

American Jurisprudence Proof of Facts 3d  
Database updated April 2014[Categorical List of Articles](#)**Proof of Negligence in Diagnosis and Treatment of Lyme Disease**

Monique C.M. Leahy, J.D.[\*]

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### Topic of Article:

This article presents discussion of medical malpractice for the negligent diagnosis and treatment of [Lyme disease](#). Also included is discussion of other actions involving [Lyme disease](#) such as ERISA and Social Security benefits actions, actions under the Americans with Disabilities Act, employer liability for workers' compensation, and other employer actions. A glossary of medical terms is included. Detailed discussion of medical malpractice for the negligent diagnosis and treatment of [Lyme disease](#) including illustrative discovery, a damages checklist, and expert medical witness testimony is also included. Presented in the Proof sections are illustrative direct testimony of the plaintiff and a medical expert.

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## I. Introduction

### § 1. Introduction to Lyme disease; overview of article

Lyme disease is said to be the most common tickborne infection in both North America and Europe. In the United States, Lyme disease is caused by *Borrelia burgdorferi*, which is transmitted by the bite of the tick species *Ixodes scapularis* and *Ixodes pacificus*. About 20,000 Americans contract Lyme disease every year.[1]

“Connecticut has long been a battlefield in the debate over the treatment of Lyme disease. It was in the Connecticut town of Old Lyme that the infection was discovered in 1975. [In 2007], Connecticut led the nation in the rate of Lyme infections: 51 cases per 100,000 people; other northeastern states also report relatively high rates. In 2006, President Bush was treated for a rash that may have been caused by Lyme disease.”[2]

Controversy clouds the true incidence of Lyme disease because no test is definitively diagnostic for the disease, and many of its symptoms mimic those of many other diseases including chronic fatigue syndrome (CFS), multiple sclerosis (MS), and arthritis.[3]

“Lyme disease is an infection caused by bacteria (germs). The bacteria that cause Lyme disease are carried by deer ticks and western blacklegged ticks. The disease can be passed to animals and people through tick bites. These ticks are about the size of a sesame seed ... People who work outside or in wooded areas, such as park rangers and construction workers, are at most risk of getting Lyme disease. It is most common in rural and suburban areas in the northeastern and midwestern United States.”[4]

Lyme disease is endemic in several regions of the United States, particularly areas of the Northeast, upper Midwest, and northern California. It is the most frequently reported vector-borne disease in the United States. The *Ixodes* tick vectors have a three-stage life cycle: larva, nymph, and adult. The risk of human illness is highest during the time of year when the nymphal stage is seeking a blood meal. The most common clinical manifestation of Lyme disease is a skin lesion called *erythema migrans* that results from cutaneous infection with *B. burgdorferi*. Adults and children of both sexes may be affected. Patients with Lyme disease are evaluated and treated by general practitioners, pediatricians, and internists, as well as by infectious diseases specialists, dermatologists, rheumatologists, neurologists, cardiologists, orthopedists, gynecologists and obstetricians, otolaryngologists, and ophthalmologists.[5]

“[A]nxiety about [Lyme disease](#) may be the most potent factor that drives decision making about [treatment]. There has been considerable publicity about [Lyme disease](#) in the lay press and on the Internet, at times accompanied by near-hysteria about its risks and complications. This publicity, combined with a high frequency of misdiagnosis of [Lyme disease](#) in persons with chronic symptoms from other causes, has resulted in anxiety about [Lyme disease](#) that is out of proportion to the morbidity associated with it. There is substantial evidence that in the vast majority of patients with [Lyme disease](#) conventional treatment with antimicrobials is very effective and the long-term outcomes are excellent. Educating patients with tick bites about the excellent prognosis even if [Lyme disease](#) develops may be a better tonic for anxiety than [doxycycline](#).”[6]

Some states have enacted legislation concerning [Lyme disease](#). The Lyme Disease Association, Inc. lists this legislation.[7]

The focus of this article is proof of medical malpractice in the diagnosis and treatment of [Lyme disease](#), as proving an improper diagnosis and ineffective treatment by the treating physician can be difficult during litigation.[8] The article discusses what [Lyme disease](#) is, its diagnosis and resulting manifestations,[9] and treatment, including the controversy regarding chronic Lyme therapy.[10] Discussion of other actions involving [Lyme disease](#) is included.[11]

Liability for the negligent diagnosis and treatment of [Lyme disease](#) is covered,[12] and a checklist of the elements of proof is provided.[13]

Discovery considerations for litigation involving [Lyme disease](#) are discussed and model discovery is provided.[14]

Damages[15] and expert medical witness testimony[16] are discussed.

Illustrative proof of negligence in the diagnosis and treatment of [Lyme disease](#) is presented.[17]

## § 2. [Lyme disease](#)

The Centers for Disease Control states [Lyme disease](#) is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans by the bite of infected blacklegged ticks. Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called *erythema migrans*. If left untreated, infection can spread to joints, the heart, and the nervous system.[1]

About 15% of those who have a [skin lesion](#) develop neurological abnormalities several months later. These include [meningitis](#), [cranial](#) or [peripheral neuritis](#), and migratory musculoskeletal pain. A smaller percentage develops myocardial abnormalities. The final phase occurs months to years after infection, when 50% of patients who displayed the lesion develop intermittent [chronic arthritis](#) involving many joints.[2]

*B. burgdorferi* has been shown to survive for as long as 45 days in stored blood and fresh frozen plasma and for six days in packed red blood cells. Therefore, the disease may be ac-

quired through [blood transfusion](#).<sup>[3]</sup>

Other [tick-borne infections](#) associated with [Lyme disease](#) are human granulocytic [anaplasmosis](#) (HGA) and [babesiosis](#). HGA is an acute illness caused by a bacterium called *Anaplasma phagocytophilum*, and the most common symptoms are headache, fever, chills, and muscle pain. [Babesiosis](#) is a [parasitic infection](#) that affects the red blood cells and also can cause viral-like symptoms. [Babesiosis](#) usually does not cause significant symptoms in healthy people. Severe [babesiosis](#) may occur in people who are elderly or have compromised immune symptoms. Treatment for HGA or [babesiosis](#) typically includes a short course of antibiotic therapy.<sup>[4]</sup>

### § 3. Prevention

Prevention of the contraction of [Lyme disease](#) includes using insect repellent, removing ticks promptly, landscaping, and integrated pest management. The ticks that transmit [Lyme disease](#) can occasionally transmit other tick-borne diseases as well.<sup>[1]</sup>

The best currently available method for preventing infection with *B. burgdorferi* and other *Ixodes* species-transmitted pathogens is to avoid exposure to vector ticks. If exposure to *I. scapularis* or *I. pacificus* ticks is unavoidable, measures recommended to reduce the risk of infection include the use of both protective clothing and tick repellents, checking the entire body for ticks daily, and prompt removal of attached ticks before transmission of these microorganisms can occur.<sup>[2]</sup>

Some cities and towns have enacted ordinances in an effort to prevent the spread of [Lyme disease](#). For example, in [Singer v. Township of Princeton](#), 373 N.J. Super. 10, 860 A.2d 475 (App. Div. 2004), township residents brought action challenging constitutionality of township ordinance prohibiting the purposeful or knowing feeding of wild deer on public and private lands throughout the township. The appeals court held that the township ordinance prohibiting the purposeful or knowing feeding of wild deer on public and private lands did not violate substantive due process, and the ordinance was not overbroad. The ordinance was enacted in recognition that deer overpopulation was not only threatening the viability of the deer herds but was also causing ecological and environmental degradation, landscape damage, the spread of [Lyme disease](#), and an increase in vehicular accidents.

### § 4. Diagnosis and resulting physical manifestations

[Lyme disease](#) is diagnosed based on symptoms, physical findings (e.g., rash), and the possibility of exposure to infected ticks; laboratory testing is helpful in the later stages of the disease.<sup>[1]</sup> When the characteristic skin rash is present, [Lyme disease](#) is diagnosed clinically based on visual inspection of the patient by the doctor. For all other manifestations, [Lyme disease](#) is diagnosed based on the patient's history and the doctor's examination of the patient in conjunction with a positive laboratory test result. The most commonly used laboratory test is a blood test which determines whether the patient has developed antibodies to the *Borrelia burgdorferi* bacteria.<sup>[2]</sup> [Lyme disease](#) is diagnosed by the presence of an IgG antibody several weeks after infection. One diagnostic difficulty is the great variation in clinical expression—90% of patients who are infected have no symptoms and may have positive [Lyme titers](#)

that are not diagnostic of the disease.[3]

Clinical manifestations most often involve the skin, joints, nervous system, and heart. Extracutaneous manifestations are less commonly seen than in earlier years. Early cutaneous infection with *B. burgdorferi* is called [erythema migrans](#), which is the most common clinical manifestation of [Lyme disease](#). The great majority of people who are infected with [Lyme disease](#) develop a large (three inches or more) circular, red rash surrounding the site where a tick attached. They may also develop nonspecific symptoms such as muscle and joint aches. Infection occurs from three to 30 (average 10) days after a tick bite, but most people do not recall the bite because the ticks are small and the bite usually is not itchy or painful. Less commonly, [Lyme disease](#) can cause [arthritis](#), [facial paralysis](#) and other neurological problems, or an abnormally slow heart rate. While patients with [Lyme disease](#) may have muscle and joint aches, these symptoms usually accompany objective signs like the rash or [arthritis](#) and virtually never are the only symptoms in persons with [Lyme disease](#) who have longer-term complaints.[4]

Clinical manifestations of [Lyme disease](#) have been categorized into three stages, which do not necessarily occur in sequence nor appear within a uniform period of time. Stage I is characterized by a rash that develops at the site of an infected tick bite, which may appear with or without a fever. There may also be no symptoms. The characteristic rash appears in a circle around the site, with a diameter averaging 15 cm. Usually, the outer border is flat and bright red, but there are variations on the pattern, from concentric circle to a rash with irregular margins. The rash resolves within a few weeks, even without treatment. Stage II consists of [influenza](#) or meningitis-like symptoms, including headache, fever and chills, arthralgias, stiff neck, malaise, and fatigue. There may be acute cardiac and neurological abnormalities, as well. Neurological manifestations include difficulty concentrating, earache, bilateral [facial palsy](#), dizziness, and photophobia, with the headache and stiff neck. Usually, symptoms cluster, which is a strong indication of [Lyme disease](#). Cardiac involvement is commonly indicated by lightheadedness, palpitations, chest discomfort, and dyspnea, and appears as a fluctuating atrioventricular (AV) block from first to third degree. Stage III, or the late persistent infection stage, may occur weeks, months, or years after the initial infection, and is manifested by one or more attacks of [monoarthritis](#) or [oligoarthritis](#), which last from several days to several months. Pain, stiffness, and swelling of the affected joint, usually the knee, are the most frequent complaints, with attacks diminishing in frequency and severity over time. Generalized pain and morning stiffness are not characteristic of this disease. Chronic neurological symptoms are experienced by some patients at stage III, with generalized fatigue, sleep disorder, widespread musculoskeletal pain, and headache.[5]

[Lyme disease](#) must be distinguished from [arthritis](#). To distinguish [Lyme disease](#) from [arthritis](#), the diagnostician may look to the manifestations of [arthritis](#), as well as extra-articular manifestations. [Arthritis](#) as part of [Lyme disease](#) is usually episodic and oligoarticular, as opposed to chronic, or progressive. [Reiter's syndrome](#), or [reactive arthritis](#), causes the same type of [arthritis](#)—[oligoarthritis](#)—usually affecting the knee joints. However, there are generally extra-articular manifestations at the same time, such as [conjunctivitis](#), or axial skeletal involvement, which distinguish it from [Lyme disease](#). [6]

## § 5. Treatment of **Lyme disease**; chronic cases

Most cases of **Lyme disease** can be treated successfully with a few weeks of antibiotics.[1]

Treatment usually involves 10 to 28 days of oral antibiotics and is highly effective. When **Lyme disease** is diagnosed and treated quickly, 95% of people are cured within a few weeks of treatment.[2]

A single dose of **doxycycline** may be offered to adult patients (200 mg dose) and to children of less than eight years of age (4 mg/kg up to a maximum dose of 200 mg) when all of the following circumstances exist: (a) the attached tick can be reliably identified as an adult or nymphal *I. scapularis* tick that is estimated to have been attached for less than 36 hours on the basis of the degree of engorgement of the tick with blood or of certainty about the time of exposure to the tick; (b) prophylaxis can be started within 72 hours of the time that the tick was removed; (c) ecologic information indicates that the local rate of infection of these ticks with *B. burgdorferi* is less than 20%; and (d) **doxycycline** treatment is not contraindicated. **Doxycycline** is contraindicated in pregnant women and children of less than eight years old. The time limit of 72 hours is suggested because of the absence of data on the efficacy of **chemoprophylaxis** for tick bites following tick removal after longer time intervals. Infection of less than 20% of ticks with *B. burgdorferi* generally occurs in parts of New England, in parts of the mid-Atlantic States, and in parts of Minnesota and Wisconsin, but not in most other locations in the United States. Persons who have removed attached ticks from themselves (including those who have received antibiotic prophylaxis) should be monitored closely for signs and symptoms of tick-borne diseases for up to 30 days; in particular, they should be monitored for the development of an expanding **skin lesion** at the site of the tick bite (**erythema migrans**) that may suggest **Lyme disease**. Persons who develop a **skin lesion** or viral infection-like illness within one month after removing an attached tick should promptly seek medical attention to assess the possibility of having acquired a **tick-borne infection**.[3]

**Doxycycline** (100 mg twice per day), **amoxicillin** (500 mg three times per day), or **cefuroxime axetil** (500 mg twice per day) for 14 days (range, 10 to 21 days for **doxycycline** and 14 to 21 days for **amoxicillin** or **cefuroxime axetil**) is recommended for the treatment of adult patients with early localized or early disseminated **Lyme disease** associated with **erythema migrans**, in the absence of specific neurologic manifestations or advanced **atrioventricular heart block**. Macrolide antibiotics are not recommended as first-line therapy for early **Lyme disease** because those macrolides that have been compared with other antimicrobials in clinical trials have been found to be less effective. First-generation cephalosporins, such as **cephalexin**, are ineffective for treatment of **Lyme disease** and should not be used.[4]

The use of **ceftriaxone** (2 g once per day intravenously for 14 days; range, 10 to 28 days) in early **Lyme disease** is recommended for adult patients with acute **neurologic disease** manifested by **meningitis** or **radiculopathy**. For children, **ceftriaxone** (50 to 75 mg/kg per day) in a single daily intravenous dose (maximum, 2 g) is recommended.[5]

Adult patients with late **neurologic disease** affecting the central or peripheral nervous system should be treated with intravenous **ceftriaxone** for two to four weeks. **Ceftriaxone** is also

recommended for children with late neurologic [Lyme disease](#).<sup>[6]</sup>

The remaining 5% of [Lyme disease](#) patients, those whose symptoms do not resolve after an initial course of antibiotics, may experience continuing problems and may go on to develop a type of [arthritis](#) affecting the knee or other large joint, and about 10% to 20% will develop neurological problems or an abnormally slow heart rate. These patients may require up to 28 days of antibiotic therapy. Long-term therapy for so-called chronic [Lyme disease](#) can involve weeks, months, and even years of intravenous antibiotics although there is little evidence this antibiotic therapy cures or suppresses the infection and may result in overuse of the antibiotic.<sup>[7]</sup> In 2006, the Infectious Diseases Society of America published treatment guidelines. According to the Washington Post newspaper,<sup>[8]</sup> “The guidelines use the term ‘post Lyme syndrome’ for cases in which the lingering symptoms are severe. However, the guidelines do not recognize ‘chronic’ Lyme because there is no evidence the disease's bacteria remain alive in humans after a standard course of antibiotic therapy and because there is no good evidence that repeated or prolonged courses of antibiotics help patients. Because insurers often won't pay for treatment outside the guidelines, activist groups are fighting to have the rules changed.”<sup>[9]</sup>

Antibiotic treatment for [Lyme disease](#) may result in other litigation, such as products liability or breach of warranty. For example, in *Rite Aid Corp. v. Levy-Gray*, 391 Md. 608, 894 A.2d 563, 59 U.C.C. Rep. Serv. 2d 807 (2006), a customer who took [doxycycline](#) to treat [Lyme disease](#) brought an action against a pharmacy to recover for negligence, breach of warranty, and products liability on the theory that the patient package insert (PPI) suggested compatibility with food or milk and that her ingestion of milk and other dairy products reduced absorption, thereby proximately causing post-Lyme syndrome. The court held that the pharmacy's recommendation to take [doxycycline](#) with food or milk if stomach upset occurred could be treated as an express warranty that the [doxycycline](#) was compatible with milk consumption, and this affirmation could become part of the basis of the bargain and, thus, be an express warranty, even if the affirmation was not a negotiated term of the agreement, and the consumer was unaware of its existence prior to the consummation of the deal. The learned intermediary doctrine did not insulate the pharmacy from liability for breach of express warranty in the patient package insert, and the evidence supported the jury verdict on breach of warranty.<sup>[10]</sup> A products liability claim may be asserted concerning a [Lyme disease](#) vaccine. In *Vesperman v. Wormser*, 283 A.D.2d 637, 725 N.Y.S.2d 361 (2d Dep't 2001), a fact issue as to the adequacy of the warnings provided by the sponsor of an experimental vaccine for [Lyme disease](#) to a physician, who was in charge of the investigational study of the vaccine, and as to the sponsor's vicarious liability for acts of the physicians and medical school relating to the study, precluded summary judgment on the study participant's medical malpractice and strict products liability claims.

## **§ 6. [Lyme disease](#) and ERISA, Social Security, and insurance benefits**

Several cases involving benefits for the contraction of [Lyme disease](#) have been litigated. These involve benefits under the Employee Retirement Income Security Act (ERISA), Social Security, and other benefits including under insurance policies. The following discusses some of these cases.

