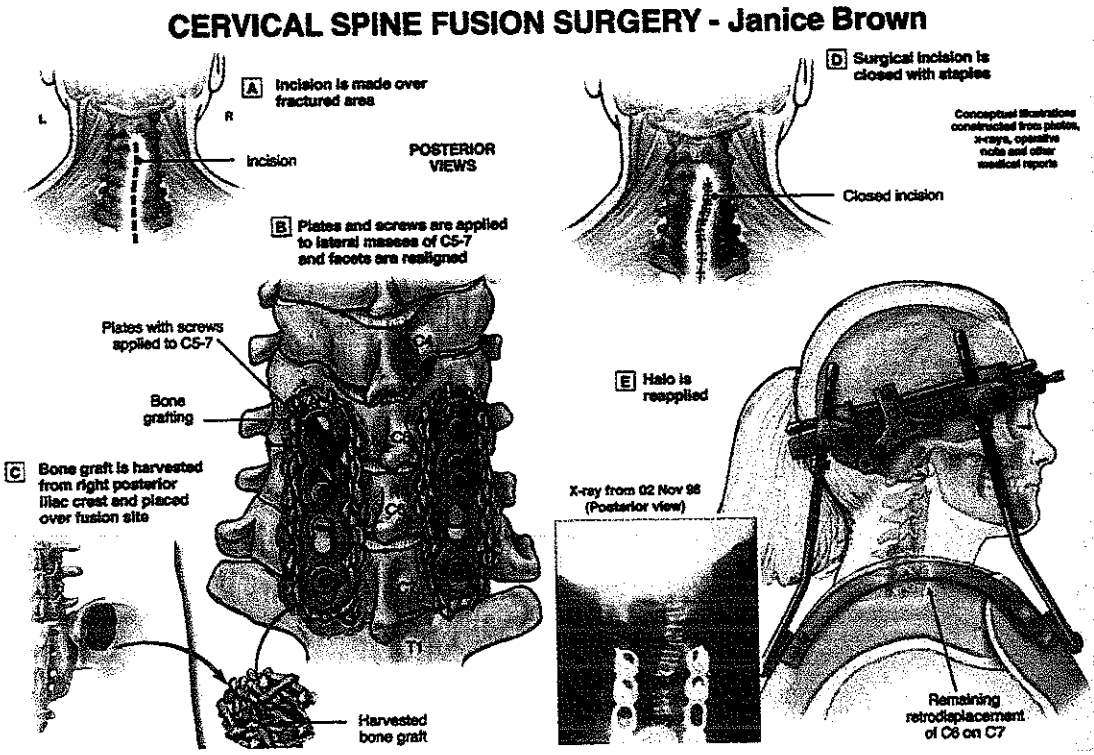


Figure 4.
Depictions of surgeries are simplified to focus only on the main stages of the operation.

