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ADVANCE SHEET HEADNOTE

November 22, 2010

As modified December 20, 2010

**No. 10SA20 - Garrigan v. Bowen - C.R.C.P. 26(a)(2)(B)(I) -
Expert Disclosure - Information "Considered" by the Expert**

In this medical malpractice action, the supreme court reverses a trial court order precluding a defense expert from testifying at trial as a sanction for the defendant's failure to produce the raw data underlying a published study co-authored by the expert. The trial court held that the expert had "considered" the raw data as that word is used in C.R.C.P. 26(a)(2)(B)(I), and therefore the defendant should have produced the raw data.

The supreme court holds that under C.R.C.P. 26(a)(2)(B)(I), an expert considers information "in forming the opinions" if the expert reviews the information with the purpose of forming opinions about the particular case at issue. Here, the expert had analyzed the raw data to perform the study prior to her association with this case, but there was no evidence in the record that she had reviewed the raw data to form her opinions in this case. Because the raw data was not "data or other information considered by the witness in forming the opinions,"

C.R.C.P. 26(a)(2)(B)(I), the defendant was not required to disclose or produce the data.

Accordingly, the trial court erred in excluding the expert's testimony. The supreme court makes the rule absolute, directs the trial court to vacate its order excluding the expert testimony as a sanction for the failure to produce, and remands the case for proceedings consistent with this opinion.

<p>SUPREME COURT, STATE OF COLORADO 101 West Colfax Avenue, Suite 800 Denver, Colorado 80202</p> <p>Original Proceeding Pursuant to C.A.R. 21 Mesa County District Court, Case No. 06CV399 Honorable David A. Bottger, Judge</p>	<p>Case No. 10SA20</p>
<p>In Re:</p> <p>Plaintiff:</p> <p>Phillip Garrigan,</p> <p>v.</p> <p>Defendant:</p> <p>Philip J. Bowen, M.D.</p>	
<p style="text-align: center;">RULE MADE ABSOLUTE EN BANC November 22, 2010</p> <p>Opinion modified, as modified, petition for rehearing DENIED. EN BANC. CHIEF JUSTICE BENDER AND JUSTICE MARTINEZ would grant the petition. JUSTICE MÁRQUEZ does not participate.</p> <p style="text-align: center;">December 20, 2010</p>	

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CHIEF JUSTICE MULLARKEY delivered the Opinion of the Court. JUSTICE BENDER dissents, and JUSTICE MARTINEZ joins in the dissent.

I. Introduction

In the underlying medical malpractice action, the plaintiff, Phillip Garrigan, alleged that the defendant, anesthesiologist Dr. Philip J. Bowen, negligently managed his care during his lumbar spine surgery and caused Garrigan to suffer loss of vision as a result of the surgery.

In this original proceeding under C.A.R. 21, we review the trial court's order striking the trial testimony of one of Dr. Bowen's expert witnesses as a discovery violation sanction. The expert witness, Dr. Lorri A. Lee, is the lead author of a published study regarding post-operative visual loss and planned to testify about the publication at trial. Her expert disclosure statement listed the publication as was required under C.R.C.P. 26(a)(2)(B)(I) but did not expressly list the study's underlying raw data as having been considered.

The trial court concluded that under C.R.C.P. 26(a)(2)(B)(I), Dr. Lee had considered the raw study data in forming her opinions for the instant malpractice action and therefore the defendant was required to produce that data when the plaintiff requested it. Although finding that neither Dr. Bowen nor Dr. Lee had possession, custody, or control of the study's underlying data, the trial court nevertheless concluded that sanctions were warranted for the failure to produce.

Accordingly, the trial court prohibited Dr. Lee from testifying at trial.

We conclude that, as a matter of law, the trial court erred in holding that the raw data underlying the study was "considered" by the expert "in forming [her] opinions" as contemplated by C.R.C.P. 26(a)(2)(B)(I), rendering the data discoverable. Because there was no discovery violation in failing to produce the data, we do not address other issues raised by the parties involving possession, custody, or control of the data and propriety of the trial court's sanction.

We accordingly make the rule absolute. We vacate the trial court's order precluding the expert's testimony based on the failure to produce the study's underlying data.

II. Facts and Procedural History

In 2004, Phillip Garrigan underwent a six-hour lumbar spine surgery for which Dr. Bowen was the anesthesiologist. During the surgery, Garrigan was placed in a prone, i.e., face down, position. Following surgery, Garrigan discovered that he could not see.¹ He was diagnosed with having suffered postoperative

¹ The plaintiff asserts that when he awoke in the recovery room after surgery, he was unable to see in either eye. The expert summary for one of Dr. Bowen's expert witnesses, ophthalmologist Dr. Nancy J. Newman, stated that the plaintiff's most recent ophthalmology records indicated that "his vision (corrected) was 20/30 in his right eye and hand-motion in the left eye, with bilateral optic atrophy."

visual loss ("POVL"), and more specifically ischemic optic neuropathy ("ION").²

Garrigan subsequently brought this suit against Dr. Bowen and St. Mary's Hospital and Medical Center, Inc., but the claims against the hospital were dismissed. In his complaint, Garrigan alleged that Dr. Bowen was negligent in his care and treatment, including failing to properly place and maintain Garrigan in the proper position and failing to adequately monitor and administer fluid input and output. Accordingly, Garrigan alleged that Dr. Bowen's negligence caused him to suffer permanent physical impairment and disfigurement.

Dr. Bowen retained Dr. Lee to testify in his defense. She was the lead author of a study published regarding POVL: Lorri A. Lee, et al., The American Society of Anesthesiologists Postoperative Visual Loss Registry, Analysis of 93 Spine Surgery Cases with Postoperative Visual Loss, 105 Anesthesiology 652 (2006) (the "POVL Study"). Submitted for publication in January 2006, the POVL Study was published in October 2006, the same month that Garrigan filed this action.

The POVL Study examined ninety-three cases of spinal surgery-related visual loss that were submitted to a registry established by the American Society of Anesthesiologists and

² Different portions of the record conflict in their reference to the type of ION the plaintiff suffered, whether it was anterior or posterior ischemic optic neuropathy.

maintained at the University of Washington. Id. at 652-53. The published article explained how cases were selected from the registry for the study, and analyzed their characteristics, including patient demographics, coexisting diseases, surgical characteristics, anesthetic management, and ophthalmologic findings. Id. at 653-56. Although the authors cautioned that there were limitations regarding their study methodology, they concluded that POVL was associated with lengthy spine surgery in the prone position. Id. at 656, 658.

Dr. Lee's expert disclosure stated that she would testify, based on the POVL Study, that the cause of ION remains unknown although two factors, length of surgery and use of the prone position, were shown to be associated with the condition. Dr. Lee would testify that although these two factors existed in the plaintiff's case, neither factor has been shown to cause the condition; most patients with similar surgical parameters do not experience the condition; and neither factor was within Dr. Bowen's control.

In a subsequent, related paragraph, the expert disclosure stated, "Dr. Lee will testify that the data in the study supports the conclusion that [posterior ION] is most likely the result of something related to the individual patient and that individual's anatomy or physiology in the prone position." After further explaining this conclusion, the disclosure stated

that Dr. Lee would testify that the plaintiff's condition was likely the result of an anatomic or physiologic predisposition to developing the condition, and that it could not have been anticipated or prevented.

Dr. Bowen retained two additional POVL Study co-authors to testify in his defense as well. In reviewing their roles in the POVL Study, the trial court later found that neither co-author had played a central role in analyzing the raw data.

Because of the reliance placed on the POVL Study by Dr. Bowen's experts, the plaintiff submitted to Dr. Bowen a C.R.C.P. 34 request for production of information relating to the experts' POVL Study, including, among other things, all medical records submitted to the registry, albeit redacted; all working notes, analyses, and correspondence during the study; all meeting minutes relating to the registry; and even manuals for the software programs used in the research. In sum, the plaintiff asked for all documents pertaining to the registry and the POVL Study. In addition to objecting to the broadness, relevance, and relative value of the documents sought, Dr. Bowen's responses explained that the underlying research documents were not in his or his experts' possession or control.

The plaintiff subsequently moved to strike the testimony of all three experts on reliability grounds under C.R.E. 702 and People v. Shreck, 22 P.3d 68 (Colo. 2001), or alternatively to

compel production of the POVL Study's source data and methodology. The plaintiff argued that the experts based their opinions on the POVL Study and argued that, without the raw data, Dr. Bowen could not prove reliability and therefore admissibility. Rejecting the assertion that the experts' proposed testimony was based solely on the POVL Study, the trial court found the experts to be qualified to testify. With respect to the POVL Study itself, the trial court reasoned:

Nor has Plaintiff shown that this study is so seriously flawed that it is not "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." C.R.E. 703. Plaintiff's objections that it was created solely for litigation purposes, that it has been rejected by some peer-reviewed journals and that one expert disagrees with its conclusions go to its weight, not its admissibility.

The trial court thus rejected Garrigan's Shreck challenge as to the experts' qualifications and the POVL Study's admissibility.

Despite having resolved the plaintiff's motion, the trial court nevertheless concluded that that the raw data was discoverable under C.R.C.P. 26(a)(2)(B)(I)'s disclosure requirements because the experts "considered" -- as the term is used in C.R.C.P. 26(a)(2)(B)(I) -- the study's source data and methodology in forming their opinions in this case. The court also reasoned that even if disclosure was not required under C.R.C.P. 26(a)(2)(B)(I), the information was nonetheless relevant and discoverable under the general definition of

discoverable information under C.R.C.P. 26(b)(1). Based on its findings, the court permitted the experts to testify "so long as Defendant provides Plaintiff the bases for their opinions, including the source data and methodology of the study in question."

Dr. Bowen moved for reconsideration of the order, explaining that (1) the information was not in his or his experts' possession, custody, or control, but rather in the legal control of the University of Washington, as evidenced by an affidavit from a Washington State Assistant Attorney General; (2) the experts did not "consider" this information within the meaning of C.R.C.P. 26(a)(2)(B)(I); and (3) much of the information the plaintiff sought was contained within the article itself. The motion included an affidavit from Dr. Lee stating that she had not re-reviewed the raw data or documentation underlying the POVL Study in forming her opinions in the case. The court denied the motion and declined to decide whether Dr. Bowen had complied with producing those documents that were in his possession, custody, or control.

The plaintiff then sought discovery violation sanctions against Dr. Bowen on the ground that he had failed to comply with the court's order, alternatively seeking default judgment or exclusion of all three experts.

Ruling on the motion for sanctions, the trial court first concluded that the documents requested were in fact outside the possession, custody, or control of Dr. Bowen and his experts. It nevertheless reasoned that C.R.C.P. 26(a)(2)(B)(I)'s disclosure requirements are "not conditioned on [the information considered] . . . being producible by the expert or the party which hired him."³ Accordingly, the court concluded that "the fact that Defendant and his experts are unable to produce the requested materials does not immunize him from sanction."

