Management of Expert Evidence

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I. Introduction*

The purpose of this chapter—augmented by other parts of this manual—is to assist judges in effectively managing expert evidence that involves scientific or technical subject matter. Since the Supreme Court's decisions in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[1] and *Kumho Tire Co. v. Carmichael*,[2] management of expert evidence is now an integral part of proper case management. Under those decisions, the district judge is the gatekeeper who must pass on the sufficiency of proffered evidence to meet the test under Federal Rule of Evidence 702. The judge's performance of the gatekeeper function will be intertwined with his or her implementation of Federal Rule of Civil Procedure 16.[3] This chapter is intended to provide guidance to judges in carrying out those tasks. It focuses on pretrial management as it relates to expert evidence; matters pertaining to generic management are covered in the Federal Judicial Center's *Manual for Complex Litigation, Third* and its *Manual for Litigation Management and Cost and Delay Reduction*.[4] This chapter should be read in conjunction with Margaret A. Berger's chapter, The Supreme Court's Trilogy on the Admissibility of Expert Testimony, which discusses the Supreme Court's recent decisions on expert testimony, and the reference guides for individual areas of scientific evidence.

II. The Initial Conference

A. Assessing the Case

The court's first contact with a case usually is at the initial Rule 16 conference. To comply with Federal Rule of Civil Procedure 26(f), the attorneys should have met previously to discuss the nature and basis of their claims and defenses, develop a proposed discovery plan, and submit to the court a written report outlining the plan. Because it cannot be assumed that attorneys will always comply with that requirement, the court should ensure that they do. Conferring

* We are grateful for the assistance of Andrea Cleland, Robert Nida, Ross Jurewitz, Dean Miletich, Kristina Gill, and Tom Willging in preparing this chapter.

1. 509 U.S. 579 (1993).

2. 119 S. Ct. 1167 (1999).

3. *See* General Elec. Co. v. Joiner, 522 U.S. 136, 149 (1997) (Breyer, J., concurring):

> [J]udges have increasingly found in the Rules of Evidence and Civil Procedure ways to help them overcome the inherent difficulty of making determinations about complicated scientific or otherwise technical evidence. Among these techniques are an increased use of Rule 16's pretrial conference authority to narrow the scientific issues in dispute, pretrial hearings where potential experts are subject to examination by the court, and the appointment of special masters and specially trained law clerks.

4. *See generally* Manual for Complex Litigation, Third (Federal Judicial Center 1995) [hereinafter MCL 3d]; Litigation Management Manual (Federal Judicial Center 1992).

with each other and preparing the report will require the attorneys to focus on the issues in the case. Their report, together with the pleadings, should enable the judge to form a preliminary impression of the case and help him or her prepare for the conference. Rule 16(c)(4) specifically provides for consideration at the conference of the need for expert testimony and possible limitations on its use.[5]

Scientific evidence is increasingly used in litigation as science and technology become more pervasive in all aspects of daily life. Such evidence is integral to environmental, patent, product liability, mass tort, and much personal injury litigation, and it is also common in other types of disputes, such as trade secret, antitrust, and civil rights. Scientific evidence encompasses so-called hard sciences (such as physics, chemistry, mathematics, and biology) as well as soft sciences (such as economics, psychology, and sociology), and it may be offered by persons with scientific, technical, or other specialized knowledge whose skill, experience, training, or education may assist the trier of fact in understanding the evidence or determining a fact in issue.[6]

The initial conference should be used to determine the nature and extent of the need for judicial management of expert evidence in the case. The court should therefore use the conference to explore in depth what issues implicate expert evidence, the kinds of evidence likely to be offered and its technical and scientific subject matter, and anticipated areas of controversy. Some cases with little prospect for complexity will require little management. However, if the expert evidence promises to be protracted or controversial, or addresses novel subjects that will challenge the court's and the jury's comprehension, the court should focus on management of expert testimony as part of a coordinated case-management strategy. The court will also want to inquire into whether the science involved is novel and still in development, or whether the scientific issues have been resolved in prior litigation and whether similar issues are pending in other litigation.

5. The advisory committee's note states that the rule is intended to "clarify that in advance of trial the court may address the need for, and possible limitations on, the use of expert testimony . . . ." Fed. R. Civ. P. 16(c)(4) advisory committee's note.

6. *See* Fed. R. Evid. 702. The Judicial Conference of the United States has approved proposed amendments to Rule 702 which, if enacted, would permit expert testimony "if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." Proposed Amendments to the Federal Rules of Evidence (visited Mar. 21, 2000) <http://www.uscourts.gov/rules/propevid.pdf>. For a breakdown of experts appearing in federal courts, see Molly Treadway Johnson et al., Problems of Expert Testimony in Federal Civil Trials (Federal Judicial Center forthcoming 2000). For a breakdown of experts appearing in state courts, see Anthony Champagne et al., *Expert Witnesses in the Courts: An Empirical Examination,* 76 Judicature 5 (1992); Samuel R. Gross, *Expert Evidence,* 1991 Wis. L. Rev. 1113.

B. Defining and Narrowing the Issues

The objective of the initial conference should be to define and narrow the issues in the litigation. Although it will generally not be possible to arrive at a definitive statement of the controverted issues at the outset, it is essential that the process begin early in the litigation. In cases presenting complex scientific and technical subject matter, the court and parties must focus on the difficult task of defining disputed issues in order to avoid unnecessarily protracting the litigation, generating confusion, and inviting wasteful expense and delay. Usually the judge will need to be educated at the outset about the science and technology involved. Because parties often underestimate the need for judicial education, the judge should raise the matter and explore available options, such as the use of tutorials, advisors, or special masters. Whatever arrangements are made for initial education, it is preferable that they be by stipulation. If an advisor is to be used, the parameters of the advisor's relationship to the judge should be defined, such as permissible ex parte communications and limits on discovery.[7] When a tutorial is arranged, it should be videotaped or transcribed so that the judge can review it as the litigation proceeds.

Although the judge will be in unfamiliar territory, that should not be a deterrent to taking charge of the issue-definition process. There is no better way to start than by asking basic questions of counsel, then exploring underlying assumptions and probing into the nature of the claims and defenses, the theories of general and specific causation, the anticipated defenses, the expert evidence expected to be offered, and the areas of disagreement among experts. The object of this exercise should be education, not argument; all participants should be given an opportunity to learn about the case. By infusing the conference with a spirit of inquiry, the court can set the tone for the litigation, encouraging clarity, candor, and civility.

The following are some additional considerations for the conduct of the Rule 16 conference.

1. Have the parties retained testifying experts?

In some cases where settlement is likely, parties may wish to defer retaining experts, thereby avoiding unnecessary expense. If the case can make progress toward resolution without early identification of experts (for example, if particular nonexpert discovery could provide a basis for settlement), the expert evidence issues can be deferred. On the other hand, deferring identification of experts until the eve of trial can be costly. In a medical malpractice case, for example, expert evidence is essential to resolve the threshold issue whether the defendant conformed to the applicable standard of practice; without such evidence, the plaintiff has no case.

7. *See infra* § VII.A.

2. When should the parties exchange experts' reports?

Federal Rule of Civil Procedure 26(a)(2) requires parties to make detailed written disclosures with respect to each expert retained to testify at trial, including a complete statement of all opinions to be expressed, the basis and reasons supporting the opinions, and the data or other information considered by the witness in forming the opinions.[8] The rule requires the disclosures to be made not less than ninety days before trial or at such other time as the judge may order. The experts' reports will obviously be helpful in identifying issues, but because their preparation is expensive, they should not be required until progress has first been made in narrowing issues to the extent possible. Thus, if the conference discloses that a particular scientific issue is not in dispute, no evidence (and no disclosure) with respect to it will be needed.

Usually the party bearing the burden at trial should make the first disclosure, and the other party should respond. There may also be reason to schedule the disclosures in accordance with the sequence in which issues are addressed. For example, in patent cases, expert disclosures relating to claims construction[9] may be called for early, whereas disclosures relating to infringement and damages are deferred. The judge should therefore consider at the conference when and in what sequence these disclosures should be made.

