RECENT TRENDS IN TOXIC TORTS

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I. Introduction

A. The Shifting Landscape

The Louisiana Supreme Court defined circumstances allowing for an award of increased risk, mental anguish and stigma damages in a toxic tort case. It also revisited the viability of the significant tortious exposure theory for fixing the date of accrual for a cause of action in a long-latency occupational disease case. These cases are analyzed below in sections II and III. There continue to be cases of interest regarding *Daubert* and medical causation. And there were other cases, and some legislative enactments of interest. We'll review these areas and some miscellaneous matters.

B. Problems Unique to Toxic Torts

In the classic tort scenario involving trauma such as a car wreck or slip and fall, the plaintiff's cause of action arises at a fixed point in time that is sufficiently obvious to any reasonable person. Not necessarily so for toxic torts. The Louisiana Supreme Court has recognized that cases arising from long-term toxic exposures present difficulties in determining when an injured plaintiff's cause of action arises.[i] For example, consider a case involving tortious exposures over decades which are a substantial factor in causing a disabling medical condition many years later, ultimately resulting in death. The direct tort action and survival action may be decided by the applicable law existing at the time of the tortious exposures; the resulting wrongful death action may be governed by the law in effect at the time of death.[ii]

And if a plaintiff has experienced toxic insults over decades which ultimately disable him, his causes of action may be decided by different substantive rules which dramatically change over the years of his employment. For example, examine the issue of a defendant's liability as solidary or joint and divisible. If the plaintiff can prove a tortfeasor's conduct from years before 1987 was a substantial factor in causing his disease process, he can recover 100% of his damages against that defendant even if multiple tortfeasors contributed to his harm under the then-existing rule of solidary liability ("1% = 100%"). But for the same conduct from 1987 to 1996, the tortfeasor whose fault is quantified at less than 50% is only liable for 50% ("1% = 50%"), and for the same conduct from 1996 on, the tortfeasor is only liable for his allocated share ("1% = 1%"). When one begins to consider the application of strict liability, ultrahazardous activity, product liability, punitive damages, damages for inchoate harm, and other theories to a plaintiff's fact situation, it can quickly become a conceptual thicket. Let's examine some perspectives.

II. Damages Peculiar to a Toxic Tort Case

Tradition holds that a cause of action occurs when the victim suffers harm caused by the defendant's wrong. As referenced in the Introduction, harm, and when it occurs, is not always easy to determine in a toxic tort case. Harmful exposure to chemicals may take place immediately or over months, years or decades. And the effects of chemical exposure may manifest themselves only partially by the time plaintiff or his doctor suspects something is wrong. Further, the exposed plaintiff may fear future disease or have an increased risk of a disease not yet realized. These situations pose unique problems for plaintiffs and their attorneys.

Assume a plaintiff suffers a toxic insult invisible to the naked eye, but he or she is diagnosed with a present medical condition. Courts will allow a claim for past and future damages associated with the medical condition. A court may, depending upon the facts, allow recovery for medical monitoring and fear of cancer.

A. Medical Monitoring

In *Bourgeois v. A. P. Green Industries, Inc.*[iii] (*Bourgeois I*) the Louisiana Supreme Court held asymptomatic plaintiffs, who have had significant occupational exposure to asbestos may recover the costs of medical monitoring to detect the effects of that exposure if certain criteria are met. The court of appeal affirmed the trial court's finding that plaintiffs, who did not allege any present physical ailments attributable to asbestos exposure, failed to allege damage pursuant to Louisiana Civil Code Article 2315 and thus had no cause of action. The Supreme Court held that a plaintiff who can demonstrate a need for medical monitoring based on seven factors[iv] which provide "substantial evidentiary burdens" has suffered damage in the form of costs required to pay for this care, and thus remanded the case to permit plaintiffs the opportunity to amend their petition to allege facts sufficient to state a cause of action.[v] *Bourgeois I*[vi] shows that medical monitoring claims, along with increased risk claims, can accompany more traditional remedies as plaintiffs injured by toxins access our courts.[vii]

Courts have long recognized the right to be awarded damages for diagnostic testing, usually as an element of future medical damages, when trauma occurred and a physician testified it was recommended.[viii] Louisiana courts have also allowed medical monitoring damages in toxic suits, without holding medical monitoring was an independent legal right, when competent expert testimony has shown the plaintiff to be at an increased risk for contracting leukemia or cancer.[ix] In these cases, the plaintiffs had an underlying physical injury which accompanied the increased risk.

But what of the case where there is no present physical injury but an increased risk of disease or damage as a result of trauma or toxic exposure? This is what *Bourgeois I* addresses. The keystone case authorizing recovery for medical monitoring without physical injury is *Friends For All Children, Inc. v. Lockheed Aircraft Corp.*[x] The suit was filed on behalf of over 100 Vietnamese orphans who survived a plane crash and claimed neurological developmental disorders but displayed no symptoms of the disorder. The court recognized their increased risk of brain damage as a result of the crash created a need for diagnostic testing and approved the establishment of a fund for diagnostic testing. The court posed the

following hypothetical to illustrate the need for medical monitoring:

> "Jones is knocked down by a motorbike when Smith is riding through a red light. Jones lands on his head with some force . . . Jones enters a hospital where doctors recommend that he undergo a battery of tests to determine whether he has suffered any internal head injuries. The tests prove negative, but Jones sues Smith . . . for. . . the substantial cost of the diagnostic examinations. . . The motorbike rider, through his negligence, caused the plaintiff, in the opinion of medical experts, to need specific medical services . . .

The court reasoned that a plaintiff's liability for medical bills will be the same regardless of whether a physical injury manifests itself, thus, it makes little sense to compensate one plaintiff and not the other. So as long as a plaintiff can demonstrate the need for medical testing arising from defendant's tortious conduct, it logically follows that the defendant should make the plaintiff whole by paying the cost of these examinations. Louisiana joined other state supreme courts that have faced this issue since *Friends For All Children* authorized recovery for medical monitoring in the absence of physical injury, albeit with varying conditions for recovery.[xi]

Special interests moved quickly to legislatively overrule *Bourgeois I.*[xii] The following year the legislature amended La. Civ. Code Art. 2315 (B) to read, in pertinent part: "Damages do not include costs for future medical treatment, services, surveillance, or procedures of any kind unless such treatment, services, surveillance, or procedures are directly related to a manifest physical or mental injury or disease."[xiii] In a naked power grab, the legislature even tried to usurp the Louisiana Supreme Court and violate the separation of powers. Additional sections of the legislative act amending Article 2315 (B) to remove medical monitoring from the article's reach purported to make the act retroactive affecting pending claims and the original *Bougeois I* plaintiffs.[xiv] The Supreme Court, in *Bourgeois v. A.P. Green Industries, Inc.*[xv] *(Bourgeois II),* patiently explained that interpreting laws was the duty of the judicial department. It refused to take away plaintiffs' vested rights to assert their causes of action for medical monitoring, if those rights accrued before July 9, 1999.

B. Increased Risk

The Louisiana Supreme Court analyzed several categories of damages available to residents exposed to transite, a type of asbestos in *Bonnette v. Conoco, Inc.*[xvi] Conoco, Inc. ("Conoco") demolished abandoned homes on property it owned. Conoco then contracted with dump truck drivers to excavate and remove the soil from Conoco's project site. Residents purchased the soil and spread it on the lawns of their homes. Months later, a resident found pieces of asbestos in soil originating from the Conoco project site. After discovery of the contamination, Conoco removed and replaced much of the asbestos-laden soil.

A class action ensued and plaintiffs alleged harm from the asbestos in the soil. A six-week bench trial of nine adults and three children resulted in a verdict for plaintiffs. The trial court concluded that plaintiffs were exposed to an asbestos fiber count that slightly exceeded

that of normal air. The trial court awarded increased risk, emotional distress and punitive damages for the plaintiffs slightly increased risk of developing an asbestos-related disease. The appellate court affirmed. The supreme court granted a writ to decide whether Louisiana law permits recovery of compensatory damages for a "slight" exposure to asbestos in the absence of any asbestos-related condition, which placed plaintiffs at a "slightly" increased risk of contracting cancer.

The supreme court noted that the *Bonnette* plaintiffs, unlike the *Bourgeois I* plaintiffs, did not seek medical monitoring. Instead, the *Bonnette* plaintiffs sued for special, compensatory and punitive damages. The court found no significant exposure occurred and declined to extend *Bourgeois I* to allow the recovery of compensatory damages for a "slightly" increased risk of developing cancer. The opinion pointed out no experts could quantify the degree of exposure that plaintiffs experienced, or even whether they were exposed. Accordingly, the supreme court reversed the lower courts' award for "physical injury and an increased risk of developing asbestos related cancer."