The trial court then found that Dr. Lee had in fact considered the underlying study data in forming her opinions in this case, making two observations in support: (1) Dr. Lee's affidavit carefully denied consideration of this data only with respect to review in connection with this case; and (2) Dr. Lee had personally reviewed all data forms in the registry, and her expert disclosure indicated twice that she would testify based on "the data in this study." The court reasoned that Dr. Lee "considered the data to form the opinions expressed in the study, opinions which she reiterates in this case." In contrast, the court found that the other two POVL Study

³ The court did not return to or revive its earlier alternative assessment that the raw data was otherwise generally discoverable under C.R.C.P. 26(b)(1) even if disclosure in the expert report was not required.

co-authors that Dr. Bowen designated as expert witnesses had a more remote involvement with the POVL Study's raw data.

Based on the findings that Dr. Lee had considered the raw data and Dr. Bowen had failed to produce it, the trial court prohibited Dr. Lee from testifying altogether, but permitted the other two experts to remain. The trial court remarked, "I recognize the irony in precluding the expert most familiar with the [POVL] study from testifying about it. I believe this step is necessary in order to place the parties on an even footing at trial."

Dr. Bowen petitioned this court for a rule to show cause why the trial court's order precluding Dr. Lee's testimony should not be vacated, and we issued the rule. We now make the rule absolute.

III. Analysis

We exercise our original jurisdiction under C.A.R. 21 because improper exclusion of key expert witness testimony may significantly undermine the defendant's ability to defend this case. See Benton v. Adams, 56 P.3d 81, 85 (Colo. 2002). The case presents a novel issue we have not previously addressed.

In this case, we must determine the meaning of "data or other information considered by the witness in forming the opinions" as set forth in C.R.C.P. 26(a)(2)(B)(I). We hold that under C.R.C.P. 26(a)(2)(B)(I), an expert considers information

"in forming the opinions" if the expert reviews the information with the purpose of forming opinions about the particular case at issue. We recognize, however, that this is a fact-specific inquiry for which precise boundaries are not always clear, and which will be informed by the timing and purpose of an expert's review of the information in question.

While we defer to the trial court's findings of fact absent clear error, People v. Ferguson, 227 P.3d 510, 512 (Colo. 2010), we interpret rules of procedure de novo, applying principles of statutory construction, Leaffer v. Zarlengo, 44 P.3d 1072, 1078 n.6 (Colo. 2002); Isis Litig., L.L.C. v. Svensk Filmindustri, 170 P.3d 742, 744 (Colo. App. 2007) (citing People v. Shell, 148 P.3d 162, 178 (Colo. 2006)). Accordingly, we give effect to the express language of the rule, considering the rule as a whole and giving consistent effect to all of its parts. Leaffer, 44 P.3d at 1078.

Where we find ambiguity we look to other interpretational aids to find meaning, including the purpose of the rule and the consequences of a particular construction. See Colo. Dep't of Labor & Emp't v. Esser, 30 P.3d 189, 195 (Colo. 2001). Because the Colorado Rules of Civil Procedure are patterned on the federal rules, we may also look to the federal rules and decisions for guidance. See Gall ex rel. Gall v. Jamison, 44 P.3d 233, 240-41 (Colo. 2002) (reviewing expert disclosures

under C.R.C.P. 26, which, in a comprehensive revision of the rules, was amended in 1995 to pattern the 1993 amendments to the federal rules); People v. Spykstra, 234 P.3d 662, 666 (Colo. 2010) (looking to the federal analogue for guidance in construing Crim. P. 17(c)).

The expert witness disclosures required by C.R.C.P. 26(a)(2) must "be accompanied by a written report or summary" explaining or listing several kinds of information. C.R.C.P. 26(a)(2)(B)(I). The report or summary must contain:

- (1) "a complete statement of all opinions to be expressed and the basis and reasons therefor;"
- (2) "the data or other information considered by the witness in forming the opinions;"
- (3) "any exhibits to be used as a summary of or support for the opinions;"
- (4) "the qualifications of the witness, including a list of all publications authored by the witness within the preceding ten years;"
- (5) "the compensation for the study and testimony;"
- (6) "a listing of any other cases in which the witness has testified as an expert at trial or by deposition within the preceding four years"; and
- (7) "if a report is issued by the expert it shall be provided."

C.R.C.P. 26(a)(2)(B)(I) (emphasis added). Once expert disclosures are made, the opposing party may seek discovery relating to an expert's opinion. C.R.C.P. 26(b)(4)(A). For example, a notice of deposition may be accompanied by a request for production that is compliant with C.R.C.P. 34 or a subpoena pursuant to C.R.C.P. 45. C.R.C.P. 30(b)(1),(5); C.R.C.P. 45(d)(1); see, e.g., Gall, 44 P.3d at 234 (defendant

served subpoena on expert pursuant to C.R.C.P. 30(b)(1)). Here, the plaintiff submitted a C.R.C.P. 34 request for production of the disputed information, which the plaintiff initially attempted to procure during the deposition of one of the defendant's other two experts. The issue before us is whether the trial court properly concluded, under C.R.C.P.

26(a)(2)(B)(I), that the disputed POVL Study data must be disclosed.

The Rules of Civil Procedure are liberally construed in favor of discovery. Cameron v. Dist. Ct., 193 Colo. 286, 289-90, 565 P.2d 925, 928 (1977) ("The purposes behind the discovery rules are to eliminate surprise at trial, discover relevant evidence, simplify the issues, and promote expeditious settlement of cases without the necessity of going to trial."). However, discovery, including discovery from experts, is not without its limits. See C.R.C.P. 26(b)(2)(F)(iii) (for good cause, the court may modify discovery limitations, considering among other things, the cumulative nature of the discovery, the opportunity to obtain the information, the burden of the proposed discovery, and the reasonableness of the discovery in light of the number of the parties and their alignment in the case); see, e.g., Donelson v. Fritz, 70 P.3d 539, 546 (Colo. App. 2002) (upholding a trial court finding that, although the requested income records were relevant to the credibility of the

expert witness, the burdensome nature of the request outweighed the records' relevance).

Here, Dr. Bowen challenges the trial court's conclusion that the POVL Study data constituted "data or other information considered by the witness in forming the opinions" under C.R.C.P. 26(a)(2)(B)(I). "[D]ata or other information" is necessarily an elastic phrase. Data can refer to any kind of information. See Webster's Third New International Dictionary 577 (2002) (defining "datum," in several ways, including as "a fact or principle granted or presented," "something upon which an inference or an argument is based or from which an intellectual system of any sort is constructed," and "detailed information of any kind"). As a general term, its meaning is not narrowly drawn or directed specifically at raw study data or other similar information that may underlie the information an expert reviews in the process of forming an opinion in a case. Rather, "data or other information" is a broad phrase inclusive of whatever information an expert actually considers in forming her opinions.

We have had one opportunity to address the meaning of "considered." In Gall, we analyzed the meaning of "considered" in the context of otherwise protected attorney work product that was given to and reviewed by an expert after she had been retained to testify. 44 P.3d at 234. However, unlike here,

there was no question in Gall that the expert had considered the information in forming her opinions. Although we must now interpret what it means to consider information in forming one's opinions, Gall nevertheless provides some guidance.

In joining the weight of authority from other jurisdictions on the recurring issue of protected attorney work product in the context of expert disclosures, we adopted a bright-line rule favoring broad disclosure, concluding that "opinion work product that is reviewed or considered by an expert in preparation for testimony at trial is discoverable under Rules 26(a)(2)(B) and 26(b)(4)(A)." Id. at 239. This bright-line rule was supported not only by the majority of authorities on the subject but also by the fact that it promotes efficiency, fairness, and the truth-seeking process without compromising the policies undergirding the work product doctrine. Id. at 239-41. We further held that "an expert considers documents or materials for the purposes of Rule 26(a)(2)(B) where she reads or reviews them before or in connection with forming her opinion, even if she does not rely upon or ultimately rejects the documents or materials." Id. at 241.

We therefore expressly discussed information as being discoverable under C.R.C.P. 26(a)(2)(B) if it was considered "in preparation for testimony at trial," and, put another way, if it was read or reviewed "before or in connection with forming her

opinion." Although in Gall we did not reach the question addressed today, we implicitly and logically viewed the rule as encompassing information that an expert reviews with the purpose of forming an opinion about the particular case at issue and in preparation for testifying. This contemplates two limits to the meaning of "considered in forming the opinions" under 26(a)(2)(B)(I), one temporal and one purpose driven. Information that an expert reviewed prior to learning about, being retained for, and reviewing a case is not information that was considered "in forming the opinions" for the case or "before or in connection with forming [an] opinion." A closer question, which we do not address here, may arise regarding information that might have had bearing on an expert's opinion because it was reviewed contemporaneously with, but for a different purpose and separately from, the expert's review of a case.

These limitations are logically inferred from the language and purpose of C.R.C.P. 26(a)(2)(B)(I). What must be disclosed is not all data and information the expert has ever considered but rather data and information the expert considered while forming her opinions for the case. If expert disclosures serve to provide advance notice of an expert's opinions and the bases for those opinions, the relevant information for disclosure is that information the expert reviewed specifically for assessing the particular case in which she was retained. So described,

this view of C.R.C.P. 26(a)(2)(B)(I) properly acknowledges the relevance of temporality and purpose, and provides guidance when it is not so clear whether certain information must be disclosed and ultimately produced.

To require more suggests that the sources of an expert's general knowledge are open to limitless discovery, which cannot be the case. As one court analogized:

An analogy to which the Court (and hopefully counsel) can relate involves an attorney opinion to a client about personal jurisdiction over a claim. The knowledge and expertise for such an opinion will look for its foundation to the attorney's law school training and his work on past cases after law school graduation. In the Rule 26(a)(2)(B) sense, however, this does not mean that the attorney considered his casebook, class notes, or course outline from his civil procedure course; a bench memorandum on personal jurisdiction prepared for a judge during a clerkship; or briefs filed in other cases defending or opposing jurisdiction. Only if he read and reviewed such archival documents in forming his current opinion are they "considered."

Euclid Chem. Co. v. Vector Corrosion Techs., Inc., No. 1:05CV80, 2007 WL 1560277, at *6 (N.D. Ohio May 29, 2007). In this case, the plaintiff has seized upon one publication -- although perhaps the key article -- authored by Dr. Lee upon which she relies to give her opinion. If C.R.C.P. 26(a)(2)(B)(I) is viewed as including the underlying data reviewed and considered in preparing articles themselves, the plaintiff might be in a position to demand such information with respect to all of Dr. Lee's articles referenced as considered in her expert

disclosure. Cf. Langbord v. U.S. Dept. of the Treasury, No. 06-CV-05315, 2008 WL 4748174, at *3 & n.4 (E.D. Penn. Oct. 22, 2008) (after rejecting discoverability of drafts of the expert's book, also rejecting general relevance and discoverability under Fed. R. Civ. P. 26(b)(1) by distinguishing between the expert's job as a writer and his employment as an expert witness) ("In professions where experts make their livelihood largely from publishing articles, Plaintiffs' approach [would allow discovery of every draft of every article and any sources used in conjunction, and] would result in the discovery of the drafts of potentially dozens of articles written over the span of an expert's entire career."). This is an extreme that even the most liberal construction of the discovery rules cannot permit.