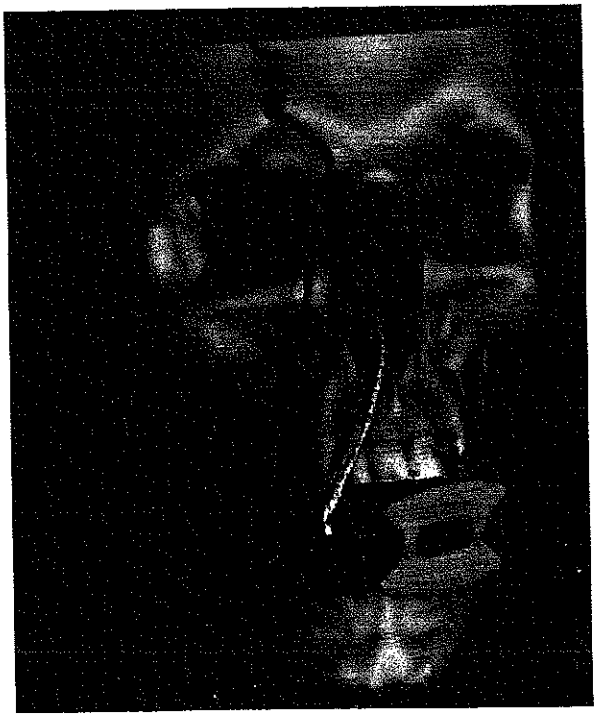
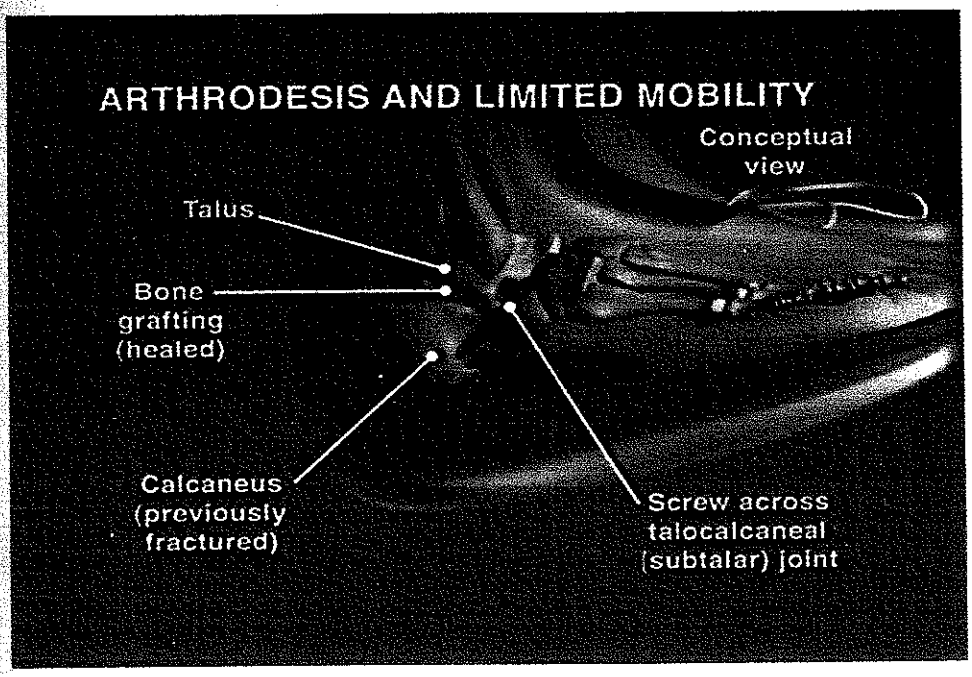


Figure 5.
A virtual 3D radiological image constructed from CT data. Fractures of the facial bones are demonstrated—note the fracturing below the orbits (eye sockets) and through the mandible (jaw).