The supreme court next analyzed whether the award to plaintiffs for mental anguish damages could stand. Noting problems inherent in awarding mental anguish damages in the absence of physical injury are pronounced in cases involving carcinogens, the court quoted from the United States Supreme Court in *Metro-North Commuter Railroad Co. v. Buckley*:[xvii]

> [T]he physical contact at issue here--a simple (though extensive) contact with a carcinogenic substance--does not seem to offer much help in separating valid from invalid emotional distress claims. That is because contacts, even extensive contacts, with serious carcinogens are common. They may occur without causing serious emotional distress, but sometimes they do cause distress, and reasonably so, for cancer is both an unusually threatening and unusually frightening disease. The relevant problem, however, remains one of evaluating a claimed emotional reaction to an *increased* risk of dying. An external circumstance--exposure--makes some emotional distress more likely. But how can one determine from the external circumstance of exposure whether, or when, a claimed strong emotional reaction to an increased mortality risk . . . is reasonable and genuine, rather than overstated--particularly when the relevant statistics themselves are controversial and uncertain (as is usually the case), and particularly since neither those exposed nor judges or juries are experts in statistics? The evaluation problem seems a serious one.[xviii]

Further, the supreme court found the *Bonnette* trial court had failed to apply the correct standard of review in evaluating plaintiffs' emotional distress claims and reviewed the record *de novo*. Recognizing "it is a fact of modern life that most of us are exposed to *de minimus* amounts of asbestos on a daily basis" the court reversed plaintiffs' mental anguish awards.

C. Stigma

After torpedoing plaintiff's punitive damage award by *de novo* review, the court

affirmed damages for diminished property values. The trial court relied on the testimony of an expert in real estate appraisal who valued each plaintiff's property using a Fannie Mae report to ascertain the property's market value. The expert first appraised the properties free of any "outside influence" and then evaluated them with a "stigma adjustment." The expert concluded the plaintiffs' property suffered a 10% diminution in value assuming that all asbestos fibers were cleaned from the properties. The supreme court found the trial court's award due to a "stigma effect" neither manifestly erroneous or clearly wrong.

Given the court's ruling in *Bonnette,*[xix] a review of Louisiana law and that of other jurisdictions is helpful in evaluating toxic damage to property caused by negligence. Louisiana courts have used a variety of methods to measure such damages. In some cases the courts have used the cost of restoration as the measure.[xx] Courts have also used the difference between the value of the property before and after the damage as the measure.[xxi] A combination of the methods has been employed.[xxii] A frequently cited case stated the following:

> We think that the proper measure of damages must be determined from the circumstances of each case, considering such factors as the extent of the damage; the use to which the property may be put; extent of economic loss, both as to value and income; and the cost of and practicability of restoration.[xxiii]

Damages awardable to one owning a real property interest can also be had for the "stigma" attached to the property as a result of the tortfeasor's activities.[xxiv] This may occur when property values drop after one's land is discovered to contain hazardous substances (as in *Bonnette)*, or neighboring land is designated a remedial superfund site, or is announced to be a public landfill. The resulting stigma can cause nearby property to drop in value even though it is not contaminated. Typically, "marketplace" stigma may be attached by the public to property located near a site of toxic contamination or "incomplete repair" stigma may result after all practical remediation efforts to clean up property have taken place.[xxv]

Several cases from foreign jurisdictions illustrate the common elements necessary for different courts to allow the claim for stigma damages to be heard by a jury. In *Walker Drug Company, Inc. v. La Sal Oil Company,*[xxvi] plaintiffs alleged that since significant quantities of gasoline leaked from tanks at defendants' service stations and contaminated the groundwater and soil of their properties, this had damaged the value of the properties and impinged upon their ability to use their properties as collateral for a loan. In reversing the trial court's exclusion of evidence relating to stigma damages, the court wrote:

> Stigma damages are a facet of permanent damages, and recovery for stigma damages is compensation for a property's diminished market value in the absence of "permanent 'physical'" harm. L. Neal Ellis, Jr. & Charles D. Case, *Toxic Tort and Hazardous Substance Litigation* § 6-5(a) (1995), at 156. This court has not assessed the availability of stigma damages in any prior case.
>
> A majority of courts from other jurisdictions, however, allows recovery when a

> defendant's trespass or nuisance has caused some temporary physical injury to the property but, despite the temporary injury's remediation, the property's market value remains depressed. *See Id.; In re Paoli R.R. Yard PCB Litig.,* 35 F.3d 717, 797-98 (3d Cir. 1994). Thus, stigma damages compensate for loss to the property's market value resulting from the long-term negative perception of the property in excess of any recovery obtained for the temporary injury itself. Were this residual loss due to stigma not compensated, the plaintiff's property would be permanently deprived of significant value without compensation.
>
> We find the majority position convincing. Stigma damages are therefore recoverable in Utah when a plaintiff demonstrates that (1) defendants caused some temporary physical injury to plaintiff's land and (2) repair of this temporary injury will not return the value of the property to its prior level because of a lingering negative public perception.

In *Paoli II,*[xxvii] *the court determined:*

> [A]n award of stigma damages requires proof of the following elements: "(1) defendants have caused some (temporary) physical damage to plaintiffs' property; (2) plaintiffs demonstrate that repair of this damage will not restore the value of the property to its prior level; and (3) plaintiffs show that there is some ongoing risk to their land."

The plaintiffs in *Paoli*, long-standing litigation which generated other reported decisions,[xxviii] lived for many years in the vicinity of the Paoli Railroad Yard, a railcar maintenance facility at which polychlorinated biphenyls ("PCBs") were used in great quantities for over twenty-five years. Plaintiffs sued those corporations responsible for premises maintenance and those who sold the PCBs, seeking to recover for a variety of physical ailments and for property damage. After an adverse jury verdict following a two week trial the plaintiffs appealed.[xxix] Although the court affirmed the jury's verdict, it offered the following observations about the jury instructions given on property damage at trial:

> The plaintiffs argue that the district court erred in instructing the jury to consider whether "actual" property damage occurred under the *Paoli II* standard. However, as we stated above, what the court instructed the jury was that the plaintiffs need only demonstrate *temporary* physical damage; the court never instructed the jury that the damage had to be permanent. The court's repeated use of the word "actual" did not convey a different legal standard to the jury. The dictionary defines "actual" as "existing in reality or fact." *Webster's New World Dictionary* 14 (3rd College ed. 1988). Thus, actual damage can be either temporary or permanent. As a result, the jury was not improperly restricted to a finding of permanent damage as a prerequisite to a finding for the plaintiffs. Moreover, the court's use of the word "actual" was appropriate because *Paoli II* specifically requires proof of some real physical damage to plaintiffs' land, some damage that "exists in fact," as opposed to damage caused by negative publicity alone.

A United States Court of Appeal Fifth Circuit decision also found this kind of damage compensable, referring to "market stigma" as "the public's fear of contaminated property, which lingers even after contamination has been remediated."[xxx]

Louisiana has previously found stigma compensable. In *Acadian Heritage Realty, Inc. v. City of Lafayette,*[xxxi] the city of Lafayette purchased property for the purpose of establishing a sanitary landfill after a subdivision developer had purchased an adjacent tract to develop residential lots. After suit had been filed to enjoin the city from beginning any type of operations on the property, the subdivision developer amended its petition (after operation of the landfill had begun) to claim damages for the alleged negligent operation and placement of the landfill. The court commented:

> Although we find that some of the decrease in value of the land was due to the negligent operation of the landfill, we find further that damages resulting from the "stigma" attached to the landfill may be recovered. . .
>
> As stated frequently at the trial of this case, a landfill is a unique operation. Some of the obvious effects of even a well-run landfill are increased traffic, increased noise level from the required machinery, and a change in the general appearance of the area. As clearly demonstrated at trial, the public perceived these negative effects even before operation of the landfill had begun. This perception caused damage to Acadian for which they should recover.

Counsel representing landowners harmed by toxins should consider demanding stigma damages when seeking full compensation for clients' harm.

III. Accrual For Causes of Action in Long-Latency Cases

As referenced in the Introduction, a significant problem in long-latency disease cases is the effective date for accrual of a cause of action. That determination often makes the difference in issues as diverse as comparative negligence, affirmative defenses, insurance and causes of action. And long-latency diseases themselves can result from toxic insults affecting pulmonary, neurological, immune, blood and other systems. Such diseases resulting from decades of exposure can complicate the analysis of when the injury-producing toxins did their harm.

Courts wrestling with these problems created analytical models such as the "significant tortious exposure" theory, the "manifestation" theory and the "contraction" theory to define the actual date of a cause of action. Against this backdrop in 1992, the Louisiana Supreme Court entered the fray.

A. The "Significant Tortious Exposure" Theory is Introduced

In *Cole v. Celotex,*[xxxii] the Supreme Court decided that comparative fault[xxxiii] was not applicable to workers suffering from long-term exposure to asbestos at their workplace, under

the facts of the case. Because plaintiffs sustained bodily damage from inhaling asbestos fibers before the effective date of the comparative fault regime (August 1, 1980) their cause of action had accrued. This was so even though the diagnosis of the disease occurred many years after the injury. And once a cause of action accrues, it becomes a property right that may not constitutionally be divested. Thus, the court applied pre-comparative fault law to determine the effect of an out-of-court settlement because "the key relevant events giving rise to a claim in long-latency occupational cases are the repeated tortious exposures resulting in continuous, on-going damages, although the disease may not be considered contracted or manifested until later."[xxxiv]

Some cases post-*Cole* showed confusion or reluctance to apply the significant tortious exposure model. This may have been, in part, because the notion of applying different rules of law and allowing differing recovery on one claim disturbed the judicial desire for simplicity.