On the record before us, this case does not present a close question as to whether Dr. Lee considered the POVL Study's underlying data. Dr. Lee's first connection with this case was her retention by Dr. Bowen. In forming her expert opinion, she relied in part upon the published POVL Study and disclosed the published article accordingly. No evidence exists -- perhaps in part because Dr. Lee has not been deposed -- supporting an objective conclusion that Dr. Lee's reliance on the published study is equivalent to her having re-reviewed the raw data. Nor is there evidence that Dr. Lee had re-reviewed the POVL Study's

raw data for and during the pendency of the case. Dr. Lee did submit an affidavit in which she carefully stated that other than the published article itself, she had not reviewed any underlying data relating to the POVL Study publication with regard to her involvement in this case. Although Garrigan speculates otherwise, he has not submitted any evidence suggesting that Dr. Lee has re-reviewed the raw data since completing the POVL Study, whether in connection with this case or for other purposes. In making its factual findings, the trial court did not dismiss the veracity of Dr. Lee's affidavit. Instead, after noting the narrow scope of Dr. Lee's statement, the trial court proceeded to conclude that Dr. Lee must concede that, as a co-author who reviewed "all data forms," she saw the underlying study data.

As the trial court stated, Dr. Lee most certainly did consider the POVL Study's raw data when she co-authored the study. But, her detailed review of the raw data was not done in connection with this particular case about which she could not yet have learned. In light of the scope of C.R.C.P. 26(a)(2)(B)(I), the trial court erred, as a matter of law, in concluding that Dr. Lee necessarily "considered the data to form the opinions expressed in the study, opinions which she reiterates in this case." The trial court's conclusion only follows if reviewing the published article is the same as

reviewing the article's underlying data. Starting from this mistaken premise, the trial court incorrectly concluded that if Dr. Lee drew on opinions she expressed in the POVL Study to form her opinions in this case, then she also must have considered the POVL Study's raw data to form these opinions. To the contrary, in forming her opinions in this case, Dr. Lee relied upon the analysis expressed in the published study, not upon the underlying data. Nothing in the record before us shows otherwise. It was, therefore, sufficient for Dr. Bowen to disclose and produce only the published article.

Additionally, Dr. Lee's experience in conducting the POVL Study, apart from what was reported in the publication, forms part of her general knowledge, regardless of how recent that experience was. The rules regarding expert witnesses do not contemplate a result where a researcher is forbidden to testify as an expert because she was too directly involved in researching and authoring a particular study. Indeed, the trial court recognized the irony of excluding Dr. Lee's testimony. Under the trial court's reasoning, had Dr. Lee not been the lead author of the POVL Study, she would have been permitted to testify. The result is to exclude the individual most likely to render a complete and reliable explanation of the POVL Study. Such a result runs contrary to the truth-seeking purposes of our judicial system.

This result is even more troubling because the trial court, after excluding Dr. Lee's testimony, explained that it would permit the plaintiff to cross-examine one of the defendant's remaining POVL Study co-authors based on the fact that the expert had never reviewed the POVL Study data. Thus, the court excluded one witness who could provide such testimony while simultaneously stating that another of the witnesses could be impeached for his inability to do so.

We also note that the trial court's reliance on the statements regarding "data" in Dr. Lee's expert disclosure is misplaced. In context, the disclosure discussed the published POVL Study and the authors' conclusions and applied those conclusions to Garrigan's case. The language in Dr. Lee's disclosure was similar to that of another of Dr. Bowen's experts, who also relied on the POVL Study in forming her opinions in this case. The disclosure in no way suggests that Dr. Lee was reaching beyond the publication to the underlying raw data itself to develop her opinions. The trial court did not strike the other expert on this basis, and it should not have stricken Dr. Lee on this basis.

The plaintiff argues that the only way he can meaningfully challenge Dr. Lee's testimony is by having access to the information underlying the POVL Study. However, the plaintiff

provided no sufficient reason under C.R.C.P. 26(a)(2)(B)(I) for needing the information.

To the extent he is entitled to cross-examine Dr. Lee regarding the POVL Study, the plaintiff has several grounds upon which he can attack the study without examining the underlying study data. The plaintiff has repeatedly and forcefully asserted the "suspicious" context in which the POVL Study was conducted and reported, alleging gross bias from the very beginning and claiming that the American Society of Anesthesiologists created the registry to further efforts to reduce the liability of anesthesiologists who harm their patients. The plaintiff has also asserted that the study has been rejected by other peer review journals and that at least one public health expert has rejected the study's conclusions as erroneous. In addition to these assertions, it should be noted that the POVL Study itself candidly acknowledges several of its weaknesses, including the fact that the cases were voluntarily reported and the study was retrospective. Moreover, the study itself provides comprehensive explanations of the methodology and source data underpinning the authors' analyses and conclusions, thereby permitting objective review and criticism by others.

Although the trial court improperly excluded Dr. Lee's testimony in this case, nothing in this opinion forecloses the

trial court from otherwise deciding to limit the presentation of expert testimony on permitted grounds, for example pursuant to C.R.E. 403 which permits the exclusion of relevant evidence on grounds of prejudice, confusion, or waste of time. We note that the defendant appears to have designated three experts to testify in his defense, which might suggest unnecessarily duplicative testimony.

IV. Conclusion

Because we conclude that Dr. Lee did not consider the POVL Study's underlying data in connection with formulating her opinions in this case, C.R.C.P. 26(a)(2)(B)(I) did not require Dr. Bowen to produce the underlying data in response to a production request. Therefore, Dr. Bowen was not in violation of any discovery rule. Accordingly, we do not reach the question of whether this data was in the defendant's possession, custody, or control, nor do we reach the question of the propriety of the trial court's discovery violation sanction.

The trial court erred in excluding Dr. Lee's proposed trial testimony. We therefore make the rule absolute, direct the trial court to vacate its order excluding Dr. Lee's testimony as a sanction for the failure to produce, and remand the case for proceedings consistent with this opinion.

JUSTICE BENDER, dissenting.

By adding the words in "the particular case" to the expert disclosure rule, the majority creates an absolute rule that requires an expert to disclose only the data and information the expert considered and specifically reviewed to formulate an opinion in the particular case for which the expert was retained. Although this principle may be appropriate in many instances, it applies to all cases irrespective of the particular facts and circumstances of that case and thereby prevents trial courts from exercising their discretion to determine what information an expert considered and, hence, what in fairness should be disclosed to the adversary. In my view, this new construction is unsupported by the language of C.R.C.P. 26(a)(2)(B)(I), and it eliminates a procedural tool which trial courts use to manage civil cases. In addition, the majority's analysis represents a departure from our normal appellate standard of review by which we consider a trial court's discovery orders for an abuse of discretion. Because I disagree with the majority's construction of Rule 26(a)(2)(B)(I), I respectfully dissent. In addition, I would apply the abuse-of-discretion standard to the trial court's order in this case and would hold that his decision to exclude Dr. Lee's testimony was neither manifestly arbitrary, unreasonable, nor unfair, and was based in reason. In my view, the defendant's failure to

disclose the raw data and methodology of Dr. Lee's recent study illustrates the dilemma of an adversary who wants the benefit of an expert opinion without the burden of full disclosure to his opponent of how the expert reached that opinion.

I.

First, I believe the majority misconstrues Rule 26(a)(2)(B)(I). The language of the rule requires that the proponent disclose "the data or other information considered by the witness in forming the opinions"; it does not contain the words in "the particular case in which she was retained." By limiting disclosure to only data or other information the expert considered in forming her opinions--after being retained in the particular case--the majority construes the rule contrary to its purpose and inconsistent with its wording.

The majority relies upon our case Gall ex rel. Gall v. Jamison, 44 P.3d 233 (Colo. 2002) to support its holding. I read this case somewhat differently. In Gall, this court construed what it means for an expert to "consider" data or other information in forming her opinion. We concluded, as the majority of courts have, that the drafters of the amended federal rule (in 1993) and the equivalent amended Colorado rule (in 1995) intended to broaden the scope of discoverable information by including the word "considered," albeit that Gall was in the context of attorney work product considered by an

expert witness. Id. at 241. We held that an expert “considers documents or materials for the purposes of Rule 26(a)(2)(B) where she reads or reviews them before or in connection with forming her opinion, even if she does not rely upon or ultimately rejects the documents or materials.” Id. (emphasis added) (citing Johnson v. Gmeinder, 191 F.R.D. 638, 649 (D. Kan. 2000)). We did not limit this holding to information the expert considered after being retained on a specific case or with the purpose of forming an opinion about a particular case; instead, we defined “considered” to include documents the expert reads or reviews “before.” This holding, in my view, implies that we intended a contrary conclusion to the one reached today by the majority.

The majority’s construction of Rule 26(a)(2)(B)(I) is in tension with most courts that have more broadly construed the equivalent federal rule and the word “considered,” and which have favored a bright-line rule favoring full disclosure. See, e.g., Emps. Committed for Justice v. Eastman Kodak Co., 251 F.R.D. 101, 104 (W.D.N.Y. 2008) (stating that even “if the expert avers under oath that he did not actually consider certain materials in forming his opinion, that will not control” and adopting an objective definition of “considered” as “anything received, reviewed, read, or authored by the expert, before or in connection with the forming of his opinion, if the

subject matter relates to the facts or opinions expressed") (emphasis in original); Synthes Spine Co., L.P. v. Walden, 232 F.R.D. 460, 464 (E.D. Pa. 2005) (interpreting Rule 26(a)(2)(B) to require the disclosure of "all information . . . that a testifying expert generates, reviews, reflects upon, reads, and/or uses in connection with the formulation of his opinions").

There are a number of reasons to require full disclosure and to broadly interpret the phrase "considered . . . in forming the opinions." First, it ensures fairness by eliminating "hide-the-ball" and "hardball" tactics." C.R.C.P. 16, Committee cmt.; see also Trattler v. Citron, 182 P.3d 674, 679 (Colo. 2008) ("Among the many important purposes of discovery, the most central to a fair trial is the parties' production of all relevant evidence."). Second, full disclosure is essential to conduct a full and fair cross-examination. See, e.g., Karn v. Ingersoll-Rand Co., 168 F.R.D. 633, 639 (N.D. Ind. 1996) (stating that "useful cross examination and possible impeachment can only be accomplished by gaining access to all of the information that shaped or potentially influenced the expert witness's opinion").