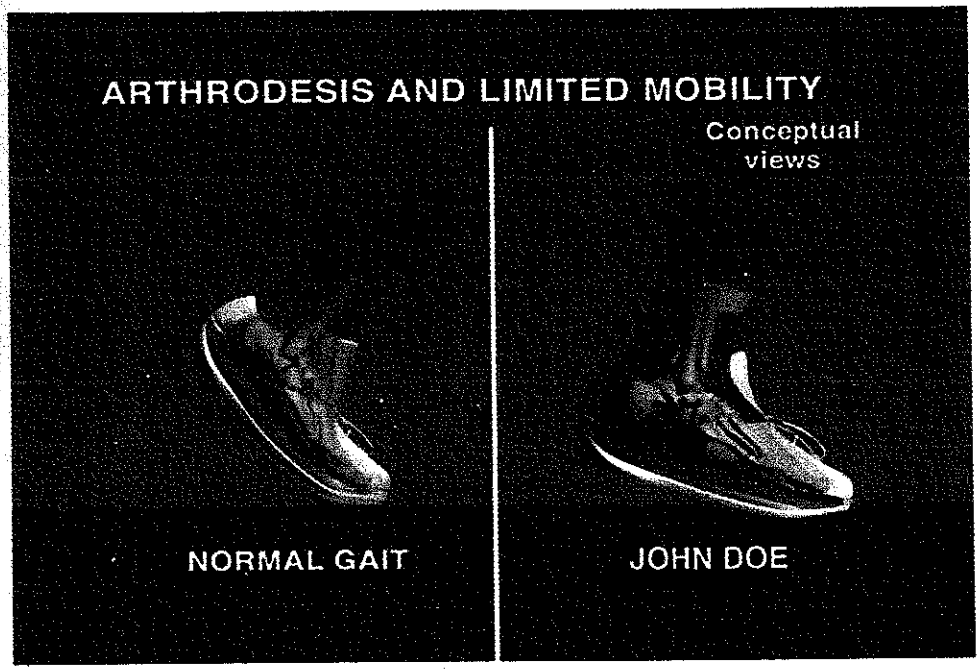
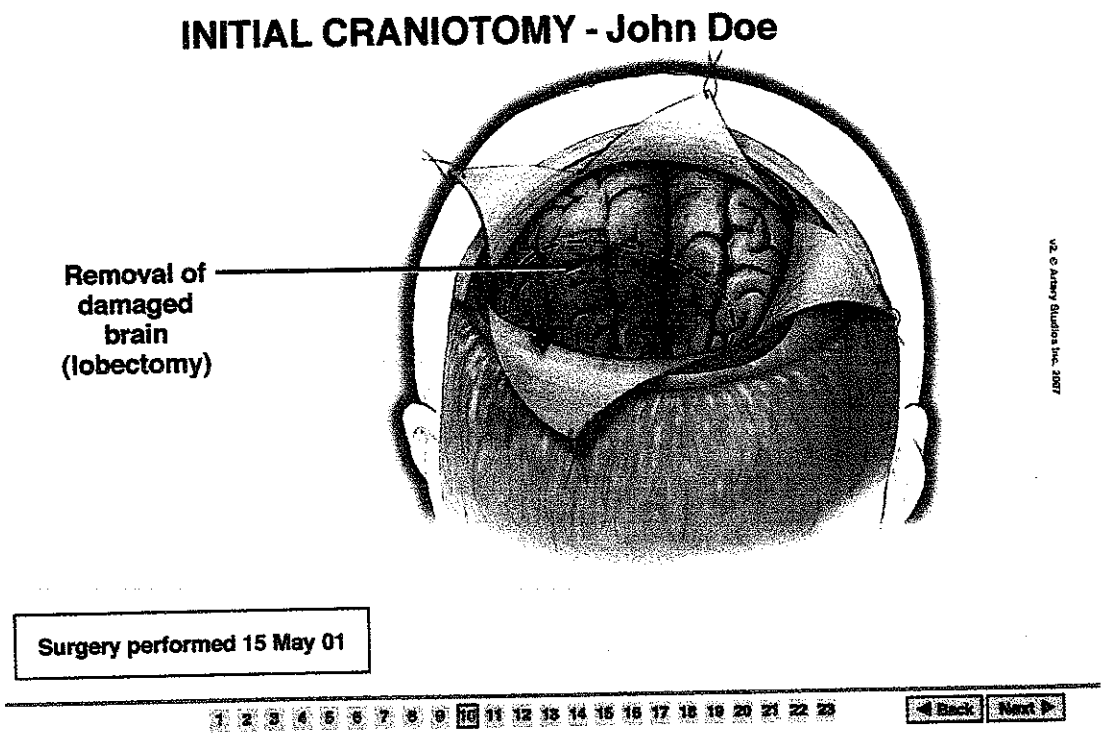


Figure 6.
Still frames from an animation that depicts motion of the subtalar joint in the normal foot, as contrasted with the plaintiff's lack of motion.