B. Long-Latency Disease and Wrongful Death

The Supreme Court again addressed these concerns in a case deciding whether a wrongful death action caused by pre-1976 toxic exposures applies the law existing at the time of the exposures. In *Walls v. American Optical Corporation,*[xxxv] the Supreme Court answered no. Mr. Walls was exposed to silica dust during his employment as a sandblaster for Land & Marine and Coastal from 1964 to 1970. After his death on March 17, 1995, his wife and children filed a survival and wrongful death suit against executive officers of Land & Marine and Coastal and others alleging occupational exposure to silica dust caused the occupational lung disease silicosis from which he died. Since the plaintiffs' cause of action for wrongful death arose after October 1, 1976, the effective date of La. R.S. 23:1032,[xxxvi] which extends tort immunity to executive officers, the court of appeal's judgment granting a defendant insurer's exception of no cause of action was affirmed.

The plaintiffs argued that the pertinent amendment can only immunize executive officers for conduct occurring after the statute's effective date of October 1, 1976; otherwise it would be an impermissible retroactive application of the law. The court acknowledged the difficulty in determining the propriety of retroactivity when a statute must be applied to a case in which some operative facts occur both before and after the law's effective date. The court then examined two sources for authority that a law may permissibly affect not only post-act but pre-act consequences without operating retroactively. The court cited the United States Supreme Court:

> A statute does not operate "retrospectively" merely because it is applied in a case arising from conduct antedating the statute's enactment, or upsets expectations based in prior law. Rather the court must ask whether the new provision attaches new legal consequences to events completed before its enactment.[xxxvii]

The court also found Planiol helpful and cited his treatise:

> [A] law is retroactive when it goes back to the past either to evaluate the conditions of the legality of an act, or to modify or suppress the effects of a right already required. Outside of those conditions, there is no retroactivity.[xxxviii]

The question is then whether La. R.S. 23:1032, as amended, either "(1) evaluates the conditions of the legality of a past act, or (2) modifies or suppresses the effects of a right already acquired."[xxxix] If application of the statute does neither, then it operates prospectively only.

The court concluded that, as amended, the tort immunity for an executive officer provided by the statute is not a law evaluating the conditions of the legality of the defendant's conduct; instead it serves as a vehicle for asserting a substantive defense that defeats an otherwise viable negligence claim. The executive officer may defeat a negligence action by asserting immunity from suit as an affirmative defense, an act which is not properly characterized as a law governing conduct.

The court spent more time on the second situation as to whether the law's application would go "back to the past" or "modify or suppress the effects of a right already acquired." The court pointed out that if a party acquires a right to assert a cause of action before a change in the law, that right is a vested property right, protected by due process guarantees and retroactive application of the law would be constitutionally impermissible.[xl] Thus, if the plaintiffs acquired a vested right in the cause of action before the statute's effective date, application of the amendment would operate retroactively and be constitutionally prohibited. If the injury has not yet occurred and the cause of action hasn't vested, due process doesn't forbid abolition of causes of action to obtain permissible legislative objectives.[xli] A critical issue for the court was whether the plaintiffs' cause of action arose before the amendment's October 1, 1976 effective date, a fact which depended upon when the injury occurred. The court answered this by examining the nature of the wrongful death action.

> The plaintiffs' injury in a wrongful death action occurs when the victim dies. This Court has twice recognized that the wrongful death action could not arise until the date of the victim's death. *Guidry v. Theriot*, 377 So.2d 319 (La. 1979), and *Taylor v. Giddens,* 618 So.2d 834, 840 (La. 1993). Because the wrongful death action arises at the death of the victim, and compensates the beneficiaries for their injuries that occur at the moment of the victim's death and thereafter, the plaintiffs' injury in the instant case occurred upon the death of Mr. Walls, and not before. Since the plaintiffs could not have been injured until Mr. Walls' death, and their cause of action for wrongful death did not arise prior to that date, it necessarily follows that the plaintiffs could not have acquired a "right" in their cause of action for wrongful death prior to March 17, 1995. Therefore, we find that no right acquired in a cause of action for the wrongful death of Mr. Walls prior to October 1, 1976 effective date of La. R.S. 23:1032, as amended. In sum, application of La. R.S. 23:1032 to the instant case does not go back to the past either to evaluate the conditions of the legality of a past act, or modify or suppress the effects of a right already

acquired.[xlii]

The court rejected the plaintiffs' suggestion that all long-latency disease cases be governed by the law in effect on the date the victim was exposed to the disease causing agent, the so-called "significant tortious exposures" test outlined in *Cole v. Celotex.*[xliii] While acknowledging factual similarities between *Cole* and the instant case, the court found the distinguishing factors dispositive.[xliv] *Cole's* reasoning shouldn't apply to the wholly distinct cause of action for wrongful death; instead it established the "significant tortious exposures" theory for determining the applicable law within the context of the direct tort action and survival action. Unlike the statute in *Cole*, the court found La. R.S. 23:1032 does not operate retroactively and there was no need to consider its substantive, procedural or interpretive nature.[xlv]

C. The "Significant Tortious Exposure" Theory is Embraced

After *Walls*, lower courts continued their confusion about the law applicable in long-latency disease cases. The answer came in an asbestos case involving exposure beginning in 1955. The lower courts had rejected the "significant tortious exposure" theory of *Cole* for determining the date of accrual of the cause of action. In *Austin v. Abney Mills, Inc.*[xlvi] the Louisiana Supreme Court stated:

> [W]e have squarely before us the issue of what theory is applicable to fix the time when the tort cause of action arises in a long-latency occupational disease case wherein the plaintiff has developed the disease, so as to determine the applicable law: whether it be the "significant tortious exposure" theory we enunciated in *Cole,* but which was rejected by the lower courts in this case, or a so-called "manifestation" theory, articulated by the court of appeal, or the "contraction" theory, which, as we have previously stated, may be inherently difficult to apply in long-latency occupational disease cases.

Specifically in *Austin*, the Supreme Court found a genuine issue of material fact existed as to whether a worker's tort action accrued, under the significant tortious exposure theory, before the workers' compensation statute was amended to include mesothelioma as a covered disease in 1975.

The plaintiff in *Austin* worked with asbestos from 1955 to 1998 while employed by various defendants. After plaintiff filed a tort suit, the defendants moved for summary judgment seeking workers compensation immunity. Mesothelioma was not a listed compensable disease before 1975 and only became a covered disease after the legislature that year revised La. R.S. 23:1031.1(A).[xlvii]

The defendants alleged that workers' compensation benefits are determined by the date of disability and plaintiff became disabled in 1998. Plaintiff claimed *Cole* applied and that pre-1975 workers' compensation laws applied to his case of mesothelioma because injury-producing exposures to asbestos occurred before 1975. The plaintiff also argued legislative changes to compensation laws could not take away his vested rights.

The supreme court pointed out that plaintiff sought recovery in tort; thus, the date of disability was not material to resolution of the case. The material issue was the date the tort cause of action accrued. So:

> [A]dopting the rationale of *Cole*, we conclude that the "significant tortious exposure" theory for determining when a cause of action accrued in a long-latency occupational disease case in which the plaintiff suffers from an illness or disease is when the exposures are "significant and such exposures later result in the manifestation of damages. . ." Therefore, in order to establish when the tort cause of action accrued in a long-latency occupational disease case, wherein the plaintiff suffers from the disease, the plaintiff must present evidence that the exposures were "significant and such exposures later resulted in the manifestation of damages. . ."[xlviii]

The court concluded sufficient facts existed to create a genuine issue of material fact that plaintiff was exposed to substantial amounts of injury-causing asbestos before 1975. Thus, defendants' motion for summary judgment was denied.

IV. Medical Causation

Defendants typically portray medical causation in a toxic tort case as a difficult hurdle for the plaintiff. It certainly is a critical issue in most cases involving toxins. A technique frequently used by defendants is to define the medical specialty pertinent to a plaintiff's case as rarefied. Only their hired gun possesses such unique expertise.

Another gambit is to insist that only a certain methodology can be used to properly analyze chemically-exposed victim's medical history. This methodology is supposedly used by defendant's expert but not the plaintiff's. And defendants often claim normal clinical methodologies are insufficient to prove medical causation in a court of law. These defense tactics can be squarely refuted by plaintiff.

A. Use the Reference Manual on Scientific Evidence

A helpful source of information for understanding scientific concepts, including medicine, is the *Reference Manual on Scientific Evidence,* now in its second edition.[xlix] The manual is published by the Federal Judicial Center as part of its mission to develop and conduct education programs for judicial branch employees. According to the preface, the manual "furthers the goal of assisting federal judges in recognizing the characteristics and reasoning of 'science' as it is relevant in litigation." About 100,000 copies have been distributed since its initial publication. Its use is widespread in educational programs for federal and state judges, attorneys, and law students.

B. Expert Qualifications of a Physician

Both lay testimony and physician testimony can be used to prove a plaintiff's

damages.[l] Expert testimony is required when the conclusion regarding medical causation is not one within common knowledge.[li] This expert testimony is usually provided by a physician. To render an opinion a doctor, of course, must be qualified.