The rule the majority announces works against these considerations. It encourages a "hide-the-ball" tactic in which an expert can shield information considered just before being

formally retained, but which may still be in the expert's mind and bear on the expert's opinion, a tactic other courts have discouraged in an analogous context. See, e.g., Eastman Kodak, 251 F.R.D. at 105-106 (requiring defense expert witness to disclose statistical methodologies he used in two studies, even though he was only retained as a litigation consultant at that time, so that the plaintiff could effectively challenge the methodology and conclusions the expert reached in a subsequent study he conducted while retained as a testifying expert witness). I would construe the word "considered" with these policy considerations in mind, and allow the trial judge to compel disclosure of data or information that the expert considered before, if it forms the basis of the expert's proposed opinion in the particular case.

II.

Turning to my second point, the majority's rule limits a trial court's discretion to determine what data or information the expert considered and what should be disclosed in fairness to the other side. While we construe the meaning of the discovery rules de novo, it is well settled that we review a trial court's application of these rules, and the sanctions it imposes for discovery violations, for an abuse of discretion. See, e.g., Pinkstaff v. Black & Decker (U.S.) Inc., 211 P.3d 698, 702 (Colo. 2009); Scott v. Matlack, Inc., 39 P.3d 1160,

1172 (Colo. 2002); KN Energy, Inc. v. Great W. Sugar Co., 698 P.2d 769, 787 (Colo. 1985). To find an abuse of discretion we must determine that the trial court's decision is "manifestly arbitrary, unreasonable, or unfair." Pinkstaff, 211 P.3d at 702. Under this standard, we reverse a trial court ruling only if the trial court "exceeded the bounds of the rationally available choices." People v. Shari, 204 P.3d 453, 465 (Colo. 2009) (Bender, J., dissenting) (quoting Big Sky Network Can., Ltd. v. Sichuan Provincial Gov't, 533 F.3d 1183, 1186 (10th Cir. 2008)). In most cases, there "will not necessarily be a single right answer, but a range of possible outcomes the facts and law at issue can fairly support; rather than pick and choose among them ourselves, [an appellate court] will defer to the district court's judgment so long as it falls within the realm of these rationally available choices." Id. (quoting Big Sky, 533 F.3d at 1186). An abuse of discretion occurs when the trial court "fails to articulate a reason for his decision and no such reason is readily apparent from the record or articulates a reason which has no basis in fact or the reason so articulated is contrary to law. The reason given, however, need not be one that is agreeable to the reviewing court." Id. (quoting In re Bueno, 248 B.R. 581, 582-83 (D. Colo. 2000)).

The rationale for this standard supports the trial court's broad discretion to act in a "managerial role" in the discovery

process. See Todd v. Bear Valley Village Apartments, 980 P.2d 973, 977 (Colo. 1999). The comments to the revised rules of civil procedure state that “[i]t is expected that trial judges will assertively lead the management of cases to ensure that justice is served.” C.R.C.P. 16, Committee cmt. This managerial role is similar to a trial court’s role as a “gatekeeper” when deciding whether to admit scientific and expert testimony and to prevent the admission of “junk science.” Elsayed Mukhtar v. Cal. State Univ., Hayward, 299 F.3d 1053, 1063 (9th Cir. 2002) (citing Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147-48 (1999)).

The rule announced by the majority strips trial courts of this discretion by limiting disclosure under Rule 26(a)(2)(B)(I) only to information that an expert reviewed “with the purpose of forming an opinion about the particular case at issue and in preparation for testifying,” irrespective of the particular factual circumstances, or how closely connected an expert’s previous research may be to her opinion in a particular case. Maj. op. at 16. The majority’s concern that the “sources of an expert’s general knowledge” would be subject to “limitless discovery” without this case-specific limitation is at least arguably questionable. Id. at 17. Trial courts routinely make decisions of relevancy, admissibility, discoverability, and privilege. They are required on a daily basis to distinguish

between an expert's general knowledge and education, from information directly relating to the subject matter of the litigation and directly informing the expert's conclusions in a given case. Because trial courts find facts and take live testimony, I believe they should be given the discretion to determine whether an expert considered data or other information, without the absolute limitation announced by the majority.

III.

Here, the trial court found as a fact that Dr. Lee considered the raw data underlying the POVL Study in forming her opinions for this case. Thus, the court held that Dr. Lee must disclose to the adversaries her source data and the methodology of the study as a precondition for her to testify on behalf of the defendant. Noting that Dr. Lee is the lead author of the POVL Study and one of only two co-authors that reviewed all of the raw source data, the trial court found, "I have no hesitation in concluding that [Dr. Lee] considered the data which underlie the POVL study in forming her opinions in this case." When Dr. Lee failed to produce the study data, the trial court prohibited her from testifying "in order to place the parties on an even footing at trial."

The trial court's finding that Dr. Lee considered the POVL Study source data in forming her opinions in this case is well

supported by the record. Dr. Lee is the director of the POVL registry and lead author of the POVL Study, which was published in the journal Anesthesiology in October 2006. She is one of only two co-authors of the POVL Study who collected and reviewed all of the patient forms comprising the raw source data for the study.

The defendant's expert disclosures regarding Dr. Lee state that she will testify regarding not only the "conclusions" reached in the POVL Study, but, moreover, "from the data in the study." Twice the defendant's expert disclosures also state that Dr. Lee will testify that "there is no data" from the study supporting the plaintiff's theory of negligence. Only later, in response to the trial court's determination that she was required to disclose the POVL Study data, did Dr. Lee submit an affidavit stating that she had not "reviewed" any data underlying the study in "forming [her] opinions in this matter." This affidavit failed to convince the trial court that Dr. Lee had not "considered" the data. Citing both Dr. Lee's role in reviewing all of the source data and the defendant's expert disclosures stating that Dr. Lee will testify based on "the data in this study," the trial court found that "[a]t a minimum, she considered these data to form the opinions expressed in the study, opinions which she reiterates in this case."

In my view, the majority fails to credit appropriately these factual findings when it states that “[n]o evidence exists . . . supporting an objective conclusion” that Dr. Lee re-reviewed or relied on the raw data in this case. Maj. op. at 18. The majority concludes that “Dr. Lee relied upon the analysis expressed in the published study, not upon the underlying data.” Id. at 20. It reasons that the word “data” in Dr. Lee’s expert disclosure only means the POVL Study, not its underlying raw data, id. at 21, a position I suggest appears at odds with this record. While the majority bolsters this rationale with the fact that Dr. Lee’s disclosure used similar language to that of one of the defendant’s other experts, it is undisputed that Dr. Lee is the only expert to have seen the raw data. In addition, the majority places on the plaintiff the burden of proving that Dr. Lee considered the raw data. Maj. op. at 19. This seems counterintuitive. The defendant has the duty to disclose all the information considered by his experts, and only the defendant possesses the facts necessary and essential to prove what data Dr. Lee, his expert, considered. See Oklahoma v. Tyson Foods, Inc., No. 05-CV-329-GKF-PJC, 2009 WL 1578937, at *4 n.6 (N.D. Okla. June 2, 2009) (noting in dicta this apparent tension of placing the burden of proof on the party not in possession of the data). Here the trial court made the explicit factual finding that Dr. Lee considered the raw

data in formulating her expert opinion. The majority in effect disregards this finding despite its record support.

Next, the trial court's order to prohibit Dr. Lee's testimony, as a sanction for failure to disclose her study source data and methodology, was within its discretion and appears reasonable given the broader context of this case. The American Society of Anesthesiologists Committee on Professional Liability created and now funds the POVL registry, which provides the data for the POVL Study. The ASA formed the Committee on Professional Liability to minimize medical malpractice claims against anesthesiologists and thereby reduce the cost of anesthesiologists' malpractice insurance. The committee then founded the Closed Claims Project, a database of case summaries of closed malpractice claims, as its primary approach to achieve this objective.⁴ The Committee on

⁴ Although not part of the record, an article on the ASA website discusses the origin of the Closed Claims Project. It states that initially the Committee on Professional Liability sought to solve what they termed the "expert witness problem" by soliciting trial and deposition testimony from members of the ASA who claimed to have been victims of false testimony by plaintiffs' expert witnesses and by publishing that testimony in the ASA newsletter. This approach failed because the members of the committee charged with reviewing the expert testimony were not often convinced that the claimed questionable testimony lacked merit. Thereafter, the committee turned to its current approach, the Closed Claims Project. A second article states that through the Closed Claims Project the committee has published several studies that "have been utilized extensively by defense attorneys to defend anesthesiologists of malpractice."

Professional Liability sponsors the POVL registry as part of the Closed Claims Project.⁵

In addition, the POVL Study was published in the ASA's own journal, Anesthesiology. Although the defendant claims the article was peer reviewed for publication, it has never provided the journal's peer review methodology to the court.⁶

Anesthesiology is the only journal that has peer reviewed the article. Since its publication, the study has not been replicated, nor has the study data been released to the public so that other researchers may review its methodology and conclusions.

Given this context, and in light of my interpretation of Rule 26(a)(2)(B)(I) as providing for full disclosure, it was within the trial court's discretion to determine that Dr. Lee had "considered" the data and methodology underlying the POVL Study and to prevent her from testifying unless she disclosed it. The conclusion reached by the study is novel, the defense has failed to produce any independent scientific reviews of its methodology and its findings, and the ASA Committee on

⁵ The POVL registry's website contains a list of the members of the ASA Committee on Professional Liability. It shows that five of the POVL Study's seven authors are members of the committee, including Dr. Lee.

⁶ In March 2009, Anesthesiology retracted three articles it published because the author falsified data. Keith J. Winstein & David Armstrong, Top Pain Scientist Fabricated Data in Studies, Hospital Says, Wall Street J., Mar. 11, 2009, at A12.

Professional Liability, which funded the POVL Study, directly benefits from its findings. In these circumstances, the trial court could have reasonably determined that the plaintiff could not effectively cross-examine Dr. Lee without the raw data. Even if one assumes that Dr. Lee did not re-review the source data since being retained in this case, as the trial court found, there is a reasonable basis to conclude that her study was sufficiently connected to the litigation and recent enough to bear directly on her opinion in this case. Although the majority may not agree with the trial court's decision to exclude Dr. Lee's testimony, I believe that this decision is not one for this court to make. Rather, this sanction lies within the ambit of the trial court's discretion to ensure a fair and impartial trial. As such, the trial court's order here is not manifestly arbitrary, unreasonable, or unfair, and it is based in reason.

Lastly, the majority assigns fault to the trial court for its exclusion of Dr. Lee because of and in spite of the fact that she was the lead author of the POVL Study, which made her the "individual most likely to render a complete and reliable explanation of the POVL Study." Maj. op. at 20. I suggest that this claim proves too much. The defendant retained two other experts, Drs. Newman and Roth, to testify to the ultimate conclusions of the POVL Study. The trial court has ruled that

their testimony is admissible and their reliability is not before us. Both doctors have testified more frequently as forensic experts than Dr. Lee, and their hourly rates exceed that of Dr. Lee (Dr. Lee charges \$2000/day of trial, Dr. Roth charges \$750/hour of trial, Dr. Newman charges \$6000/day of trial). However, unlike Dr. Lee, neither Dr. Newman nor Dr. Roth has knowledge of the underlying study data and methodology. This seems to indicate that Dr. Lee's probative value to the defendant in this case is her ability to testify to the raw data underlying the study and her direct involvement in analyzing it. If Dr. Lee's testimony was essential, then the defendant should have obtained and disclosed the raw data so that the plaintiff would have the opportunity to test her conclusions fairly.