- ERISA[1]

In [Lamanna v. Special Agents Mut. Benefits Ass'n](#), 546 F. Supp. 2d 261 (W.D. Pa. 2008), a participant, who had been diagnosed by her treating physicians with [fibromyalgia](#), chronic fatigue syndrome, or both sued the plan administrator under the Employee Retirement Income Security Act (ERISA), challenging termination of long-term disability benefits. The participant and administrator moved for summary judgment. According to a report to one of her physicians, Ms. Lamanna was in good health until July or August 1992 when she began to experience a [flu-like illness](#) with aches, pains, fever, sore throat, headaches, and profound fatigue. After a week or so, all the symptoms disappeared except for significant chronic fatigue, muscle achiness, and weakness. Ms. Lamanna consulted a physician who diagnosed her with [hypothyroidism](#) and began treating her with thyroid replacement therapy. In October 1993, after she collapsed while jogging, she was admitted to a hospital in Greenwich, Connecticut, for heart palpitations. Doctors there concluded she had been misdiagnosed and that treatment with thyroid replacement had actually resulted in [hyperthyroidism](#). In addition, they discovered that she had a positive test result for [Lyme disease](#) which Ms. Lamanna could have contracted from possible exposure to ticks during weapons field training required by the FBI. The court held that the termination of the long-term disability benefits of the ERISA participant was arbitrary and capricious.[2]

Similarly, in [Pikulas v. DaimlerChrysler](#), 397 F. Supp. 2d 883 (E.D. Mich. 2005), a participant, who had been diagnosed with [chronic fatigue syndrome](#), [Lyme disease](#), and Epstein-Barr virus, sued the administrator to recover long-term disability benefits under ERISA. The court held that the denial of benefits was arbitrary and capricious.[3] Also, in [Dunn v. Standard Ins. Co.](#), 156 F. Supp. 2d 227, 26 Employee Benefits Cas. (BNA) 2593 (D. Conn. 2001), the ERISA plan administrator's denial of long-term disability benefits for [Lyme disease](#) was not arbitrary or capricious when based on objective medical evidence including the negative results of three laboratory [tests for Lyme disease](#), a general similarity between the plaintiff's symptoms during and after the disqualifying exclusion period, and its physician's conclusion that an abnormal MRI and brain SPECT (single proton emission resonance imagery technology) scan results were "nonspecific" for a diagnosis of [Lyme disease](#). [4]

Genuine issues of material fact existed as to whether an ERISA plan participant's alleged medical conditions, including [Lyme disease](#), rendered him disabled within the meaning of the ERISA plan, precluding summary judgment in this action challenging the termination of long-term disability benefits.[5]

Tort and contract claims for a denial of experimental [Lyme disease](#) treatment were preempted by ERISA as the insurance policies derived from ERISA plans continued to be governed by ERISA even after conversion upon termination of the employment. However, ERISA does not preempt an insured's claims against a health insurer arising after termination of the insured's employment, absent a showing that the insured's individual policy was converted from a group policy governed by ERISA.[6]

- Social Security

In [Foley v. Barnhart](#), 432 F. Supp. 2d 465 (M.D. Pa. 2005), the claimant appealed a decision of the Commissioner of Social Security Administration (SSA) denying disability benefits for [fibromyalgia](#) and [Lyme disease](#). Remand was appropriate following the district court's determination that the administrative law judge (ALJ) did not properly evalu-

ate the treating physician's opinion in determining that the Social Security disability claimant was not disabled, inasmuch as the court could not say there was no question as to whether a different result would have been reached had the ALJ properly analyzed the evidence.[7]

Substantial evidence supported an ALJ's determination that the claimant was able to perform her job as a cashier as of the date that her insured status expired, and thus was not entitled to Social Security Disability Insurance benefits, despite her vestibular disturbance, [dystonia](#), and [Lyme's disease](#).[8]

- Insurance benefits

Even if a claimant suffered from [Lyme disease](#), the claimant, seeking long-term disability benefits, failed to establish that she was totally disabled under her disability insurance policy, which required a showing that the claimant's condition prevented her from performing the material duties of any occupation for which she was qualified, given the claimant's acknowledgement, on an activities-level questionnaire, that she could perform household activities consistent with work, including laundry, meal preparation, housekeeping, grocery shopping, driving, and yard care, and could use a computer, and given the claimant's refusal to undergo a vocational assessment that would have determined the type of job duties she could or could not perform. The claimant's receipt of disability benefits from the Social Security Administration (SSA) was not necessarily reliable evidence that the claimant was "totally disabled" under the terms of her disability insurance policy, particularly given that the policy and SSA operated under different standards. A reasonable inference from the Chapter 7 debtor's conduct in indicating, on the disability benefits claim form, that her symptoms from her purported [Lyme disease](#) first appeared on a specified date and in not revealing that she had been tested for [Lyme disease](#) in the previous year and had first been diagnosed with the disease approximately eight years earlier was that the debtor believed her symptoms, at the time she completed the form, resulted from a new infection, rather than a preexisting condition, and therefore the debt to the insurers for overpayment of disability benefits did not fall within the discharge exception for actual fraud.[9]

Under New York law, compliance with the notice of claim provision in an insurance policy is a condition precedent to an insurer's liability under the policy. An insured's affidavit on summary judgment stating that she did not timely file a disability claim based on a visual impairment because her physician initially and mistakenly diagnosed her with [Lyme disease](#) instead of [multiple sclerosis](#) did not prove "excusable delay" as the physician told the insured that the visual impairment rendered her disabled from her job as a radiologist, and an affidavit contradicted other reasons the insured gave for the delay in her deposition.[10]

## § 7. Americans with Disabilities Act

[Lyme disease](#) may result in disability under the Americans with Disabilities Act (ADA). In [Levine v. Smithtown Cent. School Dist.](#), 565 F. Supp. 2d 407, 236 Ed. Law Rep. 366 (E.D. N.Y. 2008), to the extent that a probationary school psychologist claimed that her [bipolar disorder](#) and [Lyme disease](#) limited her life activity of working, her inability to work for four, or even six, months was not substantially limiting, as would support a psychologist's argument that she was disabled within the meaning of the ADA. The probationary school psychologist's

impairments, namely [bipolar disorder](#) and [Lyme disease](#), did not limit her major life activity of caring for herself, or any other major life activity, as would support the psychologist's claim that she was disabled within the meaning of the ADA, and stating that she was "unable to drive for a time," without specifying that that period was during the time span when she was hired and fired by the school district, or what period was meant, was insufficient to support the probationary school psychologist's claim that her impairments, namely, [bipolar disorder](#) and [Lyme disease](#), substantially limited her major life activities, as would render her disabled within the meaning of the ADA. Stating that at some point she had to move in with her mother so that her mother could care for her, without specifying when and for how long, was insufficient to support the probationary school psychologist's claim that her impairments substantially limited her major life activities, as would render her disabled within the meaning of the ADA.[1]

### **§ 8. Insurance contract actions**

A health insurer did not owe the insureds a duty to perform its contractual obligations with reasonable care, so as to give rise to an independent tort actionable by the insureds when the insurer denied coverage for intravenous antibiotic treatment of [Lyme disease](#). The injury to the insureds because of the alleged improper denial of claims was solely financial, and the insureds essentially sought the benefit of the bargain by compelling the insurer to pay for allegedly medically necessary services. The health insurer did not engage in conduct outside the contract intended to defeat the contract, so as to give rise to tort liability, when it periodically amended and revised its policy with respect to the treatment of [Lyme disease](#) in response to published, peer-reviewed studies. While the insurer's conduct may have resulted in stricter standards that made it more difficult for policyholders to establish that [intravenous antibiotic therapy](#) was medically necessary to treat [Lyme disease](#), it was not intended to defeat the contract.[1]

### **§ 9. Employer liability: workers' compensation, FELA, other actions**

#### **[Cumulative Supplement]**

An employer may be liable for workers' compensation benefits, Federal Employers Liability Act claims, and other actions for employees who contract [Lyme disease](#).

[Lyme disease](#) may be compensable under state workers' compensation laws when the disease is contracted "arising out of" and "in the course of" the employment. The "arising out of" requirement refers to the origin or cause of the disease, and the "in the course of" requirement refers to the time, place, and circumstances of the casual event, here a tick bite.[1]

In *Grano v. Long Island R. Co.*, 818 F. Supp. 613 (S.D. N.Y. 1993), employees of a railroad who contracted [Lyme disease](#) while working on signal equipment brought Federal Employers' Liability Act (FELA) claims. The district court held that the railroad breached its duty to provide a safe workplace as FELA requires an employer to provide its employees with a reasonably safe place to work and this includes the duty to maintain and inspect work areas. In this case, the railroad breached its duty under FELA to provide a safe workplace for its employees who contracted [Lyme disease](#) while working on signal equipment in areas of high

grass and weeds, as the railroad knew or should have known of a [tick infestation](#) in the signal equipment areas and of the risk of transmission of [Lyme disease](#) by deer ticks.[2]

However, a female United States Postal Service employee's alleged harassment by a male coworker, including an incident in which the coworker “grabbed his crotch” in front of her, was not so difficult or unpleasant that a reasonable person in her shoes would have felt compelled to resign, as required for her constructive discharge claim, and even if the employee's working conditions were “extremely embarrassing,” it was the employee's [Lyme disease](#) that caused her to resign.[3]

A genuine issue of material fact existed as to the foreseeability of the employee's alleged contraction of [Lyme disease](#) and as to whether the employer knew, or should have known, that [Lyme disease](#) was a potential hazard which could be contracted by its employees while walking along railroad tracks, yet failed to exercise reasonable care to inform and protect its employees, precluding summary judgment on the employee's claim against the employer under FELA.[4]

## CUMULATIVE SUPPLEMENT

### Cases:

Substantial evidence supported determination of Workers' Compensation Board, that claimant's [motor neuron disease](#) was consequential to his established claim for [Lyme disease](#), and award of further workers' compensation benefits; although carrier presented opinions of several neurologists who could not state with certainty that claimant's [Lyme disease](#) was cause of [motor neuron disease](#), claimant presented testimony of his treating physician who stated that claimant suffered from significant [muscle atrophy](#) that rendered him totally disabled, which he attributed to claimant's [Lyme disease](#), testimony of board-certified neurologist who opined that claimant's progressive muscle weakness and consequent total disability was causally related to [Lyme disease](#), and testimony of his treating psychiatrist who indicated that claimant suffered from [Lyme disease](#), which had prompted [autoimmune reaction](#) that produced symptoms in claimant that resembled [amyotrophic lateral sclerosis](#). *Bailey v. Ben Ciccone, Inc.*, 104 A.D.3d 1017, 960 N.Y.S.2d 736 (3d Dep't 2013).

[\[Top of Section\]](#)

[END OF SUPPLEMENT]

### § 10. Medical glossary

The following medical terms are commonly used when discussing [Lyme disease](#):<sup>[1]</sup>

- [Babesiosis](#)—A disease caused by protozoa of the genus *Babesia* characterized by a malaria-like fever, [anemia](#), vomiting, muscle pain, and enlargement of the spleen. [Babesiosis](#), like [Lyme disease](#), is carried by a tick.
- [Bell's palsy](#)—[Facial paralysis](#) or weakness with a sudden onset, caused by swelling or inflammation of the seventh cranial nerve, which controls the facial muscles. Disseminated [Lyme disease](#) sometimes causes [Bell's palsy](#).<sup>[2]</sup>

- Blood-brain barrier—A blockade of cells separating the circulating blood from elements of the central nervous system (CNS); it acts as a filter, preventing many substances from entering the central nervous system.
- Cerebrospinal fluid—Clear fluid found around the brain and spinal cord and in the ventricles of the brain.
- Disseminated—Scattered or distributed throughout the body. [Lyme disease](#) that has progressed beyond the stage of localized EM is said to be disseminated.
- [Erythema migrans](#) (EM)—A red skin rash that is one of the first signs of [Lyme disease](#) in about 75% of patients.
- [Lyme borreliosis](#)—Another name for [Lyme disease](#).
- Spirochete—A spiral-shaped bacterium. The bacteria that cause [Lyme disease](#) and [syphilis](#), for example, are spirochetes.
- Vector—An animal carrier that transfers an infectious organism from one host to another. The vector that transmits [Lyme disease](#) from wildlife to humans is the deer tick or blacklegged tick.
- [Zoonosis](#) (plural, [zoonoses](#))—Any disease of animals that can be transmitted to humans under natural conditions. [Lyme disease](#) and [babesiosis](#) are examples of [zoonoses](#).

## II. Negligent Diagnosis and Treatment of [Lyme Disease](#)

### § 11. Liability, generally

Traditional theories of tort negligence law in general<sup>[1]</sup> and medical malpractice in particular,<sup>[2]</sup> may be available for a cause of action for the negligent diagnosis and treatment of [Lyme disease](#).

The distinction between ordinary negligence and malpractice has been said to turn on whether the acts or omissions complained of involve a matter of medical science or art requiring special skills not ordinarily possessed by lay persons, or whether the conduct complained of can instead be assessed on the basis of the common everyday experience of the trier of facts. When the incompetence alleged is of specialized medical nature, deriving from the physician-patient relationship, and substantially related to medical diagnosis and treatment, the action it gives rise to is by definition one for medical malpractice rather than for simple negligence.<sup>[3]</sup> In [Russo v. Shah](#), 278 A.D.2d 474, 718 N.Y.S.2d 74 (2d Dep't 2000), the claims arising from the physician's failure to diagnose [Lyme disease](#) sounded in medical malpractice, not simple negligence.<sup>[4]</sup>

All negligence actions require the plaintiff to establish a standard of care, a breach of that standard, an injury, and a causal relationship between the injury and the breach of that duty.<sup>[5]</sup> ] Also, the burden of proof for a prima facie medical negligence case may be codified by statute.

A prima facie case of medical malpractice generally needs to be proven through expert medical testimony, as to the applicable standard of care and whether or not the treatment, or course of treatment, was a deviation from the standard of care, as well as whether or not the treatment caused plaintiff's injuries.<sup>[6]</sup>

## § 12. Lyme disease liability

In *Tetreault v. Eslick*, 271 Conn. 466, 857 A.2d 888 (2004), a mother brought a medical malpractice action on behalf of herself and her child against a pediatrician and nurse practitioner, alleging that their failure to diagnose and treat the child's Lyme disease resulted in the child's subsequent health problems, including the necessity that the child have his gall bladder removed. The general verdict rule precluded appellate review of the claim of the mother and child that the trial court improperly allowed the pediatrician to raise the special defense that another physician's allegedly negligent care and treatment of the child constituted a superseding cause of any injuries that the child might have suffered as a result of any possible negligence by the pediatrician in failing promptly to diagnose and treat the child's Lyme disease. The pediatrician's amended answer denied the allegations of the complaint and asserted the special defense of superseding cause, and, without jury interrogatories, the Connecticut Supreme Court was unable to discern whether the mother had failed to prove the allegations in the complaint, or whether the jury found that the pediatrician had prevailed on her special defense.[1]

A child and his parents initiated a medical malpractice action against a pediatric gastroenterologist for failure to diagnose the child's medical condition as Lyme's disease. An expert affidavit opining that the pediatric gastroenterologist's failure to include Lyme's disease in the differential diagnosis, when presented with the child's history and symptoms, was a breach of the standard of care created a genuine issue of material fact as to whether the gastroenterologist's failure to diagnose and treat the condition was the proximate cause of the child's injuries, precluding summary judgment for the gastroenterologist. The nonparty doctor's affidavit failed to carry the burden of proving the nonexistence of a material fact as to the plaintiff's negligence claim of failure to recognize a skin rash as Lyme disease. Although the nonparty doctor's affidavit stated that the defendant doctor had no duty to diagnose and treat the skin rash being treated by other physicians, the plaintiff had alleged in his complaint that when presented with his history and physical examination, the defendant doctor had a duty to diagnose and treat Lyme disease, of which a skin rash was a mere symptom, and the failure to recognize the symptoms as Lyme disease, not the failure to treat the rash, was the negligence alleged.[2]

In the unpublished opinion of *Ferris v. Riegler*, 2007 WL 2482508 (Conn. Super. Ct. 2007), the plaintiff's claims of medical malpractice arose out of an alleged failure to test and diagnose the plaintiff with Lyme disease during an emergency room visit which resulted in the plaintiff receiving electroconvulsive therapy treatments (ECT), seizures induced by the ECT, an alleged delay in receiving proper treatment for Lyme encephalitis, and permanent brain damage. The court held that having presented no evidence to establish a question of material fact in regard to both the duty of care and causation the plaintiff's objection to the motions for summary judgment were overruled and the motions for summary judgment of all of the defendants were granted.[3]

### III. Elements of Proof

## § 13. Proof of Lyme disease; checklist

The following facts and circumstances, among others, provide a checklist as an aid to counsel to establish a plaintiff's health history, contraction of [Lyme disease](#), and that the plaintiff suffered injury as a result of the defendant physician's failure to diagnose [Lyme disease](#), or failure to exercise the standard of care ordinarily practiced by physicians resulting in the negligent diagnosis and treatment of the plaintiff's [Lyme disease](#).

- Patient's medical history
  - Prior illnesses and injuries
  - Prior hospitalizations
  - Current prescriptions, medications, and other aids
- Patient's [Lyme disease](#)
  - Initial symptoms:
    - Red, circular skin rash
    - Influenza or meningitis-like illness
    - Muscle or joint aches and pains
    - Fever and chills
    - Fatigue and malaise
    - Headache
    - Lightheadedness
    - Earache
    - Stiff neck
    - Disturbed sleep
    - Dizziness
  - Later stage symptoms:
    - Neurological symptoms such as difficulty concentrating, facial palsy
    - Heart involvement such as palpitations, chest discomfort
    - Severe and continuing muscle or joint pain
- Doctor's examination and diagnosis

- Failure to take or the incomplete taking of the patient's medical history
- Failure to inquire about symptoms
- Failure to do visual exam of patient:
  - Failure to view patient's skin for rash or attached tick
  - Failure to examine patient for neurological symptoms including difficulty concentrating, earache, bilateral facial palsy, dizziness, stiff neck
  - Failure to examine patient for heart problems including lightheadedness, palpitations, chest discomfort, slow heart rate
  - Failure to examine patient for muscle or joint problems; arthritis-like symptoms, particularly of knees
  - Failure to inquire about exposure to ticks
  - Failure to order blood or other tests
  - Failure to make differential diagnosis eliminating other causes of the patient's symptoms
  - Failure to diagnose Lyme disease based on patient symptoms, examination, and testing
  - Extensive length of time between patient's initial doctor visit and diagnosis of Lyme disease
  - Unexplained delay in rendering diagnosis
- Treatment
  - Failure to prescribe antibiotic treatment to patient
  - Unexplained delay in providing treatment resulting in increased harm
  - Ineffective or inadequate treatment
  - Failure to change treatment if initial antibiotic ineffective
- Patient's recovery and continuing problems
  - Course and success of recovery or degree of impairment when there is no full recovery
  - Degree of impairment suffered by patient as a result of delay of diagnosis and/or treatment

- Degree of impairment suffered by patient as a result of physician's choice of treatment
- Lost chance for improved recovery or lessened impairment
- Residual effects such as continuing joint pain, fatigue
- Prognosis for future health
- Impact on patient's life including ability to work
- Expert medical opinion
  - Opinion that patient had exhibited symptoms of Lyme disease
  - Opinion as to generally accepted standard of diagnosis and treatment of Lyme disease
  - Opinion as to generally accepted treatment of Lyme disease
  - Opinion that defendant failed to adhere to general standards, and, therefore, breached duty to patient
  - Opinion that defendant's breach caused damages to patient:
    - Increased risk of physical problems and harm to patient
    - Increased severity of side effects of treatment
    - Increased progression of disease as a result of breach
    - Lost chance for improvement of condition, lessening of progression of disease or improved prognosis as a result of defendant's breach
    - Patient's continuing problems are result of the defendant's negligent diagnosis and treatment

## IV. Discovery

### § 14. Discovery, generally

Cases involving medical information require discovery, often detailed and extensive discovery. Specifically, document requests for medical records and other documentary evidence, depositions of treating physicians, medical experts, and nonphysician staff such as nurses, and other discovery is needed to prove, or disprove, the claim.