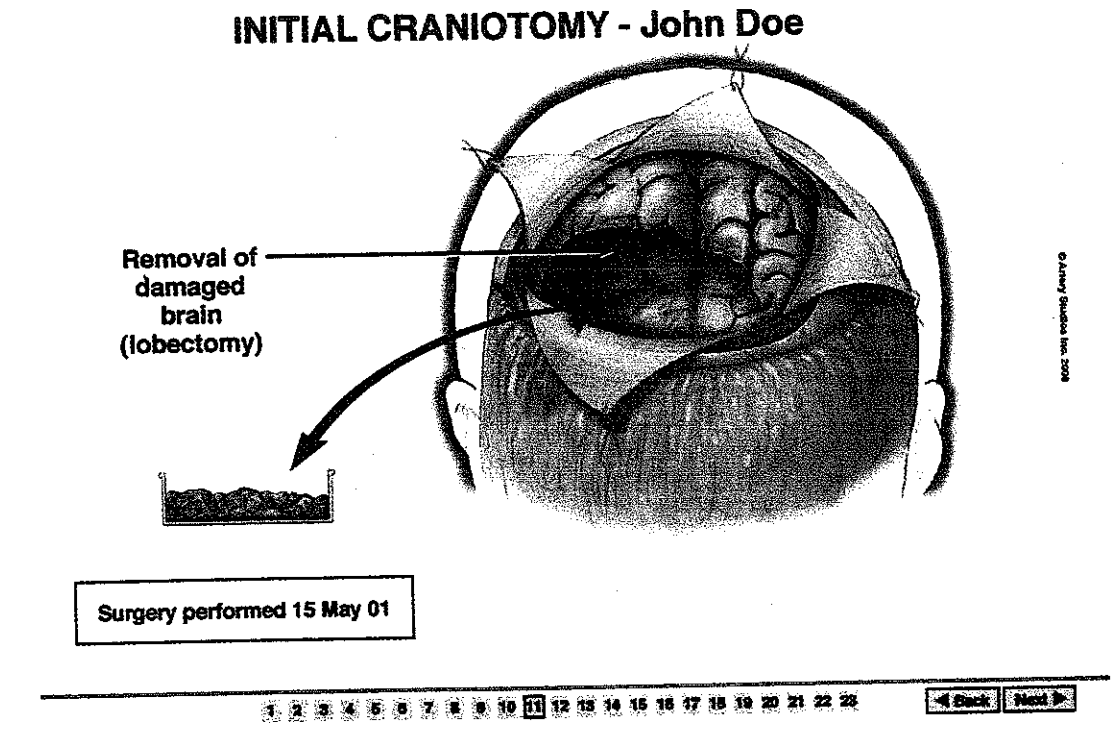
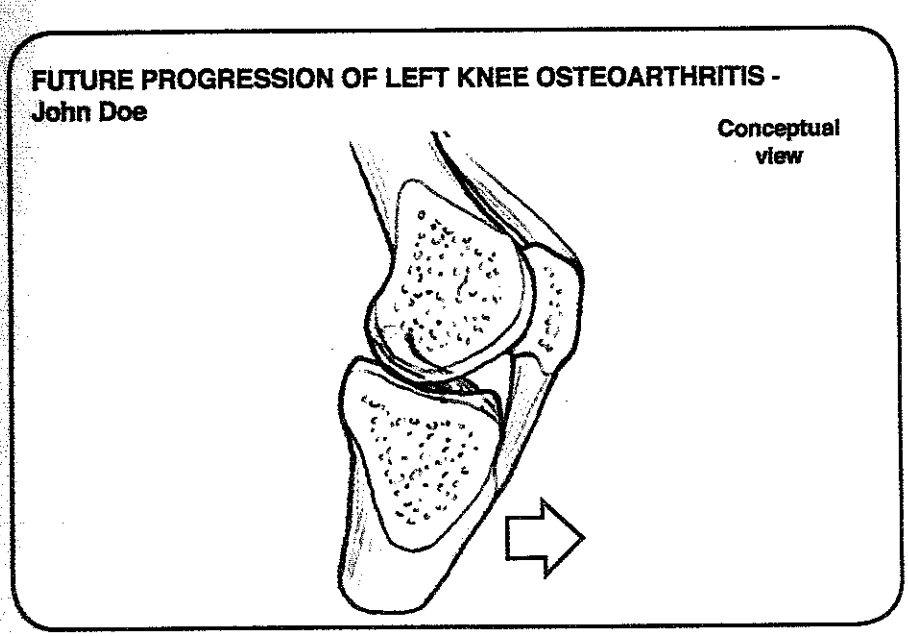


Figure 7.

Frames from a step-by-step animation. These slides depict details of craniotomy surgery, with opening of the dura and removal of damaged brain tissue.



SCENE 02.H

Effect of laxity of ACL is demonstrated by anterior translation of tibia. Bending motion is repeated twice. Arrow graphic emphasizes anterior translation.

Est time: 03 sec

Figure 8.
Example of a frame from a storyboard.

