Chapter 21

Evaluating Toxic Tort Cases

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Objectives

- Define the concept of a toxic tort
- Differentiate between pharmaceutical and occupational/environmental toxic exposure cases.
- Describe the relationship between the Claimant’s risk factors and exposure history
- Describe the importance of a complete review of medical, educational, social, and occupational records in the preparation of a toxic tort case
- Identify the types of experts that may be required in preparing the toxic tort case
- Identify resources for researching chemical substances, and environmental substances.

Introduction

Toxic torts are civil actions asserting a demand for recovery of damages where there was an exposure to a chemical substance, emission, or product that allegedly resulted in physical and
psychological harm. During the last two decades, the world news has been inundated with stories of toxic tort cases involving thousands of plaintiffs, many of whom allege repeated exposures to one or more toxic substances. Even the occasional news watcher is aware of the Chernobyl radiation leak, complaints of groundwater contamination resulting in spontaneous abortion and birth defects, and asbestos litigation that can last for years. Events such as these have raised public awareness of individual and collective vulnerability to toxic substance exposures in the home, workplace, and global environment.

Toxic tort cases have their origin in product liability litigation, and much of the case law is still found there. A toxic tort case shares many of the properties of other tort cases: negligence theories; causation issues; insurance coverage issues; and the determination of fraudulent, possibly even criminal, behavior of involved parties.

In a toxic tort case, the plaintiff must prove that an injury or the potential for injury has occurred and will result because of an exposure to substances or products. The plaintiff’s discovery involves the development of both medical causation issues and scientific proof that the alleged injury or injuries occurred as the result of exposure to the substances or products. Conversely, the defense will attempt to disprove plaintiff’s theories. This is paramount and will be the crux of the legal nurse consultant’s investigation. The defense will develop strategies related to the following:

- The exposure was insufficient to result in the alleged damages.
- The substance or product did not cause the alleged injury.
- The alleged condition was incorrectly diagnosed.
- There are other causes for the alleged injury (e.g., familial disorder, preexisting condition, and other unrelated exposures).
The challenge for the legal nurse consultant reviewing toxic tort cases is gaining familiarity with the special circumstances of toxic tort litigation. Typically, there are multiple Plaintiffs and the records to review can be voluminous. This is difficult for the solo practitioner, as research, review, and summary of hundreds of Plaintiff records is time consuming. In recent years, litigation companies have spawned to fulfill this role. In a large amount of toxic litigation, the legal nurse consultant will not work independently per se, but will work for a firm which performs these functions using many legal nurse consultants. This helps to streamline the process and provides the most comprehensive review of the particular litigation in question.

Generally, toxic tort cases center on efforts to prove or disprove the relative safety of one or more chemical substances or products. These cases offer the Legal Nurse Consultant an exciting opportunity to combine nursing and medical knowledge with research, pure science, and regulatory law. During the preparation of such a case, the Legal Nurse Consultant may have an opportunity to work with experts in toxicology, industrial hygiene, occupational health, neuropsychology, pulmonology and other medical specialties.

This chapter is not intended to be an exhaustive description of toxic tort litigation, but rather is a general framework for the legal nurse consultant preparing a toxic tort case for the plaintiff or defense attorney.

**Toxic Tort Cases: A Complex Subject**

Whether the legal nurse consultant is working from a plaintiff or defense standpoint, similar procedures will be followed in developing the case. The first step is the identification of the type of case. It is not uncommon for a toxic tort case to involve multiple plaintiffs and
defendants, each with their attendant attorneys, experts, and consultants. The plaintiffs may allege single or multiple exposures to single or multiple toxic substances.

These types of cases can be extremely complex. The Legal Nurse Consultant should participate in the early planning processes for managing the case. Without adequate planning and budgeting for file management, data acquisition and document storage, it becomes nearly impossible to manage the thousands of pages of depositions, opinions, scholarly papers as well as medical records that will accrue throughout the life of just one of these cases. Multiple legal firms specializing in toxic tort, mass tort and product liability litigation exist to handle these types of complex claims.

It is uncommon for a single Legal Nurse Consultant to be the only nurse working on these types of cases. Law firms utilize the Legal Nurse Consultant to assist in a particular aspect of the litigation process. This may change as the needs of the litigation change. An example would be in the recent Merck Vioxx® litigation in which the Plaintiffs contended that the drug Vioxx® caused cardiovascular conditions and other significant morbidity as a result of its use (Findlaw, 2008). The Legal Nurse Consultant who participated dealt with a specific portion of the litigation which included the extrapolation of information from medical records. This nurse was also involved in the summary analysis of these records.

