**Being questioned on the basis for your opinion**

*The following is a sample section from the book:*
CROSS-EXAMINATION: THE COMPREHENSIVE GUIDE FOR EXPERTS
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**6.5 Opinions and Bases for Opinions**

The main reason expert testimony is presented is to offer an expert opinion. Accordingly, experts can anticipate being closely cross-examined on their opinions. They should also expect to be closely questioned on the bases of these opinions because an expert opinion is only as strong as the facts and reasoning upon which it is based. Questions in these areas are best blunted by carefully and honestly forming an opinion that is based on reliable methodology, a thorough investigation, and solid facts.

The specific areas an expert can expect questioning on are dealt with in the sections below. These include the following:

* The reliability of the expert’s methodology used to formulate an opinion. This includes the factors dealing with reliability commonly addressed in *Daubert* challenges. For example, (1) whether the expert’s theory can be or has been tested; (2) whether there is general acceptance of the expert’s methodology within the relevant scientific community; (3) whether the methodology has been subjected to peer-reviewed publication; and (4) the known or potential error rate of the expert’s methodology.
* The factual assumptions upon which the expert opinion is based.
* Conflict between the expert’s opinion and that of other, potentially more qualified, experts.
* Any underlining or notations made by the expert in the documents she used to formulate her opinion.
* Any information or records that the expert did not have available when forming her opinion. The cross-examiner will try to show that this information may have changed the expert’s opinion.
* The parts of documents provided to the expert that she did not review. These may have contained important information that the expert failed to consider.
* The numbers, figures, and formulas used by the expert.
* Any passage of time between the incident in question and the expert’s examination or inspection. Conditions or circumstances may have changed.
* The amount of time spent on the case. Did the expert pad his bill? Was there a rush to judgment?
* Reliance on other experts’ opinions or reports. Can these be verified? Were they reliable?
* The degree of certainty the expert maintained when expressing his opinion or factual assumptions. Was it merely possible? Probable? How likely is it that the expert is mistaken?
* The standard of care the expert applied if this is a professional malpractice case. The expert cannot reliably testify as to the standard of care if she does not completely understand the standard of care as it applies in the jurisdiction in question.

***Daubert*/reliability of proposed testimony**

Experts should be aware that their opinions are likely to be closely scrutinized under the *Daubert*doctrine to see if they are not only relevant but reliable. [1] Pursuant to the *Daubert* line of cases [2] and Federal Rule 702, the judge will act as a gatekeeper to screen out and exclude unreliable expert testimony and reports. The judge will consider several factors, including:

1. whether the theory or technique used by the expert can be, and has been, tested,
2. whether the theory or technique has been subjected to peer review and publication,
3. the known or potential rate of error of the method used, and
4. the degree of the method’s or conclusion’s acceptance within the relevant scientific community.

Procedurally, what will usually happen is that opposing counsel will make a *motion in limine*, which asks the judge to exclude the expert’s testimony for failure to comply with the requirements of *Daubert* and Federal Rule of Evidence 702. The judge will then convene a hearing on the motion. At this “*Daubert*” hearing, the expert will be questioned closely (out of the jury’s presence) on the issue of the reliability of his testimony.

Even if the judge allows the expert’s testimony into evidence, questions regarding the reliability of the expert’s opinion and methodology may still be allowed in front of the jury because these questions go to the weight to be given to the testimony. An expert opinion will survive *Daubert*challenges if the opinion is based upon reliable methodology and if the expert spells out this methodology clearly.

The cross-examination the expert will likely face in *Daubert* hearings can be detailed, exhaustive, and very challenging. The following example involved a product liability action brought against the manufacturer of a lift truck. The expert opined in his report that powered fork positioners were available and widely used in 1991. An excerpt of the cross-examination of the expert on this issue follows.

**Example 6.51: Expert cannot name any powered fork positioners that were available in 1991**

**Q.** To your knowledge, does the Raymond Corporation design and manufacture a powered fork positioner?
**A.** (Pause.) Near as I can recall from Mr. Rogers’ deposition, they did not.

**Q.** Would you agree then if they did not so design or manufacture a product, they would have to go out and get one on the open
marketplace to supply for a truck like the model 40?
**A.** Yes.

**Q.** Are you aware of the existence of one or more manufacturers of powered fork positioners in the country or the world?
**A.** Yes.

**Q.** More than one?
**A.** I think so.

**Q.** To your knowledge, are there different sizes, shapes, weights, and configurations of powered fork positioners that are available in
the marketplace?
**A.** Sure.

**Q.** Are you prepared to identify for me the single type, model, design, configuration, size, weight, of powered fork positioner you contend the Raymond Corporation should have put on its Raymond model 40 forklifts as standard equipment?
**A.** No.

**Q.** Why not?
**A.** Didn’t think it was necessary. It’s a feasible thing. I didn’t think it was necessary to go into the details.

…

**Q.** You’re not prepared to select which one or ones are available in the open marketplace or were available in the marketplace in 1991 when the subject Raymond model 40 was produced that would satisfy your engineering muster or your engineering test?
**A.** At this point, no. There is just no need. There was no question that it was feasible.

**Q.** Is there a single powered fork positioner that you can identify for me today that was available in 1991, which if installed on the Raymond model 40 forklift, you would say that truck is no longer defective in design?
**A.** Not a specific model, no.

**Q.** How about a manufacturer?
**A.** No.

**Lesson:** The preceding example was based upon the case of *Milanowicz v. The Raymond Corporation*, 148 F. Supp. 2d 525 (D. N.J. 2001). The court found that because the expert’s testimony was unreliable, it was inadmissible. The court stated:

Stephens also did not find adequate support for his conclusions in the relevant literature. While he claims to have reviewed a number of manuals and articles, the only citations he provides in his report are for the rather uncontroversial propositions that the elimination of identifiable, foreseeable hazards is a fundamental concern in industrial design and that users be warned of those hazards which have not been eliminated. (Pls.’ Opp. Br. Ex. B at 7-8). As he testified at his deposition, he used these references as the “foundation” for his report. (Def.’s Supp. Br. At 235). However, he conceded that he [had] never seen a technical publication or any other document which criticized lift trucks such as the Raymond Model 40 for not utilizing powered fork positioners were a necessary safety feature. (Id. at 184). In short, beyond general design principles, Stephens identified nothing in the literature which would suggest peer review of his conclusions.