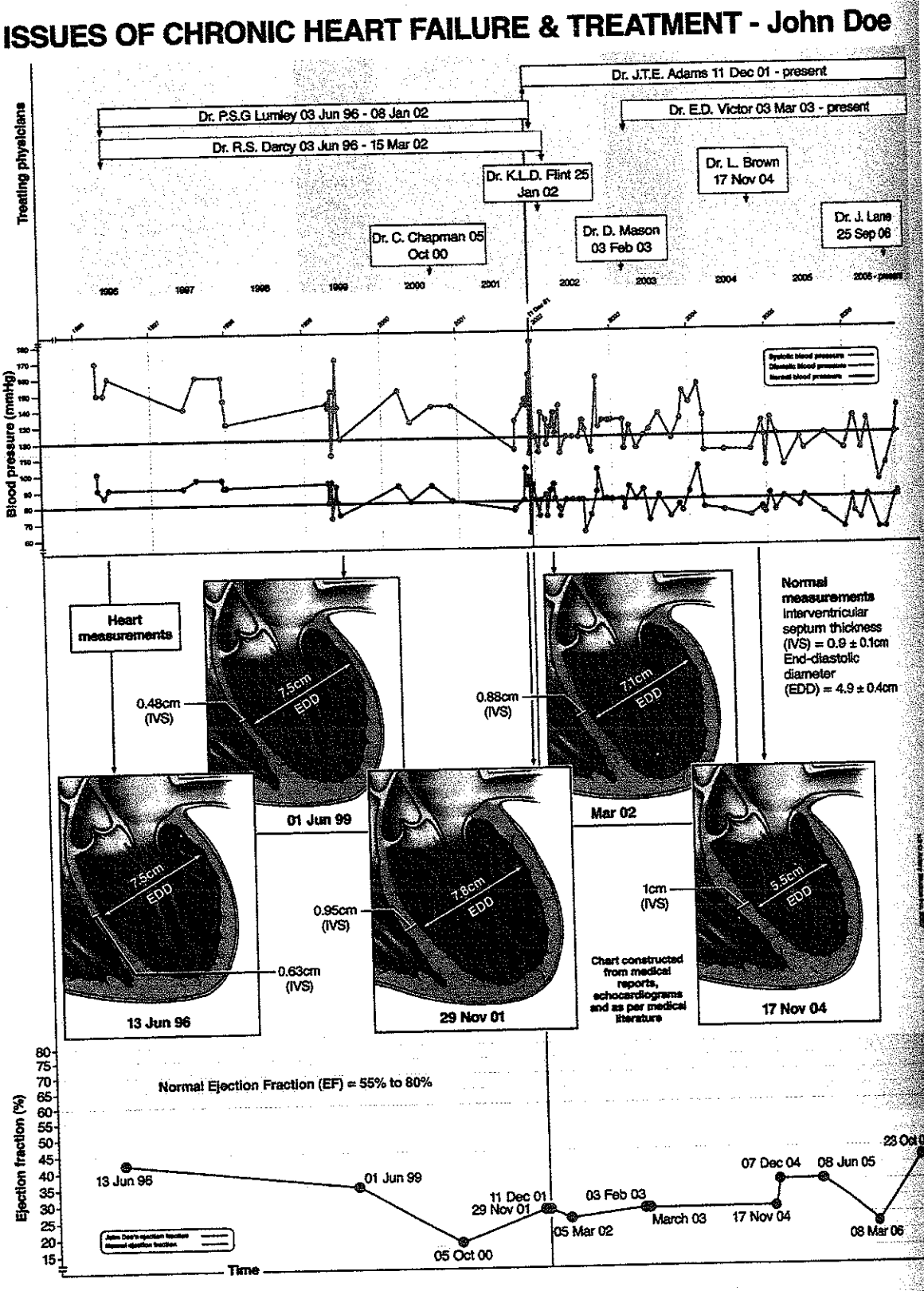


Figure 9.

Example of a treatment chart that provides a visual representation of a large volume of data (all physician names have been changed).