The goal of pretrial discovery in the negligent diagnosis and treatment of [Lyme disease](#) cases is to obtain information about the medical condition of the plaintiff before and after the contraction of the [Lyme disease](#), the physician's diagnosis and treatment, and facts and circumstances that tend to prove the physician's negligence.[1] Evidence of the impact of the injury on the plaintiff's life activities should also be developed. Discovery will involve inter-

viewing the client, witnesses, physicians, experts, and others for information about the plaintiff and the infection injury. It will also involve obtaining documents, photographs, and other evidence.

There are several discovery methods that should be considered when gathering this information. Document requests, interrogatories, and depositions will aid counsel when preparing the case. Counsel should prepare a preliminary list of all documents the opposing party could have that may contain important information, and send document requests. Counsel should draft interrogatories and deposition questions to obtain information about the allegations and defenses of the opposing party, particularly any medical expert opinions about the diagnosis and treatment of [Lyme disease](#).<sup>[2]</sup>

Discovery must be conducted in a timely manner, or further discovery may be denied. Also, discovery cannot be unduly burdensome.<sup>[3]</sup> Some discovery is protected as work product.<sup>[4]</sup>

Initial discovery and further litigation documents may reveal the need for additional discovery. For example, in an employment action alleging the employer discriminated against the plaintiff based on her disability resulting from [Lyme disease](#), the plaintiff opposed the defendant's motion for summary judgment and requested a continuance to conduct further discovery.<sup>[5]</sup> In this motion, the plaintiff argued the evidence established that in October 2002, in preparation for a prior reduction in force, the defendant ranked plaintiff more favorably than all but one employee in her group. Just eight months later, in May 2003, after plaintiff's health severely deteriorated as a result of [Lyme disease](#), the defendant ranked plaintiff fourth out of six systems engineers in her workgroup. At the same time defendant was conducting this second forced ranking at the end of May 2003, plaintiff's health had deteriorated to the point that she was hospitalized on June 1, beginning an extended disability leave. In December 2003, plaintiff returned to work in a wheelchair. According to defendant, while plaintiff was on disability leave, the company decided to disband the New Business Capture team plaintiff worked with. As a result, all six systems engineering positions were eliminated. However, defendant transferred all the nondisabled males in plaintiff's group to other positions within the company, including a nondisabled male that was rated lower in the May forced ranking. All but one of the men were transferred to positions in the Sprint Group, a customer that plaintiff had successful prior experience working with while employed at defendant. The only two females in plaintiff's former NBC Group, plaintiff and Amy Doyle, were terminated. The evidence also established that at the time plaintiff was discharged, defendant had additional openings for systems engineers in the Sprint Group where the nondisabled men from NBC were transferred. Subsequent to plaintiff's termination, defendant increased headcount in the Sprint Group by hiring a male systems engineer from outside the company within two weeks of plaintiff's termination. Therefore, the plaintiff argued, to the extent defendant attempted in its reply brief to offer some, legitimate nondiscriminatory reason for this blatant disparate treatment, plaintiff's motion for additional discovery under 56(f) must be granted as plaintiff must be afforded the chance to probe the veracity of defendant's excuse(s) for its failure to transfer her to the open positions.

## § 15. Depositions

Oral depositions present a distinct advantage by giving counsel the opportunity to ascertain the nature and extent of the deponent's knowledge and the testimony to be expected at trial. Counsel can then evaluate the strengths and weaknesses of the case. In some instances, counsel may even arrive at additional, alternative, or new theories for developing the allegations or defenses.<sup>[1]</sup> It has been said by many practitioners that the deposition can make or break a case.

In cases involving the negligent diagnosis and treatment of [Lyme disease](#), important information may be obtained from an oral deposition regarding the physician's standard of care and breach of the duty to the patient. In [Ferris v. Riegler, 2007 WL 2482508 \(Conn. Super. Ct. 2007\)](#) (not designated for publication), a medical malpractice action in which the plaintiff alleged the malpractice arose out of an alleged failure to test and diagnose the plaintiff with [Lyme disease](#) during an emergency room visit, which resulted in the plaintiff receiving [electroconvulsive therapy](#) treatments (ECT), seizures induced by the ECT, an alleged delay in receiving proper treatment for Lyme [encephalitis](#) and permanent brain damage, the six defendants moved for summary judgment in this complex action following extensive and problematic discovery. Summary judgment was granted for the defendants based on, in part, the deposition of the plaintiff's expert. Regarding defendant Nitai Riegler, this defendant moved for summary judgment on the first count regarding causation claiming because (1) the plaintiff has no expert testimony on causation his claim must fail and (2) [tests for Lyme disease](#) administered both preceding and subsequent to the emergency room visit produced negative results and the plaintiff has not proven that he has [Lyme disease](#). Additionally, defendant asserts that the plaintiff cannot produce expert testimony regarding the standard of care because the plaintiff's disclosed experts have either been precluded or the expert is not a "similar health care provider." The plaintiff countered that there are genuine issues of material fact relating to the standard of care that must be decided. To support his position, he cited the deposition testimony of his remaining expert on standard of care, Dr. Mustalish. The court noted that plaintiff's expert disclosure of Mustalish states "Dr. Mustalish will testify concerning causation and damages and offer his opinion that the forgoing departures from the standard of care were the proximate cause of and substantial factors in causing the plaintiff's injuries." However, when questioned on causation at his deposition, Mustalish could not say whether the actions of Riegler and/or Bodden were the cause of the plaintiff's injuries:

Q.

"[Y]ou cannot tell us whether if Dr. Riegler had asked for consult or ordered an additional test on October 25th, whether that would have made any difference whatsoever in the outcome: correct?"

A.

"The standard of practice in my opinion would be to do that. Whether or not it would make any difference in the outcome depends on the findings of the ID or the neurology specialist. I would defer to their opinion whether or not it could have made any difference in this particular case."

Q.

"You cannot provide us based on what you know in your background in public health and in the clinic or helping to start a clinic on [Lyme disease](#), you cannot tell us whether if Dr. Riegler or Dr. Bodden had ordered a [Lyme titer](#) or ordered a [CAT scan](#)

or ordered a [lumbar puncture](#) on October 25 whether that would have made any difference in the outcome of this case, correct?

A. "I don't have an opinion on that."

Q. "Am I correct in my last statement?"

A. "Yes."

April 19, 2005, deposition of Anthony Mustalish, M.D., pg. 120, lines 3–24.

The court concluded that there is no genuine issue of material fact as to whether Riegler or Bodden caused the plaintiff's injury because without an expert to testify as to causation, and absent any evidence that the plaintiff had [Lyme disease](#) before, at the time of or around the time of the emergency room visit, there is no question of fact regarding the failure to test and diagnose the plaintiff with [Lyme disease](#) on his October 25, 1999, visit to the emergency room at Milford Hospital. Regarding the standard of care, the court noted that plaintiff disclosed Mustalish as an expert to testify as to standard of care regarding the defendant. However, plaintiff's expert disclosure of Mustalish states that he is board certified in emergency medicine whereas the defendant is board certified in internal medicine. The plaintiff has provided no foundation nor has he presented any evidence that would allow Mustalish to testify as an expert against the defendant on the standard of care for internists, and the plaintiff failed to provide affidavit deposition testimony or an affidavit by Mustalish of his knowledge of internal medicine. This case highlights the importance of deposition testimony, particularly of experts.[2]

In [Zielinski v. Kotsoris](#), 279 Conn. 312, 901 A.2d 1207 (2006), a patient brought a medical malpractice action against an internist/neurologist, radiologist, radiology professional corporation, and hospital, alleging negligent misdiagnosis of her [brain tumor](#) as [Lyme disease](#). The Connecticut Supreme Court held that assuming the radiology professional corporation and hospital for which the corporation functionally served as the hospital's radiology department could be held vicariously liable for the alleged negligence of a radiologist employed by the corporation despite medical malpractice claims against the radiologist for misdiagnosis being time-barred, neither the continuous treatment doctrine nor the continuing course of conduct doctrine tolled the statute of limitations for the medical malpractice claims against the corporation and hospital until another radiologist employed by the corporation diagnosed the patient's [brain tumor](#). Dr. Kotsoris and Dr. Zimmerman, a radiologist who is a partner in Associates, which functionally is the hospital's radiology department, reviewed that MRI. Both physicians failed to detect the presence of an early [brain tumor](#) on that MRI, and Dr. Kotsoris continued to treat the plaintiff for [Lyme disease](#), notwithstanding the fact that testing for that illness was negative or inconclusive. The deposition of one of the defendant's experts, Dr. William D. Harley,[3] reviewed the MRI study and CT and brain scans of the plaintiff. The following are partial excerpts of that deposition:

Q. Doctor, I'm going to show you what's been marked as Plaintiff's Exhibit 2 for identification. I'll represent to you that this is a set of MRI films that we just received from

Stamford Hospital on September 30th. Can you tell us what that is?

A.

I haven't looked at the films, but the cover is a green MRI, dated 12/10/99.

Q.

And is that the label that is typically affixed to MRI studies that are taken at Stamford Hospital?

A.

Yes, it is.

Q.

Doctor, I'm now going to show you an exhibit that was marked as Harley No. 1 at your last deposition. Will you take a look at that for a moment, please.

(Witness peruses document)

A.

Yes.

Q.

Is that a report that you generated after reviewing the material identified in Plaintiff's Exhibit 2 today?

A.

Yes, it is.

Q.

And would you read us the results of your review?

A.

“Impression: 2.2-centimeter mass, expanding the fourth ventricle, consistent with an [ependymoma](#). There is minimal dilatation of the lateral and third ventricles. No demyelinating plaques are demonstrated.”

Q.

And that is your report?

A.

That is the impression from my report.

...

Q.

Doctor, I'm going to turn your attention now to what has been marked as Plaintiff's Exhibit 1A for identification. That is the report that bears DR. Zimmermann's name, based on the Brandon Smith Reporting April 1996 study.

A.

Yes.

Q.

Reading that record, can you tell us which doctor referred the patient for this study?

A.

Dr. Harriet Kotsoris, and attending Dr. Lo. Ordering, Dr. Kotsoris; attending, Dr. Lo.

Q.

Would the attending doctor be someone affiliated with the hospital?

A.  
Yes.

Q.  
In the radiology department?

A.  
The Dr. Lo that I know of is an oncologist, but this is—this is not him. I don't know who this person is.

Q.  
Is there a referring diagnosis?

A.  
[Lyme disease](#).

Q.  
And Doctor, how would one identify [Lyme disease](#) in an MRI of the brain?

MR. GAFFNEY:  
I object to the form of the question.

MR. CORLETO:  
Withdraw that.

Q.  
Doctor, how would a radiologist identify [Lyme disease](#) using an MRI of the brain?

A.  
We don't make a diagnosis of [Lyme disease](#). We can see findings occasionally which are compatible with [Lyme disease](#), but it's not a very specific diagnosis that we can make, radiographically.

Q.  
What findings would be made that might correlate with [Lyme disease](#)?

A.  
What we call small vessel changes in the brain.

Q.  
Small?

A.  
Vessel changes in the brain.

Q.  
And what part of the brain would they appear in?

A.  
They are usually in the supratentorial region.

Q.  
And forgive me, I'm a dumb lawyer, can you use your hand and point to me what part of the brain that would be in?

A.  
It's more towards the top of the head, compared with the posterior fossa. The higher images on each series. And they are normal.

Q.  
So you are telling me now that the kind of finding that might suggest [Lyme disease](#) does not appear in this studies of April '96?

- A.  
That's correct. Brandon Smith Reporting.
- MR. GAFFNEY:  
I object to the form.
- Q.  
And you described those as small vessel infarcts?
- MS. MULCAHEY:  
He said changes.
- Q.  
Sorry.
- A.  
Changes, yes.
- Q.  
Would that also be described as diffuse white matter, or is that something else?
- A.  
Similar.
- Q.  
Do you have a distinction between small vessel changes and diffuse white matter in your mind?
- A.  
They are both the same.
- Q.  
They can describe the same thing?
- A.  
They can.
- Q.  
What else can they describe?
- A.  
They are very nonspecific, that is why we're not good at making a diagnosis of [Lyme disease](#) by MRI.
- Q.  
The object that you identified for us a little while ago in the fourth ventricle, is that consistent with the diagnosis of [Lyme disease](#)?
- A.  
If it's a real finding, it is not a finding that I'm aware of in [Lyme disease](#). Brandon Smith Reporting.
- Q.  
You said "if it's a real finding." Is there some doubt in your mind that it may be a real finding or not a real finding?
- MS. MULCAHEY:  
I object to the form. You can answer.
- A.  
MRIs suggest there is an object in the fourth ventricle that I would—if I was seeing this study in retrospect I would recommend a contrast study to confirm if it's real or not, and to characterize it.

I can add that if you gave me some time here, you can get what we call flow artifacts from the cerebral fluid flow in the fourth ventricle that sometimes can be misleading.

Q.

In any event, you did see an abnormality in the fourth ventricle in the April 1996 study?

A.

Yes.

Q.

And had you performed the study, you would have sought another study with contrast?

A.

I didn't say that. I don't know what I would have—I'm looking at this with respective glasses. I know what I saw in '99. Unfortunately, I cannot look at this with fresh eyes so I don't know what I would have thought at that time.

Q.

Well, then, Doctor, I would like you to assume something for me. I'll ask you a hypothetical question.

A.

Be glad to.

Q.

Assuming that you reviewed this study in April of 1996, and assuming that you saw the object in the fourth ventricle in April 1996 as you did now, would you have written the report the same way it appears in Exhibit 1A?

MS. MULCAHEY:

Objection to the form. You can answer.

MR. STOCKMAN:

Objection.

A.

Assuming that I was suspicious of something in the fourth ventricle, I would not have written the report the same as was written there.

Q.

Again, assuming you performed the study in April of 1996, and assuming you saw the mass in the fourth ventricle—

A.

Well, 1996—

Q.

Withdraw that. That wasn't your words. I don't want to put words in your mouth.

A.

I don't like words in my mouth either.

Q.

Doctor, assuming that you reviewed the study in April 1996, and that you saw the object in the fourth ventricle as you described it to us, would you have ordered a further study?

MR. STOCKMAN:

Objection.

MS. MULCAHEY:

I object to the form. But you can answer.

A.

Assuming that I was suspicious of something in the fourth ventricle, I would have recommended another study, yes.

Q.

Again, assuming that you reviewed this series in April of 1996, and assuming that you saw the object in the fourth ventricle, would you have written a report that said “normal study”?

A.

No.

MS. MULCAHEY:

He's already answered that.

A.

No, I would not.

MR. CORLETO:

I would like to get that clearly again. He did not answer that question.

MS. MULCAHEY:

It was the first question you asked.

MR. CORLETO:

I asked if he would have written a report the same as 1A, so I'll start again.

Q.

Doctor, assuming you reviewed the films in April 1996, and assuming that you saw the object in the fourth ventricle, would you have written a report that said “normal study”?

MR. STOCKMAN:

Objection. You can answer.

MS. MULCAHEY:

Objection. But you can answer.

A.

With those assumptions I would not.

Q.

Assuming you reviewed the study in April 1996, and assuming you saw the fourth ventricle object, what would your study have said?

MR. STOCKMAN:

Objection.

A.

It's a different question. I'm not trying to avoid the question. Some assumptions that are difficult for me—there are assumptions that I don't know exactly how I would answer, but I will do my best. But I just want to indicate that is a difficult question. And so—I would recommend a contrast. MRI.

Q.

Now, Doctor, you are aware of Dr. Kotsoris' specialty?

A.

Yes.

Q. And what are you aware of her specialty as?

A. Neurology.

Q. And did you know her to be a neurologist in 1996?

A. Yes, I did.

Q. What I really want to know, was your state of knowledge in 1996 that she was a neurologist?

A. Yes, it was.

Q. Have you, in the course of your career, reviewed studies of patients referred by Dr. Kotsoris?

A. Yes.

Q. And had you done that before 1996?

A. I don't know when she came to Stamford, but to the best of my knowledge, yes.

Q. Now, Doctor, in response to some of my questions earlier, you told me in order to answer the questions you would have to review the entire series, correct?

A. That's correct.

Q. And is that generally the standard you apply whenever you review a series of MRIs?

A. Yes.

Q. You have to review the entire series?

A. Yes.

Q. Would you consider that the standard of practice in the field of radiology?

MR. STOCKMAN:  
Objection.

MS. MULCAHEY:  
I object to the form. You can answer.

A. Yes.

Q. And so if a radiologist is presented with a series of MRI images from a study and does not read all of the images, they have failed to perform in accordance with the standard of practice?

MR. STOCKMAN:

Objection.

MS. MULCAHEY:

Objection to the form. You can answer.

A.

The implications from what you said, I'm not sure I can agree with all of the implications. It's standard practice for a radiologist, to the best of their ability and best of their knowledge, of the images that were taken, to look at them all. I don't think there is a radiologist in the country who wouldn't attempt to do that before they generated an opinion.

Q.

So it's a fairly universal standard?

A.

Yes.

Q.

And that has been the standard for as long as you have been practicing radiology?

A.

Yes.

Q.

Doctor, you told us now that there was nothing in the April 1996 study that suggested [Lyme disease](#), correct?

MR. STOCKMAN:

Objection.

A.

In my opinion.

Q.

Is there any doubt in your mind?

A.

About my opinion?

Q.

Yes.

A.

Opinions are opinions. My opinion at this time—opinions can change over time. Again, you are asking a difficult question. In my opinion at this time, and hopefully at other times, there is no evidence of [Lyme disease](#).

Q.