The central contention of Stephen’s report, and thus of Plaintiff’s case, is that, because powered fork positioners were available and widely used in 1991, Raymond should have incorporated this device into its Model 40 lift truck. (Pls.’s Opp. Br. Ex. B. at 8; Opp. Br. At 18). Leaving aside Plaintiffs’ mistaken contention that an expert’s experience is sufficient to satisfy Rule 702, Stephens fails to adequately substantiate his contentions that powered fork positioners were available and widely used in 1991. At 538.

Experts involved in this type of high-stakes litigation should be familiar with *Daubert* and the cases that explain its holding. It’s best to prepare for intense scrutiny of one’s expert report, deposition, and proposed trial testimony. Retaining counsel should help the expert prepare for this intensive cross-examination.

**Example 6.52: No studies; investigation based on mere observation**

**Q.** What do you mean when you say there is, quote, high potential for contamination during fueling, closed quote?
**A.** Well, you’ve got to take your nozzle. It’s got fuel under pressure behind it. You’ve got to run it over the top of the step going in and coming out. If you’re a little lax or slow or just don’t give a damn and you got fuel pouring out of the nozzle as you’re going in and out, you really got a lot on the step.

**Q.** What studies have you made to determine whether the potential for that is high or low or nonexistent?
**A.** I haven’t done any studies.

**Q.** What investigation have you made?
**A.** Just normal observance of people and what they do when they fuel vehicles.

**Q.** Now, tell us, please, what testing helps you conclude that there could have been a light coating of diesel fuel on the steps to the truck?
**A.** The application of diesel fuel to aluminum, the exposure of the aluminum for a number of days to reasonably comparable weather condtions.

**Q.** So, quote, this coating would have resulted from fuel spillage during fueling of the truck on Friday [the day of the accident], period, closed quote.
**A.** Yes.

**Q.** What is the basis for saying that the truck was fueled on Friday?
**A.** Well, there is no factual basis for that. Let’s just say that we made an assumption that the truck was run on Friday. Maybe it was run on Saturday and that the truck was fueled up for the Sunday morning run…

**Q.** Did you conduct, as a part of your investigation, make any effort to determine why Mr. Fedor did not detect the diesel fuel on the step before he fell.
**A.** Good question. I don’t know why he wouldn’t have. You know, could be wind conditions. I don’t know.

**Q.** Did you make any efforts to determine if there was any amount of diesel fuel on the step at the time that Mr. Fedor performed his required pretrip inspection why Mr. Fedor did not detect the diesel fuel on the step before he fell?
**A.** I have no idea.

**Lesson:** In the above example, the expert’s testimony on the issue of design defect regarding the fuel port location was excluded at a *motion in limine*.

For additional information about the above example, see *Fedor v. Freightliner, Inc.*, 193 F.Supp.2d 820 (E.D. Pa. 2002).

**Example 6.53: No testing, test results, prototypes, or publication on proposed alternative design**

**Q.** As I understand it, sir, you offer two proposed failsafe designs for disposable butane cigarette lighters, correct?
**A.** Yes.

**Q.** According to you, a child’s ability to operate the lighter would be made extremely difficult by your design?
**A.** Yes.

**Q.** Very difficult and failsafe are not the same thing, correct?
**A.** Yes. But it is extremely unlikely a child could operate the lighter.

**Q.** That’s not failsafe, is it sir?
**A.** No.

**Q.** Have you tested your design to show it can be built?
**A.** No.

**Q.** Have you provided [a] drawing of the design?
**A.** No.

**Q.** Have you provided a design, prototype, or test results for your locking latch?
**A.** No.

**Q.** Have you developed or tested prototypes of lighters embodying your alternative designs or identified any product in the marketplace utilizing these designs?
**A.** No. It is not practical for a design expert like myself in a child’s personal injury case to develop a working prototype of every design alternative to the product which I am proposing.

**Q.** So, your answer is no?
**A.** A prototype like you are suggesting would cost $20,000–$40,000 to build.

**Q.** So, your answer is no?
**A.** That’s correct.

**Q.** Do you have any test results for your theory that your design would actually disable the lighter if the safety feature was removed?
**A.** No. I could not test something that does not exist.

**Q.** You stated earlier that your opinions were based on Bic’s patents?
**A.** Yes.

**Q.** In fact, your opinions are based on your revisions, modifications, and adaptations to these patents, correct?
**A.** Yes. But these were only small and minor changes.

**Q.** Not unlike the minor modifications to an existing skywalk design made in the 1981 collapse of a skywalk in which 114 people were killed?
**A.** Counsel, I am not aware of the details of that 1981 accident.

**Q.** Have you written or published any articles describing your theories?
**A.** No.

**Q.** You would agree that you have not tested a prototype of your design, tested a product in the marketplace that embodies your design, or reviewed test results performed by others on your proposed designs?
**A.** That’s true. But I still believe they would work.

**Q.** I am sure that you do.

**Lesson:** Prior to agreeing to testify in product liability cases, experts should attempt to make sure that their proposed testimony would meet the reliability standards of *Daubert*. The intense scrutiny their testimony is likely to bring means that additional testing, prototypes, or designs may be necessary to ensure the admissibility of the testimony. The expert should review these*Daubert* issues in depth with retaining counsel prior to accepting the assignment. A frank discussion of the financial resources of retaining counsel, his budget, and expectations is advisable as well.