In the United States, a physician is someone who has met the rigorous requirements of a four year program and graduated from a credentialed medical or osteopathic school[lii]. The expected next stage of medical training is a formal medical residency program. For example, the American Board of Internal Medicine (established in 1936) is one of twenty-four primary medical specialty boards recognized by the American Board of Medical Specialties (ABMS), which is the pre-eminent professional organization in the United States responsible for setting standards for certifying all physicians. The credential of ABMS board certification is a marker of substantial proficiency within a particular area of medicine[liii]

C. Special Physician Qualifications Relevant to Toxic Torts

There is relatively little structured (organized) study of public health, occupational medicine, and toxicology in a traditional US medical school curriculum; an MPH degree offers enhanced training in epidemiology, toxicology, and other related aspects of public health[liv]. The American Board of Preventive Medicine (the board for occupational medicine was established in 1948) is also one of the twenty-four primary medical specialty boards recognized by the American Board of Medical Specialties (ABMS)[lv]. A significant issue in most toxic tort cases is the proper diagnosis of a spectrum of medical conditions in an adult, and whether they are causally related to chronic or acute exposure to toxic chemicals.

Appropriate research experience and training in analysis of epidemiological methods and study results can also be a relevant criterion[lvi]. Hospital appointments are a further positive indicator of a doctor's qualifications and experience in clinical medicine[lvii].

D. Information Relied on to Reach a Diagnosis

In submitting an opinion, the doctor should review readily available information. Of course, this changes from patient to patient. The patient history is one of the primary and most useful tools in the practice of clinical medicine, and should be obtained directly by the examining physician. A thorough patient history includes not only the present illness and past medical history, but aspects of medical, occupational, personal, and family background relevant to the present problems.[lviii] If possible, a doctor should personally examine the client and take a thorough history during a clinical visit. A written medical report may contain separate sections on occupational (work) history, present illness (medical history), social history, family history, and past medical history, and a review of systems.

Although there is no established standard patient history questionnaire form, there is agreement that a useful adult patient history should include the following six categories of information 1.) patient identification; 2.) chief complaint and history of present illness; 3.) medical history of injuries, past medical diagnoses, and surgical procedures; 4.) lifestyle characteristics including smoking, drug and alcohol use, and environmental exposures; 5.) family history; and 6.) occupational history.[lix] However, gathering a thorough history is

improved by use of a formal written questionnaire to ensure that relevant topics are not slighted or missed entirely. A registered nurse may interview the client face-to-face and complete a very detailed personal and medical history questionnaire in advance of the client's examination by the doctor.

Although time consuming and cumbersome, an examination of patient records from treating physicians, clinics, and hospitals can sometimes be crucial for accurate diagnosis.[lx] The doctor may review pages of personal medical records of the client, including those from multiple treating physicians, medical and surgical hospitalizations, laboratory tests, radiology studies, and neuropsychological testing results before arriving at his medical opinion. The client's individual employment and medical surveillance examinations from the employer may be available. The doctor's review of a complete set of personal and occupational patient medical records before he arrives at his medical opinion in the case is desirable, if the case permits.

The physical examination is a routine procedure for evaluating a patient and determining a proper diagnosis. The physical examination has standard components which include determination of vital signs, a description of the patient's general appearance, and examination of specific regions and organ systems of interest.[lxi] The doctor's performance of the physical examination should comport with the recommendations of the FJC Reference Guide on Medical Testimony for medical experts. This may include specific findings for the Head and Neck (HEENT), Chest, Heart, Abdomen, Extremities, and Neurological Examination, as well as the other recommended components.

In addition to the specific content of the physical examination, there are accepted methods of performing the physical examination properly as well. Toxic insult may involve multiple medical findings involving organ systems other than just the nervous system (for example hypertension, hyperlipidemia, hearing loss, fatty liver, pulmonary, etc). A reliable causation determination of the client's medical condition is usually aided by a competent general physical examination. Further, it is the consensus of responsible medical authorities that a patient must be disrobed in order for any physician to perform a thorough physical examination.[lxii] The doctor should perform a competent general physical examination using acceptable methods, and a proper recording of his medical findings.

In modern medical practice, appropriate diagnostic tests are helpful to confirming most diagnoses. These may include laboratory tests, pathology tests, and clinical tests. All such tests have strengths and limitations for their use in reaching a diagnosis or making a causal inference. The physician's decision to order a specific test from among those available should take into account expense, risk, accuracy, and predictive value, if known, as well as the patient's individual circumstances, and institutional capabilities.[lxiii] Based on the doctor's personal history taking and physical examination of the client, his review of previous medical records, and his knowledge of adverse health effects reported in the professional medical literature, he may recommend that certain additional pertinent diagnostic studies be performed by the client's local treating physicians. These additional studies can be representative of those relevant and appropriate studies that can be ordered based on a careful consideration of factors including cost, institutional capabilities, diagnostic sensitivity, and the patient's

exposure circumstances, and are not to be an exhaustive and uncritical catalogue of all those which are possibly relevant.

In a case where the medical work-up indicates a potential occupational or environmental disease, special attention must to be paid to documenting the patient's potential chemical exposures. The physician will almost never have direct quantitative exposure levels. However, exposures can be properly inferred by an experienced physician from other types of information, such as workplace layout, work process descriptions, exposure duration, correlates such as acute irritative symptoms, and nearby work activities, among others.[lxiv] Each of these alternate information sources should be available and reviewed by the doctor in formulating his opinion. The doctor in a toxic tort case may review a detailed industrial hygiene report from a certified industrial hygienist. The doctor may obtain chemical process or exposure information directly relevant to these issues during his face to face patient interview with the client. From that interview, he can describe in his written report pertinent exposure information such as the plant layout and work processes, work shifts, job activities, personal protective equipment (or lack thereof), specific chemical identification, and recurrent acute irritative symptoms and the circumstances of their appearance.

Other useful records sources for exposure information include industrial hygiene records, private consultant reports, and government reports.[lxv] Examples of each of these types of records if available can be reviewed by the doctor in determining his medical causation opinion. The responsibility and duty to conduct adequate industrial hygiene monitoring rests solely with the employer (assuming it's a work-related exposure) under federal law; the workers bear no burden in this regard whatever. The lack of useful quantitative data is strictly and directly the employer's fault.

In the virtual absence of any useful industrial hygiene quantitative exposure information, there is still a wealth of useful exposure data in this case from multiple sources, amounting to much relevant confirming information. The doctor can potentially review a large amount of relevant exposure information which allows him to make a careful medical causation determination. This can include, when available, specific workplace chemical identification, detailed work process descriptions, quantitative environmental release data from government reports, expert reports from company private consultants, medical surveillance program summaries, and individual irritative symptom correlates, and expert industrial hygiene reports.

In summary, the medical causation doctor may have credible information from a number of sources in each category of information; direct patient history, detailed questionnaire data, an extensive collection of personal and occupational medical records, multiple detailed sources of external exposure information, a properly conducted physical examination, and appropriate medical diagnostic studies, that a physician may consider in reaching a final medical causation opinion as recommended by the FJC Reference Guide on Medical Testimony under Part III.

E. Placing the Clinical Treating Physician in Context

It's apparent that a qualified clinical treating physician's credentials, qualifications, and methodology must be evaluated in terms of the physician's acknowledged expertise. There are three relevant chapters in the Reference Manual on Scientific Evidence with respect to different kinds of experts who may hold a medical or medical field-related degree. They are the Reference Guide on Medical Testimony, the Reference Guide on Epidemiology, and the Reference Guide on Toxicology. There is no mention in the current Reference Manual that any one of these three chapters holds sway over another, nor that one specific methodology is superior to another in determining medical causation. There are three separate chapters to recognize three sometimes similar, but distinct, disciplines and methods for doctors with differing qualifications, training, and clinical experience to use in arriving at valid determinations of medical causation.

Defendants sometime labor under the impression that the only valid method is that outlined in the Reference Guide on Toxicology. That is not so. The primary methodology for physicians is that outlined in the Reference Guide on Medical Testimony. A clinical doctor should be judged only upon his performance within the appropriate clinical boundaries of the relevant Reference Guide on Medical Testimony. To expect him to meet the requirements specified for a physician epidemiologist or physician toxicologist in addition to those of a clinical physician specialist in his specialty, is akin to saying that an architect must also be a iron worker and a commercial banker in order for him to be allowed to design an office building.

F. The Methodology of Differential Diagnosis

The Federal Judicial Center's Reference Guide on Medical Testimony explains the process of differential diagnosis:[lxvi]

> In the process of performing a differential diagnosis, the physician determines which of two or more diseases with similar clinical findings is the one that the patient is suffering from. The physician does this by developing a list of all the possible diseases that could produce the observed signs and symptoms, and then comparing the expected clinical findings for each with those exhibited by the patient. (citations omitted)

For the most part, courts are reaching a consensus that the basic methodology used by physicians to diagnose disease is sufficient for courtroom purposes.

1. Differential Diagnosis in Louisiana State Courts

For example, recent Louisiana state court cases allow the opinion testimony of treating doctors who follow their routine and established practices in making diagnoses.