And you had an opportunity to look at these films before we began the deposition today, correct?

A.

Very briefly.

Q.

Would you like to take some more time to look at them?

A.  
No.

Q.  
Do you think taking more time to look at them would alter your opinion?

A.  
No.

Q.  
Just so I'm clear, assuming a referring neurologist sends a patient for an MRI of the brain, with a referring diagnosis of suspected [Lyme disease](#) or [Lyme disease](#), is there anything you would look for other than the small vessel—I say infarct, I know you have you used another word—

MS. MULCAHEY:  
Changes.

Q.  
Is there anything you would look for other than the small vessel changes that you described?

MR. GAFFNEY:  
Objection to the form.

A.  
We read MRIs initially independent of any diagnosis that is offered, and so we would look at everything.

Q.  
...  
Doctor, I asked you a question earlier about what you would look for in an MRI of the brain, given a referring diagnosis that included symptoms of imbalance, vertigo, dizziness, lethargy. And again, I don't want to put words in your mouth, but you told me you would look at the entire study independent of the referring diagnosis, and then you would go back to the referring diagnosis and/or you would consider that and factor that in, and look for certain things; is that fair?

MS. MULCAHEY:  
I object to the form.

MR. STOCKMAN:  
Form.

MR. GAFFNEY:  
Objection.

A.  
It's a fair representation of what I said.

Q.  
And the things you told me you would look for. I also asked you the same thing given a referring diagnosis of [Lyme disease](#) or suspected [Lyme disease](#); do you recall that question?

A.  
I do.

Q. And you answered it similarly, and in that instance you told us you might look for small vessel changes?

MR. GAFFNEY:

I object to the form.

Q.

Do you recall that answer, Doctor?

A.

Yes.

Q.

If you are reviewing a [CAT scan](#) of the head, and you are given clinical information of disequilibrium, what would you look for, Doctor?

MS. MULCAHEY:

I'm going to object. We're dealing with MRIs here. He read an MRI, Dr. Zimmermann read an MRI. MRI is the only thing of significance in this case. And I'm going to direct you not to answer questions based on CTs.

MR. CORLETO:

I'm not asking him about CTs.

MS. MULCAHEY:

You are asking about CTs.

Q.

Doctor?

A.

Again, I have to say you're putting me in a spot that I'm not sure is fair. That is your conscience, but I have to follow the advice of my attorney.

Q.

Well, I'm glad we're in court this afternoon, maybe we can clear some of this up, and we're back here later today.

MS. MULCAHEY:

Before you conclude. I want to be precisely clear that you have asked all questions of Dr. Harley except for those that I won't allow him to testify about, which include the January 1996 [CAT scan](#), and any general information about [CAT scans](#). Because if there is something further that you want to ask this doctor, I would suggest that you do that now, because those are the only two things at this point in time I have directed him not to answer. So I don't—if the court rules in your favor. I don't want to be here, and we are now addressing other issues that could have been raised at this deposition.

MR. CORLETO:

Well then, if you would like, Gary, I'll continue.

MS. MULCAHEY:

I mean, all I'm telling you is you don't stop the deposition now because I have directed him not to answer certain things. You get all that you can get out from him, or that you would like to get out from him today, and we'll deal with whether he can talk about the January '96 [CAT scan](#) and [CAT scans](#) in general. That is all. I'm just putting that on the record.

MR. GAFFNEY:

While we're waiting, just put on the record I'm not clear what the approach is going to be at this point, but I do plan on asking additional questions, and I'm going to reserve my right to ask any questions on the [CT scan](#) independent of Mr. Corleto.

MR. STOCKMAN:

You mean should the court order that the [CT scan](#) is an appropriate subject matter for additional questions.

MR. GAFFNEY:

That's correct.

In [Dun v. Orsher](#), 165 Misc. 2d 997, 630 N.Y.S.2d 915 (Sup 1995), a medical malpractice action claiming the doctor failed to timely diagnose and properly treat the plaintiff's [Lyme disease](#), the defendant moved for an order permitting the nonparty videotaped deposition to be taken of the treating physician. The court held the plaintiff could not require the defendant to provide detailed expert information as to the treating physician prior to the pretrial examination of that physician where the plaintiff declined to authorize an interview of the physician by defense counsel and, because the defendant could not contact the physician, the defendant did not know whether the physician would agree to provide expert testimony at his deposition.

## § 16. Injunction

Under certain circumstances, such as an action by a person disabled by advanced [Lyme disease](#), injunctive relief may be appropriate. For example, in [Alexandra LENTINE, Plaintiff, v. STERLING HIGH SCHOOL BOARD OF EDUCATION, Defendant.](#), 2006 WL 1782242 (D.N.J. 2006), Plaintiff's Motion for Temporary Restraints or A Preliminary Injunction, (No. 06CV02041), the plaintiff, an 18-year-old student enrolled at Sterling High School diagnosed with advanced [Lyme's disease](#), sought an order requiring the Defendant, Sterling High School Board of Education (“Defendant” or the “Board”), and its employees, agents and all others acting in concert with the Board to safeguard Ali's right as a disabled student eligible for protection under § 504 of the Rehabilitation Act of 1973 ([29 U.S.C.A. § 794](#)) and permit Ali to participate in her Senior Class Trip. The plaintiff argued the Board unlawfully discriminated against her, an otherwise qualified individual with a disability, by refusing to honor the § 504 Accommodation Plan (“504 Plan”) it developed by refusing to allow her to attend her Senior Class Trip—an extracurricular service provided by a secondary school that receives federal financial assistance, in violation of § 504; the Board discriminated against Ali solely because of her disability. The Board asserted that Ali is ineligible for the trip because she is provided with home instruction as she is not “well enough” to attend school. The plaintiff asked the court to issue a Temporary Restraining Order or Preliminary Injunction, under New Jersey Rule 65, to protect the plaintiffs rights, compelling the Board to:

- A. Permit Ali's participation on the Senior Class Trip from May 6, 2006, to May 9, 2006;
- B. Take whatever action may be necessary for Ali to attend the trip;
- C. Cease any and all conduct that is in violation of § 504;
- D. Reimburse reasonable attorney's fees and costs of suit; and
- E. Take all other appropriate action.

## V. Damages

### § 17. Damages, generally

There are several types of damages—compensatory damages, nominal damages, liquidated damages, and exemplary and punitive damages—as well as concepts concerning damages such as general and special damages, prospective damages, and mitigation of damages. Also, exemplary or punitive damages for malicious or reckless misconduct or gross negligence, prejudgment interest, and litigation fees and costs should be considered when requesting damages.[1] In situations involving the diagnosis and treatment of [Lyme disease](#), proving damages may be difficult.[2]

Many medical malpractice statutes provide a cap for damages.[3]

### § 18. Damages; checklist

Testimony as to the following elements of damages should be elicited, when applicable, from the plaintiff and witnesses in an action seeking recovery of damages for the negligent diagnosis and treatment of [Lyme disease](#):

- Necessary and reasonable medical expenses
  - Actual past expenses for physician, hospital, nursing, laboratory fees; medicines; prosthetic devices; and the like
  - Anticipated future expenses[1]
- Loss of past and future earnings
  - Actual wages lost
  - Loss of existing vocational skill
  - Loss of capacity to earn increased wages
  - Loss of profits or net income by person engaged in business[2]
- Harm from prolonged inactivity[3]
- Pain and suffering from physical injuries[4]
- Pain and suffering reasonably likely to occur in the future[5]
- Harm from loss of sleep
- Mental anguish
  - Fright and shock
  - Humiliation and embarrassment
  - Anxiety, depression, and other mental suffering or illness
  - Physical injuries caused by mental anguish[6]
- Past and future impairment of ability to enjoy life[7]
- Sexual dysfunction[8]
- Exemplary or punitive damages for malicious or reckless conduct[9]
- Prejudgment interest[10]
- Litigation fees and costs[11]

## VI. Expert Medical Proof of [Lyme Disease](#)

### § 19. Expert medical witness testimony

Expert witness testimony will be required to prove the negligent diagnosis and treatment of [Lyme disease](#). [1] The following provides a guide to retaining and using expert medical

consultants and witnesses:

Selecting the expert:

- Obtain information about the expert's professional expertise, background, education, and prior trial witness experience
- Determine whether the expert is articulate and able to present technical concepts and language in understandable form
- Determine whether the expert is “likable” and presents a professional appearance
- Determine whether the expert has broad knowledge in the expert's field such as experience diagnosing and treating Lyme disease or tick-borne illnesses
- Seek the approval of the client

Retain the expert to:

- Provide assistance in understanding the medical aspects of the claim
- Help define and formulate the issues
- Guide the factual investigation
- Guide discovery planning and review
- Help prepare exhibits

Discovery considerations:

- [Federal Rule of Civil Procedure 26](#)—Disclosure of experts and discovery limitations
- [Federal Rules of Evidence 702, 703 and 705](#)—Expert testimony and opinion
- Work-product privilege
- Attorney-client privilege

Using multiple expert witnesses:

- Advantage: more than one expert may reinforce the case; each testifies on discrete aspects
- Disadvantages: it may lead to the appearance of disjointed, cumulative, or boring case that may lessen the impact of the experts; this is expensive

Scope of expert's task:

- Clearly delineate scope in letter agreement or contract
- Establish objectives
- Define assistance to counsel
- Discuss how work is to be monitored, such as weekly or monthly reporting

Compensation:

- State compensation, hourly rate or flat fee generally, in letter agreement or contract
- Include provisions regarding rates for consultation, expert witness fee, travel, and expenses

Testifying experts:

- Obtain curriculum vitae to qualify witness as expert
- Determine the scope of the expert's testimony

Establish with the expert that the use of obscure medical terminology should be limited and medical terms should be explained

Use expert to explain and make detailed evidence meaningful

Make certain that the expert's reasoning appears logical to the trier of fact

Understand what is subject to professional dispute and why, such as the continuing use of antibiotics to treat “chronic” [Lyme disease](#)

Establish what the expert knows and does not know to prepare for cross-examination

Make certain the expert is given all the information available for analysis and to avoid surprise at trial

A medical witness testifying as an expert must be qualified as an expert to have his or her opinion admitted into evidence.[2] It is incumbent on the party offering the witness to show that the witness possesses the necessary learning, knowledge, or practical experience to enable him or her to give reliable opinion testimony.[3]

An important part of both the plaintiff and defendant's case when litigating an action involving [Lyme disease](#) often is the cross-examination of the expert medical witnesses. “Cross-examination of a medical witness presents a uniquely difficult situation for the advocate, requiring, in addition to the preparation and forethought demanded by any cross-examination, some sensitivity to the anticipatable subconscious jury bias.”[4] “Cross-examination affords the best opportunity for exposing any improper bases used by the doctor or faulty reasons for his [or her] opinion. It is also an appropriate means to determine what tacit assumptions the doctor is making, if any.”[5] The reliability of the expert's opinion may be challenged. In [In re Caldwell, 350 B.R. 182 \(Bankr. E.D. Pa. 2006\)](#), the treating physician's expert opinion that the claimant, who was seeking long-term disability benefits, had [Lyme disease](#) was not reliable, and thus would not be adopted by the bankruptcy court in determining whether the claimant was totally disabled as defined by the disability policy, given that one test upon which the physician relied did not follow the recommended testing sequence, that other test results were most consistent with false positive tests, and that absence of IgG bands, coupled with the clinical picture not consistent with [acute Lyme disease](#), made the physician's methodology unreliable and inconsistent with evidence of chronic Lyme infection.

In a medical malpractice action, the standard of care and the deviation from the standard of care generally are not established by a reasonable person standard as in other areas of negligence law, but have to be established by expert testimony. In the great majority of malpractice cases, a plaintiff must establish by expert testimony both the standard of care and the defendant's failure to conform to that standard. Specifically, the plaintiff must establish through expert testimony the course of action that a reasonably prudent doctor with the defendant's specialty would have taken under the same or similar circumstances. However, although negligence or want of professional skill ordinarily can be proved only by expert witnesses, there may be some cases in which expert testimony is not necessary in a medical malpractice action

if the medical facts and negligence are evident to a lay person.[6] In [Bratt ex rel. Bratt v. Laskas](#), 845 So. 2d 964 (Fla. Dist. Ct. App. 4th Dist. 2003), an action alleging medical malpractice by a pediatric gastroenterologist in failing to diagnose a child's medical condition as [Lyme disease](#), a pediatrician could testify regarding the standard of care for the gastroenterologist as the expert had extensive training and experience in general pediatric medicine.

## § 20. Illustrative expert medical witness testimony

The following presents illustrative medical expert witness testimony in cases involving [Lyme disease](#). Counsel is advised to carefully consider the type of extent of the expert witness testimony needed in counsel's case.[1] For example, the first illustration is the expert report of a physician, the chief medical officer, representing an insurance company in an action for benefits under a life policy. The litigation of a medical malpractice action may involve the testimony of an insurer's expert medical witness. The second illustration is a motion in limine to limit evidence as to the standard of care and to exclude the testimony of the plaintiff's experts in a negligence, breach of warranty, and products liability action for the improper prescription of a drug for the treatment of the plaintiff's [Lyme disease](#).

The following is the expert report and affidavit of the chief medical officer of the defendant insurance company, submitted in support of defendant's motion for summary judgment, in an action for breach of the life insurance policy and failure to pay benefits under the policy after the death of the plaintiff's husband from a heart attack and other ailments including [Lyme disease](#). The physician was asked to analyze the medical records regarding the decedent's condition, care, and treatment and to provide his interpretation, opinions, and recommendations regarding whether the decedent would have qualified for reinstatement of the policy of life insurance had an application been submitted after the policy allegedly lapsed.[2]

Area of Expertise: Health Care-Physicians & Health Professionals << Internist

Area of Expertise: Insurance << Underwriter

Case Type: Insurance << Bad Faith & Coverage

Case Type: Insurance << Life

Representing: Defendant

[Witness], MD, of full age, being duly sworn according to law and upon his oath deposes and says:

1. I am a Vice President and Chief Medical Officer of Defendant, [insurance company], in the above captioned matter. I submit this affidavit in support of 's motion for summary judgment.
2. I have been licensed as a Physician in the State of Michigan since 1980, and am Board Certified in Internal Medicine by The American Board of Internal Medicine and Insurance Medicine by the Board of Insurance Medicine. The statements set forth below are based upon my personal knowledge of Jackson National's underwriting guidelines and procedures, as well as my review of the medical records regarding the condition, diagnostic test-

ing, care and treatment rendered to [decedent] (the “Decedent”).

3. [Defendant insurance company] employs physicians and other medical professionals in the normal course of business to assist other departments within the company with issues that require medical expertise. In particular, we are called upon by the underwriting department to review and interpret medical records and to respond to questions submitted by the underwriting department in connection with interpretation of those records. As part of this process, we are called upon to analyze medical records in connection with the written underwriting guidelines utilized by [defendant insurance company] to assist the underwriting department and appropriately apply those underwriting guidelines to the conditions presented in the medical records. In connection with our review, we also provide recommendations. Those recommendations may include seeking additional medical records; recommending that the applicant obtain additional testing; and/or recommending that the applicant be examined by a physician of our choosing. The recommendations may also include postponement or denial of an application.

4. It is my understanding that the Decedent's policy of life insurance lapsed as the result of failure to pay the premium payment due on February 27, 2006. It is my further understanding that an application seeking reinstatement of the policy of life insurance was never submitted by the Decedent. However, I have been asked to analyze medical records regarding the Decedent's condition, care, and treatment and to provide my interpretation, opinions and recommendations regarding whether the Decedent would have qualified for reinstatement of the policy of life insurance had an application been submitted.

5. I have received and reviewed records regarding the Decedent's hospitalization commencing March 12, 2005, and subsequent treatment through his death on July 5, 2006. There are at least multiple significant findings reported in the records from March, 2005, each of which would disqualify the Decedent from reinstatement of a policy as a preferred risk in May, 2006, if he had submitted an application for reinstatement at that time.

6. The consulting report of [cardiologist], MD, a cardiologist, dated March 12, 2005, states:

HISTORY: I was asked to see this patient by [doctor 1], and I did discuss the case in detail with him, as well as the emergency room physician. The patient is a 39-year old male admitted to the hospital for chest pain. He has no significant cardiac history other than a paroxysmal atrial fibrillation approximately eight years ago but no details were available. On 03/01, he was in Las Vegas and developed a fever for three days, as well as symptoms of malaise and weakness. He medicated himself with Advil and felt much better on this medication. When he discontinues the Advil the fever would return. He had no rigors, chills, no dysuria, no cough or shortness of breath or other localizing symptoms. His symptoms gradually resolved over approximately three days and were replaced with symptoms of fatigue. These symptoms waxed and waned for the next several days. Finally, he began to develop some positional type soreness in his left chest wall, worse on deep inspiration. He made an appointment to see Dr. [doctor 1] today, but awoke at 2:30 this morning with severe left-sided positional chest pain. He felt somewhat breathless but mainly he is unable to take a deeper breath. He presented to the emergency room where initial [electrocardiogram](#) showed ST segment elevations in the lateral limb leads, anteroseptal leads and some evidence of early repolarization in the [anterolateral leads](#). Initial cardiac enzymes were normal as were his laboratories, including a metabolic panel and CBC. He is now ad-

mitted for probable pleural [pericarditis](#).

LABORATORY: Initial cardiac enzymes normal, electrolytes normal and CBC normal. EKG showed sinus rhythm at 80 beats/minute with left axis deviation, [first degree AV block](#), and ST segment elevations of 1.5 to 2 mm in anteroseptal lead V2 but also mild ST elevations in the lateral limb leads. A follow-up EKG two hours later showed sinus rhythm at 72 beats/minute, now with more pronounced [first degree AV block](#) and more pronounced lateral limb lead ST elevations and persistence of the anteroseptal ST-T abnormalities. When compared to an old EKG done on 7/12/98, the [first degree AV block](#) is an old finding, as is the left axis deviation. He did have some T-wave and ST abnormalities in anteroseptal leads. The lateral ST elevations are fairly new finding but were slightly present in the past.

IMPRESSION: The patient is hemodynamically stable and normotensive. His cardiovascular examination is essentially unremarkable. He has pleuritic type left sided chest discomfort and has a base line abnormal EKG dating back to 1998. There is some exaggeration of pre-existing abnormalities. He recently presented with what sounds like a viral febrile illness, he had a subsequent viral [exanthema](#) and now has developed symptoms of probable viral [pleuritis](#) and possible early [pericarditis](#). Anticoagulants are contraindicated at the moment. I do not there (sic) is any evidence of any [myocardial ischemia](#) but cardiac enzymes will be followed serially. We will repeat an EKG in the morning He does not have any neck vein distension, no obvious pulsus paradoxes and I doubt there is any significant [pericardial effusion](#). I will review the [chest x-ray](#) and an [echocardiogram](#) should be ordered but may not need to be done before his discharge from the hospital. Treatment at this point includes non-steroidal anti-inflammatory drugs and I note that Dr. [doctor 1] has started him on [Motrin](#) 600 mg three times a day and will continue this. Further recommendation will depend upon his response to the treatment.