The above example is based on the case of *Colon v. Bic USA, Inc.*, 2001 WL 1631402 (S.D. N.Y. 2001).

**Factual assumptions**

An expert’s opinion is only as good as the factual assumptions upon which it is based. Experts should anticipate that they will be cross-examined on the assumptions upon which they based their opinion(s). The line of questioning by counsel will usually include:

* questions eliciting all the assumptions the expert used and
* questions about the accuracy or the validity of these assumptions.

Please consider the following example:

**Example 6.54: Multiple assumptions of future events underlie opinion**

**Q.** One of your assumptions, I assume, is that Mrs. Schaible would continue to want to work during all of those years as opposed to being a housewife and mother?
**A.** Yes, for the years after she would be age 42.

**Q.** And, of course, if for one reason or another she decided she didn’t want to work that would affect your calculations, would it not?
**A.** That’s correct.

**Q.** It is one of your assumptions that would continue throughout her working life?
**A.** Yes.

**Q.** Even after they got in their forties and fifties, your assumption was that she would still continue?
**A.** That’s correct.

**Q.** She wouldn’t keep any of her own earnings for herself [f]or whatever purpose, they would all go other than the 30 percent that you subtracted for the cost of her maintenance, one of your assumptions was that all of it would go to Mr. Schaible or at least he would receive the economic benefit of that?
**A.** I assumed beyond the 30 percent, right.

**Q.** One of your assumptions, I assume, was that the marriage would continue during that period?
**A.** Yes. All the indications I had it was a happy marriage.

**Q.** But that was one of your assumptions?
**A.** Based on the information I have.

**Q.** And one of your assumptions, I assume, also was that Mr. Schaible would not remarry and everything would remain the same up to his own death?
**A.** Yes.

**Q.** Another one of your assumptions was that Mrs. Schaible would continue in good health and be able to work?
**A.** That’s correct.

**Q.** Will you agree, Mr. Tansky, there is really no way you can say for sure any of the assumptions you made and upon which your opinions were based are valid with reference to this particular individual other than your opinion?
**A.** Could you restate that question?

**Q.** Okay, I can try, anyway. Would you agree there’s really no way you can say, talking about you, now, for sure, that any or all of the assumptions that you have made and upon which your opinions are based, are valid, or would turn out to be valid with reference to this particular individual?
**A.** In my opinion?

**Q.** No, I’m not asking for your opinion, I’m asking whether there’s any way you can say they will be valid.
**A.** No, things might have been better or worse economically.

**Q.** So, what we are saying, again, you don’t have a crystal ball, you don’t know what is going to happen in the future or what would happen with reference to any one specific individual?
**A.** That’s correct.

**Lesson:** Counsel in the above example painstakingly went through the many assumptions the expert used to reach his conclusions and opinion. The expert appeared to be surprised and ill-prepared to discuss his assumptions. The expert did not reply artfully to the validity question and made no attempt to support his opinions. He could have replied to the last question: “Counsel, I based my assumptions and opinion on the facts. As such, they are valid and accurate. The reason we make assumptions based upon the facts is to as accurately as possible reach conclusions and opinions. I don’t have a crystal ball. That is why factual, accurate assumptions are vital to reaching valid opinions.”

This example is based upon the case of *Schaible v. Myers*, 311 N.W. 2d 297 (Mich.1981). The court found the cross-examination was permissible and reasonable and explained:

We conclude that the Court of Appeals erred. The jury was not told to take into account the possibility that the plaintiff might remarry. Rather it listened to an exposition of the many assumptions upon which the expert witness relied in making his calculations of the plaintiff’s economic loss. Such an exposition is necessary to an intelligent understanding and evaluation of the worth of the expert’s opinion. At 299.

**Conflict with opinions of other experts**

Cross-examining counsel may attempt to get an expert to change his opinion because it conflicts with one or more opposing experts’ opinions. Counsel may take one of four approaches:

* Because two, three, four, or more different experts have different opinions, a “reasonable” expert would consider changing his opinion.
* Opposing experts are more qualified on this particular issue. For example, the other experts are specialists, thus a “reasonable” expert would defer to these opinions.
* The expert’s opinion is out in left field because it stands in stark contrast to many experts, treatises, etc.
* The expert examined the plaintiff on only one occasion, but the examining physician saw him thirty-two times over a period of four years. Isn’t she in a better position to opine about the plaintiff’s condition?

Effective experts stick by their honest opinions and are prepared to justify why their opinions are just as valid, reliable, and worthy of acceptance as any others. Please consider the following examples.

**Example 6.55: “Would another expert’s different opinion change your opinion?”**

**Q.** Doctor, if radiologists had read the same x-rays that you—and had a different opinion than you did, would that in any way change your opinion?
**Ms. Keeley:** Objection.
**The Witness:** I’m not certain why it should, because I had the opportunity to look at the x-rays myself.
…
**Ms. Keeley:** Objection, hearsay.
**The Witness:** You know, you’re—you’re creating a hypothetical situation and the answer is, is that in this particular case, I had the opportunity to review the x-rays. I sat down with all of them together which perhaps if the radiologists had reviewed them they didn’t have the opportunity to look at all of them together. And there would be no reason for me to rely on somebody else’s opinion when something’s right in front of me.

**Lesson:** Experienced experts are not afraid to stand up for their opinions and point out why their opinions are just as valid, if not more valid, than those of opposing experts. In the above example, the expert stood his ground and gave a good explanation of why he might have been in the best position to offer an opinion.

For additional information about the above example, see *Daisey v. Keene Corporation*, 633 A.2d 979 (N.J. Super. A.D. 1993).