3. How should the court follow up on the parties' disclosures?

Once the disclosures are in hand, a follow-up Rule 16 conference may be useful to pursue further issue identification and narrowing of disputed issues. If the disclosures indicate disagreements between experts on critical points, the judge should attempt to identify the bases for their differences. Frequently differences between experts rest on tacit assumptions, such as choices among policies, selection of statistical data or databases, judgments about the level of reasonable risk, or the existence of particular facts. It may be useful to require that the experts be present at the conference to assist in the process of identifying the bases for their disagreements. Focused discovery may be helpful in resolving critical differences between experts that rest on their differing assessments or evaluations of test results.

4. Is there a need for further clarification?

Litigation will often involve arcane areas of science and technology that have a language which is foreign to the uninitiated. Although the lawyers are responsible for making the issues and the evidence comprehensible, they do not always succeed. In such cases, to arrive at informed decisions about the management of the litigation, as indicated above, the judge may need to seek assistance during

8. Fed. R. Civ. P. 26(a)(2)(B). *See also infra* § III.A.
9. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996).

the pretrial phase of the litigation. Aside from using court-appointed experts,[10] the judge may arrange for a neutral expert to explain the fundamentals of the science or technology and make critical evidence comprehensible. Such experts have been used successfully to conduct tutorials for the judge and also for the jury before the presentation of evidence at trial; their utility depends on their ability to maintain objectivity and neutrality in their presentation.

C. Use of the Reference Guides

The process of defining issues should lead to the narrowing of issues. Some elements of the case may turn out not to be in dispute. For example, there may be no controversy about a plaintiff's exposure to an allegedly harmful substance, allowing that issue to be eliminated. Conversely, the plaintiff's ability to establish the requisite exposure may appear to be so questionable that it might usefully be singled out for early targeted discovery[11] and a possible motion in limine or a motion for summary judgment.[12] Unless the judge takes the lead in probing for issues that may not be in dispute, or that may lend themselves to early resolution, the case is likely to involve much unnecessary work, cost, and delay.

The conclusions of a witness offering scientific testimony will generally be the product of a multistep reasoning process. By breaking down the process, the judge may be able to narrow the dispute to a particular step in the process, and thereby facilitate its resolution. Those steps, while generally not intuitively obvious to the nonexpert, may be identified in the process of issue identification. Once the steps have been identified, it can readily be determined which ones are in dispute. As noted, the initial Rule 16 conference may be too early for the parties to be adequately prepared for this process. Nevertheless, the stage should at least be set for the narrowing of issues, though the process may continue as the litigation progresses.

The reference guides in this manual are intended to assist in the process of narrowing issues in the areas they cover.[13] By way of illustration, the Reference Guide on Survey Research facilitates narrowing a dispute over proffered evidence by dividing and breaking the inquiry into a series of questions concerning the purpose of the survey, identification of the appropriate population and sample frame, structure of the questions, recording of data, and reporting. For example, proffered survey research may be subject to a hearsay objection. Thus, it is

10. *See infra* § VII.A.

11. MCL 3d, *supra* note 4, § 21.424.

12. *See, e.g.,* Celotex Corp. v. Catrett, 477 U.S. 317 (1986). *See also* William W Schwarzer et al., The Analysis and Decision of Summary Judgment Motions: A Monograph on Rule 56 of the Federal Rules of Civil Procedure (Federal Judicial Center 1991).

13. The reference guides are not intended to be primers on substantive issues of scientific proof or normative statements on the merits of scientific proof. *See* the Preface to this manual.

critical to determine whether the purpose of the particular survey is to prove the truth of the matter asserted or only the fact of its assertion.

Each of these issues is then broken into a series of suggested questions that will enable the judge to explore the methodology and reasoning underlying the expert's opinion. For example, the questions concerning identification of the appropriate population and sample frame are as follows:

1. Was an appropriate universe or population identified?
2. Did the sampling frame approximate the population?
3. How was the sample selected to approximate the relevant characteristics of the population?
4. Was the level of nonresponse sufficient to raise questions about the representativeness of the sample?
5. What procedures were used to reduce the likelihood of a biased sample?
6. What precautions were taken to ensure that only qualified respondents were included in the survey?

The other reference guides cover additional areas in which expert evidence is frequently offered and disputed.

- The Reference Guide on Statistics identifies three issues: the design of the data-collection process, the extraction and presentation of relevant data, and the drawing of appropriate inferences.
- The Reference Guide on Multiple Regression identifies issues concerning the analysis of data bearing on the relationship of two or more variables, the presentation of such evidence, the research design, and the interpretation of the regression results.
- The Reference Guide on Estimation of Economic Losses in Damages Awards identifies issues concerning expert qualification, characterization of the harmful event, measurement of loss of earnings before trial and future loss, prejudgment interest, and related issues generally and as they arise in particular kinds of litigation.
- The Reference Guide on Epidemiology identifies issues concerning the appropriateness of the research design, the definition and selection of the research population, the measurement of exposure to the putative agent, the measurement of the association between exposure and the disease, and the assessment of the causal association between exposure and the disease.
- The Reference Guide on Toxicology identifies issues concerning the nature and strength of the research design, the expert's qualifications, the proof of association between exposure and the disease, the proof of causal relationships between exposure and the disease, the significance of the person's medical history, and the presence of other agents.

- The Reference Guide on Medical Testimony describes the various roles of physicians, the kinds of information that physicians consider, and how this information is used in reaching a diagnosis and causal attribution.
- The Reference Guide on DNA Evidence offers an overview of scientific principles that underlie DNA testing; basic methods used in such testing; characteristics of DNA samples necessary for adequate testing; laboratory standards necessary for reliable analysis; interpretation of results, including the likelihood of a coincidental match; and emerging applications of DNA testing in forensic settings.
- The Reference Guide on Engineering Practice and Methods describes the nature of engineering, including the issues that must be considered in developing a design, the evolution of subsequent design modifications, and the manner in which failure influences subsequent design.

The scope of these reference guides is necessarily limited, but their format is intended to suggest analytical approaches and opportunities that judges can use in identifying and narrowing issues presented by controversies over scientific evidence. A judge may, for example, ask counsel for both sides to exchange and provide to the court a step-by-step outline of the experts' reasoning processes (following generally the pattern of the reference guides) for use at the conference at which issue definition and narrowing is discussed. If the written statements of expert opinions required by Federal Rule of Civil Procedure 26(a)(2) have been exchanged, the judge could direct each side to identify specifically each part of the opposing expert's opinion that is disputed and to state the specific basis for the dispute. After receipt of these statements, another conference should be held to attempt to narrow the issues.

D. Limitations or Restrictions on Expert Evidence

Federal Rule of Civil Procedure 16(c)(4) contemplates that the judge will consider the "avoidance of unnecessary proof and of cumulative evidence" as well as "limitations or restrictions on the use of testimony under Rule 702 of the Federal Rules of Evidence." In the course of defining and narrowing issues, the court should address the following matters.

1. The need for expert evidence

As discussed above, the issue-narrowing process may disclose that areas otherwise appropriate for expert testimony are not disputed or not disputable, such as whether exposure to asbestos is capable of causing lung cancer and mesothelioma (i.e., general causation). Expert evidence should not be permitted on

issues that are not disputed or not disputable.[14] Nor should it be permitted on issues that will not be assisted by such evidence. This would be true, for example, of expert testimony offered essentially to embellish the testimony of fact witnesses, such as testimony about the appearance of an injured party in a crash. Sometimes the line between needed and unneeded testimony is less clear. In patent cases, for example, attorneys expert in patent law may offer testimony on claims construction or patent office procedures. The court needs to balance the competing interests under Federal Rule of Civil Procedure 1, which is intended to bring about the just, speedy, and inexpensive resolution of disputes. While each party is entitled to make its best case, the court has an obligation to expedite the litigation in fairness to all parties. Accordingly, the need for particular expert testimony should be established before it is permitted.