Exhibit A. (Emphasis added).

7. On March 17, 2005, the Decedent was again seen by Dr. [cardiologist] as an outpatient. His office note of that date states:

HISTORY: [decedent] is a 39 year old gentleman in for office follow-up following a recent hospitalization for chest pain. He is also in to review the results of his out-patient echocardiogram. He was admitted to [medical center] earlier this month for chest pain.

He underwent an [echocardiogram](#) on 3/14/05 in my office which showed mild concentric [left ventricular hypertrophy](#) with an average left ventricular wall thickness of 13 to 14 mm, normal left ventricular systolic wall motion with an overall normal left ventricular ejection fraction of 67%. He had mild [tricuspid regurgitation](#). There was no [pericardial effusion](#).

EKG: (no old EKG available for comparison). [Sinus bradycardia](#) with [first degree AV block](#), left axis deviation, non-specific interventricular conduction block and non-specific lateral T-wave abnormalities.

IMPRESSION: Mr. [decedent] has no signs of [pericarditis](#) on exam and his [echocardiogram](#) shows no [pericardial effusion](#) with normal left ventricular function, He does have mild concentric [left ventricular hypertrophy](#) and it is possible this represents an early sign of [hypertrophic cardiomyopathy](#). I did recommend a follow-up [echocardiogram](#) in approximately 1–2 years to rule out any progression in a degree of LVH He has no history of [hypertension](#) to date. In addition, he has an abnormal baseline [electrocardiogram](#) and should have a screening nuclear [exercise stress test](#) and this will be scheduled for him as well. He

will decrease his [Advil](#) down to 400 mg 2–3 x a day for the next 5 days and then discontinue the medication all together. I will see him following his nuclear [stress test](#).

Exhibit B. (Emphasis added).

8. According to the [echocardiogram](#) performed at Dr. [cardiologist]'s request, the Decedent had mild concentric [left ventricular hypertrophy](#), with an average of ventricular wall thickness of 13 to 14 mm. Exhibit C.

9. Attached hereto as Exhibit D are written underwriting guidelines utilized by [defendant insurance company] in connection with reported diagnosis of [left ventricular hypertrophy](#) (LVH). Those underwriting standards state:

[Left ventricular hypertrophy](#) (LVH)

EKG changes are more sensitive than clinical findings or [chest x-ray](#), but they are much less sensitive or reliable than [echocardiography](#), which is the non-invasive “gold standard” for measuring ventricular muscle mass. (MRI is even better, but use may be precluded by cost).

Etiology

[Left ventricular hypertrophy](#) may be due to:

- Congenital heart disease
- Rheumatic heart disease such as aortic valve disease
- Hypertensive heart disease
- Ischemia
- Nutritional disorders
- Endocrine disorders

Prognosis

Definite evidence of right or [left ventricular hypertrophy](#) in the [electrocardiogram](#) or (more reliably) at [echocardiogram](#) is a serious prognostic sign.

Exhibit D. (Emphasis added).

10. The underwriting standards go on to classify the severity of LVH depending upon the wall thickness that is measured:

Severity of LVH Wall Thickness (cm)

Mild 1.2–1.3 (cm)

Moderate 1.4–1.5 (cm)

Severe >1.5 (cm)

11. The Decedent's diagnosis of LVH came about as a result of an [echocardiogram](#) performed on March 12, 2005, That [echocardiogram](#) revealed a wall thickness of 13 – 14 mm (1.3-14 cm) For underwriting purposes, since a wall thickness of 14 mm was found at least in some areas, that is the measurement which would be applied Pursuant to the underwriting guidelines, the Decedent's LVH with a wall thickness of 14 mm would classify his severity of LVH as moderate.

12. The [Ventricular Hypertrophy](#) Life Ratings utilized by [defendant insurance company] are specific to the type of diagnostic test which reveals the condition. Exhibit E. The Decedent's diagnosis of LVH came about as a result of an [echocardiogram](#) performed on March 12, 2005. Thus, The Life Ratings equating with a diagnosis of LVH by [echocardiogram](#) would apply. These state:

[Echocardiogram](#)

Mild Std/

Moderate

Severe

13. Pursuant to these ratings, the Decedent's diagnosis of LVH with a wall thickness of 14 mm would result in a rating classification with an additional 50 to 75 debits. This is not a preferred risk. If I had been asked to review these records in connection with an application for reinstatement of a preferred risk policy, the application of these guidelines and ratings to the conditions expressed in the Decedent's medical records would have resulted in my recommendation to decline reinstatement of the policy. This diagnosis alone, without consideration of the decedent's other medical conditions, would compel this recommendation.

14. The next significant finding is from the [echocardiogram](#) reported by Dr. [cardiologist], which revealed interventricular conduction defect. This condition has underwriting significance. The underwriting guidelines for ventricular conduction defects set forth the following description (Exhibit F):

Description

Ventricular heart muscle is activated by an electrical stimulus passing through the conducting system. From the AV node, impulses pass through the common bundle of His to a trifascicular [sic] system consisting of the right bundle branch and the left bundle branch which further divides into the anterior superior and posterior inferior branches. If the depolarization wave reaches the interventricular septum normally, then the interval between the beginning of the P-wave and the first deflection in the QRS complex (the P-R Interval) will be normal. However, if there is abnormal conduction through either the right or left bundle branches, there will be a delay in the depolarization of part of the ventricular muscle.

**(heart block)**. The extra time taken for depolarization of the ventricular muscle causes widening of the QRS complex.

A QRS duration exceeding 0.11 seconds is caused by [intraventricular conduction delay](#) due to a block in either the right or left bundle: a [bundle branch block](#). These blocks cause characteristic QRS patterns. Similar patterns, but with the QRS complex of 0.08 – 0.11 seconds, are caused by partial blockages. Interruption of the impulse in 1 of the 2 left bundle branches produces a shift in the electrical axis of the heart.

Intraventricular conduction disturbance ([IVCD](#))

- Intraventricular (or Indeterminate) conduction disturbance

Less frequently, a widened QRS (>0.12 sec) pattern is seen, whose features appear to mimic that of a [right bundle branch block](#) in some leads and [left bundle branch block](#) in others. This pattern may have more serious implications, and has been associated with cardiomyopathy, hypertensive and valvular [heart disease](#).

Etiology

The most common causes are [ischemic heart disease](#), cardiomyopathy and degeneration of the conducting system. Congenital abnormalities, trauma, nutritional abnormalities, [rheumatic myocarditis](#) or [syphilis](#) may also cause conducting defects. It may also be transient due to medication ([digitalis](#) or [quinidine](#)) or electrolytic imbalance.

Apparent [incomplete right bundle branch block](#) may be due to incorrect lead placement of a precordial electrode.

Preferred consideration

Individuals with this impairment may represent a significant underwriting challenge. Thor-

ough assessment is suggested before allowing preferred consideration. Factors to consider:  
QRS<0.12 sec

- EKG is otherwise normal

15. The diagnosis by Dr. [cardiologist] is confirmed by the actual [echocardiogram](#) tracings, which I have reviewed. Those tracings report the following QRS readings on the dates indicated.

DATE TIME QRS RATE

March 12, 2005 4:49 136 milliseconds (0.136 sec)

March 12, 2005 6:39 134 milliseconds (0.143 sec)

March 15, 2005 8:33 128 milliseconds (0.128 sec)

Exhibit G.

16. These tracings reveal that the Decedent's QRS rate on March 12 and 15, 2005 exceeded the level of 0.12 seconds (120 milliseconds) set forth in the written guidelines.

17. Had I reviewed the measurements of the Decedent's ventricular conduction defect as reported March, 2005, in connection with an application for reinstatement in May, 2006, I would have recommended denial of the request for reinstatement. The measurements of ventricular conduction defect, alone, take the applicant out of the category of "preferred risk" Furthermore, as reported by Dr. [cardiologist], his EKG was not normal. In connection with a ventricular conduction defect, an abnormal EKG also independently takes the applicant out of the category of "preferred risk" When considered together, the Decedent's QRS readings together with an abnormal EKG, even without consideration of the Decedent's other medical conditions, compel the undeniable conclusion that the Decedent would not qualify as a "preferred risk." if he had requested reinstatement in May 2006.

18. In addition to the foregoing, the discharge summary of Riverview Medical Center includes, among other diagnosis, acute [pericarditis](#):

FINAL DIAGNOSIS:

1. Acute Pericarditis
2. Chest pain
3. Viral Syndrome
4. Atelectasis secondary to pleuritis
5. Rash secondary to Viral Syndrome

Exhibit H. (Emphasis added).

19. [Pericarditis](#) is a disorder caused by inflammation of the pericardium, which is the sac-like covering around the heart. It is a condition that has significance with regard to underwriting.

20. The underwriting guidelines for [pericarditis](#) take into account the length of time since the diagnosis, and the number of episodes of [pericarditis](#):

Acute viral or ideopathic [pericarditis](#):

History of, complete recovery, no current treatment for [pericarditis](#) or evidence of [pericardial effusion](#), no complications:

Single episode: Months since resolution

(3 or less) P

(more than 3) Std

Exhibit I

Thus, for an episode of [pericarditis](#) within three months of the application, further consid-

eration of the application must be postponed. This will permit time for the condition to resolve and for further testing or investigation. If there was only a single episode of [pericarditis](#), which episode occurred more than three months prior to the application, and barring any other medical considerations, the applicant may qualify for a standard policy. A standard rating is a lower rating classification than someone who is classified as a preferred risk. Individuals who qualify with a standard rating will be charged a higher premium than an individual who is classified as a preferred risk. In this context, and pursuant to the medical records and written underwriting guidelines, the Decedent's diagnosis of [pericarditis](#) in March, 2005, in and of itself, without consideration of his other medical conditions, would prevent approval of the applicant as a preferred risk, and result in my recommendation to deny the request to reinstate the policy.

21. In addition to the analysis of records from March, 2005, I have also received and reviewed records regarding treatment rendered to the Decedent in August and September 2005. In August 2005 the Decedent was diagnosed with a "viral syndrome." In September 2005, the Decedent developed a generalized rash, chest tightness and shortness of breath. He presented to the emergency room where his condition was attributable to allergies. Subsequently, an allergist evaluated the Decedent and his office records referred to a recurrent viral syndrome for two years. Exhibit J.

22. I have also received and reviewed records regarding the Decedent's medical condition, care, and treatment commencing in June 2006. Those records include records of a hospitalization on June 5, 2006, where the Decedent complained of headaches. A [CT Scan](#) at that time was negative. The discharge summary indicates that the Decedent was discharged with instructions for viral syndrome and headaches Exhibit K.

23. The next day the Decedent was treated by Dr. [doctor 1] who gave an impression of "viral syndrome with possible meningismus" Exhibit L.

24. The Decedent was examined by a neurologist, Dr. [neurologist], on June 8, 2006, for the same complaints. Dr. [neurologist] prepared a report of his neurological examination and provided the following comment:

At this point, Mr. [decedent] is afebrile and his neurological examination is normal. There is some mild stiffening of his neck but not what one would expect with any form of [meningitis](#). It is possible that he had some viral syndrome with meningismus, and even if there is some meningeal irritation, probably it is mild [aseptic meningitis](#). There are no signs of [encephalitis](#) whatsoever.

I discussed with him and his wife the possibility of doing a spinal tap, but after I explained to them that I expect not to change the treatment even if we find some signs of [aseptic meningitis](#), they decided not to go ahead with the spinal tap. I explained to them that he does not have any signs to suggest any bacterial infection.

We decided to just to keep him well hydrated and have him keep taking [Motrin](#) 600 mg three times a day for the next few days. We will communicate in the (next) few days again, and depending upon how he does, we will proceed accordingly. If, of course, he continues experiencing fevers and headache, probably we will proceed with the spinal tap at that time.

Exhibit M.

25. Dr. [doctor 1] examined and treated the Decedent on June 26, 2006. His notes of that date state:

The patient comes into the office for a follow up to his viral syndrome of last month. He is feeling better every day. His headaches are gone. His fevers are gone. He still, however, has some discomfort in his chest with a slight cough and he is feeling very fatigued. He takes a nap for almost one hour every day.

Exhibit N.

26. After performing his examination, Dr. [doctor 1] gave his impression as “resolving viral syndrome with fatigue. No obvious pulmonary problem “Dr. [doctor 1]’s treatment plan on June 26, 2006, was the patient was advised to continue symptomatic treatment with rest and he will be rechecked in one month” *Id.*

27. The Decedent was seen and examined by Dr. [doctor 1] two days later on June 28, 2006. His office note states:

The patient comes into the office after having been seen two days ago. He now feels worse than he did two days ago. He still has trouble breathing and feels some pressure in his chest as well. He also feels light-headed and dizzy when he tries to stand. He is also complaining of sore throat that is very severe. It is even hard to swallow his saliva. He has no fever. He also does not feel well and is fatigued and is not sleeping at night.

Exhibit O.

28. Dr. [doctor 1] performed an examination on June 28, 2006, and gave his Impression and Plan as:

IMPRESSION:

1. Viral syndrome with superimposed anxiety, possibly hyperventilation causing light headedness;
2. Pharyngitis—probably viral, rule out strep.

PLAN: Strep screen was done and was negative ruling out bacterial allergy cause. CBC, chemistry profile, sed rate and **Lyme studies were ordered.** (Emphasis added) EKG was done to rule out pericarditis Chest x-ray will be done to rule out any lung pathology in view of the shortness of breath. However, the patient was advised that a lot of this might be anxiety and he felt his symptoms are not made up. He was given Ativan 1 mg at bed-time for sleep and Ultracet two tablets every four hours as necessary for pain.

*Id.*

29. On June 29, 2006, Dr. [cardiologist] performed an echocardiogram. After reviewing the study, Dr. [cardiologist] gave his Impression as:

IMPRESSION:

1. Normal four chamber cardiac size and aortic route size;
2. Mild concentric left ventricular hypertrophy with normal left ventricular diastolic compliance;
3. Paradoxical septal motion consistent with a bundle branch block;
4. Normal left ventricular systolic wall motion with a normal left ventricular ejection fraction of 57%;
5. Doplar examination normal;

Comparison is made to the patient's previous echo cardiogram performed on 3/14/05 Since that time, there has been no significant interval change.

Exhibit P

30. On July 5, 2006, the Decedent was admitted to the hospital. The admission note states: HISTORY OF PRESENT ILLNESS: This is a 40 year old gentleman that presented to the

emergency department after being cardioverted for V-Tach in the field. Patient states over the past five weeks or so, he has been ill and feeling poorly. Symptoms started as fever and within a week developed to what appeared to be [viral meningitis](#). He had no [lumbar puncture](#) done at the time. **Apparently, he was tested for Lyme disease at that time which was negative.** (Emphasis added) After he recovered from the [meningitis](#). (sic). He then developed chest pain, heaviness associated with pain radiating down both arms and shortness of breath saw his doctor at the office, Dr. [doctor 1], did an EKG which apparently did not reveal any significant change from previous EKG. Saw his cardiologist Did an [echocardiogram](#) which was unremarkable and was possibly being worked up for this. **He also had repeat blood work and found out a few days ago that he had Lyme disease.** (Emphasis added) The patient states on the night prior to admission, he was feeling well. was not actually experiencing any problems with chest pains or shortness of breath and went to bed without any problems. He woke up this morning with severe, crushing, substernal chest pain, pain radiating down both arms, shortness of breath, diaphoresis and could not move, could not even pick up a phone. He called for his wife, who saw how pale he was and called for the paramedics. When the paramedics evaluated him in the field, he was in V-tach apparently, was then cardioverted, went into Fib and cardioverted again into sinus rhythm. By the time the patient presented to the emergency department, he was feeling much better, presently the patient feels well. He said he is asymptomatic and is in sinus rhythm. The patient states approximately a year ago he had an episode of [viral pericarditis](#) after he had a nuclear [stress test](#) which was negative. He also has a remote history of paroxysmal arterial fibrillation about 5 years ago. States he was working outside in about 100 degree weather and drank some cold liquid and immediately felt his heart palpitating. That is when he was found to be in arterial fibrillation

Exhibit Q

31. The Impression upon admission was:

IMPRESSION:

1. Chest pain with V-tach, possible acute M]
2. **Acute Lyme disease** (Emphasis added)
3. Probably new onset diabetes mellitus
4. Elevated liver function tests
5. Anemia

*Id.*

32. While at the hospital on July 5, 2006, he was seen by Dr. [cardiologist]. Dr. [cardiologist] performed an examination and prepared a consulting report. After detailing his review of symptoms, physical examination, and review of the laboratory data, Dr. [cardiologist] gives his impression and plan as follows:

IMPRESSION AND PLAN: The patient is hemodynamically stable and normotensive, his cardiovascular exam is unremarkable. He EKG show sinus rhythm with [first degree AV block](#) which is chronic and left axis deviation with an [intraventricular conduction delay](#). He has chronic ST evaluation in the anteroseptal leads. When compared to his previous EKG from 3/13/05, there is no real interval change except for minor widening of the QRX complex. He has had normal nuclear [stress tests](#) about a year ago at a high level of cardiac stress and I think this episode may represent acute [myocarditis](#). I (do) not think that [coronary artery disease](#) is the cause of his tachyarrhythmia. Certainly, CAD will need to be ex-

cluded at some point with [cardiac catheterization](#). **But the clinical picture right now is much more suggestive of either a primary [ventricular arrhythmias](#) or possible [ventricular arrhythmia](#) due to an acute mild cardio inflammatory state.**

**With the recent acute viral illness with meningismus, one has to strongly consider [viral myocarditis](#) as the likely etiology if this is indeed [myocarditis](#) at all. [Lyme's carditis](#) is an interesting possibility but this usually presents with conduction system abnormalities as a predominant feature which is not the case here.** (Emphasis added)

There is no evidence of [AV block](#) although the patient does have [first degree AV block](#) but this is a chronic and not an acute finding in this case. We have little to hang our hats on in this case. In a full blown [myocarditis](#) there is usually evidence of increased cardiac enzyme levels and one would expect abnormalities in global LV function. But his [echocardiogram](#) a few days ago continues to show normal LV systolic function and no evidence of a [pericarditis](#). We will draw a sed rate, repeat an [echocardiogram](#) now although one done last week showed normal LV function.