**Example 6.56: None of the 5 other experts diagnosed malingering**

**Q.** Now, Doctor, you’ve reviewed the medical records of Dr. Goff?
**A.** Yes.

**Q.** And he didn’t make a diagnosis of malingering?
**A.** That’s correct, he did not.

**Q.** Similarly with Dr. Finley?
**A.** That’s correct.

**Q.** And, in fact, it was his opinion that she was not malingering?
**A.** That’s right.

**Q.** Dr. Lord, he didn’t make a diagnosis of malingering?
**A.** That’s correct, he did not.

**Q.** And nor did Dr. Cherry, Dr. Manlove?
**A.** That’s correct.

**Q.** None of the medical professionals, either physical medicine professionals or mental health professionals, have made a diagnosis of malingering other than yourself?
**A.** That’s correct.

**Q.** So you would agree with me, you’re the first medical professional engaged in this matter to make a diagnosis of malingering?
**A.** Yes, that is correct.

**Q.** And you’ve never physically examined her?
**A.** That’s true.

**Q.** And you don’t practice physical medicine?
**A.** No.

**Q.** And you’re not suggesting that this injury, this admitted injury, didn’t occur, are you?
**A.** No, I’m not suggesting that.

**Lesson:** Despite the contrary opinions of five other experts, the expert in the above example did not argue with counsel nor did he change his opinion. Note that counsel did not ask him why he thought he was correct and the other five experts were wrong.

**Underlining in records and reports**

Experts generally base their opinions to a large degree on documents that they have reviewed. Experts who note, highlight, or underline records or reports should expect to be cross-examined about their actions. Counsel will ask them why they selected a few specific sections to underline or highlight. To avoid this type of cross-examination, experts are well-advised to refrain from marking the documents upon which their opinion is based. It may be better practice to make notations on removable paper tags.

**Example 6.57: “Why did you choose that phrase and underline it in red?”**

**Q.** The attorney tells you that and states an opinion that the MRI showed evidence of disc protrusion. Correct?
**A.** Yes, sir. He again; I’m not here to defend the attorney, what I’m simply saying is what the attorney’s letter is, is a summary of the medical records which include the diagnosis rendered by other physicians.

**Q.** He also mentions on the first page of his report that his client’s tires had spikes in them that he believes were laid down by the picketers. Do you see that in the first page of his four-page letter to you?
**A.** Yes, sir.

**Q.** Why is it important for him to include that information to you? Do you know why?
**A.** You’d have to ask him, sir. I don’t….

**Q.** Do you think that was important in coming up with your opinions and conclusions?
**A.** I don’t think it was relevant at all, sir.

**Q.** Then why did you underline it in red on the letter that is contained in your file?
**A.** Why did I underline it in red?

**Q.** Right there you underlined that particular phrase in red right at the bottom of that first page.
**A.** Probably went through here and underlined various articles in there as I wrote it.

**Q.** I’m trying to figure out why you picked that one phrase on the one page and underlined it in red.
**A.** I can’t tell you why, sir. I did it at the time I did it. Maybe I thought it was an interesting observation. So as I read through his letter, I underlined various things. I cannot give you the exact thought process why I did it, sir.

**Lesson:** Experts are better served when they do not underline, highlight, mark, or otherwise annotate documents that they review. If an expert realizes that this was done previously in the case, she should prepare for the inevitable questions during cross-examination. This expert gave a believable answer, namely, “I can’t tell you why, sir…Maybe I thought it was an interesting observation.”

**Missing records**

It is common for retaining counsel to not provide an expert with all of the relevant documents in a case. Unfortunately, experts who do not review all the records in a case or who do not have access to them can expect to be cross-examined closely on this issue. Counsel will try to show directly, or by implication, that because the expert did not have all the facts, the assumptions on which she based her opinions are incomplete or flat out wrong. The more records that were not reviewed, the more suspect the expert’s opinion. To avoid this type of cross-examination, experts should insist that retaining counsel provide them with all relevant documents. Please consider the following example.

**Example 6.58: Expert has not reviewed many records**

**Q.** Dr. Rungee, have you reviewed the records of Dr. Garvin and Dr. Seshul at Baptist Hospital?
**A.** I have not.

**Q.** Okay. Have you reviewed the records of Baptist Care Center as they relate to Mr. Clifford Charles Leverette?
**A.** I have not.

**Q.** Have you reviewed the records of HealthSouth, Dr. Richard Lisella, and Tammy Morton, PT, as they relate to Clifford Charles Leverette?
**A.** No, I have not.

**Q.** Have you reviewed the records as they relate to Mr. Clifford Charles Leverette of the Bedford County Medical Center, Dr. Ilarde, Knoblach, Galvez, Clark, and Tamula?
**A.** I have not.

**Q.** Have you reviewed the records of Dr. Thomas Woolridge as they relate to Mr. Clifford Charles Leverette?
**A.** I don’t remember all these names.

**Q.** I didn’t see it in there earlier.
**A.** No, I have not.

**Q.** Okay. Did you review the records of the Williamson Medical Center as they relate to Mr. Clifford Charles Leverette?
**A.** Who would be the physician?

**Q.** Doctors Metzman, McNamara, and Himmelfarb.
**A.** No.

**Q.** What about the records of Nashville Diagnostic Imaging, Dr. William Witt?
**A.** Is that his myelogram?

**Q.** It’s an MRI. Here it is. It’s this one. Have you seen that?
**A.** I have not.

**Lesson:** The expert who does not have access to all relevant case materials and has not reviewed them is at a serious disadvantage during cross-examination. Because he has not seen the records, he cannot honestly testify as to how the records would affect his assumptions and opinions. Experts are much better served by insisting on receiving all the records before they render an opinion. Where certain information was not reviewed, this should be honestly acknowledged, as above.

**Only “relevant” or “pertinent parts” of records reviewed**

When an expert is provided with or simply chooses to review selected portions of the record, he becomes vulnerable to cross-examination. An opinion based on incomplete or erroneous assumptions can easily be shown to be suspect. To blunt such challenges, experts should insist on reviewing as much information as is reasonably feasible. Please consider the following examples:

**Example 6.59: Counsel did not send over all the records**

**Q.** Your opinion is that the shooting was foreseeable due to the inadequate training of the security officers, correct?
**A.** Yes.