I am authorized to state that JUSTICE MARTINEZ joins in this dissent.

<p>SUPREME COURT, STATE OF COLORADO 101 West Colfax Avenue, Suite 800 Denver, Colorado 80202</p> <p>Original Proceeding Pursuant to C.A.R. 21 Mesa County District Court, Case No. 06CV399 Honorable David A. Bottger, Judge</p>	<p>Case No. 10SA20</p>
<p>In Re:</p> <p>Plaintiff:</p> <p>Phillip Garrigan,</p> <p>v.</p> <p>Defendant:</p> <p>Philip J. Bowen, M.D.</p>	
<p style="text-align: center;">RULE MADE ABSOLUTE EN BANC November 22, 2010</p> <p>Opinion modified, as modified, Petition for Rehearing DENIED. EN BANC. CHIEF JUSTICE BENDER AND JUSTICE MARTINEZ would grant the Petition, JUSTICE MÁRQUEZ does not participate.</p> <p style="text-align: center;">December 20, 2010</p> <p style="text-align: center;">Modified Opinion. Marked revisions shown.</p>	

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CHIEF JUSTICE MULLARKEY delivered the Opinion of the Court.
JUSTICE BENDER dissents, and JUSTICE MARTINEZ joins in the
dissent.

I. Introduction

In the underlying medical malpractice action, the plaintiff, Phillip Garrigan, alleged that the defendant, anesthesiologist Dr. Philip J. Bowen, negligently managed his care during his lumbar spine surgery and caused Garrigan to suffer loss of vision as a result of the surgery.

In this original proceeding under C.A.R. 21, we review the trial court's order striking the trial testimony of one of Dr. Bowen's expert witnesses as a discovery violation sanction. The expert witness, Dr. Lorri A. Lee, is the lead author of a published study regarding post-operative visual loss and planned to testify about the publication at trial. Her expert disclosure statement listed the publication as was required under C.R.C.P. 26(a)(2)(B)(I) but did not expressly list the study's underlying raw data as having been considered.

The trial court concluded that under C.R.C.P. 26(a)(2)(B)(I), Dr. Lee had considered the raw study data in forming her opinions for the instant malpractice action and therefore the defendant was required to produce that data when the plaintiff requested it. Although finding that neither Dr. Bowen nor Dr. Lee had possession, custody, or control of the study's underlying data, the trial court nevertheless concluded that sanctions were warranted for the failure to produce.

Accordingly, the trial court prohibited Dr. Lee from testifying at trial.

We conclude that, as a matter of law, the trial court erred in holding that the raw data underlying the study was "considered" by the expert "in forming [her] opinions" as contemplated by C.R.C.P. 26(a)(2)(B)(I), rendering the data discoverable. Because there was no discovery violation in failing to produce the data, we do not address other issues raised by the parties involving possession, custody, or control of the data and propriety of the trial court's sanction.

We accordingly make the rule absolute. We vacate the trial court's order precluding the expert's testimony based on the failure to produce the study's underlying data.

II. Facts and Procedural History

In 2004, Phillip Garrigan underwent a six-hour lumbar spine surgery for which Dr. Bowen was the anesthesiologist. During the surgery, Garrigan was placed in a prone, i.e., face down, position. Following surgery, Garrigan discovered that he could not see.⁷ He was diagnosed with having suffered postoperative

⁷ The plaintiff asserts that when he awoke in the recovery room after surgery, he was unable to see in either eye. The expert summary for one of Dr. Bowen's expert witnesses, ophthalmologist Dr. Nancy J. Newman, stated that the plaintiff's most recent ophthalmology records indicated that "his vision (corrected) was 20/30 in his right eye and hand-motion in the left eye, with bilateral optic atrophy."

visual loss ("POVL"), and more specifically ischemic optic neuropathy ("ION").⁸

Garrigan subsequently brought this suit against Dr. Bowen and St. Mary's Hospital and Medical Center, Inc., but the claims against the hospital were dismissed. In his complaint, Garrigan alleged that Dr. Bowen was negligent in his care and treatment, including failing to properly place and maintain Garrigan in the proper position and failing to adequately monitor and administer fluid input and output. Accordingly, Garrigan alleged that Dr. Bowen's negligence caused him to suffer permanent physical impairment and disfigurement.

Dr. Bowen retained Dr. Lee to testify in his defense. She was the lead author of a study published regarding POVL: Lorri A. Lee, et al., The American Society of Anesthesiologists Postoperative Visual Loss Registry, Analysis of 93 Spine Surgery Cases with Postoperative Visual Loss, 105 Anesthesiology 652 (2006) (the "POVL Study"). Submitted for publication in January 2006, the POVL Study was published in October 2006, the same month that Garrigan filed this action.

The POVL Study examined ninety-three cases of spinal surgery-related visual loss that were submitted to a registry established by the American Society of Anesthesiologists and

⁸ Different portions of the record conflict in their reference to the type of ION the plaintiff suffered, whether it was anterior or posterior ischemic optic neuropathy.

maintained at the University of Washington. Id. at 652-53. The published article explained how cases were selected from the registry for the study, and analyzed their characteristics, including patient demographics, coexisting diseases, surgical characteristics, anesthetic management, and ophthalmologic findings. Id. at 653-56. Although the authors cautioned that there were limitations regarding their study methodology, they concluded that POVL was associated with lengthy spine surgery in the prone position. Id. at 656, 658.

Dr. Lee's expert disclosure stated that she would testify, based on the POVL Study, that the cause of ION remains unknown although two factors, length of surgery and use of the prone position, were shown to be associated with the condition. Dr. Lee would testify that although these two factors existed in the plaintiff's case, neither factor has been shown to cause the condition; most patients with similar surgical parameters do not experience the condition; and neither factor was within Dr. Bowen's control.

In a subsequent, related paragraph, the expert disclosure stated, "Dr. Lee will testify that the data in the study supports the conclusion that [posterior ION] is most likely the result of something related to the individual patient and that individual's anatomy or physiology in the prone position." After further explaining this conclusion, the disclosure stated

that Dr. Lee would testify that the plaintiff's condition was likely the result of an anatomic or physiologic predisposition to developing the condition, and that it could not have been anticipated or prevented.

Dr. Bowen retained two additional POVL Study co-authors to testify in his defense as well. In reviewing their roles in the POVL Study, the trial court later found that neither co-author had played a central role in analyzing the raw data.

Because of the reliance placed on the POVL Study by Dr. Bowen's experts, the plaintiff submitted to Dr. Bowen a C.R.C.P. 34 request for production of information relating to the experts' POVL Study, including, among other things, all medical records submitted to the registry, albeit redacted; all working notes, analyses, and correspondence during the study; all meeting minutes relating to the registry; and even manuals for the software programs used in the research. In sum, the plaintiff asked for all documents pertaining to the registry and the POVL Study. In addition to objecting to the broadness, relevance, and relative value of the documents sought, Dr. Bowen's responses explained that the underlying research documents were not in his or his experts' possession or control.

The plaintiff subsequently moved to strike the testimony of all three experts on reliability grounds under C.R.E. 702 and People v. Shreck, 22 P.3d 68 (Colo. 2001), or alternatively to

compel production of the POVL Study's source data and methodology. The plaintiff argued that the experts based their opinions on the POVL Study and argued that, without the raw data, Dr. Bowen could not prove reliability and therefore admissibility. Rejecting the assertion that the experts' proposed testimony was based solely on the POVL Study, the trial court found the experts to be qualified to testify. With respect to the POVL Study itself, the trial court reasoned:

Nor has Plaintiff shown that this study is so seriously flawed that it is not "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." C.R.E. 703. Plaintiff's objections that it was created solely for litigation purposes, that it has been rejected by some peer-reviewed journals and that one expert disagrees with its conclusions go to its weight, not its admissibility.

The trial court thus rejected Garrigan's Shreck challenge as to the experts' qualifications and the POVL Study's admissibility.

Despite having resolved the plaintiff's motion, the trial court nevertheless concluded that that the raw data was discoverable under C.R.C.P. 26(a)(2)(B)(I)'s disclosure requirements because the experts "considered" -- as the term is used in C.R.C.P. 26(a)(2)(B)(I) -- the study's source data and methodology in forming their opinions in this case. The court also reasoned that even if disclosure was not required under C.R.C.P. 26(a)(2)(B)(I), the information was nonetheless relevant and discoverable under the general definition of

discoverable information under C.R.C.P. 26(b)(1). Based on its findings, the court permitted the experts to testify "so long as Defendant provides Plaintiff the bases for their opinions, including the source data and methodology of the study in question."

Dr. Bowen moved for reconsideration of the order, explaining that (1) the information was not in his or his experts' possession, custody, or control, but rather in the legal control of the University of Washington, as evidenced by an affidavit from a Washington State Assistant Attorney General; (2) the experts did not "consider" this information within the meaning of C.R.C.P. 26(a)(2)(B)(I); and (3) much of the information the plaintiff sought was contained within the article itself. The motion included an affidavit from Dr. Lee stating that she had not re-reviewed the raw data or documentation underlying the POVL Study in forming her opinions in the case. The court denied the motion and declined to decide whether Dr. Bowen had complied with producing those documents that were in his possession, custody, or control.

The plaintiff then sought discovery violation sanctions against Dr. Bowen on the ground that he had failed to comply with the court's order, alternatively seeking default judgment or exclusion of all three experts.

Ruling on the motion for sanctions, the trial court first concluded that the documents requested were in fact outside the possession, custody, or control of Dr. Bowen and his experts. It nevertheless reasoned that C.R.C.P. 26(a)(2)(B)(I)'s disclosure requirements are "not conditioned on [the information considered] . . . being producible by the expert or the party which hired him."⁹ Accordingly, the court concluded that "the fact that Defendant and his experts are unable to produce the requested materials does not immunize him from sanction."

The trial court then found that Dr. Lee had in fact considered the underlying study data in forming her opinions in this case, making two observations in support: (1) Dr. Lee's affidavit carefully denied consideration of this data only with respect to review in connection with this case; and (2) Dr. Lee had personally reviewed all data forms in the registry, and her expert disclosure indicated twice that she would testify based on "the data in this study." The court reasoned that Dr. Lee "considered the data to form the opinions expressed in the study, opinions which she reiterates in this case." In contrast, the court found that the other two POVL Study

⁹ The court did not return to or revive its earlier alternative assessment that the raw data was otherwise generally discoverable under C.R.C.P. 26(b)(1) even if disclosure in the expert report was not required.

co-authors that Dr. Bowen designated as expert witnesses had a more remote involvement with the POVL Study's raw data.