Not all toxic tort cases are complex. A single-claimant case may involve an individual exposed to one or more substances in a single (acute) exposure or over a long period of time (chronic). Multi-litigant cases typically involve many individuals with similar exposure but with medical claims differing in type and severity. In some cases involving multiple litigants, attempts may be made for the court to certify as a class action suit. Class action suits involve multi-plaintiff litigation. Certain standards established by the court must be met in order for the group
of cases to be certified as a class action. Often a representative, or Bellwether group, is selected to represent the class. As defined by this type of litigation, a Bellwether group is a representative group which meets specific criteria for which each of the litigants is judged against (Rudlin, 2007).

Learning the Language of the Toxic Tort Case

The Legal Nurse Consultant must first learn the basic language of this specialized area of litigation before tackling a toxic tort case. This language deals with how the exposure occurred, how it is measured, the acronyms of measurement, and the acronyms for the regulatory agencies. Appendix 18.1 lists and defines the basic terms used in describing how an exposure is measured. Often in the early stage of a case, only a portion of the chemical or compound is identified. The discovery process will reveal whether the plaintiff was exposed to a single chemical, a chemical compound or numerous chemicals and compounds. Recalling previous chemistry courses, the Legal Nurse Consultant will be reminded that there is an important distinction between a single element and a combination of elements resulting in a compound. For example in the Tom’s River case, the Legal Nurse Consultant helped to determine that the chemical source was through exposure in the water system. The Plaintiffs may allege that injury occurred as the result of synergistic effect between two chemicals in a compound. Such an effect can render two relatively “harmless” chemicals more potent and able to cause dramatic afflictions that the individual chemicals are not known to produce alone. The Legal Nurse Consultant should work with designated consultants to determine the validity of any such assertion. This is where it is helpful in working through or with a litigation management
company. Multiple experts will be required and the nurse should not be expected to handle each aspect of the litigation.

Measuring Exposure

The most important determination to be made during the preparation of the case is the confirmation that an exposure occurred. Exposure is measured in terms of the route or means of exposure. Discovery will reveal facts as to whether the plaintiff sustained an exposure by inhalation, oral ingestion, or cutaneous absorption, including ophthalmic exposure.

Once the type of exposure is known, one must look carefully at the duration of the exposure. How long was the plaintiff exposed? Various advisory panels and regulatory agencies (see Appendix B) set forth guidelines for safe exposure time to many chemicals and compounds. The Legal Nurse Consultant will find that most of the experts in the toxic tort cases have a formal association with these advisory bodies.

Not only must one know the duration of the exposure in understanding the event and alleged injuries, one must also know the frequency of the exposure. Did the individual experience a single sustained exposure, also known as an acute exposure, or was it an exposure that occurred repeatedly during the day, over the course of weeks or years, or intermittently over an extended period of time, producing a chronic exposure?

An excellent example is the case made famous by Erin Brokovich regarding Pacific Gas and Electric Company in Hinkley, California. The allegations involved the exposure of chromium-6 into water supply which was linked to certain medical conditions. The suit blamed this chemical for multiple symptoms including breast cancer, miscarriages, nosebleeds, Hodgkin's disease, and spinal deterioration. During the investigation, it was discovered that
workers in the plant who inhaled chromium-6 over extended periods had an elevated risk of
developing lung and sinus cancers. Conversely, it was argued that Brochovich’s theories were
considered “junk science” (Jaroff, 2003).

Another example of exposure involved a coincidental elevation of pediatric cancers in
Tom’s River, New Jersey as mentioned above. An oncology nurse discovered a common link
between her pediatric oncology patients and their home locations. With two "Superfund" sites
surrounding Tom’s River, NJ, there was speculation that the elevation of childhood cancers was
a direct result of the contaminated drinking water. After investigation, no link was statically
concluded except the environmental link between prenatal exposure to contaminated drinking
water and pediatric female leukemia (Medscape 2002).

When the information regarding the route, frequency, and duration of exposure has been
obtained, the Legal Nurse Consultant can work with toxicologists and industrial hygienists to
estimate the dose of the exposure. The process used to quantify the relationship between the level
of exposure and increased risk of adverse effects is termed the dose-response. It is important to
determine whether the plaintiff experienced a sustained or repeated exposure and whether the
amount ingested, inhaled, or absorbed was at a minimum or maximum dose.

The Mechanics of Chemical Exposure

In preparing toxic tort cases, consideration must be given to how the exposure actually
occurred. This could be through ingestion, inhalation or cutaneous exposure. Many chemicals
are absorbed through the lungs. Inhalation exposures are not only limited to gaseous chemicals,
such as chlorine, solvents, and isocyanates, but also include particulate matter such as fiberglass, asbestos, animal dander, silica dust, bacterial pathogens, and viral pathogens.