**Q.** As you did not perform an investigation, your opinion was based on the documents you reviewed?
**A.** Yes, that plus my education, training, and experience.

**Q.** You reviewed relevant portions of the:

1. depositions of Ann Jefferson, Tom Davis, and Ray Ellis
2. complaint
3. answer
4. incident report #69-107-12 dated 4/6/98
5. the public safety services agreement dated 1/14/96
6. interviews with seven hotel employees
7. photocopies no. 1-21 and
8. comprehensive RPD Report 416293-17

Correct?

**A.** Yes.

**Q.** How did you obtain these “relevant portions” of the record?
**A.** Counsel sent them to me.

**Q.** So, Counsel and not you made the decisions as to what was relevant?
**A.** Yes.

**Q.** Do you know how many hundreds of pages of the depositions were not sent to you?
**A.** No.

**Q.** Could anything contained in these missing deposition pages or other records have had an impact on your factual assumptions or your ultimate opinion?
**A.** I don’t know.

**Q.** That is because you never saw them, correct?
**A.** Yes.

**Q.** Might your opinion be different if you had an opportunity to review these missing records?
**A.** It might be.

**Q.** Did you request these missing records?
**A.** Yes.

**Q.** Why were they not provided to you?
**A.** I don’t know.

**Lesson:** This is a very effective cross-examination in which the factual basis of the expert’s opinion has been called into question. Experts who insist on and obtain complete copies of relevant documents are in a much stronger position to support their factual assumptions and ultimate opinions. When records and other documents are excerpted and “relevant” or “pertinent” portions are selected out by counsel or others, the expert may be deprived of crucial information, data, or facts. In addition, counsel has in effect substituted his judgment for that of the expert. The jury or fact finder is left to draw the conclusion that the lawyer may be intentionally omitting information that does not support the opinion he is seeking from the expert.

**Example 6.510: Karnack the Magnificent**

**Q.** As I understand it, you were sent a 240-page deposition transcript to review by Attorney Baker and you reviewed about 40 pages of the “relevant” material, correct?
**A.** Yes.

**Q.** You of course read the other 200 pages to see if it was relevant?
**A.** No.

**Q.** Could you explain how you determined that the 200 pages you didn’t read were not relevant?
**A.** Well, experience–I have been in this business for 32 years.

**Q.** Let me see then, did you (counsel takes transcript and puts it against his forehead) hold the transcript pages like Karnack the Magnificent and say, “not relevant, not relevant, relevant”? Is that what your experience allows you to do?

**Lesson:** Experts cannot know whether a portion of a document is relevant unless they read that portion of the document. Counsel’s cross-examination here may have been a little over the top, but the point is valid and is likely to be understood by the jury: How can the expert know if something is relevant if he hasn’t read it? If the expert didn’t even read everything that he was sent, why should a jury trust his opinion?

**Numbers, figures, and formulas**

Jurors and many people in general may have a hard time understanding or may be suspicious of statistics, numbers, figures, formulas, and other “math.” It is crucial that experts not increase this suspicion. Experts who testify regarding numbers, figures, and formulas need to know their origins and understand specifically how they were derived. Counsel can be expected to attack any lack of familiarity or knowledge with numbers, figures, or formulas head-on during cross-examination. If the expert does not know the numbers cold, the jurors may ask the question, “Why should we trust that expert’s numbers? It doesn’t look like he even understands them.” Please consider the following example:

**Example 6.511: Fuzzy math**

**Q.** In tab 5 or section 5 of your testimony, Mr. Neidermyer, you explain to us the, how we get to this 12 percent return on surplus standard. And just to summarize, I understand that it initially starts with a 10.4 arithmetic average of P & C Carriers over a 10-year period which is then rounded down to 10.2 [sic] and multiplied by 1.2?
**A.** I believe so, that is my understanding.

**Q.** When you say it is your understanding, are you saying you are not totally comfortable with it?
**A.** From the Nationwide, that is the way I understand that it was derived.

**Q.** Have you ever talked to—who came up with that number, do you know?
**A.** I am not sure.

**Q.** And your knowledge of how it was derived is in reading the Nationwide adjudication?
**A.** Yes. And well, in conversation with, several people in the Department.

**Q.** But you never talked to the person, whoever it was who actually came up with this number?
**A.** No.
….
**Q.** Now, if we, 10.4, well, the conversion formula is to take the GAAP equity figure, times it by 1.2 to give us a return on statutory surplus?
**A.** Correct.

**Q.** 10.4 can be multiplied by 1.2 can it not?
**A.** Correct.

**Q.** And that would give us 12.48? Is that right?
**A.** OK.

**Q.** Have you given any thought to why 12.48…wasn’t used as the Department’s benchmark given that that would be the accurate transaction of this 10.4 percent figure that was derived from this ISO study apparently?
**A.** Early on when I was involved with this, it goes back very close to the beginning, I recall the 10.4 was based on actual data from the first report and then the 1988 results actually slipped a bit. And I believe it was my thought that that was the reason the 10 percent was selected and then the 1.2 applied to that.

**Q.** But I take it your testimony is that you are not real clear that that is what happened?
**A.** No.

**Q.** You have this vague recollection?
**A.** Right.

**Q.** So other than this vague recollection there is no reason that you know of why the number that the Department calculated to be the average return earned by the property/casualty insurance industry from 1979 through 1988, shouldn’t be the 10.4 figure which apparently it was?
**A.** No.

**Q.** It simply was rounded down to 10.0?
**A.** Correct.

**Q.** If you were going to indicate what would be an adequate rate of return on a going basis for a company, P&C writer [sic] today, would you recommend in your professional judgment a 12 percent on statutory surplus?
**A.** I have not done any studies so that I would feel comfortable with picking a number.