As stated in *Keener v. Mid-Continent Casualty,*[lxvii]

> We find that the trial court did not err in admitting Dr. Adams's

testimony. The requirements of *Daubert* and *Foret* were satisfied. *Daubert* requires that to qualify as scientific evidence, an opinion must be derived by an accepted scientific method; the four-part test is illustrative, but is not an exclusive guide to determine the reliability of scientific testimony. We find that Dr. Adams's use of differential diagnosis, **which is clearly an accepted methodology in the medical community, was proper.** Dr. Adams moved to rule out every possible explanation of Mr. Keener's stroke before concluding that it was probably related to the surgery. Dr. Adams was honest in his acknowledgment that medical science cannot, at this point in time, clearly explain the cause of Mr. Keener's stroke, but that there was some suggestion, in current medical literature, that the temporal association between the surgery and the stroke was a factor. The fact that his opinion was not admittedly 100% certain goes to its weight, not its admissibility. The focus of the gatekeeper under C.E. art. 702 "must be solely on principles and methodology, not on the conclusions that they generate." *Daubert*, supra at 595, n. 6, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469. (emphasis supplied)

The Louisiana Fifth Circuit addressed a similar argument in *Younce v. Pacific Gulf Marine, Inc.*,[lxviii] when the defendant argued that *Daubert* somehow eliminated the equally traditional medical method of relying in part on the patient's history in favor of exclusive reliance on objective tests. The Fifth Circuit quickly dispatched the defense notion.

Dr. LaBorde, PGM's medical expert, testified that of the two factors used to determine causation, the "objective" evidence--records from physical examinations--is more reliable than the "subjective" evidence--the history given by the patient. Dr. LaBorde testified that while "medical causation," causation within the realm of treatment, may be based solely on the patient's history, "objective" evidence takes precedence in a determination of "forensic causation."

We agree with the trial judge's determination on this issue--we cannot agree that a *treating physician's* opinion on causation is so unreliable as to be *inadmissible* at trial. We note first that *Daubert's* concern is the reliability of expert's opinions based on less than "firsthand knowledge or observation." *Daubert,* 509 U.S. at 591, 113 S.Ct. at 2796, 125 L.Ed.2d at 482. It has also been stated that *Daubert* is "concerned with determining the admissibility of *new techniques.*" *State v. Foret,* 628 So.2d at 1121 (emphasis supplied). We can't see how either of these concerns implicates an opinion on the causation of injuries given by a patient's treating physician. Dr. Watermeier's testimony, that "all" doctors rely on the patient's own statements in determining causation, was not contradicted by PGM's expert. Further, the risks inherent in relying *exclusively* on records are revealed by Dr. LaBorde's own testimony. Dr. LaBorde's assertions that "objective" records are more reliable are called into question by Dr. LaBorde's admission that his initial opinion, rendered without all of Younce's medical records, might "change" on review of additional information.

In *Dinett v. Lakeside Hospital,*[lxix] the trial court's exclusion of the treating physicians' opinions was reversed. The case involved whether plaintiff contracted hepatitis C from a blood transfusion. The treating doctors properly relied upon what the appellate court called "the standard medical methodology of relying upon patient history." The court pointed out that defendant's motion sought to exclude physician opinions when their **methodology** was sound, thus making *Daubert* inapplicable.

> . . .It is a routine and well established practice for a physician to give opinion testimony as to the cause of a patient's condition based upon the history provided by the patient. In the instant case, however, the trial court excluded the testimony on the sole basis of the testimony of another physician**,** Dr. Sandler, that because it is scientifically impossible to determine with any certainty that the transfusion was the source of Mrs. Dinett's infection, any opinion to that effect is merely a "guess."
>
> We find the trial court erred in excluding the testimony on this basis. *Daubert* is inapplicable to the instant situation because it is not the experts' methodology that is being questioned; rather, it is the conclusions they reached in applying that methodology to the instant facts. Given that a pre-1990 blood transfusion is a known risk factor for acquiring Hepatitis C and Mrs. Dinett's history of having received such a transfusion (as well as having undergone other surgical procedures which also could have exposed her to Hepatitis C), there is nothing inherently unreliable about a physician testifying as to the probability that the transfusion caused her infection.
>
> The plaintiff's burden in a civil case such as the instant one is to prove that defendant's conduct "more probably than not" caused plaintiff's condition. If the burden were to prove each element of the case beyond a reasonable doubt, as in a criminal matter, the testimony of Dr. Sandler that such proof of causation is scientifically impossible arguably would merit the granting of summary judgment in favor of defendants. In the instant case, however, the exclusion of the plaintiffs' experts at the summary judgment state improperly usurps the function of the jury at trial, which is to weigh the opinions of those experts against that of Dr. Sandler in determining whether the plaintiffs have met their burden of proving causation.

Other state court decisions have been receptive to the notion of separating physicians' methodology from their conclusions. And a recent appellate decision correctly noted that "it appears from the depositions that the requisite scientific level is higher than the indicia of reliability required for expert testimony and opinion at trial."[lxx]

2. Differential Diagnosis in Most United States Courts of Appeal

The vast majority of federal appellate courts have held that a medical opinion on causation founded on differential diagnosis satisfies Rule 702 of the Federal Rules of Evidence. For example, the Second Circuit in *McCullock v. H B. Fuller Co.*[lxxi] accepted as reliable a doctor's opinion that glue fumes caused the plaintiffs respiratory symptoms and throat polyps, **although the doctor could not specify any medical literature stating that glue fumes cause throat polyps.** According to the court, the doctor's opinion was reliable because:

> Dr. Fagelson based his opinion on a range of factors, including his care and treatment of McCullock; her medical history (as she related it to him and as derived from a review of her medical and surgical reports); pathological studies; review of Fuller's MSDS; his training and experience; use of a scientific analysis known as differential etiology (which requires listing possible causes, then eliminating all causes but one); and reference to various scientific and medical treatises. **Disputes as to the strength of his credentials, faults in his use of differential etiology as a methodology, or lack of textual authority for his opinion, go to the weight, not the admissibility, of his testimony.**[lxxii] (emphasis added)

In *Zuchowicz v. United States,*[lxxiii] the Second Circuit reaffirmed a clinical medical expert opinion in pulmonary medicine as sufficiently reliable for a causation opinion. The court approved the causation opinion of a pulmonary medical doctor who testified that overdose of the endometriosis drug Danocrine caused plaintiffs primary pulmonary hypertension. The doctor's conclusion was based on the temporal relationship between the overdose and the start of the disease and the differential etiology method of excluding other possible causes. The Third Circuit has also held that a clinical physician's methodology of differential diagnosis was sufficiently reliable to support the admissibility of that expert's opinion that polychlorinated biphenyls caused specific plaintiffs' illnesses.[lxxiv]

The Fourth Circuit affirmed a district court's admission of doctors' testimony that a plaintiffs' severe liver damage was caused by mixing extra-strength Tylenol and alcohol. The court wrote:

> Benedi's treating physicians based their conclusions on the microscopic appearance of his liver, the Tylenol found in his blood upon his admission to the hospital, the history of several days of Tylenol use after regular alcohol consumption, the liver enzyme blood level, and the lack of evidence of a viral or any other cause of the liver failure. Benedi's other experts relied upon a similar methodology: history, examination, lab and pathology data, and study of the peer-reviewed literature. We conclude that the district court did not abuse its discretion when it determined that the methodology employed by Benedi's experts is reliable under *Daubert.* **We will not declare such methodologies invalid and unreliable in light of the medical community's daily use of the same methodologies in diagnosing patients.**[lxxv] (emphasis added)

Another Fourth Circuit court stated in *Westbury v. Gislavi Gummi AB,*[lxxvi] "differential diagnosis, or differential etiology, is a standard scientific technique of identifying the cause of a medical problem by eliminating the likely causes until the most probable one is isolated."[lxxvii] A reliable differential diagnosis typically, though not invariably, is performed after physical examinations, the taking of medical histories, and the review of clinical tests, including laboratory tests, and generally is accomplished by determining the possible causes for the patient's symptoms and then eliminating each of these potential causes until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely.[lxxviii, lxxix]

3. What The U. S. Fifth Circuit Court of Appeal Is Doing About It

In *Curtis v. M & S Petroleum, Inc.,*[lxxx] the U. S. Fifth Circuit vacated a district court's dismissal of numerous refinery workers' suits and remanded them for trial, finding an abuse of the trial court's discretion in excluding plaintiffs' expert industrial hygienist on the issue of medical causation. The case is significant in that the same court only nine months earlier found no abuse of a trial court's discretion in excluding the opinion of a highly qualified pulmonary physician on the causal relationship between a plaintiff's exposure to industrial chemicals and his pulmonary illness.[lxxxi] Analysis of the cases is therefore helpful in evaluating when a federal trial court's exclusion of an expert's medical opinion may abuse its considerable discretion.[lxxxii]

The plaintiffs in *Curtis* were refinery workers and their wives who alleged they were exposed to excessive amounts of heavy aromatic distillate ("HAD"), a dangerous component more than 25 percent of which is benzene. A defendant, M & S Petroleum, Inc. ("M&S"), planned to process the HAD, a DuPont product, at a leased refinery which was not designed to handle highly toxic chemicals such as benzene. Immediately after M&S began processing HAD at the refinery serious problems erupted; workers became soaked in HAD daily while fixing clogged equipment and were continuously exposed to HAD fumes that possessed a very strong distinctive odor. These exposures contemporaneously caused the refinery workers to experience headaches, nausea, dizziness, diarrhea, and a lack of energy.