2. Limiting the number of experts

Some local rules and standing orders limit parties to one expert per scientific discipline. Ordinarily it should be sufficient for each side to present, say, a single orthopedist, oncologist, or rehabilitation specialist. However, as science increases in sophistication, subspecialties develop. In addition, experts in a single specialty may be able to bring to bear a variety of experiences or perspectives relevant to the case. If a party offers testimony from more than one expert in what appears to be a distinct discipline, the party should justify the need for it and explain why a single expert will not suffice. Attorneys may try to bolster the weight of their case before the jury by cumulative expert testimony, thereby adding cost and delay. The court should not permit such cumulative evidence, even where multiple parties are represented on one or both sides.[15]

E. Use of Magistrate Judges

Federal Rule of Civil Procedure 16(c)(8) makes the referral of matters to a magistrate judge or a special master a subject for consideration at the initial

14. Note that courts take different positions on use of collateral estoppel to preclude relitigation of facts based on scientific evidence. *Compare* Ezagui v. Dow Chem. Corp., 598 F.2d 727 (2d Cir. 1979) (estopping litigation on the issue that vaccination package inserts inadequately apprised doctors of known hazards), *with* Hardy v. Johns-Manville Sales Corp., 681 F.2d 334 (5th Cir. 1982) (disallowing collateral estoppel to preclude relitigation of the fact that asbestos products are unreasonably dangerous and that asbestos dust causes mesothelioma). For an interesting discussion of the application of collateral estoppel, see *Bertrand v. Johns-Manville Sales Corp.,* 529 F. Supp. 539, 544 (D. Minn. 1982) (holding it is "clear" that the court should collaterally estop litigation on the specific fact that "asbestos dust can cause diseases such as asbestosis and mesothelioma [because] [t]his proposition is so firmly entrenched in the medical and legal literature that it is not subject to serious dispute" but declining to apply collateral estoppel to the more disputable use of the "state of the art" defense and the claim that asbestos is "unreasonably dangerous").

15. *In re* Factor VIII or IX Concentrate Blood Prods. Litig., 169 F.R.D. 632, 637 (N.D. Ill. 1996) (transferee court in multidistrict litigation has authority to limit the number of expert witnesses who may be called at trial).

pretrial conference. Many courts routinely refer the pretrial management of civil cases to magistrate judges. Some judges believe, however, that in complex cases, there are advantages in having pretrial management performed by the judge who will try the case; this promotes familiarity with the issues in the case and avoids the delay caused by appeals of magistrate judges' rulings.[16]

If pretrial management is nevertheless referred to a magistrate judge, he or she should keep the trial judge apprised of developments affecting the complex issues in the case. A need for decisions by the trial judge may arise during the pretrial phase; for example, the decision to appoint an expert under Federal Rule of Evidence 706 or a special master under Federal Rule of Civil Procedure 53 is one the trial judge would have to make and therefore should not be deferred until the eve of trial.

III. Discovery and Disclosure

A. Discovery Control and Management

Informed by the Rule 16 conference, the judge will be able to make the necessary decisions in managing expert discovery. The following considerations are relevant.

1. Discovery of testifying experts

Parties may depose experts who have been identified as trial witnesses under Federal Rule of Civil Procedure 26(b)(4)(A), but only after the expert disclosure required under Rule 26(a)(2)(B) has been made.[17] Although the court may relieve the parties of the obligation to exchange these disclosures, it will rarely be advisable to do so, or to permit the parties to stipulate around the obligation, for a number of reasons:

- Preparation of the expert disclosures compels parties to focus on the issues and the evidence supporting or refuting their positions. Moreover, the cost and burden of preparing disclosures forces parties to consider with care

16. MCL 3d, *supra* note 4, § 21.53.

17. Fed. R. Civ. P. 26(b)(4)(A). The report under Fed. R. Civ. P. 26(a)(2)(B) is presumptively required of any "witness who is retained or specially employed to provide expert testimony in the case or whose duties as an employee of the party regularly involve giving expert testimony." This would normally exclude a treating physician, but the rule extends to other areas of expertise. Riddick v. Washington Hosp. Ctr., 183 F.R.D. 327 (D.D.C. 1998). Courts have looked to the nature of the testimony rather than to the employment status of the witness to determine if such a report is required. Sullivan v. Glock, Inc., 175 F.R.D. 497, 500 (D. Md. 1997). The court may by order, or the parties may by stipulation, exempt a case from this requirement. Federal Rule of Civil Procedure 29 gives the parties the right to modify, without court order, the procedures or limitations governing discovery, except for stipulations that would interfere with any time set for completion of discovery, hearing of a motion, or trial.

whether to designate a particular person as an expert witness and may discourage or limit the use of excessive numbers of experts.

- Exchange of the expert disclosures, as previously noted, materially assists the court and parties in identifying and narrowing issues.[18]
- Exchange of the disclosures may lead the parties to dispense with taking the opposing experts' depositions. Some attorneys believe that depositions tend to educate the expert more than the attorney when disclosures have been made as required by the rule.
- The disclosures will inform the court's consideration of limitations and restrictions on expert evidence.[19]
- The disclosures will compel the proponent of an expert to be prepared for trial. Because the proponent must disclose all opinions to be expressed and their bases, surprise at trial will be eliminated, the opponent's trial preparation will be improved, and cross-examination will be more effective and efficient.
- The disclosures will aid in identifying evidentiary issues early so that they can be resolved in advance of trial.
- The disclosures may encourage early settlement.

It is advisable for the court to impress on counsel the seriousness of the disclosure requirement. Counsel should know that opinions and supporting facts not included in the disclosure may be excluded at trial, even if they were testified to on deposition. Also, Rule 26(a)(2)(B) requires disclosure not only of the data and materials on which the expert relied but also those that the expert "considered . . . in forming the opinions." Litigants may therefore no longer assume that materials furnished to an expert by counsel or the party will be protected from discovery.[20] Destruction of materials furnished to or produced by an expert in the course of the litigation—such as test results, correspondence, or draft memoranda—may lead to evidentiary or other sanctions.[21] In addition, under the rule, an expert's disclosure must be supplemented if it turns out that any information disclosed was, or has become, incomplete or incorrect.[22] Failure of

18. *See supra* § II.B.

19. *See supra* § II.D.

20. Fed. R. Civ. P. 26(a)(2)(B) advisory committee's note. Courts are divided on the extent to which they require disclosure of attorney work product provided to a testifying expert. *Compare* Karn v. Ingersoll-Rand Co., 168 F.R.D. 633, 639 (N.D. Ind. 1996) (holding that work-product protection does not apply to documents related to the subject matter of litigation provided by counsel to testifying experts), *with* Magee v. Paul Revere Life Ins. Co., 172 F.R.D. 627, 642 (E.D.N.Y. 1997) (holding that "data or other information" considered by the expert, which is subject to disclosure, includes only factual materials and not core attorney work product considered by the expert).

21. Schmid v. Milwaukee Elec. Tool Corp., 13 F.3d 76, 81 (3d Cir. 1994) (sanctions for spoilation of evidence arising from inspection by an expert must be commensurate with the fault and prejudice arising in the case).

22. Fed. R. Civ. P. 26(e)(1).

a party to comply with the disclosure rules may lead to exclusion of the expert's testimony at trial, unless such failure is harmless.[23]

2. Discovery of nontestifying experts

Under Federal Rule of Civil Procedure 26(b)(4)(B), the court may permit discovery by interrogatory or deposition of consulting nontestifying experts "upon a showing of exceptional circumstances under which it is impracticable for the party seeking discovery to obtain facts or opinions on the same subject by other means." Exceptional circumstances may exist where a party has conducted destructive testing, the results of which may be material, or where the opponent has retained all qualified experts. However, in the absence of such circumstances, a party should not be penalized for having sought expert assistance early in the litigation, and its opponent should not benefit from its diligence.

3. Discovery of nonretained experts

Parties may seek the opinions and expertise of persons not retained in the litigation. However, Federal Rule of Civil Procedure 45(c)(3)(B)(ii) authorizes the court to quash a subpoena requiring "disclosure of an unretained expert's opinion or information not describing specific events or occurrences in dispute and resulting from the expert's study made not at the request of any party." In ruling on such a motion to quash, the court should consider whether the party seeking discovery has shown a substantial need that cannot be otherwise met without undue hardship and will reasonably compensate the subpoenaed person, and it may impose appropriate conditions on discovery.[24]

23. *See, e.g.,* Coastal Fuels, Inc. v. Caribbean Petroleum Corp., 79 F.3d 182, 202–03 (1st Cir. 1996) (finding no abuse of discretion in district court's exclusion of expert testimony in price discrimination and monopolization case where party failed to produce expert report in accordance with the court's scheduling order); Newman v. GHS Osteopathic, Inc., 60 F.3d 153, 156 (3d Cir. 1995) (finding no abuse of discretion where district court refused to preclude expert testimony of two witnesses who were not named in Rule 26 disclosures and whose reports were not provided pursuant to Rule 26(a)(2)(B)). Appellate courts seem cautious about precluding expert testimony where such testimony is an essential element of the case. *See* Freeland v. Amigo, 103 F.3d 1271, 1276 (6th Cir. 1997) (district court abused its discretion by precluding expert testimony in a medical malpractice case as a sanction for failing to comply with a pretrial order setting the deadline for discovery where such preclusion would amount to a dismissal of the case).