**Q.** Do you recall testifying in the Liberty Mutual case that you would not be sure if you would accept 12 percent on a going basis as being a fair and adequate rate?
**A.** I recall.

**Q.** Has anything changed your mind from your testimony in that hearing to today’s hearing?
**A.** No.

**Lesson:** In the above example, the court rejected the 12% threshold based in large part on the ambiguity and uncertainty of the expert’s testimony. Experts should be prepared to explain in detail and with precision how they arrive at rates, numbers, figures, and formulas. Failure to do so will, as in the above example, have disastrous results.

For additional information on the above example, see *Prudential Property and Casualty Insurance Company v. Department of Insurance*, 595 A.2d 649 (Pa. Cmwlth 1991).

**Passage of time between accident and inspection**

Experts who conduct an inspection of a machine, accident scene, or anything else long after the accident date can expect to be cross-examined concerning the passage of time and its effect on the item at issue. This is a legitimate area of inquiry. At issue, of course, is whether the conditions were substantially the same at the time of the inspection as they were at the time of the incident. If there is a reason why the expert does not believe that conditions have changed substantially, the expert should be prepared to explain this. Please consider the following example:

**Example 6.512: Golf car inspection made 4 years after accident**

**Q.** You inspected the golf car in question how many years after the accident?
**A.** Approximately four years.

**Q.** You found that the set screw that connects the directional lever to the control shaft was improperly positioned?
**A.** Yes.

**Q.** Has the set screw of the golf car in question been modified in any way since the accident?
**A.** Not to my knowledge.

**Q.** Was the key switch tightened during the intervening four years?
**A.** Not to my knowledge.

**Q.** The golf car was put back into use after the accident, was it not?
**A.** Yes.

**Q.** What repairs were made to it before it was put back into use?
**A.** I don’t know.

**Q.** How many different people drove the car in the intervening four years?
**A.** I am not sure.

**Q.** What maintenance was done to the golf car over the four years?
**A.** I don’t know. There was no service record available.

**Q.** So you cannot say with a reasonable degree of engineering certainty that the set screw was not changed and the golf car remained in substantially the same condition four years after the accident when you examined it?

**Lesson:** This is an effective cross-examination. It calls into question the expert’s entire opinion. If the expert in this example had reason to believe that the set screw had not been altered, it would have been beneficial to explain this during direct, or, if given an opportunity, during cross-examination.

This example was based on the case of *Tidemann v. Nadler Golf Car Sales, Inc.*, 224 F.3rd 719 (7 Cir. 2000).

**Amount of time spent on case**

Experts should anticipate being questioned on the amount of time they have spent on the case. Counsel can attempt to imply or prove that the expert did any of the following.

* He spent too many hours in an attempt to run up a large bill. The expert is therefore dishonest and will defraud or lie for money.
* He could not have spent all of the hours he alleges. The expert is therefore dishonest, sloppy, or forgetful. In any event, he is not to be believed.
* He is mistaken about the time spent due to discrepancies between his testimony and his billing records. If the expert doesn’t even know how many hours he spent on the matter or can’t get his billing straight, why should he be believed when giving an opinion?
* He spent too little time before reaching his opinions. Was there a rush to judgment? Was there an adequate investigation?

If counsel is successful in any of these endeavors, the expert and his opinion will be less believable. To blunt such inquiries, experts should do the following.

* Conduct a thorough investigation, but not pad their bills.
* Be prepared to answer questions about the amount of time spent on the matter, including the hours billed to date. This number should conform to the expert’s billing records.
* Be prepared to justify and explain why the expert spent a relatively small or large amount of time on the case.

Please consider the following examples:

**Example 6.513: Opinion in products liability case formed after only 4 hours of records review**

**Q.** Doctor, as I understand it, you are offering three opinions in this electrocution case:

1. that the design of the Wayne Model CDU 800 sump pump is defective in that the strain relief mechanism is inadequate to secure the power cord in the watertight seal during foreseeable uses of the pump;
2. that the breach of the watertight seal caused the decedent’s electrocution, and
3. that the decedent experienced severe pain as well as other effects of electrical shock.

Correct?
**A.** Yes.

**Q.** You reached your conclusions after spending only four hours reviewing documents in your office?
**A.** Yes. I did everything necessary to formulate my opinions in this case.

**Lesson:** This was a very effective cross-examination. The jury is likely to be suspicious of an expert opinion where the expert merely quickly reviewed some documents and never even made a physical inspection of the item in question. A more thorough investigation or at least a better explanation of why a longer investigation was not done would have helped this expert. For example, in response to counsel’s last question, the expert might have responded, if appropriate, “Yes. This case is basically identical to an electrocution case involving a CDU 800 I handled just last year. As a result, it was not necessary to duplicate most of my research and I was able to reach a conclusion much more quickly than usual.”

The above example is based on the case of *Traharne v. Wayne/Sott Fetzer Company*, 156 F.Supp.2d 697 (N.D. Ill. 2001). In that case, the court expressed its concern with the limited time spent by the expert:

At the outside, it must be noted that Dr. Morse reached his conclusions “after spending only four hours reviewing documents in his office in San Diego.” Dr. Morse was of the opinion that he had done everything necessary to formulate his opinions in this case. The amount of time and work expended by an expert in familiarizing himself with a particular case; in culling key facts from the documentation presented to him; and in developing the factual predicate for his opinions clearly goes to his appropriate case, the amount of time and work expended may also go to the issue of whether or not the expert’s opinion is predicated on a reliable methodology or technique. Although the limited time expended by Dr. Morse is troubling, given his expertise and background, it may well be sufficient. In any event, we believe that sound discretion dictates that we permit the trier of fact to take into account the time expended by him when weighing and considering his opinion testimony. At 707-708.