Based on the findings that Dr. Lee had considered the raw data and Dr. Bowen had failed to produce it, the trial court prohibited Dr. Lee from testifying altogether, but permitted the other two experts to remain. The trial court remarked, "I recognize the irony in precluding the expert most familiar with the [POVL] study from testifying about it. I believe this step is necessary in order to place the parties on an even footing at trial."

Dr. Bowen petitioned this court for a rule to show cause why the trial court's order precluding Dr. Lee's testimony should not be vacated, and we issued the rule. We now make the rule absolute.

III. Analysis

We exercise our original jurisdiction under C.A.R. 21 because improper exclusion of key expert witness testimony may significantly undermine the defendant's ability to defend this case. See Benton v. Adams, 56 P.3d 81, 85 (Colo. 2002). The case presents a novel issue we have not previously addressed.

In this case, we must determine the meaning of "data or other information considered by the witness in forming the opinions" as set forth in C.R.C.P. 26(a)(2)(B)(I). We hold that under C.R.C.P. 26(a)(2)(B)(I), an expert considers information

"in forming the opinions" if the expert reviews the information with the purpose of forming opinions about the particular case at issue. We recognize, however, that this is a fact-specific inquiry for which precise boundaries are not always clear, and which will be informed by the timing and purpose of an expert's review of the information in question.

While we defer to the trial court's findings of fact absent clear error, People v. Ferguson, 227 P.3d 510, 512 (Colo. 2010), we interpret rules of procedure de novo, applying principles of statutory construction, Leaffer v. Zarlengo, 44 P.3d 1072, 1078 n.6 (Colo. 2002); Isis Litig., L.L.C. v. Svensk Filmindustri, 170 P.3d 742, 744 (Colo. App. 2007) (citing People v. Shell, 148 P.3d 162, 178 (Colo. 2006)). Accordingly, we give effect to the express language of the rule, considering the rule as a whole and giving consistent effect to all of its parts. Leaffer, 44 P.3d at 1078.

Where we find ambiguity we look to other interpretational aids to find meaning, including the purpose of the rule and the consequences of a particular construction. See Colo. Dep't of Labor & Emp't v. Esser, 30 P.3d 189, 195 (Colo. 2001). Because the Colorado Rules of Civil Procedure are patterned on the federal rules, we may also look to the federal rules and decisions for guidance. See Gall ex rel. Gall v. Jamison, 44 P.3d 233, 240-41 (Colo. 2002) (reviewing expert disclosures

under C.R.C.P. 26, which, in a comprehensive revision of the rules, was amended in 1995 to pattern the 1993 amendments to the federal rules); People v. Spykstra, 234 P.3d 662, 666 (Colo. 2010) (looking to the federal analogue for guidance in construing Crim. P. 17(c)).

The expert witness disclosures required by C.R.C.P. 26(a)(2) must "be accompanied by a written report or summary" explaining or listing several kinds of information. C.R.C.P. 26(a)(2)(B)(I). The report or summary must contain:

- (1) "a complete statement of all opinions to be expressed and the basis and reasons therefor;"
- (2) "the data or other information considered by the witness in forming the opinions;"
- (3) "any exhibits to be used as a summary of or support for the opinions;"
- (4) "the qualifications of the witness, including a list of all publications authored by the witness within the preceding ten years;"
- (5) "the compensation for the study and testimony;"
- (6) "a listing of any other cases in which the witness has testified as an expert at trial or by deposition within the preceding four years"; and
- (7) "if a report is issued by the expert it shall be provided."

C.R.C.P. 26(a)(2)(B)(I) (emphasis added). Once expert disclosures are made, the opposing party may seek discovery relating to an expert's opinion. C.R.C.P. 26(b)(4)(A). For example, a notice of deposition may be accompanied by a request for production that is compliant with C.R.C.P. 34 or a subpoena pursuant to C.R.C.P. 45. C.R.C.P. 30(b)(1),(5); C.R.C.P. 45(d)(1); see, e.g., Gall, 44 P.3d at 234 (defendant

served subpoena on expert pursuant to C.R.C.P. 30(b)(1)). Here, ~~the request at the heart of this case was~~ the plaintiff's ~~submitted a~~ C.R.C.P. 34 request for production ~~from the~~ ~~defendant~~ of the disputed information, which the plaintiff initially attempted to procure during the deposition of one of the defendant's other two experts. The issue before us is whether the trial court properly concluded, under C.R.C.P. 26(a)(2)(B)(I), that the disputed POVL Study data must be disclosed.

The Rules of Civil Procedure are liberally construed in favor of discovery. Cameron v. Dist. Ct., 193 Colo. 286, 289-90, 565 P.2d 925, 928 (1977) ("The purposes behind the discovery rules are to eliminate surprise at trial, discover relevant evidence, simplify the issues, and promote expeditious settlement of cases without the necessity of going to trial."). However, discovery, including discovery from experts, is not without its limits. See C.R.C.P. 26(b)(2)(F)(iii) (for good cause, the court may modify discovery limitations, considering among other things, the cumulative nature of the discovery, the opportunity to obtain the information, the burden of the proposed discovery, and the reasonableness of the discovery in light of the number of the parties and their alignment in the case); see, e.g., Donelson v. Fritz, 70 P.3d 539, 546 (Colo. App. 2002) (upholding a trial court finding that, although the

requested income records were relevant to the credibility of the expert witness, the burdensome nature of the request outweighed the records' relevance).

Here, Dr. Bowen challenges the trial court's conclusion that the POVL Study data constituted "data or other information considered by the witness in forming the opinions" under C.R.C.P. 26(a)(2)(B)(I). "[D]ata or other information" is necessarily an elastic phrase. Data can refer to any kind of information. See Webster's Third New International Dictionary 577 (2002) (defining "datum," in several ways, including as "a fact or principle granted or presented," "something upon which an inference or an argument is based or from which an intellectual system of any sort is constructed," and "detailed information of any kind"). As a general term, its meaning is not narrowly drawn or directed specifically at raw study data or other similar information that may underlie the information an expert reviews in the process of forming an opinion in a case. Rather, "data or other information" is a broad phrase inclusive of whatever information an expert actually considers in forming her opinions.

We have had one opportunity to address the meaning of "considered." In Gall, we analyzed the meaning of "considered" in the context of otherwise protected attorney work product that was given to and reviewed by an expert after she had been

retained to testify. 44 P.3d at 234. However, unlike here, there was no question in Gall that the expert had considered the information in forming her opinions. Although we must now interpret what it means to consider information in forming one's opinions, Gall nevertheless provides some guidance.

In joining the weight of authority from other jurisdictions on the recurring issue of protected attorney work product in the context of expert disclosures, we adopted a bright-line rule favoring broad disclosure, concluding that "opinion work product that is reviewed or considered by an expert in preparation for testimony at trial is discoverable under Rules 26(a)(2)(B) and 26(b)(4)(A)." Id. at 239. This bright-line rule was supported not only by the majority of authorities on the subject but also by the fact that it promotes efficiency, fairness, and the truth-seeking process without compromising the policies undergirding the work product doctrine. Id. at 239-41. We further held that "an expert considers documents or materials for the purposes of Rule 26(a)(2)(B) where she reads or reviews them before or in connection with forming her opinion, even if she does not rely upon or ultimately rejects the documents or materials." Id. at 241.

We therefore expressly discussed information as being discoverable under C.R.C.P. 26(a)(2)(B) if it was considered "in preparation for testimony at trial," and, put another way, if it

was read or reviewed "before or in connection with forming her opinion." Although in Gall we did not reach the question addressed today, we implicitly and logically viewed the rule as encompassing information that an expert reviews with the purpose of forming an opinion about the particular case at issue and in preparation for testifying. This contemplates two limits to the meaning of "considered in forming the opinions" under 26(a)(2)(B)(I), one temporal and one purpose driven.

Information that an expert reviewed prior to learning about, being retained for, and reviewing a case is not information that was considered "in forming the opinions" for the case or "before or in connection with forming [an] opinion." A closer question, which we do not address here, may arise regarding information that might have had bearing on an expert's opinion because it was reviewed contemporaneously with, but for a different purpose and separately from, the expert's review of a case.

These limitations are logically inferred from the language and purpose of C.R.C.P. 26(a)(2)(B)(I). What must be disclosed is not all data and information the expert has ever considered but rather data and information the expert considered while forming her opinions for the case. If expert disclosures serve to provide advance notice of an expert's opinions and the bases for those opinions, the relevant information for disclosure is that information the expert reviewed specifically for assessing

the particular case in which she was retained. So described, this view of C.R.C.P. 26(a)(2)(B)(I) properly acknowledges the relevance of temporality and purpose, and provides guidance when it is not so clear whether certain information must be disclosed and ultimately produced.

To require more suggests that the sources of an expert's general knowledge are open to limitless discovery, which cannot be the case. As one court analogized:

An analogy to which the Court (and hopefully counsel) can relate involves an attorney opinion to a client about personal jurisdiction over a claim. The knowledge and expertise for such an opinion will look for its foundation to the attorney's law school training and his work on past cases after law school graduation. In the Rule 26(a)(2)(B) sense, however, this does not mean that the attorney considered his casebook, class notes, or course outline from his civil procedure course; a bench memorandum on personal jurisdiction prepared for a judge during a clerkship; or briefs filed in other cases defending or opposing jurisdiction. Only if he read and reviewed such archival documents in forming his current opinion are they "considered."

Euclid Chem. Co. v. Vector Corrosion Techs., Inc., No. 1:05CV80, 2007 WL 1560277, at *6 (N.D. Ohio May 29, 2007). In this case, the plaintiff has seized upon one publication -- although perhaps the key article -- authored by Dr. Lee upon which she relies to give her opinion. If C.R.C.P. 26(a)(2)(B)(I) is viewed as including the underlying data reviewed and considered in preparing articles themselves, the plaintiff might be in a position to demand such information with respect to all of

Dr. Lee's articles referenced as considered in her expert disclosure. Cf. Langbord v. U.S. Dept. of the Treasury, No. 06-CV-05315, 2008 WL 4748174, at *3 & n.4 (E.D. Penn. Oct. 22, 2008) (after rejecting discoverability of drafts of the expert's book, also rejecting general relevance and discoverability under Fed. R. Civ. P. 26(b)(1) by distinguishing between the expert's job as a writer and his employment as an expert witness) ("In professions where experts make their livelihood largely from publishing articles, Plaintiffs' approach [would allow discovery of every draft of every article and any sources used in conjunction, and] would result in the discovery of the drafts of potentially dozens of articles written over the span of an expert's entire career."). This is an extreme that even the most liberal construction of the discovery rules cannot permit.