24. The advisory committee's note points out that this provision was intended to protect the intellectual property of nonretained experts:

> The rule establishes the right of such persons to withhold their expertise, at least unless the party seeking it makes the kind of showing required for a conditional denial of a motion to quash . . . ; that requirement is the same as that necessary to secure work product under Rule 26(b)(3) and gives assurance of reasonable compensation.

Fed. R. Civ. P. 45(c)(3)(B)(ii) advisory committee's note. For a discussion of issues arising with a subpoena for research data from unretained scholars, see *In re American Tobacco Co.,* 880 F.2d 1520, 1527 (2d Cir. 1989); *see also* Paul D. Carrington & Traci L. Jones, *Reluctant Experts*, Law & Contemp. Probs., Summer 1996, at 51; Mark Labaton, Note, *Discovery and Testimony of Unretained Experts*, 1987

4. Discovery of court-appointed experts

Federal Rule of Evidence 706 contemplates that the deposition of a court-appointed expert witness may be taken by any party. Technical advisors or other nontestifying experts appointed under the inherent authority of the courts are not necessarily subject to the discovery requirements of Rule 706, permitting the court greater discretion in structuring the terms and conditions for access to such experts for discovery. The extent of discovery should be covered in the order appointing the expert.[25]

5. Use of videotaped depositions

Videotaping expert dispositions is particularly appropriate for several reasons: it preserves the testimony of an expert who may be unavailable for trial or whose testimony may be used in more than one trial or in different phases of a single trial; it permits demonstrations, say, of tests or of large machinery, not feasible in the courtroom; and it provides a more lively and interesting presentation than reading of a transcript at trial. Federal Rule of Civil Procedure 30(b)(2) permits a party to designate videotaping of a deposition unless otherwise ordered by the court. Where videotape is to be used, however, the ground rules should be established in advance, such as the placement and operation of the camera, off-camera breaks, lighting, procedures for objections, and review in advance of use at trial.[26]

B. Protective Orders and Confidentiality

Under Federal Rule of Civil Procedure 26(c), the court has broad discretion on good cause shown to issue protective orders barring disclosure or discovery or permitting it only on specified conditions. A motion for a protective order by a party or person from whom discovery is sought should be considered only after the parties have conferred and attempted in good faith to resolve the dispute. The rule specifically permits orders for the protection of trade secrets or other confidential information.[27] The court may order a deposition to be sealed and prohibit disclosure of its contents by the parties. Where the response to discovery may cause a party to incur substantial costs, the court may condition compliance on the payment of costs by the requesting parties.[28]

Protective orders are widely used in litigation involving technical and scientific subject matter, sometimes indiscriminately. Parties often stipulate to um-

Duke L.J. 140; Richard L. Marcus, *Discovery Along the Litigation/Science Interface*, 57 Brook. L. Rev. 381 (1991).

25. *See infra* § VII.A.

26. *See* William W Schwarzer et al., Civil Discovery and Mandatory Disclosure: A Guide to Efficient Practice 3-16 to 3-17, app. 2 Form 2.9 (2d ed. 1994).

27. Fed. R. Civ. P. 26(c)(7).

28. MCL 3d, *supra* note 4, § 21.433.

brella protective orders.[29] Many courts, however, will not enter protective orders without specific findings warranting their entry and will not enforce stipulated orders.[30]

Issues frequently arise concerning third-party access to protected material. Information subject to a protective order in a case may be sought by parties in other litigation, by the media, or by other interested persons or organizations. Nonparties may request the terms of a confidential settlement. State and federal laws may also define rights of access to such information. Parties should therefore be aware that issuance of a protective order will not necessarily maintain the confidentiality of the information. Where a sweeping protective order has been entered, the process of segregating protected and nonprotected information when access to it is sought may be time-consuming and expensive. Filings submitted under seal with or without stipulation will not be protected from disclosure to third parties in the absence of a proper order. The parties may bind each other to limit disclosure of such materials, but the materials are not protected against subpoena.

IV. Motion Practice

A. Motions In Limine

Objections to expert evidence relating to admissibility, qualifications of a witness, or existence of a privilege should be raised and decided in advance of trial whenever possible.[31] Exclusion of evidence may in some cases remove an essential element of a party's proof, providing the basis for summary judgment. In other cases, the ruling on an objection may permit the proponent to cure a technical deficiency before trial, such as clarifying an expert's qualifications. Motions in limine may also deal with such matters as potential prejudicial evidence or arguments at trial and the presence of witnesses in the courtroom.

After the *Daubert* and *Kumho* decisions, motions in limine under Federal Rule of Evidence 104(a) have gained new importance in implementing the court's gatekeeping role. The rule does not require the court to hold a hearing on such a motion, but where the ruling on expert evidence is likely to have a substantial effect with respect to the merits of claims or defenses, a hearing is advisable. The court has broad discretion to determine what briefing and evidentiary proceed-

29. *In re* "Agent Orange" Prod. Liab. Litig., 104 F.R.D. 559, 568–70 (E.D.N.Y. 1985), *aff'd*, 821 F.2d 139 (2d Cir.), *cert. denied*, 484 U.S. 953 (1987).

30. *See* Citizens First Nat'l Bank v. Cincinnati Ins. Co., 178 F.3d 943, 945 (7th Cir. 1999).

31. *See* Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 592–93 (1993) (before admitting expert testimony, the trial court must make a "preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid").

ings are needed for it to rule on admissibility of expert evidence.[32] When a hearing is held, it is important that its limits be well defined and its progress carefully controlled; such hearings have been known to take on a life of their own, resulting in a lengthy but unnecessary preview of the trial.

In limine motions should be scheduled sufficiently in advance of trial so that their disposition will assist the parties in preparing for trial and facilitate settlement negotiations. Resolving motions concerning damage claims may be particularly helpful in bringing about a settlement. Rulings on in limine motions should be by written order or on the record, stating specifically the effect of the ruling and the grounds for it. The court should clearly indicate whether the ruling is final or might be revisited at trial. Parties are entitled to know whether they have preserved the issue for appeal or whether an offer or objection at trial is necessary. If the court considers that the ruling might be affected by evidence received at trial, it should so indicate.[33]

B. Summary Judgment

When expert evidence offered to meet an essential element of a party's case is excluded, the ruling may be a basis for summary judgment. Summary judgment motions will therefore frequently be combined with Federal Rule of Evidence 104(a) motions in limine. The issues determinative of admissibility under Rule 104(a), however, will not necessarily be dispositive of the issues under Federal Rule of Civil Procedure 56 (i.e., the absence of a genuine issue of material fact) although they may lay the foundation for summary judgment. It is advisable for

32. There is no general requirement to hold an in limine hearing to consider the admissibility of expert testimony. Kumho Tire Co. v. Carmichael, 119 S. Ct. 1167, 1176 (1999) ("[The abuse of discretion] standard applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Otherwise, the trial judge would lack the discretionary authority needed both to avoid unnecessary 'reliability' proceedings in ordinary cases where the reliability of an expert's methods is properly taken for granted, and to require appropriate proceedings in the less usual or more complex cases where cause for questioning the expert's reliability arises."); Kirstein v. Parks Corp., 159 F.3d 1065, 1067 (7th Cir. 1998) (finding an adequate basis for determining admissibility of expert evidence without a hearing).