**Example 6.514: More time reading a deposition than the actual deposition took**

**Q.** You were asked by counsel to determine if Mr. Fitz stopped at the red light or drove thorough it immediately prior to the accident, correct?
**A.** Yes. That was what I was asked to determine.

**Q.** You charge by the hour, correct?
**A.** Yes.

**Q.** How much per hour?
**A.** $200 an hour for my accident reconstruction work.

**Q.** Your bill came to a total of $20,000 in this case.
**A.** Yes.

**Q.** You spent, according to your invoice, 28 hours reading depositions?
**A.** Yes.

**Q.** Are you aware that was seven times the time the actual depositions themselves took?
**A.** No, I am not.

**Q.** Is it your testimony that it took you 28 hours to read four depositions totaling 120 pages?
**A.** Well, I read, re-read and analyzed them.

**Q.** You spent seven hours reviewing the 28 photographs?
**A.** If that’s what the invoice says.

**Q.** Can you please hand me your contemporaneous time sheets in this case?
**A.** I don’t have any.

**Q.** Is it fair to say that your $20,000 bill is an estimate of what you felt your testimony was worth to the plaintiff in this case?

**Lesson:** One thing jurors certainly understand and can relate to is overcharging or selling out for money. Although jurors expect experts to be well paid, an outlandish bill, as in the above example, will open the expert up to effective cross-examination.

**Example 6.515: 27 hours billed in a day**

**Q.** Sir, we have subpoenaed your billing records for the period of 1999-2001 and you produced these records, correct?
**A.** Yes—and I might add it was costly and time consuming to comply with the subpoena.

**Q.** As a sole practitioner, sir, can you explain to the jury how you billed a total of 412 hours on four cases on 9/19/99?
**A.** I was working like a dog, Counsel.

**Q.** When you billed 27 hours on one day, 32 on another day, and 48 hours on a third day in October of 2001, I guess you were working like two dogs?

**Lesson:** Experts who overbill will suffer credibility problems. Obviously, in an extreme case like this, something is wrong. Either the expert is a fraud, a lunatic, or very, very sloppy in his bookkeeping. Note how the attorney in this case researched the expert’s billings in other cases in an effort to dig up dirt on the expert.

**Example 6.516: Discrepancies between billing records and time sheets**

**Q.** You testified that on 7/14/2001 you went to the accident scene for approximately 4 hours?
**A.** Correct.

**Q.** Are you aware that your billing records indicate you spent eight hours at the scene?
**A.** Well, it could have included travel.

**Q.** That was four hours to go 12 miles. The traffic was pretty bad that day?
**A.** I don’t recall.

**Q.** Are you aware of the fact that there are 27 unexplained discrepancies between your testimony and your billing records?
**A.** No, but I am sure I can explain.

**Q.** Excellent, let’s put the first one on the overhead projector. Can you explain the difference here, sir?

**Lesson:** The jury is being asked to draw the conclusion that either this expert is sloppy or dishonest. An expert should review his billing records as part of the preparation process to make sure his testimony is consistent with the records. If his testimony is inconsistent, he should be prepared to explain why there is a discrepancy.

**Reliance on other experts**

Experts are generally permitted to base their opinions in part or in whole on reliable facts or data that are not themselves in evidence. These facts and data relied upon generally need not themselves even be admissible in evidence. Federal Rule of Evidence 703 provides:

Rule 703. Bases of Opinion Testimony by Experts

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert’s opinion substantially outweighs their prejudicial effect.

Because an expert’s opinion is only as strong as the facts and data upon which it is based, experts can expect to be closely cross-examined on all the facts and data upon which they based their opinion. This includes the opinions of other experts that the testifying expert relied upon. Counsel will try to prove two things:

* that the expert’s opinion depends upon the opinion of another expert, and
* that the expert has no way of knowing the accuracy of the other expert’s opinion.

Please consider the following example:

**Example 6.517: Physician relies on radiologist**

**Q.** Doctor, as I understand it, you found that the MRI of Ms. Haramd was negative, correct?
**A.** Yes, that’s correct.

**Q.** Doctor, isn’t it true that you didn’t actually review the film of the MRI, but relied on the finding of the radiologist, Dr. Ryan?
**A.** That’s true.

**Q.** Isn’t it good medical practice before rendering an opinion to review the actual films so you can reach your own conclusions, Doctor?
**A.** Well, yes, but sometimes due to time pressure we rely on the radiologist’s report.

**Q.** Doctor, did you even try to obtain and review the films?
**A.** No.

**Q.** Would a review of the films themselves change your opinion, Doctor?
**A.** I don’t know. I haven’t seen them, so I can’t say.

**Q.** As you are not a radiologist, you would defer to an expert in reading these films, would you not?
**A.** Well, I would prefer to read them myself.

**Q.** But you didn’t read the films yourself, correct, Doctor?
**A.** Correct.

**Q.** And you don’t know if the radiologist made a mistake in reading the film, do you?

**Lesson:** Experts often rely on the reports and expertise of other experts. There is nothing wrong with this. The most damning admission in this case was that the expert didn’t ask to see the films himself. That makes him look like he rushed into judgment. In many cases, it is perfectly reasonable to rely on other experts. The reasons for this should be brought to the attention of the jury. For example, “Dr. Ryan is the chief of Radiology at University Hospital. He is very well respected in his field and I have worked with him on numerous occasions. I trust his work and I have no reason to suspect his reading of the films was in error. It was my impression that the films were not available. Had I thought they were available, I would have reviewed them personally.”

**Degree of certainty: terms such as “possible” and “conceivable”**

Experts should expect to be cross-examined about the degree of certainty they possess while expressing their opinion. How sure is the expert? Does the expert merely have a hunch? Generally, a reasonable degree of certainty is what is required. Experts should express their opinions “to a reasonable degree of (medical, engineering, appraisal, etc.) certainty.” When an expert uses other words to express or describe her degree of certainty, she may run into trouble. Please consider the following examples.

