

for some proportion of the disease in a given population. Eliminating one or more of these as a possible cause for a specific plaintiff's disease increases the probability that the agent in question was responsible for that plaintiff's disease. Courts frequently refer to the elimination of other known causes for a plaintiff by employing the medical terminology of "differential diagnosis." Assessing whether other causes can be ruled out (or in) as potential causes of a plaintiff's disease can provide probative evidence of specific causation. This technique is more accurately described as a "differential etiology." It is most useful when the causes of a substantial proportion of the disease are known. Then, the presence (or absence) of these causes for the specific plaintiff affects the probability that the agent in question caused the plaintiff's illness. When the causes of a disease are largely unknown, however, differential etiology is of little assistance. Evidence about biological mechanisms may also alter the likelihood that exposure to the substance caused plaintiff's disease, either by ruling out other known causes or by explaining why the suspected agent is a more likely cause of the disease than others.

For all of these reasons, any judicial requirement that plaintiffs must show a threshold increase in risk or a doubling in incidence in a group study in order to satisfy the burden of proof of specific causation is usually inappropriate. So long as there is adequate evidence of general causation, courts should permit the parties to attempt to show, based on the sorts of evidence described above, whether the plaintiff's disease was more likely than not caused by the agent. Depending on the other factors detailed above, an increase of the incidence of disease less than a doubling may be sufficient to support a finding of causation, while in another case, even an increased incidence greater than two may not be sufficient. When the sufficiency of the evidence to meet the burden of production is at issue, courts should consider all of the evidence that bears on the matters discussed above and determine whether, in light of the general standard for sufficiency discussed in Comment *b*, the evidence would permit a reasonable jury to find that plaintiff's disease more probably than not was caused by exposure to the agent.

In most instances, differential etiology is not an appropriate technique for proving general causation. Nevertheless, in some limited circumstances courts have found that plaintiffs met their burden of proof of agent-disease causation without separate proof of general causation. Factors such as a good biological-mechanism explanation of how the agent could have caused the plaintiff's disease, a differential etiology ruling out other known causes, a reasonable explanation for the lack of general-causation evidence (and no contrary evidence of an absence of general causation), a short latency period and acute response, and the appropriate disease response to dechallenge (removal from exposure) and rechallenge (reexposure) to the agent, if combined and consistent, provide a persuasive basis for excusing the plaintiff from providing other proof of general causation.

*(5) Multiple exposures and synergistic interactions.* In some cases, a person may be exposed to two or more toxic agents, each of which is known to be capable of causing (general causation) the person's disease. The two agents may operate independently, in which case the incidence of disease in a group exposed to both will be additive--the excess incidence due to the first agent along with the excess incidence due to the second agent. Cases such as these present a relatively straightforward application of the principles set forth in Comment *c(4)*. If the toxic agents are attributable to the tortious conduct of separate actors, courts then face the question whether to apply the rule developed for multiple exposures in asbestos cases. This rule permits finding each actor's asbestos products to which the person was exposed to be a factual cause of the person's disease. See § 27, Comment *g*. Alternatively, courts might employ the traditional rule, requiring proof of which of the multiple exposures was a cause of the harm. At least where the biological mechanism by which disease develops is unknown, the asbestos rule is quite analogous and attractive as a means for adapting proof requirements to the available scientific knowledge. Apportionment of liability among those actors held liable is based on the comparative-responsibility rules in Restatement Third, Torts: Apportionment of Liability §§ 1-25. The alternative--the more traditional requirement of proof of which of the two toxic exposures was *the* cause of the disease--would require proof that does not exist, except on a probabilistic basis, as outlined in Comment *c(4)*.