33. *See In re* Paoli R.R. Yard PCB Litig., 916 F.2d 829, 837, 854–55 (3d Cir. 1990) (proponent of expert witness entitled to notice of grounds for exclusion and opportunity to remedy deficiency). *See also* Padillas v. Stork-Gamco, Inc., 186 F.3d 412, 418 (3d Cir. 1999) (court abused its discretion in entering summary judgment after excluding expert evidence without holding an in limine hearing to consider shortcomings of the expert's report); Hall v. Baxter Healthcare Corp., 947 F. Supp. 1387, 1392–95 (D. Or. 1996) (convening Rule 104(a) hearing to determine admissibility of evidence of harmful effects of silicone gel breast implants); Margaret A. Berger, *Procedural Paradigms for Applying the* Daubert *Test,* 78 Minn. L. Rev. 1345, 1380–81 (1994) (calling for fully developed record in challenges to scientific evidence to permit a basis for trial court ruling on summary judgment motion and for appellate court review). The Judicial Conference of the United States has approved a proposed amendment to Fed. R. Evid. 103(a) which, if enacted, would preserve a claim of error for appeal once the court makes a definitive ruling on the record admitting or excluding evidence either at or before trial without the party's renewing the objection.

the court to discuss with counsel their intentions with respect to such motions at an early Rule 16 conference and to consider whether there are likely to be grounds for a meritorious motion.[34] In the course of issue identification, issues may be found that are appropriate for summary judgment motions, where, for example, it appears that a critical element in a party's case is missing[35] or where evidence is too conclusory to raise a genuine issue of fact.[36] At the same time, the court may rule out filing of proposed motions where triable issues appear to be present; voluminous and complex motions unlikely to succeed simply delay the litigation and impose unjustified burdens on the court and parties.[37] It may be possible to focus early discovery on evidence critical to whether a motion for summary judgment can succeed. The court should also address timing of the motions; those made before the necessary discovery has been taken will be premature, whereas those delayed until the eve of trial will invite unnecessary pretrial activity.

Declarations filed in opposition to a motion for summary judgment must present specific facts that would be admissible in evidence at trial and that show the existence of a genuine issue for trial.[38] Although an expert at trial is permitted to state an opinion without first testifying to the underlying data, leaving it to cross-examination to bring out the data,[39] a declaration containing a mere conclusory statement of opinion by an expert unsupported by facts does not suffice to raise a triable issue.[40] The issue of the sufficiency of an expert's decla-

34. *See* Fed. R. Civ. P. 16(c)(5).

35. *See* Celotex Corp. v. Catrett, 477 U.S. 317 (1986).

36. Weigel v. Target Stores, 122 F.3d 461, 469 (7th Cir. 1997) ("[A] party cannot assure himself of a trial merely by trotting out in response to a motion for summary judgment his expert's naked conclusion about the ultimate issue. . . . The fact that a party opposing summary judgment has some admissible evidence does not preclude summary judgment. We and other courts have so held with specific reference to an expert's conclusional statements. . . . The Federal Rules of Evidence permit 'experts to present naked opinions,' but 'admissibility does not imply utility. . . . An expert who supplies nothing but a bottom line supplies nothing of value to the judicial process,' and his 'naked opinion' does not preclude summary judgment." (quoting American Int'l Adjustment Co. v. Galvin, 86 F.3d 1455, 1464 (7th Cir. 1996) (Posner, C.J., dissenting))). Parties must be given an adequate opportunity for discovery to develop the evidence necessary to oppose a summary judgment motion. *See Celotex,* 477 U.S. at 322 (the opponent of the motion is entitled to "adequate time for discovery" needed to oppose the motion); William W Schwarzer & Alan Hirsch, *Summary Judgment After* Eastman Kodak, 45 Hastings L.J. 1, 17 (1993). The disclosures required under Fed. R. Civ. P. 26(a)(2) should help in developing an adequate record.

37. *See generally* Berger, *supra* note 33; Edward Brunet, *The Use and Misuse of Expert Testimony in Summary Judgment,* 22 U.C. Davis L. Rev. 93 (1988).

38. *See* Fed. R. Civ. P. 56(e).

39. According to the advisory committee's note, Federal Rule of Evidence 705, as amended in 1993, permits an expert to testify "in terms of opinion or inference and [to] give reasons therefor without first testifying to the underlying facts or data, unless the court requires otherwise." The purpose of the rule is to eliminate the much criticized practice of asking experts hypothetical questions, leaving it to cross-examination at trial to bring out relevant facts. Fed. R. Evid. 705 advisory committee's note.

40. *See* Mendes-Silva v. United States, 980 F.2d 1482, 1488 (D.C. Cir. 1993); First United Fin.

ration is logically intertwined with the issue of the admissibility of the expert's testimony at trial. Thus, it makes sense, as noted above, to combine the Rule 104(a) and Rule 56 proceedings.

V. The Final Pretrial Conference

The final pretrial conference will benefit from the process of framing the issues and defining the structure of the case, begun in earlier Rule 16 conferences. The goal of the final pretrial conference is to formulate the plan for trial, including a program for facilitating the admission of evidence. Pending objections, to the extent they can be resolved prior to trial, should be ruled on, by motions in limine or otherwise.[41] Issues should at this point be defined with precision and finality. Efforts should be made to arrive at stipulations of facts and other matters to streamline the trial. To aid in this process, the court may consider a number of techniques with respect to expert evidence:

1. Direct the parties to submit statements identifying the parts of the opposing experts' reports that are in dispute and those that are not.
2. Direct the parties to have the experts submit a joint statement specifying the matters on which they disagree and the bases for each disagreement.
3. Direct the parties to have the experts attend the pretrial conference to facilitate identification of the issues remaining in dispute.
4. Clear all exhibits and demonstrations to be offered by experts at trial, such as films, videos, simulations, or models; opposing parties should have a full opportunity to review them in advance of trial and raise any objections.
5. Encourage cooperation in presenting scientific or technical evidence, such as joint use of courtroom electronics, stipulated models, charts or displays, tutorials, and a glossary of technical terms for the court and jury.
6. Encourage stipulations on relevant background facts and other noncontroverted matters.

The parties should be directed to submit a joint pretrial order, stating the legal and factual issues to be tried; the witnesses and the substance of each witness's testimony; and the exhibits to be offered, which should be marked for identifi-

Corp. v. United States Fidelity & Guar. Co., 96 F.3d 135, 140–41 (5th Cir. 1996) (expert affidavits should include some indication of the reasoning process underlying the expert's opinion); *but see* Bulthuis v. Rexall Corp., 789 F.2d 1315, 1316–17 (9th Cir. 1985) (per curiam) (holding that expert opinion is admissible and may defeat a summary judgment motion if it appears that the affiant is competent to give expert opinion and the factual basis for the opinion is stated in the affidavit, even though the underlying factual details and reasoning upon which the opinion is based are not).

41. Fed. R. Civ. P. 16(d). *See also supra* § IV.A.

cation. The order should incorporate all pretrial rulings of the court, any rulings excluding particular evidence or issues, and any other matters affecting the course of the trial. The parties should understand that the order will control the subsequent course of the action and will be modified only to prevent manifest injustice.[42]

VI. The Trial

Trials involving scientific or technical evidence present particular challenges to the judge and jurors to understand the subject matter and make informed decisions. Various techniques have been used to facilitate presentation of such cases and enhance comprehension.[43] The use of such techniques should be explored at the pretrial conference. Following is a summary of techniques that, singly or in combination, are worthy of consideration.

A. Structuring the Trial

One of the main obstacles to comprehension is a trial of excessive length. Steps should be taken to limit the trial's length by limiting the scope of the issues, the number of witnesses and the amount of evidence, and the time for each side to conduct direct examination and cross-examination. Some cases can be bifurcated, and some may be segmented by issues so that the jury retires at the conclusion of the evidence on each issue to deliberate on a special verdict.[44] Such sequential approaches to the presentation of a case to the jury may be useful for the trial of severable issues, such as punitive damages, general causation, exposure to a product, and certain affirmative defenses. The drawback of such approaches is that they make it more difficult to predict for the jurors how long the trial will last.

B. Jury Management

Steps should be taken to lighten the jurors' task, such as giving preliminary instructions that explain what the case is about and what issues the jury will have to decide; permitting jurors to take notes; and giving jurors notebooks with key exhibits, glossaries, stipulations, lists of witnesses, and time lines or chronologies. Some judges have found that permitting jurors to ask questions, usually submitted through the court, can be helpful to the attorneys by disclosing when jurors

42. Fed. R. Civ. P. 16(e).

43. *See generally* MCL 3d, *supra* note 4, §§ 21.6, 22.2–22.4; William W Schwarzer, *Reforming Jury Trials,* 1990 U. Chi. Legal F. 119.

44. *See* Fed. R. Civ. P. 42(b).

are confused. Some judges have found interim summations (or interim opening statements) helpful to juror comprehension; attorneys are allotted a certain amount of time to introduce witnesses from time to time and point out the expected significance of their testimony (e.g., "The next witness will be Dr. X, who will explain how the fracture should have been set. Pay particular attention to how he explains the proper use of screws.").