After conducting a hearing *in limine* shortly before trial, the district court excluded the proffered testimony of Dr. Frank Stevens, plaintiffs' expert industrial hygienist, on the issue of medical causation. The expert's opinion was that the plaintiffs' exposure to benzene caused their symptoms and that this exposure subjected them to known long-term health problems. Although the trial court found that plaintiffs' industrial hygienist had adequate support for his general causation opinion that exposure to benzene at levels of 200-300 ppm would cause the injuries suffered by plaintiffs, it excluded his testimony as unreliable since plaintiffs had not demonstrated the amount of benzene to which they were exposed. But the appellate court found ample evidence supporting the expert's finding that the refinery workers were exposed to benzene at levels several hundred times the permissible OSHA standard of 1 ppm. This was important since if his causation opinion was not based on sufficient information of the level of benzene to which plaintiffs were exposed, his methodology would not be reliable, rendering his causation opinion inadmissible.[lxxxiii] However, the law does not require plaintiffs

to show the precise level of benzene to which they were exposed.[lxxxiv]

The industrial hygienist's medical opinion was reliable since the facts adequately supported the expert's findings of the level of benzene to which the refinery workers were exposed. The court found sufficient support for Dr. Stevens's causation opinion for multiple reasons:

> First, Dr. Stevens found the symptoms experienced by the refinery workers to be extremely important. He testified that the cluster of symptoms that the refinery workers began experiencing shortly after HAD was introduced into the refinery - headache, nausea, disorientation, and fatigue - are well-known symptoms of overexposure to benzene. He concluded that these symptoms were all indications of exposure to benzene at levels of at least 200-300 ppm.
>
> Dr. Stevens also relied upon the results of the Draeger tube tests performed by the refinery workers. The particular Draeger tubes used were designed to measure a maximum of 10 ppm based on twenty pumps. Because these tubes were only pumped twice before becoming saturated, measuring the maximum of 10 ppm, Dr. Stevens calculated that the refinery workers were exposed to at least 100 ppm. Additionally, Dr. Stevens relied upon the work practices at the refinery. The refinery workers were required to clean the strainers and the oily water separator, and gauge the tanks on a daily basis. All of these functions made exposure to high levels of benzene likely. Dr. Stevens was particularly impressed with the testimony of the refinery workers that they often became soaked in HAD when required to perform this work.
>
> Finally, Dr. Stevens relied on the design of the refinery. Dr. Stevens testified during the *in limine* hearing and stated in his report that the refinery was not designed to process highly toxic chemicals such as benzene. Dr. Stevens testified that refineries that process benzene and other toxic chemicals are completely enclosed to eliminate the possibility that these toxic chemicals can escape into the environment.[lxxxv]

Since the court viewed his causation opinion as based on scientific knowledge that would assist the trier of fact pursuant to Fed. R. Evid. 702, it should have been admitted by the trial court.

Nine months previously, in *Moore v. Ashland Chemical, Inc.*,[lxxxvi] the Fifth Circuit held that the district court did not abuse its discretion in excluding the opinion of a physician that the plaintiff's exposure to toluene and other chemicals caused his reactive airways dysfunction syndrome ("RADS"). Interestingly, a concurring opinion pointed out that it would not have been an abuse of the district court's discretion had it admitted the proffered testimony.[lxxxvii] Mr. Moore became exposed to toluene and other chemicals manufactured by Dow Corning, Corp. ("Dow") while cleaning up the spilled material in an enclosed 28-foot trailer for about an hour. He immediately sought emergency room treatment after the onset of respiratory distress which occurred less than an hour after his exposure. The Fifth Circuit

found the exclusion of the plaintiff's highly qualified expert pulmonologist, Dr. Jenkins, acceptable since he did not know what tests Dow had conducted in generating the MSDS and "perhaps more importantly, Dr. Jenkins had no information on the level of exposure necessary for a person to sustain the injuries about which the MSDS warned. The MSDS made it clear that the effects of exposure to Toluene depended on the concentration and length of exposure."[lxxxviii] The court in *Curtis* explained its exclusion of Dr. Jenkins in *Moore* as follows:

> In *Moore*, this Court discussed the admissibility of the proffered testimony of the plaintiff's expert on causation. After finding that the expert offered no scientific support for his general theory that exposure to Toluene solution at any level could cause Reactive Airways Dysfunction Syndrome, the Court stated:
>
> Given the paucity of facts Dr. Jenkins had available about the level of Moore's exposure to the Toluene solution, his causation opinion would have been suspect even if he had scientific support for the position that the Toluene solution could cause RADS in a worker exposed to some minor level of the solution. Under *Daubert*, 'any step that renders the analysis unreliable . . . *renders the expert's testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology. In re Paoli R.R. Yard PCB Litigation,* 35 F.3d 717, (3d Cir. 1994) (emphasis in original).[lxxxix]

Since the "analytical gap" between Dr. Jenkins' causation opinion and the scientific knowledge and available data advanced to support that opinion was too wide, it was within the trial court's discretion to exclude his opinion.

At first blush, it's perplexing that the Fifth Circuit would require an industrial hygienist's causation opinion to be admitted in *Curtis,* yet allow the exclusion of a highly qualified pulmonologist's opinion as to the cause of a lung problem in *Moore.* A careful reading of both opinions leads one to the conclusion that the appellate court feels comfortable requiring admissibility when there is ample factual information about the exposure to a widely studied chemical, like benzene, as in *Curtis.* In *Curtis,* perhaps serendipitously, the safety manager, himself a later plaintiff, took Draeger tube readings for benzene when he became sick and personally convinced that his and other workers' symptoms were caused by chemical exposure. The employer, M & S, should have been regularly monitoring for benzene exposure pursuant to its agreement with Dupont and for compliance with OSHA standards. Since the employer did not perform monitoring, but an employee on his own did, there was additional information upon which the industrial hygienist could reliably estimate the benzene level. While the court did not specifically say so, the other factors relied upon by Dr. Stevens - well known symptoms of overexposure to benzene, work practices at the refinery and design of the refinery - probably were sufficiently reliable on their own to require admittance of his opinion.

Judge Eugene Davis, author of *Moore* and *Curtis,* again ventured into the arena of

medical causation in *Pipitone v. Biomatrix Inc.*[xc] Thomas Pipitone had severe osteoarthritis in his knees. Because of pre-existing medical conditions, he chose to have his knees injected with a synovial fluid product, Syvnisc, manufactured by defendant, Biomatrix. Soon after injection, Pipitone suffered significant knee pain and a fever. A few days later, tests confirmed he had a salmonella infection, which is highly unusual in joints.

After Pipitone and his wife filed suit, Biomatrix moved to exclude the testimony of the plaintiffs' experts pursuant to *Daubert*. The district court granted Biomatrix's motion for summary judgment after finding the testimony of plaintiffs' experts unreliable. The Fifth Circuit reversed.

The appeals court found the testimony of the orthopedist who injected the joint properly excluded. The orthopedist deferred to the other treating physician, Dr. Coco, an infectious disease expert. Also, the orthopedist was equivocal as to how the infection occurred. The court noted that a perfectly equivocal opinion is not a relevant one. Since the orthopedist testified it was as likely as not (not more likely than not) that the Synvisc syringe contained the salmonella bacteria that infected Pipitone's knee, the district court did not abuse its discretion in excluding his testimony.

But the appellate court disagreed with the trial court's exclusion of Dr. Coco, the infectious disease expert. The district court based its decision to exclude Dr. Coco's testimony on three factors. First, the district court pointed out Dr. Coco performed no epidemiological studies. Next, the district court noted that Dr. Coco's hypothesis that Synvisc caused the joint infection was undermined by his literature search, which revealed no reports of salmonella infection from contaminated injectable knee products. Last, the district court found Dr. Coco had failed to eliminate "many viable alternative sources" for the salmonella infection.

The Fifth Circuit analyzed Dr. Coco's reasoning that led to his conclusion that the Synvisc injection caused infection. While it was true Dr. Coco did not perform an epidemiological study, no such study was necessary or appropriate in a case involving one infected person. And Dr. Coco's literature search showing no other reports of infection from knee injections did not contradict his opinion. Failure to uncover other reports actually supported his conclusion by eliminating the possibility that "unsterile injection technique or some other cause unrelated to Synvisc" had caused the infection. As the Supreme Court pointed out in *Kumho Tire Co. Ltd. v. Carmichael,*[xci] "[i]t might not be surprising in a particular case, for example, that a claim made by a scientific witness has never been the subject of peer review, for the particular application at issue may never previously have interested any scientist." No one should reasonably expect a published report on a phenomenon that had not occurred before.

Having analyzed Dr. Coco's opinion through *Daubert's* "testing" and "peer review" factors, the court noted that the "error rate" factor "is not particularly relevant, where, as here, the expert derives his testimony mainly from firsthand observations and professional experience in translating these observations into medical diagnoses." The court observed "this circuit has upheld the admission of expert testimony where it was based on the expert's

specialized knowledge, training, experience, and first-hand observation while supported by solid evidence in the scientific community."[xcii] As to the *Daubert* factor of "general acceptance," the court noted "Dr. Coco based his opinion on how Pipitone contracted salmonella in large part on accepted medical knowledge of the ways in which salmonella functions as an organism and how it infects humans."