On the record before us, this case does not present a close question as to whether Dr. Lee considered the POVL Study's underlying data. Dr. Lee's first connection with this case was her retention by Dr. Bowen. In forming her expert opinion, she relied in part upon the published POVL Study and disclosed the published article accordingly. No evidence exists -- perhaps in part because Dr. Lee has not been deposed -- supporting an objective conclusion that Dr. Lee's reliance on the published study is equivalent to her having re-reviewed the raw data. Nor

is there evidence that Dr. Lee had re-reviewed the POVL Study's raw data for and during the pendency of the case. Dr. Lee did submit an affidavit in which she carefully stated that other than the published article itself, she had not reviewed any underlying data relating to the POVL Study publication with regard to her involvement in this case. Although Garrigan speculates otherwise, he has not submitted any evidence suggesting that Dr. Lee has re-reviewed the raw data since completing the POVL Study, whether in connection with this case or for other purposes. In making its factual findings, the trial court did not dismiss the veracity of Dr. Lee's affidavit. Instead, after noting the narrow scope of Dr. Lee's statement, the trial court proceeded to conclude that Dr. Lee must concede that, as a co-author who reviewed "all data forms," she saw the underlying study data.

As the trial court stated, Dr. Lee most certainly did consider the POVL Study's raw data when she co-authored the study. But, her detailed review of the raw data was not done in connection with this particular case about which she could not yet have learned. In light of the scope of C.R.C.P. 26(a)(2)(B)(I), the trial court erred, as a matter of law, in concluding that Dr. Lee necessarily "considered the data to form the opinions expressed in the study, opinions which she reiterates in this case." The trial court's conclusion only

follows if reviewing the published article is the same as reviewing the article's underlying data. Starting from this mistaken premise, the trial court incorrectly concluded that if Dr. Lee drew on opinions she expressed in the POVL Study to form her opinions in this case, then she also must have considered the POVL Study's raw data to form these opinions. To the contrary, in forming her opinions in this case, Dr. Lee relied upon the analysis expressed in the published study, not upon the underlying data. Nothing in the record before us shows otherwise. It was, therefore, sufficient for Dr. Bowen to disclose and produce only the published article.

Additionally, Dr. Lee's experience in conducting the POVL Study, apart from what was reported in the publication, forms part of her general knowledge, regardless of how recent that experience was. The rules regarding expert witnesses do not contemplate a result where a researcher is forbidden to testify as an expert because she was too directly involved in researching and authoring a particular study. Indeed, the trial court recognized the irony of excluding Dr. Lee's testimony. Under the trial court's reasoning, had Dr. Lee not been the lead author of the POVL Study, she would have been permitted to testify. The result is to exclude the individual most likely to render a complete and reliable explanation of the POVL Study.

Such a result runs contrary to the truth-seeking purposes of our judicial system.

This result is even more troubling because the trial court, after excluding Dr. Lee's testimony, explained that it would permit the plaintiff to cross-examine one of the defendant's remaining POVL Study co-authors based on the fact that the expert had never reviewed the POVL Study data. Thus, the court excluded one witness who could provide such testimony while simultaneously stating that another of the witnesses could be impeached for his inability to do so.

We also note that the trial court's reliance on the statements regarding "data" in Dr. Lee's expert disclosure is misplaced. In context, the disclosure discussed the published POVL Study and the authors' conclusions and applied those conclusions to Garrigan's case. The language in Dr. Lee's disclosure was similar to that of another of Dr. Bowen's experts, who also relied on the POVL Study in forming her opinions in this case. The disclosure in no way suggests that Dr. Lee was reaching beyond the publication to the underlying raw data itself to develop her opinions. The trial court did not strike the other expert on this basis, and it should not have stricken Dr. Lee on this basis.

The plaintiff argues that the only way he can meaningfully challenge Dr. Lee's testimony is by having access to the

information underlying the POVL Study. However, the plaintiff provided no sufficient reason under C.R.C.P. 26(a)(2)(B)(I) for needing the information. ~~besides bolstering his Shreck challenge of the experts' qualifications and the POVL Study's admissibility as evidence. The trial court has already — and it appears correctly so — ruled upon and rejected the Shreck challenge.~~

To the extent he is entitled to cross-examine Dr. Lee regarding the POVL Study, the plaintiff has several grounds upon which he can attack the study without examining the underlying study data. The plaintiff has repeatedly and forcefully asserted the "suspicious" context in which the POVL Study was conducted and reported, alleging gross bias from the very beginning and claiming that the American Society of Anesthesiologists created the registry to further efforts to reduce the liability of anesthesiologists who harm their patients. The plaintiff has also asserted that the study has been rejected by other peer review journals and that at least one public health expert has rejected the study's conclusions as erroneous. In addition to these assertions, it should be noted that the POVL Study itself candidly acknowledges several of its weaknesses, including the fact that the cases were voluntarily reported and the study was retrospective. Moreover, the study itself provides comprehensive explanations of the methodology

and source data underpinning the authors' analyses and conclusions, thereby permitting objective review and criticism by others.

Although the trial court improperly excluded Dr. Lee's testimony in this case, nothing in this opinion forecloses the trial court from otherwise deciding to limit the presentation of expert testimony on permitted grounds, for example pursuant to C.R.E. 403 which permits the exclusion of relevant evidence on grounds of prejudice, confusion, or waste of time. We note that the defendant appears to have designated three experts to testify in his defense, which might suggest unnecessarily duplicative testimony.

IV. Conclusion

Because we conclude that Dr. Lee did not consider the POVL Study's underlying data in connection with formulating her opinions in this case, C.R.C.P. 26(a)(2)(B)(I) did not require Dr. Bowen to produce the underlying data in response to a production request. Therefore, Dr. Bowen was not in violation of any discovery rule. Accordingly, we do not reach the question of whether this data was in the defendant's possession, custody, or control, nor do we reach the question of the propriety of the trial court's discovery violation sanction.

The trial court erred in excluding Dr. Lee's proposed trial testimony. We therefore make the rule absolute, direct the

trial court to vacate its order excluding Dr. Lee's testimony as a sanction for the failure to produce, and remand the case for proceedings consistent with this opinion.

JUSTICE BENDER, dissenting.

By adding the words in "the particular case" to the expert disclosure rule, the majority creates an absolute rule that requires an expert to disclose only the data and information the expert considered and specifically reviewed to formulate an opinion in the particular case for which the expert was retained. Although this principle may be appropriate in many instances, it applies to all cases irrespective of the particular facts and circumstances of that case and thereby prevents trial courts from exercising their discretion to determine what information an expert considered and, hence, what in fairness should be disclosed to the adversary. In my view, this new construction is unsupported by the language of C.R.C.P. 26(a)(2)(B)(I), and it eliminates a procedural tool which trial courts use to manage civil cases. In addition, the majority's analysis represents a departure from our normal appellate standard of review by which we consider a trial court's discovery orders for an abuse of discretion. Because I disagree with the majority's construction of Rule 26(a)(2)(B)(I), I respectfully dissent. In addition, I would apply the abuse-of-discretion standard to the trial court's order in this case and would hold that his decision to exclude Dr. Lee's testimony was neither manifestly arbitrary, unreasonable, nor unfair, and was based in reason. In my view, the defendant's failure to

disclose the raw data and methodology of Dr. Lee's recent study illustrates the dilemma of an adversary who wants the benefit of an expert opinion without the burden of full disclosure to his opponent of how the expert reached that opinion.

I.

First, I believe the majority misconstrues Rule 26(a)(2)(B)(I). The language of the rule requires that the proponent disclose "the data or other information considered by the witness in forming the opinions"; it does not contain the words in "the particular case in which she was retained." By limiting disclosure to only data or other information the expert considered in forming her opinions--after being retained in the particular case--the majority construes the rule contrary to its purpose and inconsistent with its wording.

The majority relies upon our case Gall ex rel. Gall v. Jamison, 44 P.3d 233 (Colo. 2002) to support its holding. I read this case somewhat differently. In Gall, this court construed what it means for an expert to "consider" data or other information in forming her opinion. We concluded, as the majority of courts have, that the drafters of the amended federal rule (in 1993) and the equivalent amended Colorado rule (in 1995) intended to broaden the scope of discoverable information by including the word "considered," albeit that Gall was in the context of attorney work product considered by an

expert witness. Id. at 241. We held that an expert “considers documents or materials for the purposes of Rule 26(a)(2)(B) where she reads or reviews them before or in connection with forming her opinion, even if she does not rely upon or ultimately rejects the documents or materials.” Id. (emphasis added) (citing Johnson v. Gmeinder, 191 F.R.D. 638, 649 (D. Kan. 2000)). We did not limit this holding to information the expert considered after being retained on a specific case or with the purpose of forming an opinion about a particular case; instead, we defined “considered” to include documents the expert reads or reviews “before.” This holding, in my view, implies that we intended a contrary conclusion to the one reached today by the majority.

The majority’s construction of Rule 26(a)(2)(B)(I) is in tension with most courts that have more broadly construed the equivalent federal rule and the word “considered,” and which have favored a bright-line rule favoring full disclosure. See, e.g., Emps. Committed for Justice v. Eastman Kodak Co., 251 F.R.D. 101, 104 (W.D.N.Y. 2008) (stating that even “if the expert avers under oath that he did not actually consider certain materials in forming his opinion, that will not control” and adopting an objective definition of “considered” as “anything received, reviewed, read, or authored by the expert, before or in connection with the forming of his opinion, if the

subject matter relates to the facts or opinions expressed") (emphasis in original); Synthes Spine Co., L.P. v. Walden, 232 F.R.D. 460, 464 (E.D. Pa. 2005) (interpreting Rule 26(a)(2)(B) to require the disclosure of "all information . . . that a testifying expert generates, reviews, reflects upon, reads, and/or uses in connection with the formulation of his opinions").

There are a number of reasons to require full disclosure and to broadly interpret the phrase "considered . . . in forming the opinions." First, it ensures fairness by eliminating "hide-the-ball" and "hardball" tactics." C.R.C.P. 16, Committee cmt.; see also Trattler v. Citron, 182 P.3d 674, 679 (Colo. 2008) ("Among the many important purposes of discovery, the most central to a fair trial is the parties' production of all relevant evidence."). Second, full disclosure is essential to conduct a full and fair cross-examination. See, e.g., Karn v. Ingersoll-Rand Co., 168 F.R.D. 633, 639 (N.D. Ind. 1996) (stating that "useful cross examination and possible impeachment can only be accomplished by gaining access to all of the information that shaped or potentially influenced the expert witness's opinion").

The rule the majority announces works against these considerations. It encourages a "hide-the-ball" tactic in which an expert can shield information considered just before being

formally retained, but which may still be in the expert's mind and bear on the expert's opinion, a tactic other courts have discouraged in an analogous context. See, e.g., Eastman Kodak, 251 F.R.D. at 105-106 (requiring defense expert witness to disclose statistical methodologies he used in two studies, even though he was only retained as a litigation consultant at that time, so that the plaintiff could effectively challenge the methodology and conclusions the expert reached in a subsequent study he conducted while retained as a testifying expert witness). I would construe the word "considered" with these policy considerations in mind, and allow the trial judge to compel disclosure of data or information that the expert considered before, if it forms the basis of the expert's proposed opinion in the particular case.