C. Expert Testimony

Some judges have found it helpful to ask a neutral expert to present a tutorial for the judge and jury before the presentation of expert evidence at trial begins, outlining the fundamentals of the relevant science or technology without touching on disputed issues. Consideration should also be given to having the parties' experts testify back-to-back at trial so that jurors can get the complete picture of a particular issue at one time rather than getting bits and pieces at various times during the trial.

D. Presentation of Evidence

Various technologies are available to facilitate presentation of exhibits. Some are computer-based and some simply facilitate projection of documents on a screen, which allows all jurors to follow testimony about a document. Where voluminous data are presented, summaries should be used; stipulated summaries of depositions in lieu of a reading of the transcript are helpful. Charts, models, pictures, videos, and demonstrations can all assist comprehension.

E. Making It Clear and Simple

Attorneys and witnesses in scientific and technological cases tend to succumb to use of the jargon of the discipline, which is a foreign language to others. From the outset the court should insist that the attorneys and the witnesses use plain English to describe the subject matter and present evidence so that it can be understood by laypersons. They will need to be reminded from time to time that they are not talking to each other, but are there to communicate with the jury and the judge.

VII. Use of Court-Appointed Experts and Special Masters

A. Court-Appointed Experts[45]

Two principal sources of authority permit a court to appoint an expert, each envisioning a somewhat different role for the appointed expert. Appointment under Federal Rule of Evidence 706 anticipates that the appointed expert will function as a testifying witness; the structure, language, and procedures of Rule 706 specifically contemplate the use of appointed experts to present evidence to the trier of fact. The rule specifies a set of procedures governing the process of appointment, the assignment of duties, the reporting of findings, testimony, and compensation of experts. The trial court has broad discretion in deciding whether to appoint a Rule 706 expert on its own motion or on the motion of a party.

Supplementing the authority of Rule 706 is the broader inherent authority of the court to appoint experts who are necessary to enable the court to carry out its duties. This includes authority to appoint a "technical advisor" to consult with the judge during the decision-making process.[46] The role of the technical advisor, as the name implies, is to give advice to the judge, not to give evidence and not to decide the case.[47] A striking exercise of this broader authority involves appointing a technical advisor to confer in chambers with the judge regarding the evidence. Although few cases deal with the inherent power of a court to appoint a technical advisor, the power to appoint remains virtually undisputed.[48] Generally, a district court has discretion to appoint a technical

45. Portions of this discussion of the use of court-appointed experts are adapted from the chapter on this topic by Joe S. Cecil and Thomas E. Willging that appeared in the first edition of this manual. The most complete treatment of the research on which this discussion is based is presented in Joe S. Cecil & Thomas E. Willging, *Accepting* Daubert's *Invitation: Defining a Role for Court-Appointed Experts in Assessing Scientific Validity*, 43 Emory L.J. 995 (1994). *See also* Ellen E. Deason, *Court-Appointed Expert Witnesses: Scientific Positivism Meets Bias and Deference*, 77 Or. L. Rev. 59 (1998); Karen Butler Reisinger, Note, *Court-Appointed Expert Panels: A Comparison of Two Models*, 32 Ind. L. Rev. 225 (1998).

46. *See generally In re* Peterson, 253 U.S. 300, 312 (1920) ("Courts have (at least in the absence of legislation to the contrary) inherent power to provide themselves with appropriate instruments required for the performance of their duties."); Reilly v. United States, 863 F.2d 149, 154 & n.4 (1st Cir. 1988) ("[S]uch power inheres generally in a district court. . . ."); Burton v. Sheheen, 793 F. Supp. 1329, 1339 (D.S.C. 1992) ("Confronted further with the unusual complexity and difficulty surrounding computer generated [legislative] redistricting plans and faced with the prospect of drawing and generating its own plan, the court appointed [name] as technical advisor to the court pursuant to the inherent discretion of the court . . . ."), *vacated on other grounds,* 508 U.S. 968 (1993).

47. *Reilly,* 863 F.2d at 157 ("Advisors . . . are not witnesses, and may not contribute evidence. Similarly, they are not judges, so they may not be allowed to usurp the judicial function."). *See also Burton,* 793 F. Supp. at 1339 n.25 ("[The advisor] was not appointed as an expert under Fed. R. Evid. 706 or [as] a special master under Fed. R. Civ. P. 53.").

48. In the words of the Advisory Committee on the Rules of Evidence, "[t]he inherent power of a trial judge to appoint an expert of his own choosing is virtually unquestioned." Fed. R. Evid. 706

advisor, but it is expected that such appointments will be "hen's-teeth rare," a "last" or "near-to-last resort."[49]

The silicone gel breast implants product liability litigation offers two examples of innovative uses of both kinds of court-appointed experts. In 1996 Chief Judge Sam Pointer, Jr., of the Northern District of Alabama, serving as transferee judge in a multidistrict litigation proceeding, appointed four scientists under authority of Rule 706 to serve on a panel of court-appointed experts.[50] Judge Pointer instructed the panel members to review the scientific literature and report whether it provided a scientific basis to conclude that silicone gel breast implants cause a number of diseases and symptoms.[51]

In a joint report in which separate chapters were authored by each of the experts, panel members concluded that the scientific literature provided no basis for such a conclusion. Following submission of their report, the panel members were subjected to discovery-type depositions and cross-examined by both sides. Then their "trial" testimony was taken in videotaped depositions over which Judge Pointer presided, and again they were cross-examined by both sides. When these cases are remanded, it is expected that these depositions will be usable—either as trial testimony or as evidence in pretrial *Daubert* hearings—in both federal district courts and state courts (as a result of cross-noticing or of conditions placed prior to ordering a remand). Having a single national panel should provide a more consistent foundation for resolving these questions, as well as eliminate the time and expense of multiple courts appointing experts.

Judge Robert E. Jones of the District of Oregon also appointed a panel of scientific experts to assist him in ruling on motions to exclude plaintiffs' expert testimony in seventy silicone gel breast implant products liability cases.[52] Judge Jones appointed these experts as "technical advisors," since they were to advise him regarding the extent to which the evidence was grounded in scientific

advisory committee's note; *see also* United States v. Green, 544 F.2d 138, 145 (3d Cir. 1976) ("[T]he inherent power of a trial judge to appoint an expert of his own choosing is clear."), *cert. denied,* 430 U.S. 910 (1977).

49. *Reilly*, 863 F.2d at 157. General factors that might justify an appointment are "problems of unusual difficulty, sophistication, and complexity, involving something well beyond the regular questions of fact and law with which judges must routinely grapple." *Id*.

50. *In re* Silicone Gel Breast Implant Prods. Liab. Litig., Order 31 (N.D. Ala. May 30, 1996) (MDL No. 926) (visited Mar. 20, 2000) <http://www.fjc.gov/BREIMLIT/ORDERS/orders.htm>. Judge Pointer's appointment of a national panel of experts grew out of actions to establish similar panels in local litigation taken by Judge Jack B. Weinstein of the Eastern District of New York and Judge Robert E. Jones of the District of Oregon. *See generally* Reisinger, *supra* note 45, at 252–55.

51. *In re* Silicone Gel Breast Implant Prods. Liab. Litig., Order 31e (N.D. Ala. Oct. 31, 1996) (MDL No. 926) (visited Mar. 20, 2000) <http://www.fjc.gov/BREIMLIT/ORDERS/orders.htm>. Judge Pointer also directed the national panel to inform the court about whether reasonable scientists might disagree with the panel's conclusions. *Id*.

52. Reisinger, *supra* note 45, at 252–55. These seventy cases were among the first remanded for trial by Judge Pointer as part of the multidistrict litigation proceeding.

methodology as part of a pretrial evidentiary proceeding.[53] After considering the reports of the experts, Judge Jones granted the defendants' motions in limine to exclude the plaintiffs' scientific evidence of a link between silicone gel breast implants and autoimmune disorders or atypical connective tissue disease, finding that the proffered evidence did not meet acceptable standards of scientific validity.[54]

To be effective, use of court-appointed experts must be grounded in a pretrial procedure that enables a judge to anticipate problems in expert testimony and to initiate the appointment process in a timely manner. The pretrial process described in this chapter, which permits narrowing of disputed issues and preliminary screening of expert evidence, should give judges an early indication of the need for court-appointed experts. Interviews with judges who have appointed experts suggest that the need for such appointments will be infrequent and will be characterized by evidence that is particularly difficult to comprehend, or by a failure of the adversarial system to provide the information necessary to sort through the conflicting claims and interpretations. Appointing an expert increases the burden on the judge, increases the expense to the parties, and raises unique problems concerning the presentation of evidence. These added costs will be worth enduring only if the information provided by the expert is critical to the resolution of the disputed issues.