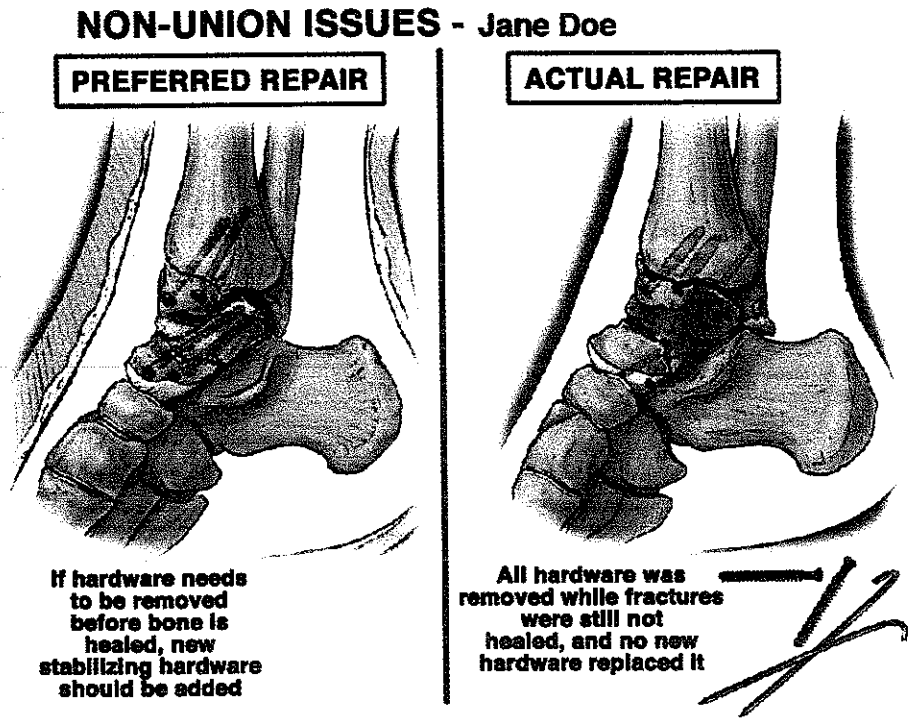


Figure 10.

A frame from a comparator slide presentation. Contrasting images allow for comparison between possible options. The illustration on the left shows what surgical procedure should have been performed; the image on right shows what was actually done.

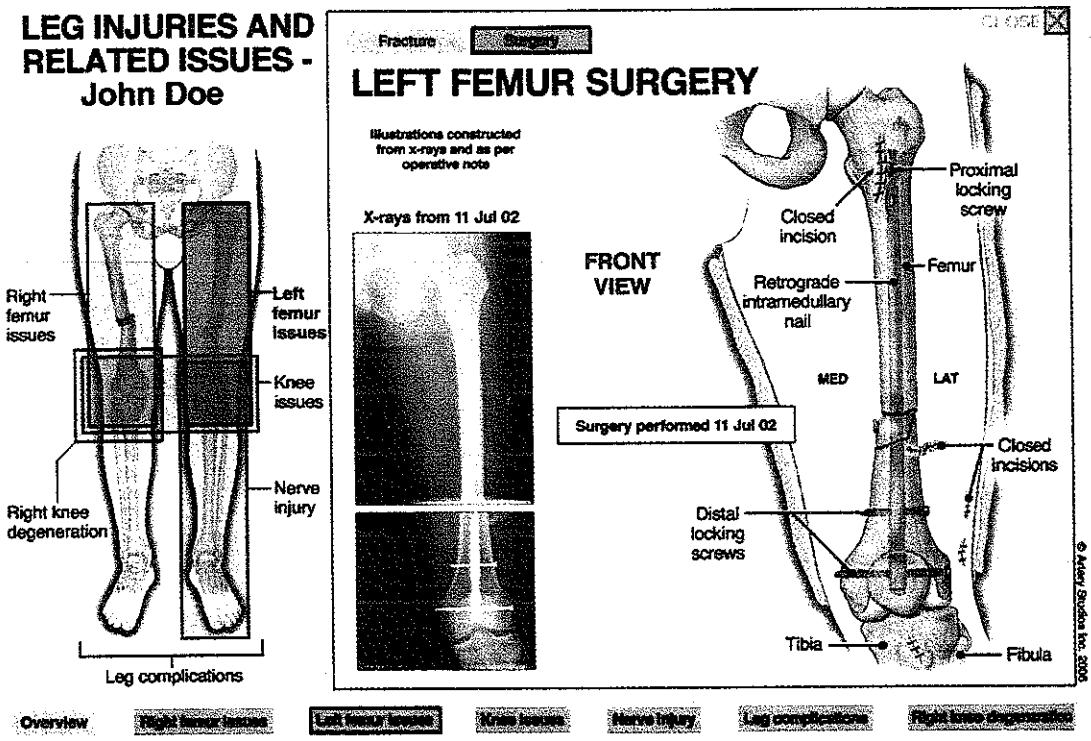


Figure 11.

A frame from an interactive medical illustration. The illustration on the left provides orientation, while enlarged images, presented consecutively, demonstrate details of each injured region.