Inhalation exposures can occur in the home, workplace, or global environment. Noxious fumes from carpets, glues, and paints are typically found in the home. Environmental exposure cases include tobacco cases, surface and groundwater contamination cases, and sick-building syndrome. The term “sick building syndrome” is used to describe the cluster of symptoms found to occur in office environments, particularly in sealed buildings with centrally controlled mechanical ventilation.

In the past few years, it has become evident that inhaled pollutants do not solely result in respiratory effects, but affect other systems such cardiovascular, renal and neurologic. As an example, the solvent benzene, which is found in gasoline, paint removers, and many commercial solvents, is easily inhaled but causes little damage to the respiratory system when inhaled at low doses, even over a long period of time. However, chronic exposure even at low doses can result in hematopoietic system injury. Prior to 1963, it is estimated that several hundred cases of fatal aplastic anemia resulted from chronic benzene exposure (Agency of Toxic Substances and Disease Registry ATSDR 2000).

Inhalation exposures are also alleged to be associated with changes to the immune and nervous systems. It is important to realize that the practice of immunology is relatively new. Many diagnostic immunology tests, which determine dysfunction of the immune system are experimental and may be performed in nonstandard laboratories. Such tests may be considered outside the mainstream of general medical practice, and the Legal Nurse Consultant should seek reputable professionals, as experts and information sources concerning these tests (Exponent 2007).
Toxic tort cases involving immune system dysfunction may include complaints of allergies, hay fever, hives, and asthma. Autoimmune disease has been alleged as a response to a variety of drugs, vaccines, and bacterial toxins. These disorders must be looked at carefully for determination of idiopathic autoimmune diseases such as lupus and scleroderma. While certain immune-deficiencies are congenital, others are acquired, such as radiation sickness and radiation-related cancers. Others occur as the result of exposure to environmental toxins, such as pesticides, nuclear waste, and groundwater contaminants.

Ingestion exposures may occur anywhere. The plaintiff may have accidentally swallowed solvents or other substances in the workplace or at home, or may have ingested unwashed fruits or vegetables contaminated with pesticides or fertilizers. Even handling food or other items with unwashed hands may transmit undesirable substances via ingestion. It may be difficult to quantify the dose of an ingested substance. A toxicologist or pharmacologist may be required to use simulation to calculate how much chemical was ingested, metabolized and/or excreted. (Food and Drug Administration, n.d),

Cutaneous exposure results from direct skin contact with a substance. Because of the protective function of the skin, cutaneous exposures may often be limited to local reactions such as irritation, pruritus, and urticaria. The popular press has recently carried stories relating to the purported increase in generalized reactions to dermal exposure to substances such as newsprint, latex, detergents, and other substances commonly found in the home and work environments. Since a chemical may enter the body via skin, hair follicles, sweat glands, and sebaceous glands, particular attention should be paid to determining the pre-exposure condition of the skin. Was more chemical absorbed because of rashes, cuts, or other skin breaks?
Strict interpretation of exposure guidelines presents other challenges for both the plaintiffs and the defendants. Issues of accurate labeling, storage, proper use of protective equipment and clothing, and the proper disposal of the chemical substance must be examined.

Proper labeling and safe use guidelines are important in cases of chemical exposure. The material safety data sheet (MSDS) describes what is in a compound, any health hazards, fire hazards, first aid, optimal use, storage, and disposal. MSDS forms are found in the home and workplace. Anyone changing a toner cartridge in a printer or copier will find an MSDS in the box. In the workplace, MSDS forms may be found in or on the packaging container. Because the MSDS of a product may change over the years, all the MSDS forms for the relevant time periods are likely to become exhibits in the litigation. The MSDS can also provide a quick reference for delineating changes in exposure guidelines over a period of time.

In 1989, the Occupational Safety and Health Administration (OSHA) set permissible exposure limits (PELs) for nearly 500 hazardous chemicals in the United States. The American Conference of Governmental Industrial Hygienists (ACGIH) is an association composed of occupational health professionals employed by government and educational institutions. The Threshold Limit Value Committee and Ventilation Committee of the ACGIH publish guidelines annually, which are used worldwide. In some cases, the ACGIH exposure limits are lower than the OSHA PELs. When a case involves a workplace exposure, it is important to determine which exposure limits the workplace relied on at the time of the alleged exposure.
The Legal Nurse Consultant’s Role in the Toxic Tort Case

Establishing the Presence or Absence of Causation

Causation requires a relationship between the exposure and the alleged adverse outcome. Generally, plaintiffs have the burden of showing by a “preponderance of the evidence” that the exposure resulted in the injury or a significant likelihood to produce the injury at a later time because of the exposure. Proving that a toxic substance caused a physical injury is very complicated and requires the proof of scientific causation. Scientific causation is established using statistical methods to determine a high-confidence or statistically significant relationship between exposure and illness. The illness or injury must be substantiated in the medical and social records, and the substance at issue must be proved to cause the alleged injury. Of utmost importance is careful evaluation for the presence of unrelated disease or other pathological processes.