The judge will most likely have to initiate the appointment process. The parties frequently will not raise this possibility on their own. One authority has suggested that identification of the need for a neutral expert should begin at a pretrial conference held pursuant to Federal Rule of Civil Procedure 16.[55] The court can initiate the appointment process on its own by entering an order to show cause why an expert witness or witnesses should not be appointed.[56]

In responding to the order, parties should address a number of issues that may prove troublesome as the appointment process proceeds. Parties should be asked

53. Hall v. Baxter Healthcare Corp., 947 F. Supp. 1387, 1392 (D. Or. 1996). In response to a plaintiff's motion following the evidentiary hearing, Judge Jones informally amended the procedure to include providing a number of procedural safeguards mentioned in Rule 706 of the Federal Rules of Evidence. Among the changes, he agreed to provide a written charge to the technical advisors, to communicate with the advisors on the record, and to allow the attorneys a limited opportunity to question the advisors regarding the contents of their reports. *Id.* at 1392–94.

54. *Id.* at 1394.

55. Jack B. Weinstein & Margaret A. Berger, Weinstein's Evidence: Commentary on Rules of Evidence for the United States Courts and Magistrates ¶ 706[02], at 706-14 to -15 (1994). Although Rule 16 of the Federal Rules of Civil Procedure does not specifically refer to court appointment of experts, subsection (c)(12) does call for consideration of "the need for adopting special procedures for managing potentially difficult . . . actions that may involve complex issues . . . or unusual proof problems." Fed. R. Civ. P. 16(c)(12).

56. Fed. R. Evid. 706(a). *See also In re* Joint E. & S. Dists. Asbestos Litig., 830 F. Supp. 686, 694 (E.D.N.Y. 1993) (parties are entitled to be notified of the court's intention to use an appointed expert and be given an opportunity to review the expert's qualifications and work in advance).

to nominate candidates for the appointment and give guidance concerning characteristics of suitable candidates. No person should be nominated who has not previously consented to it and undergone a preliminary screening for conflicts of interest. Candidates for appointment should make full disclosure of all engagements (formal or informal), publications, statements, or associations that could create an appearance of partiality. Encouraging both parties to create a list of candidates and permitting the parties to strike nominees from each other's list will increase party involvement and expand the list of acceptable candidates. Judges may also turn to academic departments and professional organizations as a source of expertise.[57]

Compensation of the expert also should be discussed with the parties during initial communications concerning the appointment. Normally public funds will not be available to compensate court-appointed experts. Unless the expert is to testify in a criminal case or a land condemnation case, the judge should inform the parties that they must compensate the appointed expert for his or her services.[58] Typically each party pays half of the expense, and the prevailing party is reimbursed by the losing party at the conclusion of the litigation. Raising this issue at the outset will indicate that the court seriously intends to pursue an appointment and may help avoid subsequent objections to compensation. Judges occasionally appoint experts over the objections of a party. If, however, difficulty in securing compensation is anticipated, the parties may be ordered to contribute a portion of the expected expense to an escrow account prior to the selection of the expert. Objections to payment should be less likely to impede the work of the expert once the appointment is made.

The court should make clear in its initial communications the anticipated procedure for interaction with the expert. If ex parte communication between the court and the expert is expected, the court should outline the specific nature of such communications, the extent to which the parties will be informed of the content of such communications, and the parties' opportunities to respond.[59]

57. The American Association for the Advancement of Science (AAAS) will aid federal judges in finding scientists and engineers suitable for appointment in specific cases. Information on the AAAS program can be found at Court-Appointed Experts: A Demonstration Project of the AAAS (visited Mar. 20, 2000) <http://www.aaas.org/spp/case/case.htm>. The Private Adjudication Center at Duke University is establishing a registry of independent scientific and technical experts who are willing to provide advice to courts or serve as court-appointed experts. Letter from Corinne A. Houpt, Registry Project Director, to Judge Rya W. Zobel, Director, Federal Judicial Center (Dec. 29, 1998) (on file with the Research Division of the Federal Judicial Center). Information on the Private Adjudication Center program can be found at Registry of Independent Scientific and Technical Advisors (visited Mar. 20, 2000) <http://www.law.duke.edu/pac/registry/index.html>.

58. Fed. R. Evid. 706(b). The Criminal Justice Act authorizes payment of experts' expenses when such assistance is needed for effective representation of indigent individuals in federal criminal proceedings. 18 U.S.C. § 3006A(e) (1988).

59. *See, e.g.,* Edgar v. K.L., 93 F.3d 256, 259 (7th Cir. 1996) (per curiam) (ordering disqualification

This initial communication may be the best opportunity to raise such considerations, entertain objections, and inform the parties of the court's expectations of the practices to be followed regarding the appointed expert.[60]

The court's appointment of an expert should be memorialized by entry of a formal order, after the parties are given an opportunity to comment on it. The following is a checklist of matters that should be addressed in connection with such an order.

1. the authority under which it is issued;
2. the name, address, and affiliation of the expert;
3. the specific tasks assigned to the expert (to submit a report, to testify at trial, to advise the court, to prepare proposed findings, etc.);
4. the subject on which the expert is to express opinions;
5. the amount or rate of compensation and the source of funds;
6. the terms for conducting discovery of the expert;
7. whether the parties may have informal access to the expert; and
8. whether the expert may have informal communications with the court, and whether they must be disclosed to the parties.

Some experts are professionals in this area; others are new to it. The court should consider providing experts with instructions describing what they can expect in court proceedings and what are permissible and impermissible contacts and relationships with litigants and other experts.[61]

B. Special Masters[62]

Special masters are appointed by courts that require particular expertise and skill to assist in some phase of litigation. The kind of person to be appointed depends on the particular expertise and skill required for the assigned task. For example, experienced attorneys, retired judges, law professors, and magistrates[63] have been appointed as special masters to supervise discovery, resolve disputes, and manage other parts of the pretrial phase of complex litigation. Persons with technical or scientific skills have been appointed as special masters to assist the court in litiga-

of a judge based on the judge's meeting ex parte with a panel of court-appointed experts to discuss the merits of the panel's conclusions).

60. For more detailed guidance with respect to the appointment and use of such experts, see Cecil & Willging, *supra* note 45.

61. *In re* Silicone Gel Breast Implant Prods. Liab. Litig., Order 31 (N.D. Ala. May 30, 1996) (visited Mar. 20, 2000) <http://www.fjc.gov/BREIMLIT/ORDERS/orders.htm>.

62. Portions of this discussion of the use of special masters are adapted from the chapter on this topic by Margaret G. Farrell that appeared in the first edition of this manual. The most complete treatment of the research on which this discussion is based is presented in Margaret G. Farrell, *Coping with Scientific Evidence: The Use of Special Masters,* 43 Emory L.J. 927 (1994).

63. 28 U.S.C. § 636(b)(2) (1988). If the parties do not consent, the appointment of a magistrate judge must meet the standards of Federal Rule of Civil Procedure 53.

tion involving difficult subject matter. When a special master is assisting with fact-finding, his or her duties must be structured so as to not intrude on the judge's authority to adjudicate the merits of the case.[64] In such instances, certain narrowly circumscribed tasks might be performed by special masters, such as assembling, collating, or analyzing information supplied by the parties.[65]

Authority for the appointment of special masters derives from two sources. Rule 53 of the Federal Rules of Civil Procedure is the most commonly cited authority.[66] Under that rule a special master may be appointed in actions to be tried by a jury only where the issues are complicated. In cases destined for bench trial, a special master may be appointed "only upon a showing that some exceptional condition requires it."[67] Calendar congestion or the judge's caseload burden will not support such a showing.[68] Courts have laid down strict limitations to preclude special masters from performing judicial functions, such as deciding substantive motions or making other dispositive rulings.[69] Alternatively, courts sometimes rely on their inherent authority when they appoint special masters to perform nonadjudicative duties that often arise in the pretrial and post-trial process, thereby avoiding the restrictions of Rule 53.[70]

Special masters have been helpful in dealing with scientific and technical evidence in a number of ways.[71] For example, special masters have been used to

64. *See* La Buy v. Howes Leather Co., 352 U.S. 249, 256–59 (1957).