Presently he has been started on low dose beta blocker therapy and we will continue. **If [Lyme disease](#) is indeed a factor, development of [AV block](#) needs to be carefully watched for ultimately daily EKGs.** (Emphasis added) He will continue on the [heparin](#) drip for now. Cardiac enzymes and EKGs will be followed. We discussed possible [catheterization](#) to evaluate his coronaries but I would like to await results of ID evaluation first before proceeding with that as I strongly suspect that this is an [arrhythmia](#) of ischemic origin. If all of the above are unrevealing, he will certainly require an electro physiological study. Further recommendations will depend upon his clinical course. I did discuss all this with his family at the bedside.

Exhibit R. 33

33. On that same date, July 5, 2006, the Decedent died. The discharge summary dated July 5, 2006, gives the History of Present Illness and Impression as follows:

**HISTORY OF PRESENT ILLNESS:**

This is a 40 year old gentleman who was brought to the emergency room by paramedics after found to be in a V tach in the field. The patient who was revived in the field was seen by me in intensive care after being admitted. The patient states that for about five weeks or so prior to admission he has been clinically ill, is feeling poorly He started with fever, subsequently developed meningismal symptoms, and felt possibly to have [viral meningitis](#). **He had a [Lyme titer](#) done at this time which was negative After he recovered from the [meningitis](#), he started developing chest pain, heaviness, pain radiating down both his arms, and shortness of breath. EKG revealed no significant change from his previous EKG, went to see his cardiologist who performed an [echocardiogram](#) which was also unremarkable, unchanged from his [echocardiogram](#) done about a year earlier when he was treated for [pericarditis](#). He had also had a nuclear [stress test](#) done about a year ago when he had [pericarditis](#) which was unremarkable. The patient had repeat [lyme titer](#) done which was found to be positive for [acute lyme disease](#) which the patient found out about two days prior to admission was started on oral antibiotics ...** (Emphasis added)

**IMPRESSION:**

1. Chest pain associated with ventricular tachycardia;
2. Possibly acute myocardial infarction;

3. **Acute Lyme Disease** (Emphasis added);
4. Probable new onset Diabetes Mellitus;
5. Elevated liver function tests;
6. Anemia.

Exhibit S.

34. The discharge summary contained an addendum as follows:

ADDENDUM:

Autopsy was done on the patient and pertinent finding was myocardium was consistent with **viral myocarditis** diffusely involving the myocardium. The patient had no evidence of **coronary artery disease**.

Id.

35. The records reveal that between June 5, 2006, when the Decedent first went to the emergency room for headaches, and July 5, 2006, when the decedent died, his condition never resolved. Dr. [cardiologist] could not adequately explain his condition, going so far as to say in his report “we have little to hang our hats on in this case.”

**36. The Decedent was suffering from symptoms which his treating physicians could not fully explain. Prior to the Decedents admission on July 5, 2006, his treating physicians were recommending additional testing, including CBC, chemistry profile, sed rate, Lyme studies, chest x-rays, an EKG, and a spinal tap as part of their investigative efforts. If I had been given these records to review in connection with an application for reinstatement, without consideration of the conditions reported in March, 2005, I would have recommended postponement of further consideration of the reinstatement application until the Decedent's condition fully resolved and could be explained. As the Decedent's medical condition was not fully explained, postponement of further consideration until full resolution and receipt of all treatment records were received is the proper course of action.** (Emphasis added)

The following is a motion in limine to limit evidence as to the standard of care and to exclude the testimony of the plaintiff's experts in a negligence, breach of warranty, and products liability action for the improper prescription of a drug for the treatment of the plaintiff's **Lyme disease** resulting in deterioration of the plaintiff's health to the point she was effectively disabled for nine months, the plaintiff's inability to care for her children, the incurring of pain and suffering, the development of relapsing **Lyme disease**, and the suffering of economic and other noneconomic damages.[3]

Motion in Limine to Limit Evidence as to the Standard of Care and to Exclude Testimony of Plaintiff's Experts

## I. Introduction

In this case, Plaintiff [plaintiff wife] claims that her recovery from Lyme's disease was slowed because Defendant [defendant pharmacy], which filled her prescription, provided her with improper instructions as to the manner in which she was to take her medication, Doxycycline. Specifically, [defendant pharmacy] provided Plaintiff with written instructions for the usage of Doxycycline, which in turn were provided to [defendant pharmacy] by [provider of drug information company]. The written instructions, which were approved by the drug's manufacturer, [drug manufacturer], and the United States Food and Drug Administration, directed

Plaintiff to “[t]ake [the medication] with food or milk if stomach upset occurs unless your doctor directs you otherwise.” Plaintiff contends that she took the [Doxycycline](#) with milk and that the milk hindered the absorption of the medicine, hindering her recovery.

Although [defendant pharmacy] filled Plaintiff's prescription in October 2000, it appears, based on her trial exhibits, that she intends to introduce evidence at trial as to instructions provided by other pharmacies and internet sites in the time frame after that at issue in this case. Under the law, however, Plaintiff must show that [defendant pharmacy] was negligent based on the standard prevailing at the time of [defendant pharmacy]'s alleged negligence.

Plaintiff further attempts to establish [defendant pharmacy]'s negligence based on the testimony of two witnesses, [doctor 2], M.D. and [doctor 3], R.Ph. The testimony of these two witnesses should be excluded because 1) they are not experts on the subject for which they are proffered; and 2) their opinions are unsupported by generally accepted scientific or medical principles.

## II. Applicable Law and Argument

A. The Court should exclude evidence concerning instructions given by other pharmacies and other evidence that relates to a time after [*defendant pharmacy*] filled Plaintiff's prescription.

It is well settled in Maryland that the question of negligence is to be determined based on the standard of care prevailing at the time of the occurrence and should not be judged in hindsight. As the Court of Appeals noted in [Baltimore & O.R. Co. v. Plews](#), 262 Md. 442, 278 A.2d 287 (1971). Of course, the test of foreseeability, or reasonable anticipation as it is sometimes called, must be judged by foresight, not in retrospect. The wrongfulness [*sic*], *vel non*, of a person's conduct must be evaluated in the light of the risks apparent to him at the time, and not by looking backward ‘with the wisdom born of the event.’ Cardozo, C. J., in [Greene v. Sibley, Lindsay & Curr Co.](#), 257 N.Y. 190, 177 N.E. 416 (1931). See also, [Martin G. Imbach, Inc. v. Tate](#), 203 Md. 348, 100 A.2d 808 (1953).”

This rule of law applies in cases involving medical negligence, as well. [East v. U.S.](#), 745 F. Supp. 1142 (D. Md. 1990) (“a doctor's conduct must be viewed in light of the circumstances existing at the time of diagnosis and treatment and not retrospectively”).

In Plaintiffs' Exhibit List there are written instructions for the use of Doxycycline from other pharmacies, as well as information from various Internet sites. Most of these exhibits, however, appear to represent the policies of other pharmacies or internet sites as they existed some time after the time in which [defendant pharmacy] advised Plaintiff that she could take Doxycycline with milk. See Plaintiffs' Exhibit 3 (copyright 2002), Exhibit 4 (copyright 2003), Exhibit 5 (copyright 2002), Exhibit 8 (revised 2002), Exhibit 9 (copyright 2001), Exhibit 11 (revised July 31, 2002), Exhibit 13 (October 2001), Exhibit 15 (updated November 2001), Exhibit 18 (copyright 2001), and Exhibit 20 (copyright 2002). Moreover, several additional exhibits of this kind cannot be shown to have definitively existed or been available at the time [defendant pharmacy] rendered its advice to Plaintiff. These include Plaintiffs' Exhibit 6 (copyright 2000), Exhibit 10 (copyright 2000), Exhibit 16 (copyright 2000), and Exhibit 19 (date unknown). Copies of Plaintiffs' Trial Exhibits 3, 4, 5, 6, 8, 9, 10, 11, 13, 15, 16, 18, 19,

and 20 are attached hereto as Exhibit 1 to this Motion.

Plaintiffs are impermissibly attempting to use hindsight to establish that a certain standard of care existed as of October 2000 based on documents purportedly showing the standard of care at later dates. The Court of Appeals has considered, and rejected, attempts to use more recent events to establish the standard of care existing at the time of an occurrence. In [Rogers v. Frush](#), 257 Md. 233, 262 A.2d 549, 40 A.L.R.3d 847 (1970), the Court of Appeals considered a case in which the defendant asserted contributory negligence based on a minor's failure to wear a helmet when riding a motorcycle. The Court found that the General Assembly's enactment of a law almost three years later requiring use of helmets “would not be sufficient grounds for concluding that as of the time of the accident such a standard of conduct” existed. Thus, under Maryland law, [defendant pharmacy]'s practices must be judged based on the standard of care existing at the time it filled Plaintiff's prescription. The exhibits discussed above do nothing to establish the applicable standard of care as of October 2000. Accordingly, even assuming that these exhibits are otherwise admissible, which they are not, they must be excluded because they have no relevance and would be unfairly prejudicial to [defendant pharmacy]'s defense.

B. Plaintiff's experts' testimony should be excluded from the trial of this matter.

In [Wood v. Toyota Motor Corp.](#), 134 Md. App. 512, 760 A.2d 315 (2000), the Court of Special Appeals explained the criteria that must be met in order for an expert to be allowed to testify:

[Maryland Rule 5-702](#) governs expert testimony, and provides such testimony will be admitted if it will assist the trier of fact to understand the evidence, or determine a fact in issue, and if, one, the witness is qualified to render the expert opinion by virtue of knowledge, skill, training or experience or education; and two, that there is a sufficient factual basis to support the expert factual opinions made by that witness; and three, that the expert testimony is appropriate on this subject (emphasis added) (quoting trial judge's ruling favorably).

Moreover, the facts relied on by an expert must be of the type reasonably relied upon by experts in the same field. [Carter v. Shoppers Food Warehouse MD Corp.](#), 126 Md. App. 147, 727 A.2d 958 (1999).

Finally, an expert, in making his [or her] findings, must apply a technique that is based on reliable scientific method that has gained “general acceptance in the community.” [Reed v. State](#), 283 Md. 374, 391 A.2d 364, 97 A.L.R.3d 201 (1978). The required proof that a scientific method is generally accepted goes to the admissibility not the weight of the evidence. [Id.](#) at 387.

1. [Doctor 3]'s testimony should be excluded.

a. Dr. [doctor 3] does not have sufficient expertise to be permitted to testify.

Although she is a pharmacist, Dr. [doctor 3] admits that she is not an expert on the absorption of Doxycycline into the body. Deposition of [doctor 3] (“[doctor 3] Deposition”), attached as Exhibit 2, at 54. She has never been a member of a team studying Doxycycline and, at her deposition, she could not be sure that she had, prior to this case, looked at issues related to the absorption of Doxycycline. [Id.](#) at 55–56.

Indeed, in her job as a pharmacist, Dr. [doctor 3] has never prescribed medications, but only provides what a patient's doctor prescribes. She has only consulted with a doctor on perhaps one occasion on the treatment of Lyme's Disease, but that case did not involve Doxycycline. *Id.* at 41–42. Although she has filled a handful of Doxycycline prescriptions per year, Dr. [doctor 3] has never provided advice to a doctor concerning the use of milk with Doxycycline. *Id.* at 43. In fact, Dr. [doctor 3] has never spoken to a patient about the use of Doxycycline with milk. *Id.* at 176. Rather, when advising patients at the University of Maryland where she was employed, Dr. [doctor 3] relied entirely on the written use instructions provided by the pharmacy. *Id.*

Although the testimony of a pharmacist can be appropriate in establishing the standard of care to be used by a pharmacy, it does not follow that every pharmacist is competent to testify on matters related to the usage of any medication. Indeed, Dr. [doctor 3] is very much equivalent to the engineer whose testimony was rejected by the court in *Woods*, a product liability case involving an allegedly defective seatbelt design. In that case, the Court of Special Appeals noted that although the plaintiff's expert was an engineer and had a range of experience with automobile systems, he had never worked on or designed seatbelts and, thus, was properly excluded as an expert. In this case, although Dr. [doctor 3] filled prescriptions for Doxycycline on a few occasions, she has never studied it or provided advice concerning it; rather she has always deferred to others on such matters (i.e., her employer's preprinted instructions). Indeed, as noted above, Dr. [doctor 3] admits that she is not an expert as to the issues presented in this case. Accordingly, Dr. [doctor 3] cannot be considered competent to provide expert testimony in this case.

b. There is no generally accepted medical science to support an opinion by Dr. [doctor 3] that [defendant pharmacy] was negligent.

In her deposition, Dr. [doctor 3] stated that there were several publications or sources that are considered authoritative by pharmacists in determining the proper manner to administer medications. Dr. [doctor 3] conceded that none of the sources deemed to be authoritative supported the position that it would be improper to advise a patient to take milk with Doxycycline in the event of stomach upset. [Doctor 3] Deposition at 94–95, 101–02, 104–06, 132–38. Indeed, several, including the drug manufacturer and the Physicians' Desk Reference, specifically advise that a patient can take milk with Doxycycline. *Id.* As Dr. [doctor 3] acknowledged, the Food and Drug Administration approve the drug manufacturer's instructions. *Id.* at 52. Indeed, the instructions on which Dr. [doctor 3] relied while working at the University of Maryland also state that milk can be taken in the event of stomach upset. A copy of the University of Maryland instructions is attached as Exhibit 3. Although, Dr. [doctor 3] was aware of a 16 year old study in Germany that found that the absorption of Doxycycline was affected by milk, Dr. [doctor 3] recognized that the study was not authoritative because it involved only nine people. *Id.* at 111–13. Thus, because the generally accepted medical science undisputedly recognizes the appropriateness of taking Doxycycline with milk, Dr. [doctor 3] cannot render an opinion that would be contrary to it (i.e., that [defendant pharmacy] acted negligently in providing its advice).

2. Dr. [doctor 2]'s testimony should be excluded.

a. Dr. [doctor 2] does not have sufficient expertise to render an opinion in this case on the issue of [defendant pharmacy]'s negligence. Dr. [doctor 2] is trained as a pharmacist

and is currently practicing as a doctor specializing in internal medicine. Dr. [doctor 2] received a pharmacy degree from the University of Maryland in 1977 and practiced as a pharmacist until 1980. Deposition of [doctor 2] (“[doctor 2] Deposition”), attached as Exhibit 4, at 7. Like Dr. [doctor 3], Dr. [doctor 2] readily admits that she is not an expert on issues related to the absorption of Doxycycline. *Id.* at 101. Dr. [doctor 2] learned about Doxycycline while she was in pharmacy school in 1979, but concedes that she took no courses specifically on Doxycycline and that she has not reviewed any studies or literature on the effect of milk on the medicine since 1979. *Id.* at 85–86. Her knowledge and opinions concerning Doxycycline are based on what she learned in pharmacy school and the fact that she has heard nothing new regarding the drug since that time. *Id.* at 87. Of course, as explained above, the University of Maryland was specifically advising patients in the year 2000 that they could take milk with Doxycycline. As of the time she saw Plaintiff, she was not aware of the recommendations made by the Physicians' Desk Reference on the taking of Doxycycline or the instructions of the drug's manufacturers. *Id.* at 29, 34–38. Simply put, Dr. [doctor 2] has knowledge as to the general uses of Doxycycline, but does not have, as she admits, the expertise to render an opinion on issues related to the absorption of Doxycycline and the reasonableness, or not, of [defendant pharmacy]'s advice.

b. There is no generally accepted medical science to support an opinion by Dr. [doctor 3] that [defendant pharmacy] was negligent. Dr. [doctor 2] agrees that the Physicians' Desk Reference and the manufacturers of Doxycycline state that the drug can be administered with milk in the event of stomach upset. She also acknowledges that this information would have to have been reviewed and approved by the Food and Drug Administration. [doctor 2] Deposition at 24 and 40. The one source that Dr. [doctor 2] uses every time she prescribes antibiotics is the Sanford Guide, which comes out every year. *Id.* at 90. The Sanford Guide, however, is silent on the issue of taking milk with Doxycycline. *Id.* at 93. Rather, as explained above, Dr. [doctor 2]'s entire opinion is based on general instructions provided to her in 1979 in Pharmacy School at the University of Maryland. Accordingly, Dr. [doctor 2]'s opinion that [defendant pharmacy] violated the standard of care in October 2000 is without a generally accepted basis in medical science.

3. [Defendant pharmacy] reserves the right to object to testimony of Plaintiffs' other experts.

Plaintiffs have designated two additional experts to testify at trial, David Levy, M.D., a urologist, and Robert Medalie, M.D., an internist. By order of the Court, these doctors are to make themselves available for deposition by the end of March 2003. Once these depositions have been taken and the transcripts received, [defendant pharmacy] will make any further appropriate motion in limine for the Court's consideration.

### III. Conclusion

For all of the reasons discussed above, the Court should exclude all evidence proffered by Plaintiffs as it relates to a standard of care other than the one existing at the time [defendant pharmacy] gave advice to Plaintiff in October 2000. Additionally, the Court should exclude the testimony of Plaintiff's experts, Andrea [doctor 3], R.Ph., and [doctor 2], M.D., because they do not have sufficient expertise and because their opinions are unsupported by generally accepted medical science.

Respectfully submitted.

## VII. Proof of Negligence in Diagnosis and Treatment of **Lyme Disease**

### A. Illustrative Facts

#### § 21. Model trial factual situation

The negligent diagnosis and treatment of **Lyme disease** is litigated most often in medical malpractice actions. However, **Lyme disease** products cases, actions on insurance contracts, employer liability, and actions for disability payments also may be appropriate.[1]

The following illustrative testimony demonstrating the negligent diagnosis and treatment of **Lyme disease** in a medical malpractice action is based in part on the facts of **Bratt ex rel. Bratt v. Laskas**, 845 So. 2d 964 (Fla. Dist. Ct. App. 4th Dist. 2003), and **Tetreault v. Eslick**, 271 Conn. 466, 857 A.2d 888 (2004).

### B. Plaintiff's Testimony [Direct Examination]

#### § 22. Initial symptoms of illness

- Q. Please state your name and address for the record.
- A. [Name], [address].
- Q. Are you employed?
- A. Yes. I am a landscaper.
- Q. And, as part of your work you are outside a great deal?
- A. Yes. I work in people's yards.
- Q. Are some of these yards near wooded areas?
- A. Yes. The homes I work at border a green area that is wooded.
- Q. About [date], did you become ill?
- A. Yes. On [date] I stayed home from work because I felt like I had the flu.
- Q. What physical symptoms did you experience?
- A. My muscles and joints ached. I had a fever and chills. That is what made me think it was the flu.
- Q.