**Example 6.518: “In my opinion she had it, but possibly”**

**Q.** Dr. Harris, within a reasonable degree of medical certainty, did Ms. Montgomery have or did she not have Crohn’s Disease in January of ‘87?
**A.** I can’t answer that absolutely.

**Q.** We are not asking for an absolute answer. We are saying within a reasonable degree of medical certainty.
**A.** I still can’t answer it except possibly or probably. In my opinion she had it, but possibly.

**Lesson:**The above testimony actually took place on direct examination in the case of*Montgomery v. Butler*, 834 S.W.2d. 148 (Ark. 1992). Retaining counsel first asked his expert:

Whether Mrs. Montgomery had Crohn’s disease in January 1987, to which Dr. Harris replied that “[s]he probably did.” Dr. Butler’s counsel objected on the ground that the question and the answer were not stated “to a reasonable degree of certainty or probability.”

Retaining counsel then rephrased the question and obtained the “she had it, but possibly” answer. The answer “she had it, but possibly” was left to stand by the court because opposing counsel failed to object in a timely fashion. All of this difficulty could have been avoided if the expert had been properly prepared to state his opinion “to a reasonable degree of medical certainty.”

**Example 6.519: “Conceivable”**

**Q.** Now, in degrees of certainty, do you have varying degrees?
**A.** Yes.

**Q.** What is conceivable?
**A.** It’s on the positive side, but not too high.

**Q.** And what is after conceivable?
**A.** Probable, highly probable and identified going up the ladder.

**Q.** That’s the bottom of the spectrum, conceivable.
**A.** And common authorship would be less than that.

**Q.** So, you cannot say to a degree of scientific certainty in your field of endeavor that this, in fact, was the handwriting of Mr. Bertram?
**A.** Not based on what I had at that time. That was the signature, not the handprinting.

**Lesson:** Experts should be fully conversant with the legally sufficient and acceptable degrees of certainty and the methods of expressing them in their particular field. This example (in which the questioning cited above was done by the trial judge) was based upon the case of *State v. Bertram*, 591 A.2d 14 (R.I. 1991). The court found the expert’s testimony that it was “conceivable” that the signature on the hotel registration form could have been written by the defendant was admissible because defense counsel had ample opportunity to cross-examine the witness on his conclusions and emphasize any infirmities pertaining to his analysis of the signature.

**Standard of care**

In medical malpractice cases, the medical standard of care expert can expect to be asked how he defines “standard of care” and how he arrived at his opinion as to what the standard of care was. In terms of defining the standard of care, experts should work with retaining counsel so that the expert knows the standard that applies in the case at hand. The expert needs to be aware that this opinion may not be admissible and will certainly be challenged on cross-examination if it is based on the expert’s personal opinion, speculation, or conjecture. Opinions regarding standard of care, as well as all other opinions, should be backed up by research and facts to be persuasive. This needs to be done before the expert takes the stand. Once on the stand, experts need to be prepared to justify the reasons for their opinions. Please consider the following example:

**Example 6.520: Where was standard of care defined?**

During cross-examination, in response to questions about fetal heart rate and fetal growth, Dr. Hill generally mentioned literature, meetings, national meetings, and the American College as bases for his opinion. He was asked about the frequency with which physicians documented growth. He asserted, in response, that “a two-week interval is the standard that I use and many other physicians do, as well.” He was then asked the following questions.

**Q.** Well doctor, … you’re saying that’s the national standard, doctor?
**A.** It’s the standard I’ve always heard of.

**Q.** You just heard that around the D.C. area? You’ve heard that through your colleagues in the local area, right, doctor?
**A.** Literature, meetings.

**Q.** In the local area?
**A.** No. National meetings, American College.

After indicating that he was familiar with the work of Dr. Steven G. Gabbe, *Obstetrics, Normal and Problem Pregnancies*, Dr. Hill was asked:

**Q.** You would agree…that Dr. Gabbe has identified five sonographic criteria for the almost unequivocal diagnosis of twin-to-twin transfusion syndrome?
**A.** I’ve not read that particular passage.

**Lesson:** This example was based upon the case of *Hawes v. Chua*, 769 A.2d 797 (Dist. of Col. 2001). In that case, opposing counsel objected to the national standard of care testimony as being legally insufficient and inadmissible. The appeals court barely upheld the admission of the testimony, stating:

We conclude that the trial judge’s decision not to strike his testimony did not constitute manifest error. However, we stress that while the trial judge retains considerable discretion in determining whether to admit defense national standard of care expert testimony,

1. It is insufficient for the expert to merely recite the words “national standard of care;”
2. The expert’s testimony may not be based on his or her personal opinion, nor on mere speculation or conjecture; and
3. The expert’s opinion must reflect some evidence of a national standard, such as attendance at national seminars or meetings or conventions, or reference to published materials, when assessing a medical course of action or treatment. At 805.

During their preparation with retaining counsel, experts should carefully review the applicable standard of care. An expert opinion should be based on reliable methodology and experts should be prepared to precisely and articulately recite the methodology used (for example, “At the American College’s 1995 meeting this very issue was presented by…Furthermore, the Practice Guidelines published by the College clearly state that…”). This was not done in this case and the expert’s entire opinion was almost thrown out.

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[1] See *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct.2786 125 L.E.2d 469 (1993); *General Electric Co. v. Joiner*, 522 U.S. 136, 118 S.Ct. 512, 517, 139 L.E.2d 508 (1977); and *Kumho Tire Co. Limited v. Carmichael*, 526 U.S. 137, 119 S.Ct. 1167, 143 L.E. 2d 238 (1999). See also Federal Rule of Evidence 702.

[2] The *Daubert* approach to the admissibility of expert testimony applies in federal courts and many state courts.

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