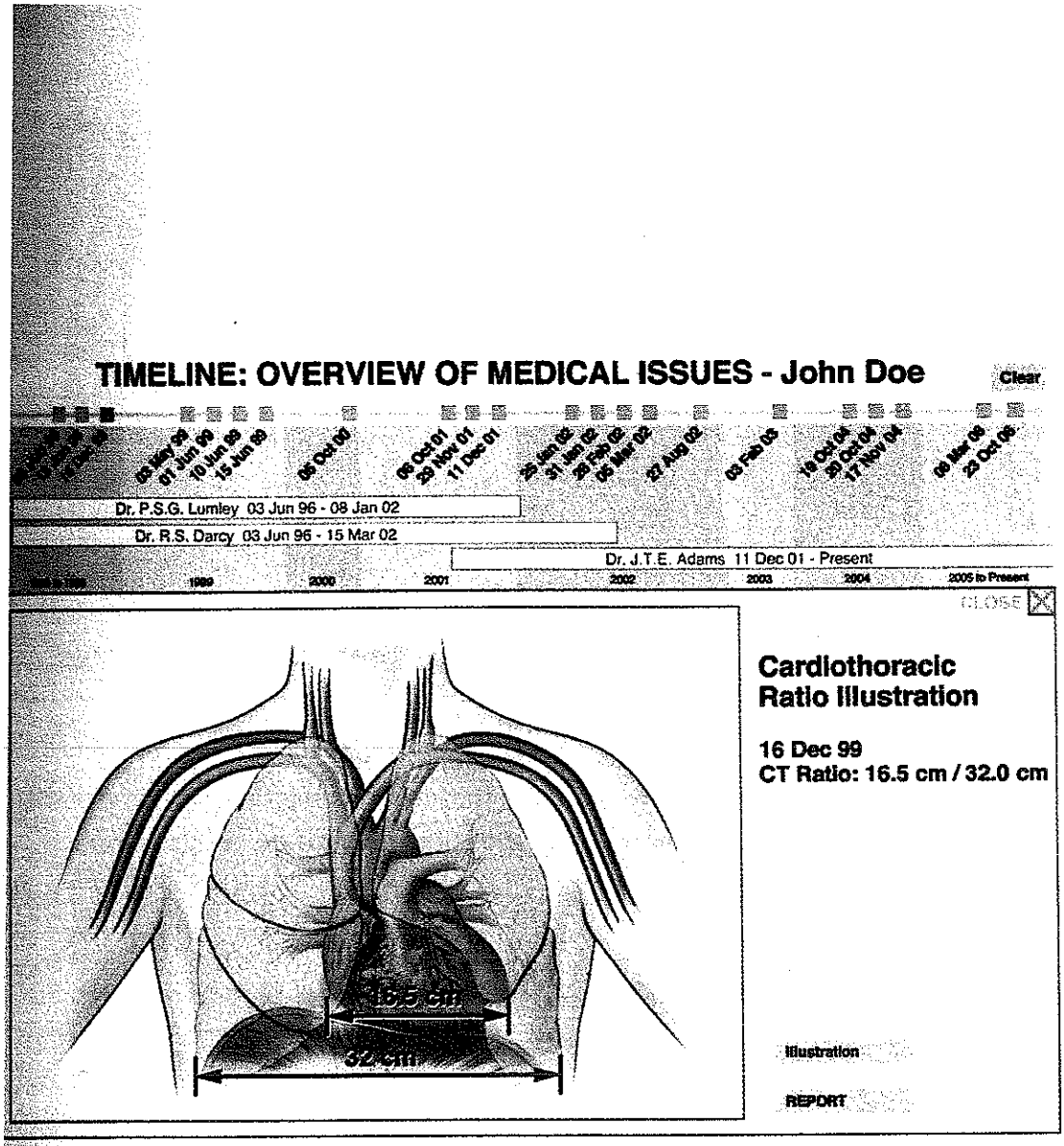


Figure 12.

A frame from an interactive timeline. When a date is selected, details of the medical issue associated with that time consecutively enlarge to fill the screen.