Did your “flu” resolve itself?

A.

No. And this is what bothered me. I continued to feel fatigued, have headaches, was light-headed, and sometimes was dizzy.

Q.

Did this get better over time?

A.

No, and I got a stiff neck and had trouble sleeping.

Q.

Was there any place on your body that showed your illness?

A.

Yes, I got a red, circular skin rash on my arm.

### § 23. Diagnosis of illness and initial treatment

Q.

Did you consult a doctor about these symptoms?

A.

Yes. I went to [defendant].

Q.

On date did you first see [defendant]?

A.

On [date].

Q.

What happened at the doctor's office?

A.

First, the nurse took my temperature and blood pressure, he weighed me, and asked me questions about my medical history and why I was in the doctor's office that day.

Q.

Did [defendant] examine you?

A.

Yes. She examined me in her office.

Q.

What did she do during the examination?

A.

She briefly looked at the nurse's notes, asked me what symptoms I was having, and listened to my heart, checked my ears, and had me cough.

Q.

Did she examine look at other parts of your body?

A.

No.

Q.

Did she find the red, circular rash?

A.

No. I pointed it out to her.

Q.  
What did she say about the rash?

A.  
She looked at it and said it was a bit of **dermatitis**. She said to go to a drug store and get an antibacterial soap. I was supposed to wash the rash twice a day with that.

Q.  
Did you do this?

A.  
Yes.

Q.  
Did it help?

A.  
No. Actually it seemed to irritate it some.

Q.  
When you were at the doctor's office, did she ask about your muscle and joint pain?

A.  
Yes, but she said to take Ibuprofen.

Q.  
Did she ask you about your activities or your work?

A.  
No.

Q.  
Did she ask about your medical history?

A.  
Some, but she didn't go over my medical history very much or the form that I had filled out in the waiting room. She asked if I had any history of skin problems like **psoriasis**. She seemed to be in a hurry, like other patients with real problems were waiting.

Q.  
What else did she ask during the office visit?

A.  
She asked if I had any mental problems. This made me feel terrible, like I was faking my pain or something.

Q.  
What do you mean?

A.  
She wanted to know if I had any history of psychiatric problems, if my marriage was good, if I had ever had any problems with the law. I took this to mean she thought my illness was all in my head, that my problems were related to emotional problems.

Q.  
After seeing the doctor, did you go home and take the **Ibuprofen** for your pain?

A.  
Yes.

Q.  
Did this resolve your illness and pain?

A.

No.

Q. Did you see the Defendant again?

A. Yes, I went back on [date].

Q. What happened then?

A. I saw the doctor. She did the same things: listened to my heart, had me cough.

Q. Did she do anything new or different?

A. No.

Q. Did she order any lab tests?

A. Oh, yes. She thought maybe my thyroid wasn't working right so I got a blood test for that.

Q. What were the results of that test?

A. My thyroid was fine.

Q. Did you go back to the doctor another time for a follow-up?

A. Yes. On [date], I went back.

Q. What did the doctor say then?

A. She talked to me about the diseases of fibromyalgia and chronic fatigue syndrome. She prescribed a new drug that was supposed to help with fibromyalgia.

#### § 24. Later stage symptoms

Q. Did your illness resolve over time?

A. No. It kept getting worse.

Q. In what way?

A. I had difficulty concentrating and felt I was losing my mind. Then, parts of my face seemed to not work right. I couldn't smile like I used to. Another doctor later told me this was "facial palsy," and that really scared me.

Q. Did you have any other symptoms then?

A.

Yes. My heart seemed to race every once in a while and my chest hurt. Also, my muscle and joint pain continued and was really bad. I had to stay home from work a lot because I had trouble walking. Sometimes, I couldn't get out of bed.

Q.

Did you go back to see the Defendant?

A.

Yes. I felt sheepish about going again since I wasn't bleeding and didn't have a high temperature. It seems like if you don't have something obvious like this, the doctors really don't want to see you.

Q.

What did the doctor do this time?

A.

She ordered another blood test and some x-rays.

Q.

And what did the blood test show?

A.

It was positive for [Lyme disease](#).

## § 25. Treatment of [Lyme disease](#)

Q.

When you tested positive for [Lyme disease](#), did the Defendant prescribe any medication?

A.

Yes, I was put on [cephalexin](#).

Q.

Did this resolve your problems?

A.

No. Another doctor told me [cephalexin](#) is ineffective for the treatment of [Lyme disease](#) and should not be used.

Q.

What did you do then?

A.

I phoned the doctor and she then put me on [doxycycline](#) (100 mg twice per day).

Q.

Did this help?

A.

Some. Because I had [Lyme disease](#) at that point for so long, I learned later I should have been put on intravenous [ceftriaxone](#) for 2 to 4 weeks.

## § 26. Resulting physical harm

Q.

What happened next?

A.

On [date], I had significant pain, went to the emergency room, and the next day had my

gallbladder removed.

Q.  
And this was associated with your [Lyme disease](#)?

A.  
Yes.

Q.  
Do you still feel the effects of the [Lyme disease](#) today?

A.  
Yes. I have joint pain all the time. Sometimes, I have cognitive problems—my short-term memory is really bad. Also, I have heart palpitations and am worried I am going to have a [heart attack](#) one day.

### **§ 27. Impact on work and life activities**

Q.  
Has this impacted your work?

A.  
I have real trouble working. I can't stand for long, bending can be a problem, my hands hurt. I've missed a lot of work.

Q.  
Can you still do the things you enjoyed before you contracted [Lyme disease](#)?

A.  
No. Sometimes I have trouble caring for my kids—it is hard to do the buttons on their clothes, I am tired and can't fix them food, the laundry isn't getting done. I can't do my hobbies. I am fatigued all the time.

### **C. Testimony of Expert Medical Witness [Direct Examination]**

#### **§ 28. Qualification of witness as medical expert**

[After introduction and identification of witness]

Q.  
Would you state your occupation, please?

A.  
I am a medical doctor, board-certified in infectious diseases in the state where [plaintiff] resides and was treated.

Q.  
Are you a member of any associations or work with any entities?

A.  
I am a member of the American Infectious Disease Association and an adjunct professor at [University Medical School].

Q.  
Thank you. Have you published in your field?

A.  
Yes. I have several scholarly publications and two medical school texts on infectious disease.

Q.

Are any of these publications on [Lyme disease](#)?

A.

Yes. I have a specialty in [Lyme disease](#). I write on it regularly and have consulted on many patient cases.

## § 29. Explanation of [Lyme disease](#) and its diagnosis and treatment

Q.

Can you please tell us what [Lyme disease](#) is?

A.

[Lyme disease](#) is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans by the bite of infected blacklegged ticks. Infection of less than 20% of ticks with *B. burgdorferi* generally occurs in parts of New England, in parts of the mid-Atlantic States, and in parts of Minnesota and Wisconsin, but not in most other locations in the United States. Persons who have removed attached ticks from themselves (including those who have received antibiotic prophylaxis) should be monitored closely for signs and symptoms of tickborne diseases for up to 30 days; in particular, they should be monitored for the development of an expanding [skin lesion](#) at the site of the tick bite (*erythema migrans*) that may suggest [Lyme disease](#). Persons who develop a [skin lesion](#) or viral infection-like illness within one month after removing an attached tick should promptly seek medical attention to assess the possibility of having acquired a [tick-borne infection](#).

Q.

What symptoms does a person have if they are infected by a tick bite?

A.

Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called *erythema migrans*. If left untreated, infection can spread to joints, the heart, and the nervous system. [Lyme disease](#) can cause [arthritis](#), [facial paralysis](#) and other neurological problems or an abnormally slow heart rate.

Q.

There is a skin rash that can be seen?

A.

Yes, *erythema migrans*, which is the most common clinical manifestation of [Lyme disease](#). The great majority of people who are infected with [Lyme disease](#) develop a large (three inches or more) circular, red rash surrounding the site where a tick attached. About 15% of those who have a [skin lesion](#) develop neurological abnormalities several months later. These include [meningitis](#), [cranial](#) or [peripheral neuritis](#), and migratory musculoskeletal pain. A smaller percentage develop myocardial abnormalities. The final phase occurs months to years after infection, when 50% of patients who displayed the lesion develop intermittent [chronic arthritis](#) involving many joints.

Q.

When does the infection occur?

A.

Infection occurs from three to 30 days, on average 10 days, after a tick bite, but most people do not recall the bite because the ticks are small and the bite usually is not itchy or painful.

Q.  
How is [Lyme disease](#) diagnosed?

A.  
Generally, [Lyme disease](#) is diagnosed based on patient symptoms, the physical finding of a rash, a blood laboratory test, and the possibility of exposure to infected ticks. [Lyme disease](#) is diagnosed based on the patient's history and the doctor's examination of the patient in conjunction with a positive laboratory test result. The most commonly used laboratory test is a blood test which determines whether the patient has developed antibodies to the *Borrelia burgdorferi* bacteria, the presence of an IgG antibody several weeks after infection. One diagnostic difficulty is the great variation in clinical expression—90% of patients who are infected have no symptoms but have positive [Lyme titers](#).

Q.  
What are the stages of [Lyme disease](#)?

A.  
Clinical manifestations of [Lyme disease](#) have been categorized into three stages, which do not necessarily occur in sequence nor appear within a uniform period of time. Stage I is characterized by a rash that develops at the site of an infected tick bite, which may appear with or without a fever. There may also be no symptoms. The characteristic rash appears in a circle around the site, with a diameter averaging 15 cm. Usually, the outer border is flat and bright red, but there are variations on the pattern, from concentric circle to a rash with irregular margins. The rash resolves within a few weeks, even without treatment. Stage II consists of [influenza](#) or meningitis-like symptoms, including headache, fever and chills, arthralgias, stiff neck, malaise and fatigue. There may be acute cardiac and neurological abnormalities, as well. Neurological manifestations include difficulty concentrating, earache, bilateral [facial palsy](#), dizziness, and photophobia, with the headache and stiff neck. Usually, symptoms cluster, which is a strong indication of [Lyme disease](#). Cardiac involvement is commonly indicated by lightheadedness, palpitations, chest discomfort and dyspnea, and appears as a fluctuating atrioventricular (AV) block from first to third degree. Stage III, or the late persistent infection stage, may occur weeks, months, or years after the initial infection, and is manifested by one or more attacks of [monoarthritis](#) or [oligoarthritis](#), which last from several days to several months. Pain, stiffness, and swelling of the affected joint, usually the knee, are the most frequent complaints, with attacks diminishing in frequency and severity over time. Generalized pain and morning stiffness are not characteristic of this disease. Chronic neurological symptoms are experienced by some patients at stage III, with generalized fatigue, sleep disorder, widespread musculoskeletal pain, and headache.

Q.  
What is the suggested treatment for [Lyme disease](#)?

A.  
Treatment usually involves 10 to 28 days of oral antibiotics and is highly effective. When [Lyme disease](#) is diagnosed and treated quickly, 95% of people are cured within a few weeks of treatment. Specifically, a single dose of [doxycycline](#) may be offered to adult patients (200 mg dose) and to children of less than eight years of age (4 mg/kg up to a maximum dose of 200 mg) when all of the following circumstances exist: (a) the attached tick can be reliably identified as an adult or nymphal I. scapularis tick that is estimated to have been attached for less than 36 hours on the basis of the degree of engorgement of the tick with blood or of cer-

tainty about the time of exposure to the tick; (b) prophylaxis can be started within 72 hours of the time that the tick was removed; (c) ecologic information indicates that the local rate of infection of these ticks with *B. burgdorferi* is less than 20%; and (d) [doxycycline](#) treatment is not contraindicated. [Doxycycline](#) is contraindicated in pregnant women and children of less than eight years old. The time limit of 72 hours is suggested because of the absence of data on the efficacy of [chemoprophylaxis](#) for tick bites following tick removal after longer time intervals. [Doxycycline](#) (100 mg twice per day), [amoxicillin](#) (500 mg three times per day), or [cefuroxime axetil](#) (500 mg twice per day) for 14 days (range, 10–21 days for [doxycycline](#) and 14–21 days for [amoxicillin](#) or [cefuroxime axetil](#)) is recommended for the treatment of adult patients with early localized or early disseminated [Lyme disease](#) associated with [erythema migrans](#), in the absence of specific neurologic manifestations or advanced [atrioventricular heart block](#). The use of [ceftriaxone](#) (2 g once per day intravenously for 14 days; range, 10–28 days) in early [Lyme disease](#) is recommended for adult patients with acute [neurologic disease](#) manifested by [meningitis](#) or [radiculopathy](#). For children, [ceftriaxone](#) (50–75 mg/kg per day) in a single daily intravenous dose (maximum, 2 g) is recommended.

Q.

Are some antibiotics not recommended?

A.

Macrolide antibiotics are not recommended as first-line therapy for early [Lyme disease](#), because those macrolides that have been compared with other antimicrobials in clinical trials have been found to be less effective. First-generation cephalosporins, such as [cephalexin](#), are ineffective for treatment of [Lyme disease](#) and should not be used.

Q.

Is there a different course of treatment for late stage, or Stage III, [Lyme disease](#)?

A.

Adult patients with late [neurologic disease](#) affecting the central or peripheral nervous system should be treated with intravenous [ceftriaxone](#) for two to four weeks. [Ceftriaxone](#) is also recommended for children with late neurologic [Lyme disease](#). These patients may require up to 28 days of antibiotic therapy. Long-term therapy for so-called chronic [Lyme disease](#) can involve weeks, months, and even years of intravenous antibiotics although there is little evidence this antibiotic therapy cures or suppresses the infection and may result in overuse of the antibiotic.

Q.

Is there some controversy regarding antibiotic treatment of [Lyme disease](#)?

A.

Yes. In 2006, the Infectious Diseases Society of America published treatment guidelines. The guidelines, however, do not recognize “chronic” Lyme because there is no evidence the disease's bacteria remain alive in humans after a standard course of antibiotic therapy and because there is no good evidence that repeated or prolonged courses of antibiotics help patients. Because insurers often won't pay for treatment outside the guidelines, activist groups are fighting to have the rules changed.

### § 30. Plaintiff's [Lyme disease](#)

Q.

Did you have an opportunity to review the medical records of [plaintiff] concerning her course of care with [defendant]?

A.  
Yes.

Q.  
Do you have an opinion as to whether [plaintiff] exhibited the symptoms of [Lyme disease](#)?

A.  
Yes. [Plaintiff] definitely exhibited the symptoms of [Lyme disease](#), the red, circular rash and all of her nonspecific symptoms such as muscle and joint pain, fatigue, etc.

### § 31. Standard of care

Q.  
Can you tell us, what is the generally accepted standard of examination and diagnosis for a patient with symptoms similar to [plaintiff]?

A.  
The Infectious Diseases Society of America has published treatment guidelines, and the Centers for Disease Control also provide information on [Lyme disease](#) useful to practitioners.

Q.  
What, if anything, should [defendant] have done to stay within the accepted standard of medical care?

A.  
[Defendant] should have followed the guidelines in conducting the examination and diagnosis of [plaintiff] in order to determine whether the [plaintiff]'s symptoms were indicative of [Lyme disease](#).

Q.  
What else, if anything, should [defendant] have done, in order to comply with a general standard of medical care?

A.  
If [defendant] had a question about the diagnosis of [plaintiff's] illness, she should have ordered a blood test immediately, and possibly consulted medical information on infectious diseases. In addition, follow-up should have been scheduled to determine if plaintiff was making progress toward recovery.

Q.  
Do you have an opinion about whether or not [defendant] met the standard in this state with regard to examining and diagnosing [plaintiff]?

A.  
In my opinion, [defendant] did not follow the recommended guidelines for the physical examination of [plaintiff] and did not properly and timely diagnose [plaintiff]'s illness as Lyme disease. [Defendant] failed to recognize obvious symptoms of Lyme disease, the circular skin rash, and failed to conduct a blood test which would have been more conclusive for [defendant] in making a diagnosis. Therefore, [defendant] failed to adhere to the acceptable standard of medical care in examining and diagnosing a patient who presents with [plaintiff]'s clinical symptoms.

Q.

Do you have an opinion about whether or not [defendant] met the standard in this state with regard to the treatment provided to [plaintiff] once the diagnosis of **Lyme disease** was finally made?

A.

Yes. My opinion is that [defendant] initially failed to properly treat [plaintiff] with an antibiotic, [defendant] next failed to provide the proper antibiotic, and [defendant] failed to timely provide the proper treatment which would have prevented the serious progression of the disease and [plaintiff]'s current disabilities.

### **§ 32. Causation**

Q.

What, in your opinion, is [plaintiff]'s prognosis currently?

A.

Without examining [plaintiff], and just from looking at the medical records, I can say that her prognosis is poor.

Q.

Why is the prognosis poor?

A.

She will have continuing problems including fatigue, muscle and joint pain, and possible heart involvement and cognitive difficulties. This will impact her work and life activities. Her most recent physical examination shows marked disability, with [plaintiff] unable to walk unassisted.

Q.

If [defendant] had followed the guidelines, or otherwise had complied with the generally accepted standard of medical care in the state in diagnosing and treating [plaintiff], would there have, in your opinion, been a difference in the current prognosis?

A.

Yes, absolutely. With early diagnosis and treatment most patient's recover completely or well, showing no or little symptoms in the future. There would have been a significant difference. Because [plaintiff]'s diagnosis and treatment were not in compliance with the guidelines and were untimely, [plaintiff] will have significant disabling problems in the future.

### **§ 33. Negligence of defendant**

Q.

Was, in your opinion, [defendant] negligent in her diagnosis and treatment of [plaintiff]?

A.

Yes. The initial diagnosis was incorrect. [Defendant] incorrectly diagnosed and treated [plaintiff] for the flu and dermatitis. The next diagnosis of thyroid problems was incorrect. Also, the diagnosis and treatment of fibromyalgia for [plaintiff] was incorrect. The correct diagnosis for [plaintiff] is Lyme disease and this diagnosis and its treatment were the cause of [plaintiff]'s continuing problems.