II.

Turning to my second point, the majority's rule limits a trial court's discretion to determine what data or information the expert considered and what should be disclosed in fairness to the other side. While we construe the meaning of the discovery rules de novo, it is well settled that we review a trial court's application of these rules, and the sanctions it imposes for discovery violations, for an abuse of discretion. See, e.g., Pinkstaff v. Black & Decker (U.S.) Inc., 211 P.3d 698, 702 (Colo. 2009); Scott v. Matlack, Inc., 39 P.3d 1160,

1172 (Colo. 2002); KN Energy, Inc. v. Great W. Sugar Co., 698 P.2d 769, 787 (Colo. 1985). To find an abuse of discretion we must determine that the trial court's decision is "manifestly arbitrary, unreasonable, or unfair." Pinkstaff, 211 P.3d at 702. Under this standard, we reverse a trial court ruling only if the trial court "exceeded the bounds of the rationally available choices." People v. Shari, 204 P.3d 453, 465 (Colo. 2009) (Bender, J., dissenting) (quoting Big Sky Network Can., Ltd. v. Sichuan Provincial Gov't, 533 F.3d 1183, 1186 (10th Cir. 2008)). In most cases, there "will not necessarily be a single right answer, but a range of possible outcomes the facts and law at issue can fairly support; rather than pick and choose among them ourselves, [an appellate court] will defer to the district court's judgment so long as it falls within the realm of these rationally available choices." Id. (quoting Big Sky, 533 F.3d at 1186). An abuse of discretion occurs when the trial court "fails to articulate a reason for his decision and no such reason is readily apparent from the record or articulates a reason which has no basis in fact or the reason so articulated is contrary to law. The reason given, however, need not be one that is agreeable to the reviewing court." Id. (quoting In re Bueno, 248 B.R. 581, 582-83 (D. Colo. 2000)).

The rationale for this standard supports the trial court's broad discretion to act in a "managerial role" in the discovery

process. See Todd v. Bear Valley Village Apartments, 980 P.2d 973, 977 (Colo. 1999). The comments to the revised rules of civil procedure state that “[i]t is expected that trial judges will assertively lead the management of cases to ensure that justice is served.” C.R.C.P. 16, Committee cmt. This managerial role is similar to a trial court’s role as a “gatekeeper” when deciding whether to admit scientific and expert testimony and to prevent the admission of “junk science.” Elsayed Mukhtar v. Cal. State Univ., Hayward, 299 F.3d 1053, 1063 (9th Cir. 2002) (citing Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147-48 (1999)).

The rule announced by the majority strips trial courts of this discretion by limiting disclosure under Rule 26(a)(2)(B)(I) only to information that an expert reviewed “with the purpose of forming an opinion about the particular case at issue and in preparation for testifying,” irrespective of the particular factual circumstances, or how closely connected an expert’s previous research may be to her opinion in a particular case. Maj. op. at 16. The majority’s concern that the “sources of an expert’s general knowledge” would be subject to “limitless discovery” without this case-specific limitation is at least arguably questionable. Id. at 17. Trial courts routinely make decisions of relevancy, admissibility, discoverability, and privilege. They are required on a daily basis to distinguish

between an expert's general knowledge and education, from information directly relating to the subject matter of the litigation and directly informing the expert's conclusions in a given case. Because trial courts find facts and take live testimony, I believe they should be given the discretion to determine whether an expert considered data or other information, without the absolute limitation announced by the majority.

III.

Here, the trial court found as a fact that Dr. Lee considered the raw data underlying the POVL Study in forming her opinions for this case. Thus, the court held that Dr. Lee must disclose to the adversaries her source data and the methodology of the study as a precondition for her to testify on behalf of the defendant. Noting that Dr. Lee is the lead author of the POVL Study and one of only two co-authors that reviewed all of the raw source data, the trial court found, "I have no hesitation in concluding that [Dr. Lee] considered the data which underlie the POVL study in forming her opinions in this case." When Dr. Lee failed to produce the study data, the trial court prohibited her from testifying "in order to place the parties on an even footing at trial."

The trial court's finding that Dr. Lee considered the POVL Study source data in forming her opinions in this case is well

supported by the record. Dr. Lee is the director of the POVL registry and lead author of the POVL Study, which was published in the journal Anesthesiology in October 2006. She is one of only two co-authors of the POVL Study who collected and reviewed all of the patient forms comprising the raw source data for the study.

The defendant's expert disclosures regarding Dr. Lee state that she will testify regarding not only the "conclusions" reached in the POVL Study, but, moreover, "from the data in the study." Twice the defendant's expert disclosures also state that Dr. Lee will testify that "there is no data" from the study supporting the plaintiff's theory of negligence. Only later, in response to the trial court's determination that she was required to disclose the POVL Study data, did Dr. Lee submit an affidavit stating that she had not "reviewed" any data underlying the study in "forming [her] opinions in this matter." This affidavit failed to convince the trial court that Dr. Lee had not "considered" the data. Citing both Dr. Lee's role in reviewing all of the source data and the defendant's expert disclosures stating that Dr. Lee will testify based on "the data in this study," the trial court found that "[a]t a minimum, she considered these data to form the opinions expressed in the study, opinions which she reiterates in this case."

In my view, the majority fails to credit appropriately these factual findings when it states that “[n]o evidence exists . . . supporting an objective conclusion” that Dr. Lee re-reviewed or relied on the raw data in this case. Maj. op. at 18. The majority concludes that “Dr. Lee relied upon the analysis expressed in the published study, not upon the underlying data.” Id. at 20. It reasons that the word “data” in Dr. Lee’s expert disclosure only means the POVL Study, not its underlying raw data, id. at 21, a position I suggest appears at odds with this record. While the majority bolsters this rationale with the fact that Dr. Lee’s disclosure used similar language to that of one of the defendant’s other experts, it is undisputed that Dr. Lee is the only expert to have seen the raw data. In addition, the majority places on the plaintiff the burden of proving that Dr. Lee considered the raw data. Maj. op. at 19. This seems counterintuitive. The defendant has the duty to disclose all the information considered by his experts, and only the defendant possesses the facts necessary and essential to prove what data Dr. Lee, his expert, considered. See Oklahoma v. Tyson Foods, Inc., No. 05-CV-329-GKF-PJC, 2009 WL 1578937, at *4 n.6 (N.D. Okla. June 2, 2009) (noting in dicta this apparent tension of placing the burden of proof on the party not in possession of the data). Here the trial court made the explicit factual finding that Dr. Lee considered the raw

data in formulating her expert opinion. The majority in effect disregards this finding despite its record support.

Next, the trial court's order to prohibit Dr. Lee's testimony, as a sanction for failure to disclose her study source data and methodology, was within its discretion and appears reasonable given the broader context of this case. The American Society of Anesthesiologists Committee on Professional Liability created and now funds the POVL registry, which provides the data for the POVL Study. The ASA formed the Committee on Professional Liability to minimize medical malpractice claims against anesthesiologists and thereby reduce the cost of anesthesiologists' malpractice insurance. The committee then founded the Closed Claims Project, a database of case summaries of closed malpractice claims, as its primary approach to achieve this objective.¹ The Committee on

¹ Although not part of the record, an article on the ASA website discusses the origin of the Closed Claims Project. It states that initially the Committee on Professional Liability sought to solve what they termed the "expert witness problem" by soliciting trial and deposition testimony from members of the ASA who claimed to have been victims of false testimony by plaintiffs' expert witnesses and by publishing that testimony in the ASA newsletter. This approach failed because the members of the committee charged with reviewing the expert testimony were not often convinced that the claimed questionable testimony lacked merit. Thereafter, the committee turned to its current approach, the Closed Claims Project. A second article states that through the Closed Claims Project the committee has published several studies that "have been utilized extensively by defense attorneys to defend anesthesiologists of malpractice."

Professional Liability sponsors the POVL registry as part of the Closed Claims Project.²

In addition, the POVL Study was published in the ASA's own journal, Anesthesiology. Although the defendant claims the article was peer reviewed for publication, it has never provided the journal's peer review methodology to the court.³

Anesthesiology is the only journal that has peer reviewed the article. Since its publication, the study has not been replicated, nor has the study data been released to the public so that other researchers may review its methodology and conclusions.

Given this context, and in light of my interpretation of Rule 26(a)(2)(B)(I) as providing for full disclosure, it was within the trial court's discretion to determine that Dr. Lee had "considered" the data and methodology underlying the POVL Study and to prevent her from testifying unless she disclosed it. The conclusion reached by the study is novel, the defense has failed to produce any independent scientific reviews of its methodology and its findings, and the ASA Committee on

² The POVL registry's website contains a list of the members of the ASA Committee on Professional Liability. It shows that five of the POVL Study's seven authors are members of the committee, including Dr. Lee.

³ In March 2009, Anesthesiology retracted three articles it published because the author falsified data. Keith J. Winstein & David Armstrong, Top Pain Scientist Fabricated Data in Studies, Hospital Says, Wall Street J., Mar. 11, 2009, at A12.

Professional Liability, which funded the POVL Study, directly benefits from its findings. In these circumstances, the trial court could have reasonably determined that the plaintiff could not effectively cross-examine Dr. Lee without the raw data. Even if one assumes that Dr. Lee did not re-review the source data since being retained in this case, as the trial court found, there is a reasonable basis to conclude that her study was sufficiently connected to the litigation and recent enough to bear directly on her opinion in this case. Although the majority may not agree with the trial court's decision to exclude Dr. Lee's testimony, I believe that this decision is not one for this court to make. Rather, this sanction lies within the ambit of the trial court's discretion to ensure a fair and impartial trial. As such, the trial court's order here is not manifestly arbitrary, unreasonable, or unfair, and it is based in reason.

Lastly, the majority assigns fault to the trial court for its exclusion of Dr. Lee because of and in spite of the fact that she was the lead author of the POVL Study, which made her the "individual most likely to render a complete and reliable explanation of the POVL Study." Maj. op. at 20. I suggest that this claim proves too much. The defendant retained two other experts, Drs. Newman and Roth, to testify to the ultimate conclusions of the POVL Study. The trial court has ruled that

their testimony is admissible and their reliability is not before us. Both doctors have testified more frequently as forensic experts than Dr. Lee, and their hourly rates exceed that of Dr. Lee (Dr. Lee charges \$2000/day of trial, Dr. Roth charges \$750/hour of trial, Dr. Newman charges \$6000/day of trial). However, unlike Dr. Lee, neither Dr. Newman nor Dr. Roth has knowledge of the underlying study data and methodology. This seems to indicate that Dr. Lee's probative value to the defendant in this case is her ability to testify to the raw data underlying the study and her direct involvement in analyzing it. If Dr. Lee's testimony was essential, then the defendant should have obtained and disclosed the raw data so that the plaintiff would have the opportunity to test her conclusions fairly.

I am authorized to state that JUSTICE MARTINEZ joins in this dissent.