65. *See* Wayne D. Brazil, *Special Masters in the Pretrial Development of Big Cases: Potential and Problems, in* Managing Complex Litigation: A Practical Guide to the Use of Special Masters 1, 6–10 (Wayne D. Brazil et al. eds., 1983).

66. Fed. R. Civ. P. 53(b). A judge may appoint a special master to try a Title VII employment discrimination case without regard to the requirements of Rule 53 if the judge is unable to hear the case within 120 days. 42 U.S.C. § 2000e-5(f)(5) (1988). The Advisory Committee on Civil Rules is currently considering a revision of Rule 53 to take such recent innovations into account. *See generally* Edward H. Cooper, *Civil Rule 53: An Enabling Act Challenge,* 76 Tex. L. Rev. 1607 (1998).

67. Fed. R. Civ. P. 53(b).

68. *La Buy,* 352 U.S. at 256–59.

69. *See, e.g.,* United States v. Microsoft Corp., 147 F.3d 935, 956 (D.C. Cir. 1998) (appointment of a special master to review government's motion for a permanent injunction was "in effect the imposition on the parties of a surrogate judge and either a clear abuse of discretion or an exercise of wholly non-existent discretion").

70. As with court-appointed experts, the inherent authority of a judge to appoint a special master to assist in performing nonadjudicatory duties in complex litigation is virtually undisputed. *See supra* notes 46–48 and accompanying text. Courts have inherent power to provide themselves with appropriate instruments for the performance of their duties; this power includes the authority to appoint persons unconnected with the court, such as special masters, auditors, examiners, and commissioners, with or without consent of the parties, to simplify and clarify issues and to make tentative findings. *In re* Peterson, 253 U.S. 300, 312–14 (1920); Reilly v. United States, 863 F.2d 149, 154–55 & n.4 (1st Cir. 1988). *See, e.g.,* Jenkins v. Missouri, 890 F.2d 65, 67–68 (8th Cir. 1989) (court relied on inherent authority to appoint a committee of special masters to monitor implementation of court's order); United States v. Connecticut, 931 F. Supp. 974, 984–85 (D. Conn. 1996) (court relied on inherent authority to appoint special master to review aspects of care and treatment of residents covered by remedial order).

71. For more specific examples of the roles of special masters, see Farrell, *supra* note 62, at 952–67, and Cooper, *supra* note 66, at 1614–15.

make preliminary assessments of technical or scientific evidence offered by the parties,[72] and to identify and supervise court-appointed experts and technical advisors who offer guidance to the court in ruling on objections to evidence.[73] Special masters are sometimes used to tutor the fact finder—judge or jury—regarding technical issues in litigation, particularly patent controversies.[74] Special masters have been used to assess claims in multiparty litigation in order to facilitate settlement, sometimes in the context of a coordinated pretrial case-management plan.[75] Special masters also have been helpful in developing statistical strategies for evaluating multiple claims on a limited recovery fund.[76]

The wide-ranging tasks assigned to special masters raise a number of issues that a judge should consider at the time of the appointment,[77] including the following.

- *Selection.* A variety of skills may be necessary to perform the particular assigned tasks. For example, the "quasi-judicial" functions of special masters make retired judges, former magistrate judges, former hearing examiners, and attorneys good candidates for selection. However, when the assigned tasks require scientific or technical expertise, judges should look for a balance of legal experience and scientific and technical expertise of candidates.
- *Appointment.* Judges generally appoint special masters with the consent, or at least the acquiescence, of the parties. The appointment should be memo-

72. *In re* Repetitive Stress Injury Cases, 142 F.R.D. 584, 586–87 (E.D.N.Y. 1992) (magistrate judges were used to facilitate sharing of scientific and medical data and experts, thereby reducing redundant discovery requests), *appeal dismissed, order vacated sub nom. In re* Repetitive Stress Injury Litig., 11 F.3d 368 (2d Cir. 1993). *See also* Wayne D. Brazil, *Special Masters in Complex Cases*: *Extending the Jury or Reshaping Adjudication?,* 53 U. Chi. L. Rev. 394, 410–12 (1986).

73. *See, e.g.,* Brazil, *supra* note 72, at 410–12; Hall v. Baxter Healthcare Corp., 947 F. Supp. 1387, 1392 (D. Or. 1996) (special master was used to identify candidates to serve on a panel of court-appointed experts); Fox v. Bowen, 656 F. Supp. 1236, 1253–54 (D. Conn. 1986) (master would be appointed to hire experts and conduct studies necessary to the framing of a remedial order).

74. *See, e.g., In re* Newman, 763 F.2d 407, 409 (Fed. Cir. 1985).

75. *See, e.g., In re* Joint E. & S. Dists. Asbestos Litig., 737 F. Supp. 735, 737 (E.D.N.Y. 1990) (appointment of special master to facilitate settlement); *In re* DES Cases, 789 F. Supp. 552, 559 (E.D.N.Y. 1992) (mem.) (appointment of special master to facilitate settlement), *appeal dismissed sub nom. In re* DES Litig., 7 F.3d 20 (2d Cir. 1993). *See also* Francis E. McGovern, *Toward a Functional Approach for Managing Complex Litigation,* 53 U. Chi. L. Rev. 440, 459–64 (1986) (describing strategy of special master in bringing about settlement of dispute over fishing rights). The use of a special master may be considered at a pretrial conference. Fed. R. Civ. P. 16(c)(8). Such activities are also authorized by Rule 16(c)(9), permitting federal judges to "take appropriate action, with respect to . . . settlement and the use of special procedures to assist in resolving the dispute when authorized by statute or local rule . . . ." Fed. R. Civ. P. 16(c)(9).

76. Hilao v. Estate of Marcos, 103 F.3d 767 (9th Cir. 1996); Kane v. Johns-Manville Corp., 843 F.2d 636 (2d Cir. 1988). A.H. Robins Co. v. Piccinin, 788 F.2d 994 (4th Cir.), *cert. denied*, 479 U.S. 876 (1986). *In re* A.H. Robins Co., 880 F.2d 694 (4th Cir.), *cert. denied,* 493 U.S. 959 (1989). *See also* Sol Schreiber & Laura D. Weissbach, In re Estate of Ferdinand E. Marcos Human Rights Litigation: *A Personal Account of the Role of the Special Master,* 31 Loy. L.A. L. Rev. 475 (1998).

77. For a more extensive list of issues, see Farrell, *supra* note 62.

rialized by a formal order covering the same checklist of matters addressed in orders appointing court-appointed experts.[78]

- *Conflicts of interest.* Special masters are held to a high ethical standard and are subject to the conflict-of-interest standards of the *Code of Conduct for United States Judges*, particularly when they are performing duties that are functionally equivalent to those performed by a judge.[79] When the special master takes on multiple roles, the court should be aware of the possibility of inherent conflicts among the competing roles.
- *Ex parte communication.* Ex parte contact with the parties may be improper where the special master is involved in fact-finding.[80] Ex parte communication with the judge may also be problematic if the special master is to provide an independent assessment for consideration by the court, such as a report containing proposed findings of fact.[81]
- *Compensation.* Issues regarding compensation parallel those discussed earlier with regard to court-appointed experts.[82] It is advisable to include the terms of compensation (including the rate of compensation and the source of funds) in the order of appointment.

78. *See supra* § VII.A.

79. The *Code of Conduct for United States Judges* applies in part to special masters and commissioners, as indicated in the section titled "Compliance with the Code of Conduct." Committee on Codes of Conduct, Judicial Conf. of U.S., Code of Conduct for United States Judges 19–20 (Sept. 1999). Jenkins v. Sterlacci, 849 F.2d 627, 630 n.1 (D.C. Cir. 1988) ("[I]nsofar as special masters perform duties functionally equivalent to those performed by a judge, they must be held to the same standards as judges for purposes of disqualification."); *In re* Joint E. & S. Dists. Asbestos Litig., 737 F. Supp. 735, 739 (E.D.N.Y. 1990) ("In general a special master or referee should be considered a judge for purposes of judicial ethics rules.").

80. Farrell, *supra* note 62, at 977.

81. *Id.* at 979–80.

82. *See supra* note 58 and accompanying text.