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[Kodsi, Confronting Experts Whose Opinions Are Neither Supported nor Directly Contradicted by Scientific Literature, 80-JUN Fla. B.J. 80 \(2006\)](#)

[Luyster, Frye and Daubert Challenges: Unreliable Options vs. Unreliable Science, 26 No. 2 Trial Advoc. Q. 29 \(2007\)](#)

[Meng, Note, Jeanes Hospital v. Workers' Compensation Appeal Board \(Hass\): Defining the Procedure to Add an Additional Injury to a Notice of Compensation Payable, 15 Widener L.J. 547 \(2006\)](#)

[Spiva, Proving Invisible Injury: Unseen, But Not Unreal, 41-JUN Trial 18 \(2005\)](#)

[Springer-Sullivan, The Resurrection of "Female Hysteria" in Present-Day ERISA Disability Law, 20 Berkeley J. Gender L. & Just. 67 \(2005\)](#)

[The Chronic Pain Client—Proving Damages, Winter 2005 ATLA-CLE 183](#)

[FN\*] Monique C.M. Leahy is the principal of Wordsworth Publishing providing law book authoring and research services to law and business publishers. She is an attorney licensed in Washington, Missouri, and Kansas emphasizing Internet, computer, medico-legal, personal injury, workers' compensation, business, and municipal law in her published works. Ms. Leahy is a former Director of the Reston Association, a “new town” planned community and one of the largest homes associations in the U.S. with 60,000 members, a former city council member, planning commissioner, and Board of Zoning Appeals member in Leawood, Kansas, and currently is on appointed land use committees in Reston and Fairfax County, Virginia. In her former law practice, she emphasized litigation and telecommunications law.

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### Section 1 Footnotes:

[FN1] <http://www.idsociety.org>.

[FN2] The Washington Post, “Getting Serious on Lyme: Area Health Officials Battle Disease's Surge,” Tuesday June 17, 2008, Health page F7. For organizations providing information and support to persons affected by Lyme disease, see the Centers for Disease Control <http://www.cdc.gov/ncidod/dvbid/Lyme/>, the Infectious Diseases Society

of America <http://www.idsociety.org>, the nonprofit Lyme Disease Association, Inc. [www.lymediseaseassociation.org](http://www.lymediseaseassociation.org), and the Lyme Disease Foundation <http://www.lyme.org/>, among others.

[FN3] Gale Encyclopedia of Medicine, 2d Ed., Lyme Disease. See § 4 regarding the diagnosis of Lyme disease. See also [Proof of Chronic Fatigue Syndrome and Fibromyalgia](#), 99 Am. Jur. Proof of Facts 3d 1; [Workers' Compensation: Compensability of Multiple Sclerosis](#), 36 Am. Jur. Trials 573; and [Proof of Negligence in Diagnosis and Treatment of Arthritis](#), 54 Am. Jur. Proof of Facts 3d 1.

[FN4] American Family Physician, 7/15/05 AFAMPHYS 309 2005 WLNR 12847338.

[FN5] <http://www.idsociety.org>.

[FN6] Shapiro, Doxycycline for Tick Bites—Not for Everyone, New England Journal of Medicine, 7/12/01 New Eng. J. Med. 133. See §§ 4, 5 discussing the diagnosis and treatment of Lyme disease.

[FN7] [www.lymediseaseassociation.org](http://www.lymediseaseassociation.org).

[FN8] See §§ 19 to 33 presenting proof of Lyme disease.

[FN9] § 4.

[FN10] § 5.

[FN11] See §§ 6 to 9.

[FN12] §§ 11, 12.

[FN13] § 13.

[FN14] §§ 14 to 16.

[FN15] §§ 17, 18.

[FN16] §§ 19, 20.

[FN17] §§ 21 to 33.

Section 2 Footnotes:

[FN1] <http://www.cdc.gov/ncidod/dvbid/Lyme/>.

[FN2] Attorneys Medical Advisor § 54:18.

[FN3] Attorneys Medical Advisor § 54:18.

[FN4] <http://www.idsociety.org>. See § 5 discussing treatment.

Section 3 Footnotes:

[FN1] <http://www.cdc.gov/ncidod/dvbid/Lyme/>.

[FN2] <http://www.idsociety.org>.

Section 4 Footnotes:

[FN1] <http://www.cdc.gov/ncidod/dvbid/Lyme/>.

[FN2] <http://www.idsociety.org>.

[FN3] *Attorneys Medical Advisor* § 54:18.

[FN4] <http://www.idsociety.org>.

[FN5] *Proof of Negligence in Diagnosis and Treatment of Arthritis*, 54 Am. Jur. Proof of Facts 3d 1.

[FN6] *Proof of Negligence in Diagnosis and Treatment of Arthritis*, 54 Am. Jur. Proof of Facts 3d 1.

Section 5 Footnotes:

[FN1] <http://www.cdc.gov/ncidod/dvbid/Lyme/>.

[FN2] <http://www.idsociety.org>. See below in this section discussing chronic cases.

[FN3] <http://www.idsociety.org>.

[FN4] <http://www.idsociety.org>.

[FN5] <http://www.idsociety.org>.

[FN6] <http://www.idsociety.org>.

[FN7] <http://www.idsociety.org>.

[FN8] *The Washington Post*, "Getting Serious on Lyme: Area Health Officials Battle Disease's Surge," Tuesday June 17, 2008, Health page F1.

[FN9] *The Washington Post*, "Getting Serious on Lyme: Area Health Officials Battle Disease's Surge," Tuesday June 17, 2008, Health page F7.

[FN10] *Rite Aid Corp. v. Levy-Gray*, 391 Md. 608, 894 A.2d 563, 59 U.C.C. Rep. Serv. 2d 807 (2006).

Section 6 Footnotes:

[FN1] See *Judicial Review of Denial of Disability Benefits Under Employee Benefit*

Plan Governed by Employee Retirement Income Security Act (ERISA), 29 U.S.C.A. § 1132(a)(1)(B)—Fiduciary Conflict of Interest—Post-Firestone Cases, 18 A.L.R. Fed. 2d 607; Judicial Review of Denial of Disability Benefits Under Employee Benefit Plan Governed by Employee Retirement Income Security Act (ERISA), 29 U.S.C.A. § 1132(a)(1)(B)—Selection and Scope of Particular Standards of Review—Post-Firestone Cases, 12 A.L.R. Fed. 2d 1; ERISA—Arbitrary Denial of Benefits Under Disability Income Plan, 2 Am. Jur. Proof of Facts 3d 273.

[FN2] *Lamanna v. Special Agents Mut. Benefits Ass'n*, 546 F. Supp. 2d 261 (W.D. Pa. 2008).

[FN3] *Pikulas v. DaimlerChrysler*, 397 F. Supp. 2d 883 (E.D. Mich. 2005).

[FN4] *Dunn v. Standard Ins. Co.*, 156 F. Supp. 2d 227, 26 Employee Benefits Cas. (BNA) 2593 (D. Conn. 2001).

[FN5] *Ingram v. Martin Marietta Long Term Disability Income Plan for Salaried Employees of Transferred GE Operations*, 244 F.3d 1109, 25 Employee Benefits Cas. (BNA) 2477 (9th Cir. 2001).

[FN6] *Logan v. Empire Blue Cross and Blue Shield*, 275 A.D.2d 187, 714 N.Y.S.2d 119 (2d Dep't 2000).

[FN7] *Foley v. Barnhart*, 432 F. Supp. 2d 465 (M.D. Pa. 2005).

[FN8] *Liebhart v. Commissioner of Social Sec.*, 174 Fed. Appx. 302, 2006 FED App. 0213N (6th Cir. 2006) (not selected for publication in the Federal Reporter).

[FN9] *In re Caldwell*, 350 B.R. 182 (Bankr. E.D. Pa. 2006).

[FN10] *Steinberg v. Paul Revere Life Ins. Co.*, 73 F. Supp. 2d 358 (S.D. N.Y. 1999), judgment summarily aff'd, 210 F.3d 355 (2d Cir. 2000).

#### Section 7 Footnotes:

[FN1] *Levine v. Smithtown Cent. School Dist.*, 565 F. Supp. 2d 407, 236 Ed. Law Rep. 366 (E.D. N.Y. 2008).

#### Section 8 Footnotes:

[FN1] *Logan v. Empire Blue Cross and Blue Shield*, 275 A.D.2d 187, 714 N.Y.S.2d 119 (2d Dep't 2000).

#### Section 9 Footnotes:

[FN1] See *Workers' compensation: Lyme disease*, 22 A.L.R.5th 246; *Kashino v. Carolina Veterinary Specialists Medical Services*, 186 N.C. App. 418, 650 S.E.2d 839 (2007) (the evidence supported finding that workers' compensation claimant failed to establish a causal connection between her employment and her Lyme disease; internist

specializing in infectious diseases testified that there was no way of knowing whether claimant contracted Lyme disease due to her job or due to the exposure of daily living, and the ticks removed from claimant's person after she worked for employer were never tested to see if they carried Lyme disease); [Koester v. State Ins. Fund](#), 124 Idaho 205, 858 P.2d 744, 22 A.L.R.5th 824 (1993) (a home care provider failed to prove that bite which allegedly caused Lyme disease occurred “in the course of employment” as needed to recover workers' compensation benefits, even though provider discovered bite while on the job, where provider never found tick, there was no evidence of ticks or lice in client's home, and in light of evidence that provider's husband was a logger who worked in woods and came home each night, had outside pets in her home, and provider did not actually feel bite initiate).

[FN2] [Grano v. Long Island R. Co.](#), 818 F. Supp. 613 (S.D. N.Y. 1993).

[FN3] [Kibbe v. Potter](#), 196 F. Supp. 2d 48 (D. Mass. 2002).

[FN4] [Swartout v. Consolidated Rail Corp.](#), 294 A.D.2d 785, 742 N.Y.S.2d 721 (3d Dep't 2002).

#### Section 10 Footnotes:

[FN1] See [Gale Encyclopedia of Medicine](#), 2d Ed., Lyme Disease.

[FN2] See [Proof of Paralysis](#), 67 Am. Jur. Proof of Facts 3d 1.

#### Section 11 Footnotes:

[FN1] See [Am. Jur. 2d, Negligence §§ 1 to 1374](#).

[FN2] See [Am. Jur. 2d, Hospitals and Asylums §§ 25 to 50](#); [Am. Jur. 2d, Physicians, Surgeons, and Other Healers §§ 286 to 352](#).

[FN3] [Russo v. Shah](#), 278 A.D.2d 474, 718 N.Y.S.2d 74 (2d Dep't 2000).

[FN4] [Russo v. Shah](#), 278 A.D.2d 474, 718 N.Y.S.2d 74 (2d Dep't 2000).

[FN5] See generally [Am. Jur. 2d, Negligence §§ 1 to 1374](#); [Am. Jur. 2d, Imputed Negligence and Vicarious Liability §§ 1096 to 1102](#).

[FN6] See §§ 19, 20, discussing medical expert witnesses.

#### Section 12 Footnotes:

[FN1] [Tetreault v. Eslick](#), 271 Conn. 466, 857 A.2d 888 (2004).

[FN2] [Bratt ex rel. Bratt v. Laskas](#), 845 So. 2d 964 (Fla. Dist. Ct. App. 4th Dist. 2003).

[FN3] [Ferris v. Riegler](#), 2007 WL 2482508 (Conn. Super. Ct. 2007) (not designated for publication).

Section 14 Footnotes:

[FN1] See § 13 providing a proof checklist.

[FN2] See § 15 discussing depositions, and see § 19 regarding expert opinion evidence. See generally [Discovery and Evaluation of Medical Records](#), 78 Am. Jur. Trials 559; [Discovery—Written Interrogatories](#), 4 Am. Jur. Trials 1.

[FN3] See generally [Am. Jur. 2d, Depositions and Discovery § 8](#).

[FN4] See [Proof of Basis for, and Grounds for Lifting, Work Product Protection Against Discovery](#), 39 Am. Jur. Proof of Facts 3d 1.

[FN5] [Karen LESINSKY, Plaintiff, v. CONVERGYS INFORMATION MANAGEMENT GROUP INC., Defendant.](#), 2006 WL 742250 (S.D. Ohio 2006), (Plaintiff's Memorandum in Opposition to Defendant's Motion for Summary Judgment and Rule 56(f) Motion for A Continuance to Conduct Additional Discovery Oral Argument Requested, (Case No. 1:04CV852)).

Section 15 Footnotes:

[FN1] See generally [Discovery—Oral Depositions](#), 4 Am. Jur. Trials 119; [Am. Jur. 2d, Depositions §§ 79 to 115](#).

[FN2] See § 19 regarding expert witness testimony.

[FN3] [Shelly ZIELINSKI and Brian Zielinski, Plaintiffs, v. Harriet KOTSORIS, M.D., Kristan D. Zimmermann, M.D. Stamford Radiological Associates, P.C., and Stamford Hospital, Defendants.](#), 2004 WL 5570135 (Conn. Super. Ct. 2004), [The Deposition of Dr. William D. Harley](#), (No. CV 01-0185802-S).

Section 17 Footnotes:

[FN1] See generally [Am. Jur. 2d, Damages §§ 1 to 833](#). See § 18 providing a checklist of specific damages.

[FN2] See [The Chronic Pain Client—Proving Damages](#), Winter 2005 ATLA-CLE 183; [Damages for Loss of Enjoyment of Life](#), 49 Am. Jur. Proof of Facts 3d 339; [Wife's Damages for Loss of Consortium](#), 10 Am. Jur. Proof of Facts 3d 97; [Pain and Suffering](#), 23 Am. Jur. Proof of Facts 2d 1; [Showing Pain and Suffering](#), 5 Am. Jur. Trials 921; [Excessiveness or adequacy of damages awarded for injuries to back, neck, or spine](#), 15 A.L.R.4th 294.

[FN3] See generally, [Am. Jur. 2d, Damages §§ 1 to 833](#).

Section 18 Footnotes:

[FN1] [Necessity and sufficiency, in personal injury or death action, of evidence as to reasonableness of amount charged or paid for accrued medical, nursing, or hospital ex-](#)

penses, 12 A.L.R.3d 1347; Requisite proof to permit recovery for future medical expenses as item of damages in personal injury action, 69 A.L.R.2d 1261.

[FN2] Profits of business as factor in determining loss of earnings or earning capacity in action for personal injury or death, 45 A.L.R.3d 345; Cost of hiring substitute or assistant during incapacity of injured party as item of damages in action for personal injury, 37 A.L.R.2d 364; Sufficiency of evidence, in personal injury action, to prove impairment of earning capacity and to warrant instructions to jury thereon, 18 A.L.R.3d 88; Cost of hiring substitute or assistant during incapacity of injured party as item of damages in action for personal injury, 37 A.L.R.2d 364; Proof of Lost Earning Capacity, 29 Am. Jur. Proof of Facts 3d 259.

[FN3] Complications Due to Immobilization, 39 Am. Jur. Proof of Facts 2d 545.

[FN4] Per diem or similar mathematical basis for fixing damages for pain and suffering, 3 A.L.R.4th 940; Admissibility, in civil case, of expert evidence as to existence or nonexistence, or severity, of pain, 11 A.L.R.3d 1249; Pain and Suffering, 23 Am. Jur. Proof of Facts 2d 1; Showing Pain and Suffering, 5 Am. Jur. Trials 921.

[FN5] Sufficiency of evidence, in personal injury action, to prove future pain and suffering and to warrant instructions to jury thereon, 18 A.L.R.3d 10; Per diem or similar mathematical basis for fixing damages for pain and suffering, 3 A.L.R.4th 940.

[FN6] Future disease or condition, or anxiety relating thereto, as element of recovery, 50 A.L.R.4th 13; Am. Jur. 2d, Fright, Shock, and Mental Disturbance §§ 1 to 48.

[FN7] Damages for Loss of Enjoyment of Life, 49 Am. Jur. Proof of Facts 3d 339; Loss of enjoyment of life as a distinct element or factor in awarding damages for bodily injury, 34 A.L.R.4th 293.

[FN8] Excessiveness or adequacy of damages awarded for injuries to, or conditions induced in, sexual organs and processes, 13 A.L.R.4th 183.

[FN9] Am. Jur. 2d Damages §§ 556, 646.

[FN10] Am. Jur. 2d, Damages § 687.

[FN11] Am. Jur. 2d, Damages §§ 430 to 441.

#### Section 19 Footnotes:

[FN1] See Basis of Medical Testimony, 6 Am. Jur. Trials 109; Presenting Plaintiff's Medical Proof—Common Injuries and Conditions, 6 Am. Jur. Trials 1.

[FN2] See Am. Jur. 2d, Expert and Opinion Evidence §§ 40 to 51; Admissibility of opinion evidence as to cause of death, disease, or injury, 66 A.L.R.2d 1082; Qualification of Medical Expert Witness, 33 Am. Jur. Proof of Facts 2d 179.

[FN3] See [Qualification of Medical Expert Witness](#), 33 Am. Jur. Proof of Facts 2d 179

[FN4] [Collateral Cross Examination of Medical Witness](#), 6 Am. Jur. Trials 423.

[FN5] [Basis of Medical Testimony](#), 6 Am. Jur. Trials 109.

[FN6] See generally [Am. Jur. 2d, Physicians, Surgeons, and Other Healers § 321](#).

Section 20 Footnotes:

[FN1] See [§ 19](#) discussing the need for medical expert witness testimony.

[FN2] [Boylan v. Jackson National Life Insurance Company, Inc.](#), 2008 WL 4103625 (D.N.J. 2008) (Affidavit of Clifford S. Hale, Md., defendant's expert).

[FN3] [Ellen R. LEVY GRAY, et ux., Plaintiffs, v. RITE AID CORPORATION, Defendants.](#), 2003 WL 25768972 (Md. Cir. Ct. 2003), Motion in Limine to Limit Evidence as to the Standard of Care and to Exclude Testimony of Plaintiff's Experts, (No. 03-C-01-011591); [Rite Aid Corp. v. Levy-Gray](#), 391 Md. 608, 894 A.2d 563, 59 U.C.C. Rep. Serv. 2d 807 (2006) (the customer, who took doxycycline to treat her Lyme disease, brought an action against a pharmacy to recover for negligence and breach of warranty on the theory that the patient package insert (PPI) suggested compatibility with food or milk and that her ingestion of milk and other dairy products reduced absorption, thereby proximately causing post-Lyme syndrome; the court held the pharmacy' recommendation to take doxycycline with food or milk if stomach upset occurred could be treated as an express warranty that the doxycycline was compatible with milk consumption and that this affirmation could become part of the basis of the bargain and thus, be an express warranty, even if the affirmation was not a negotiated term of the agreement and the consumer was unaware of its existence prior to the consummation of the deal; the learned intermediary doctrine did not insulate the pharmacy from liability for breach of express warranty in the patient package insert; and the evidence supported the jury verdict on breach of warranty).

Section 21 Footnotes:

[FN1] See [§§ 6 to 9](#).

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