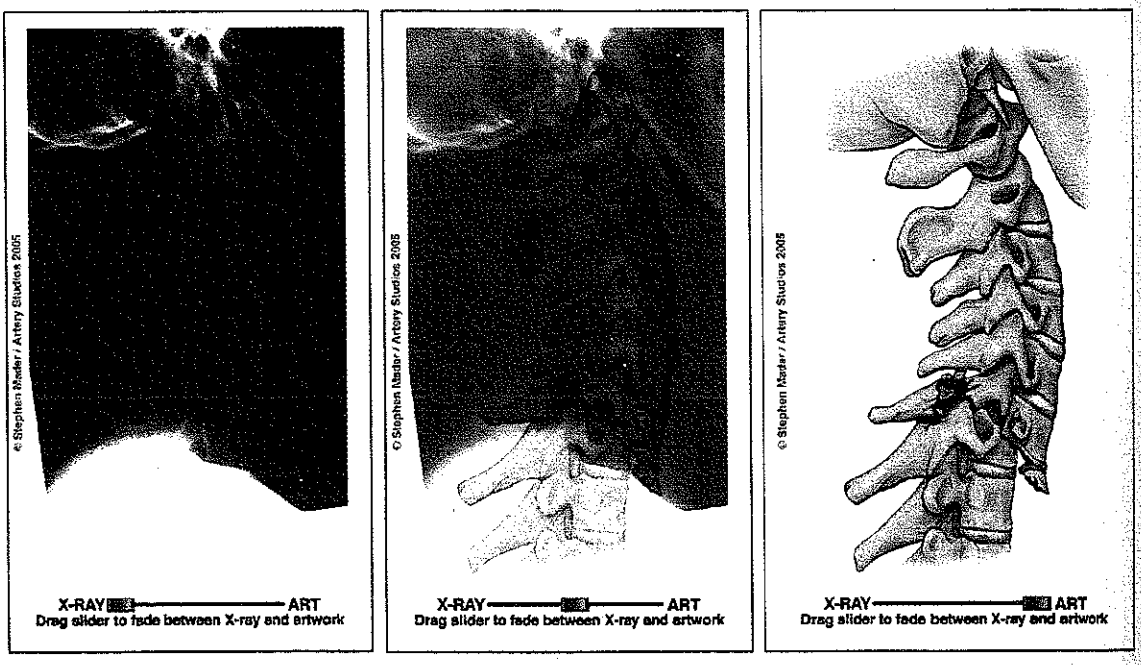


Figure 13.
Stages along a transitional image slider, that morphs between an x-ray of the cervical spine (on left) and a corresponding illustration of it (on right).

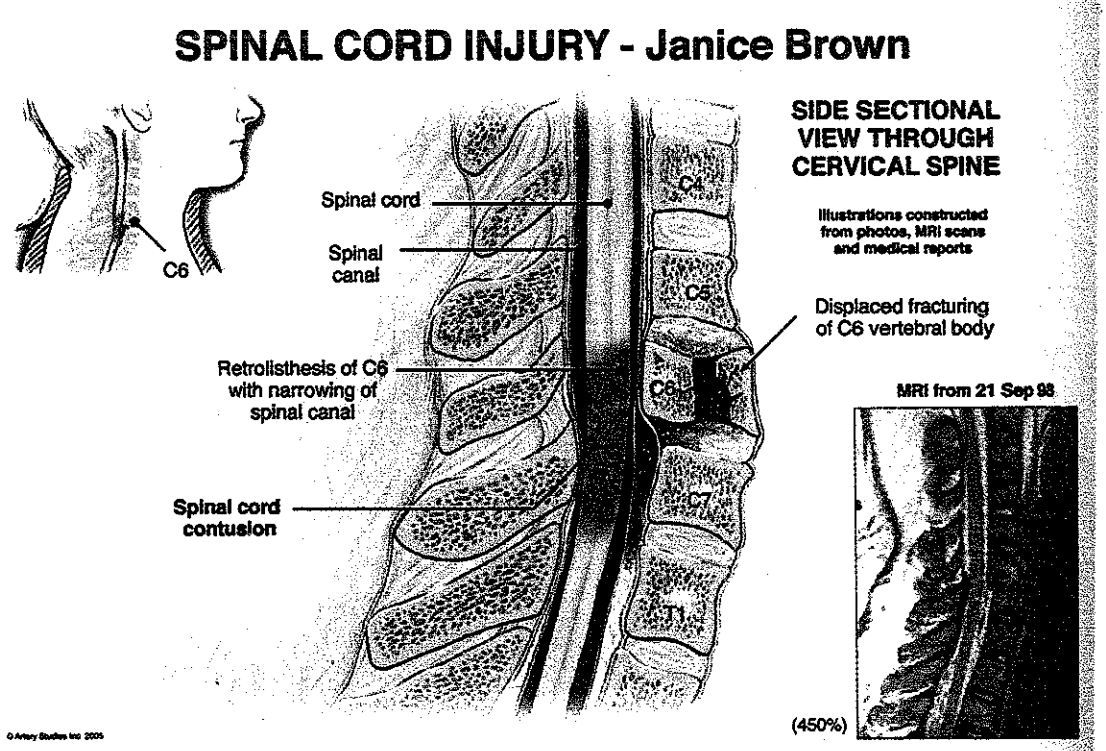


Figure 14.
Complex x-rays and other radiological images are explained via the use of customized medical illustrations.