The appellate court disagreed with the district court's finding that Dr. Coco had identified "many viable alternative sources" of the salmonella infection in Pipitone's knee. Instead, Dr. Coco eliminated almost all alternative sources of the infection through analysis and investigation. The disputed factual record allowed a fact-finder to choose the Pipitone's contentions over those of defendant. Thus, the district court's grant of summary judgment was reversed.

i *Cole v. Celotex Corp.,* 599 So.2d 1058 (La. 1992).

ii *Walls v. American Optical Corporation,* 98-0455 (La. 9/8/99), 740 So. 2d 1262.

iii 716 So.2d. 355, 1997-3188 (La. 7/8/98), *rehearing denied*, 783 So.2d 1251, 2000-1528 (La. 4/3/01).

iv (1) Significant exposure to a proven hazardous substance. (2) As a proximate result of this exposure, plaintiff suffers a significant increased risk of contracting a serious latent disease. (3) Plaintiff's risk of contracting a serious latent disease is greater than (a) the risk of contracting the same disease had he or she not been exposed and (b) the chances of members of the public at large of developing the disease. (4) A monitoring procedure exists that makes the early detection of the disease possible. (5) The monitoring procedure has been prescribed by a qualified physician and is reasonably necessary according to contemporary scientific principles. (6) The prescribed monitoring regime is different from that normally recommended in the absence of exposure. (7) There is some demonstrated clinical value in the early detection and diagnosis of the disease.

v The factors upon which the cause of action may be based were cobbled together from common law claims for monitoring recognized in *Redland Soccer Club, Inc. v. Department of the Army,* 548 Pa. 178, 696 A.2d 137 (Pa. 1997); *Potter v. Firestone Tire & Rubber Co.,* 6 Cal. 4th 965, 25 Cal.Rptr.2d 550, 863 P.2d 795 (cal. 1993); and *Hansen v. Mountain Fuel Supply Co.,* 858 P.2d 970 (Utah 1993).

vi *Bourgeois I* may not be that helpful a paradigm for plaintiff recovery of medical monitoring if the seventh factor ("There is some demonstrated clinical value in the early detection and diagnosis of the disease") is maintained and strictly construed. See Chief Justice Calogero, occurring at **6, and *Redland Soccer Club, Inc. v. Department of the Army,* 548 Pa. 178, 696 A.2d 137, 146 n.8 (Pa. 1997). Why should plaintiff bear the burden to keep abreast of advances in medical science?

vii An overview of policies and purposes behind these remedies is provided in Keith W. Lapeze, *Recovery For Increased Risk of Disease in Louisiana,* 58 Louisiana Law Review 249 (Fall 1997).

viii *Davis v. Sewerage and Water Board of New Orleans,* 555 So.2d 664 (La.App. 4th Cir. 1989); *Lanclos v. Hartford Accident & Indemnity Co.,* 366 So.2d 621 9La.App. 3rd Cir. 1978).

ix *Manuel v. Shell Oil Co.,* 94-590 (La.App. 5th Cir. 10/18/95), 664 So.2d 47; *Jeffery v. Thibaut Oil Co.,* 94-851 (La.App. 5th Cir. 3/1/95), 652 So.2d 1021.

x 746 F.2d 816 (D.C. Cir. 1984).

xi

Redland Soccer Club, Inc. v. Department of the Army, 548 Pa. 178, 696 A.2d 137 (Pa. 1997); *Potter v. Firestone Tire & Rubber Co.,* 6 Cal. 4th 965, 25 Cal.Rptr. 2d 550, 863 P.2d 795 (Cal. 1993); *Hansen v. Mountain Fuel Supply Co.,* 858 P.2d 970 (Utah 1993); *Ayers v. Township of Jackson,* 106 N.J. 557, 525 A.2d 287 (N.J. 1987).

xii 97-3188 (La 7/8/98), 716 So.2d 355.

xiii Acts 1999, No. 989, effective July 9, 1999.

xiv Sections 2 and 3 Acts 1999, No. 989 (§ 1 of which amended this article) provide:

"Section 2. The provisions of this Act are interpretative of Civil Code Article 2315 and are intended to explain its original intent, notwithstanding the contrary interpretation given in *Bourgeois v. A.P. Green Indus., Inc.,* 97-3188 (La. 7/8/98); 716 So.2d 355, and all cases consistent therewith.

Section 3. The provisions of this Act shall be applicable to all claims existing or actions pending on its effective date and all claims arising or actions filed on and after its effective date."

Acts 1999, No. 989 became effective July 9, 1999.

xv 783 So.2d 1251, 2000-1528 (La. 4/3/01), 783 So.2d 1251 .

xvi 01-2767 (La. 1/28/03), 837 So.2d 1219.

xvii 521 U.S. 424, 117 S.Ct. 2113. *Metro-North's* holding was refined in *Norfolk & Western Railway Company V. Ayers* - mental anguish damages resulting from the fear of developing cancer may be recovered under the FELA by a railroad worker suffering asbestosis caused by work-related exposure to asbestos. *Norfolk & Western Railway*, 538 U.S. 135, 123 S.Ct. 1210.

xviii *Bonnette v. Conoco,* 01-2767 (La. 1/28/03), 837 So.2d 1219, *1234, **23.

xix 01-2767 (La. 1/28/03), 837 So.2d 1219.

xx *Wilson v. Scurlock Oil Co.,* 126 So.2d 429 (La.App. 2nd Cir. 1960); *Melancon v. Oilfield Lubricant Services, Inc.,* 292 So.2d 908 (La.App. 1st Cir. 1974).

xxi *Womack v. Travelers Ins. Co.,* 258 So.2d 562 (La.App. 1st Cir. 1972); *Curole v. Acosta,* 303 So.2d 530 (La.App. 1st Cir. 1974).

xxii *Daspit v. State Department of Highways,* 325 So.2d 368 (La.App. 3d Cir. 1975); *Acadian Heritage Realty, Inc. v. City of Lafayette,* 446 So.2d 375 (La.App. 3d Cir. 1984).

xxiii *Ewell, et al. v. Petro Processors of Louisiana, Inc., et al.,* 364 So.2d 604 (La.App. 1st Cir. 1978), *writ refused*, 366 So.2d 575 (La. 1979).

xxiv *Acadian Heritage Realty, Inc. v. City of Lafayette,* 434 So.2d 182 (La.App. 3rd Cir. 1983), *writs denied* 440 So.2d 733 (La. 1983); *Acadian Heritage Realty, Inc. v. City of Lafayette,* 446 So.2d 375 (La.App. 3d Cir. 1984), *writs denied,* 452 So.2d 697 (La. 1984).

xxv *See* Stigma and Property Contamination - Damnum Absque Injuria, Torts and Insurance Law Journal, Vol. 33, No. 3, Spring 1998 at 836.

xxvi 972 P.2d 1238 (Utah 1998).

xxvii *In re Paoli Railroad Yard PCB Litig.,* 35 F.3d 717 (3rd Cir. 1994), *cert. denied,* 115 S.Ct. 1253 (1995) (*PaoliII"*).

xxviii *In re Paoli Railroad Yard PCB Litig.,* 916 F.2d 829 (3rd Cir. 1990) (*"Paoli I"*); *In re Paoli Railroad Yard PCB Litig.,* No. 95-2098 (3rd Cir. 1997) ("*Paoli III"*).

xxix *In re Paoli III,* No. 95-2098 (3rd Cir. 1997).

xxx *Bradley v. Armstrong Rubber Co.,* 130 F3d 168, 174 (5th Cir. 1997).

xxxi 446 So.2d 375 (La.App. 3d Cir. 1984) *writ denied,* 440 So.2d 733 (La. 1983).

xxxii *Cole v. Celotex*, 599 So.2d 1058 (La.1992).

xxxiii The comparative fault scheme entered Louisiana law by Acts 1979, No. 431 and became effective on August 1, 1980.

xxxiv *Cole v. Celotex,* 599 So.2d 1058 (La. 1992).

xxxv 98-0455 (La. 9/8/99), 1999 WL 694707.

xxxvi The pertinent portion of the statute as amended read:

§1032: Exclusiveness of rights and remedies; employer's liability to prosecution under other laws A.(1)(a) The rights and remedies herein granted to an employee or his dependent on account of an injury, or compensable sickness or disease for which he is entitled to compensation under this Chapter, shall be exclusive of all other rights, remedies of such employee, his personal representatives, dependents, or relations, against his employer, or any principal or any officer, director, stockholder, partner, or employee of such employer or principal, for said injury, or compensable sickness or disease. . .

Note that this statute has been amended several times since 1976.

xxxvii *Landgraf v. USI Films,* 511 U.S. 244, 114 S.Ct. 1483, 1499, 128 L.Ed.2d 229, 254 (1993) (internal citations omitted).

xxxviii *Walls v. American Optical Corporation,* 98-0455 (La. 9/8/99), 1999 WL 694707, citing I M. Planiol,

Treatise on the Civil Law, § 243 (La.St.L.Inst.Trans. 1959).

xxxix *Walls v. American Optical Corporation,* 98-0455 (La. 9/8/99), 1999 WL 694707.

xl *Cole v. Celotex*, 599 So.2d at 1058 (La. 1992).

xli *Progressive Sec. Inc. Co. v. Foster,* 97-2985 (La. 4/23/98), 711 So.2d 675, 688 (quoting) *Burmaster v. Gravity Drainage Dist. No. 2 of the Parish of St. Charles,* 366 So.2d 1381, 1387 (La. 1978) (citations omitted)).

xlii *Walls v. American Optical Corporation,* 98-0455 (La. 9/08/99), 1999 WL 694707.

xliii 599 So.2d 1058 (La. 1992).

xliv The court in Footnote 81 made it clear that it was not establishing a requirement for the application of different laws to survival and wrongful death actions:

> [W]hat we adopt herein today is a case by case approach to determining, in cases involving facts that span enough legislative sessions to allow for the intervention of new law, whether any intervening statute, if applied to that case, would operate retroactively. If the statute would operate retroactively under Planiol's definition, then, the two-fold analysis from La. C.C. art. 6, with which all courts are familiar, must be made. Making the determination of when the cause of action arose for the various causes of action which might be asserted merely provides the temporal guidepost from which a court may determine whether the intervening statute operates retroactively or prospectively and the consequences that flow from that determination will differ with each case.

xlv La. C.C. art. 6 provides.

> In the absence of contrary legislative expression, substantive laws allow prospectively only. Procedural and interpretive laws apply both prospectively and retroactively, unless there is a legislative expression to the contrary.

xlvi *Austin v. Abney Mills, Inc.,* 01-1598 (La. 9/4/02), 824 So.2d 1137.

xlvii [I]n 1975 by Acts 1975, No. 583, §2, the legislature revised La. Rev.Stat. 23:1031.1(A) by removing the list of specific diseases for which there was coverage under workers' compensation and substituting the following definition:

> An occupational disease shall mean only that disease or illness which is due to causes and conditions characteristic of and peculiar to the particular trade, occupation, process, or employment in which the employee is exposed to such disease.

xlviii *Cole v. Celotex Corp.,* 599 So.2d 1058 (La. 1992).

xlix An electronic version of the reference manual can be found at http://air.fjc.gov/public/fjcweb.nsf/pages/16.

l *Lasha v. Olin Corp.*, 625 So.2d 1002 (La. 1993).

li *Hutchinson v. Shah,* 94-0264, (La.App. 1Cir. 12/22/94), 648 So.2d 451, *writ denied,* 95-0541, 653 So.2d 570, (La. 4/21/95) and *Schexnayder v. Exxon Pipeline,* 815 So.2d 156, 01-1236 (La.App. 5 Cir. 3/13/02).

lii Federal Judicial Center (FJC) Reference Guide on Medical Testimony, Part II A, p. 447.

liii FJC Reference Guide on Medical Testimony, Part II A, p. 448.

liv FJC Reference Guide on Medical Testimony, Part II A, p. 447.

lv There is no ABMS Board of Medical Toxicology; Medical Toxicology is not a recognized primary medical specialty in the United States; and the ABMS Subspecialty Certificate has only been available since 1995.

lvi FJC Reference Guide on Medical Testimony, Part II C, p. 450.

lvii FJC Reference Guide on Medical Testimony, Part II A p. 448-449.

lviii FJC Reference Guide on Medical Testimony, Part III A, p. 452-453.

lix FJC Reference Guide on Medical Testimony, Part III A, p. 453.
lx FJC Reference Guide on Medical Testimony, Part III B, p. 455.
lxi FJC Reference Guide on Medical Testimony, Part III C, p. 455-456.
lxii See standard medical textbooks by DeJong, Harrison, or Bates.
lxiii FJC Reference Guide on Medical Testimony, Part III D, p. 457-461.
lxiv FJC Reference Guide on Medical Testimony, Part III A2, p. 454-455.
lxv FJC Reference Guide on Medical Testimony, Part III A2, p. 455.
lxvi FJC Reference Guide on Medical Testimony, Part IV, p. 463.
lxvii
No. 01-CA-1357 (La. 5 Cir. 4/20/02), 817 So.2d 347, 355*, writ den.* 2002-1498 (La. 9/20/02) 2002 WL 31175447.
lxviii 01-0546 (La. App. 5 Cir. 4/10/02), 817 So.2d 255, *rev'd on other grounds*, 827 So.2d 1144, 2002-4343 (La. 10/4/02).
lxix 811 So.2d 116, 2000-2682 (La.App. 4 Cir. 2/20/02).
lxx *Wingfield v. State of Louisiana,* 2001-2668 (La.App. 1 Cir. 11/8/02), 835 So.2d 785, *writ denied,* 2003-0313 (La. 5/30/03), 845 So.2d 1059, 1060.
lxxi61 F.3d 1038 (2nd Cir. 1995).
lxxii61 F.3d 1044 (2nd Cir. 1995).
lxxiii140 F.3d 381 (2nd Cir. 1998).
lxxiv*In Re Paoli R.R. Yard PCB Litigation,* 35 F.3d 717 (3rd Cir. 1994).
lxxv*Benedi v. McNeil-P.P.C., Inc.,* 94-2596, 66 F.3d 1378, (4th Cir. 1995).
lxxvi 178 F.3d 257, 51 Fed. R. Evid. Serv. 682 (4th Cir. 1999).
lxxvii *Id.*, 178 F.3d at 262. See also *Baker v. Dalkon Shield Claimants Trust,* 156 F.3d 248, 252-253, 50 fed. R. Evid. Serv. 115 (1st Cir. 1998).
lxxviii *Kannankeril v. Terminix Intern., Inc.,* 128 F.3d 802, 807, 47 Fed. R. Evid. Serv. 1376 (3d Cir. 1997), *as amended,* (Dec. 12, 1997) (explaining that "differential diagnosis is defined for physicians as 'the determination of which of two or more diseases with similar symptoms is the one from which the patient is suffering, by a systematic comparison and contrasting the clinical findings' " (quoting Stedman's Medical Dictionary 428 (25th ed. 1990)). See also *McCullock v. H. B. Fuller Co.,* 61 F.3d 1038, 1044, 42 Fed. R. Evid. Serv. 1047 (2d Cir. 1995) (describing differential etiology as an analysis " which requires listing possible causes, then eliminating all causes but one"); *Glaser v. Thompson Medical Co., Inc.,* 32 F.3d 969, 978, 40 Fed. R. Evid. Serv. 47, 1994 FED App. 0287P (6th Cir. 1994), *reh'g and reh'g en banc denied*, (Nov. 9, 1994) (recognizing that differential diagnosis is "a standard diagnostic tool used by medical professionals to diagnose the most likely cause or causes of illness, injury and disease").
lxxix For a more extensive discussion see Branch, Turner W. and Branch, Margaret Moses, *Environmental Tort Litigation,* ATLA's Litigating Tort Cases, §67:35, pp. 88-91 (Roxanne Barton Conlin and Gregory S. Cusimano, eds.) (West & ATLA 2003).
lxxx 174 F.3d 661 (5th Cir. 1999).
lxxxi
Moore v. Ashland Chemical, Inc., 151 F.3d 269 (5th Cir. 1998), also authored by Judge W. Eugene Davis.
lxxxii Abuse of discretion is the federal standard of review to be applied to admissibility of an evidentiary opinion. *General Electric Co. v. Joiner,* 118 S.Ct. 512, 139 L.Ed.2d 508 (1997). The seminal case for admissibility of expert testimony is *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).
lxxxiii The Supreme Court set out four non-exclusive factors to aid in the determination of whether the methodology is reliable. They are: (1) whether the theory or technique has been tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the

known or potential rate of error of the method used and maintenance of standards controlling the technique's operation; and (4) whether the theory or method has been generally accepted by the scientific community. *Daubert*, 509 U.S. at 593-94, 113 S.Ct. at 2796-97.

lxxxiv *Curtis,* 174 F.3d at 670, citing *Lakie v. Smithkline Beecham,* 965 F.Supp. 49, 58 (D.D.C. 1997).

lxxxv *Curtis,* 174 F.3d at 671-672.

lxxxvi 151 F.3d 269 (5th Cir. 1998).

lxxxvii *Id.* at 279 (Benavides, J., concurring).

lxxxviii *Id.* at 278.

lxxxix *Curtis v. M & S Petroleum, Inc.,* 174 F.3d 661 (5th Cir. 1999).

xc 288 F.3d 239, 58 Fed. R. Evid. Serv. 1123, Prod.Liab.Rep. (CCH) P 16,309.

xci 526 U.S. 137 (1999).

xcii *See Skidmore v. Percision Printing and Packaging, Inc.,* 188 F.3d 618 (5th Cir. 1999) (holding that the district court properly admitted testimony of a psychiatrist who diagnosed plaintiff because the psychiatrist "testified to his experience, to the criteria by which he diagnosed [the plaintiff], and to the standard methods of diagnosis in his field"); *St. Martin v. Mobil Exploration & Producing U.S., Inc.*, 224 F.3d 402, 406-07 (5th Cir. 2000) (holding that ecologist's first-hand observation of flooded marsh at issue combined with his expertise in marshland ecology were sufficiently reliable bases of his opinion on causation under *Daubert* to admit the testimony).