A significant problem in proving injury includes a long period of time between exposure and illness (latency period). If the plaintiff has developed a disease such as cancer, it can be very difficult to prove that the exposure caused the disease. A long latency period gives rise to increased probability of exposure to multiple deleterious or toxic substances, complicating the causation issue. In regard to low-level toxic substance exposures, the “scientific” evidence is generally very limited. Epidemiological studies may show a statistical association between the exposure and increased rates of disease. Unfortunately, there may not be any existing studies, and it can be extremely expensive to perform them. This is an excellent example of why social history, occupational history and regional habitat are important. These details will provide insight into alternative causation and risk.
At toxic levels, all chemicals attack a target organ or organ system. For example, benzene, a well-known solvent, is known to be linked to specific types of leukemia; it is not known to be associated with colon cancer. Through the use of the timelines and comparative charts, the defense team could easily demonstrate the lack of causal link between the alleged exposure (e.g., benzene) and the symptom cluster (e.g., colon cancer symptomatology).

The Legal Nurse Consultant must be mindful of the alleged specifics of the exposure during the initial review of medical records. Legal Nurse Consultants working for either the plaintiff or defense team are likely to follow the same process in their goal of advancing the client’s case. Both will be establishing the extent of the injury and trying to prove or disprove the causal link between exposure and injury.

Epidemiology studies already established related to the toxin’s effects on medical injury as well as scientific opinions based on previous studies are essential in determining a causal link. It is important for the Legal Nurse Consultant to be proficient with research retrieval and understanding study criteria when researching articles and studies to support their side. (See Reviewing the Literature below)

The Legal Nurse Consultant working for the defense team may or may not be able to visit the worksite or other location where the alleged exposure occurred. If such a site visit is not possible, the Legal Nurse Consultant reviews the materials produced during discovery for references to the presence or absence of the client’s product at the site. The manufacturer’s defense team will want to show that their product cannot be traced to the plaintiff’s alleged exposure. If it is established that the product was available in the workplace at the time of exposure, the defense team will try to prove that the product was not actually in use in an area where the plaintiff could experience an exposure, that the substance was not properly stored and
maintained by the plaintiff, or that it was not used in accordance with suggested and required
guidelines.

The defense will try to show that claimed injuries were not caused by the client’s product,
or that any alleged injuries are not consistent with those known to be caused by the subject
product. Finally, the defense position in mitigating damages may be to show the plaintiff’s
contributory negligence by failing to seek timely treatment, failure to use available safety
equipment or misusing the product. This is considered alternative causation and is an important
factor in review of these types of cases.

The Legal Nurse Consultant working with the plaintiff team may have unlimited access
to the injured party. The plaintiff must prove product tracing and plaintiff exposure. The team
will try to prove that despite the plaintiff’s appropriate storage and care in the use of the
defendant’s product, their client sustained a measurable exposure to that product resulting in
injury to person and property.

Example 18.1: A high school student assisted his friend one weekend at a full-service gas
station. One week later, he presented to the doctor with fatigue, fever, bone pain, and multiple
bruises. A bone marrow study confirmed the diagnosis of acute myelomonocytic leukemia.
Knowing that the young man had worked with gasoline, a diagnosis of benzene-related exposure
was made and he filed suit. The literature reveals that acute myelomonocytic leukemia can be
linked to chronic benzene exposure (latent period of 5–15 years.) The Legal Nurse Consultant
advises the attorney that in the absence of the temporal relationship described in the literature, it
would be unlikely for a young man with a single exposure to a small amount of benzene to
develop leukemia, particularly this quickly. However, the process of evaluating these types of
cases may reveal that there are no alternative causative factors and that this single exposure was
significant. In this particular study, the legal nurse consultant would be reviewing social history, occupational history and regional history of the Plaintiff to assist in determining alternative causation.

*Reviewing and Analyzing the Records*

The importance of obtaining a complete set of medical records, along with other information about the plaintiff (e.g., school records, occupational records), cannot be overemphasized. Detailed information about the plaintiff is the crux of establishing the validity of the injury. Close examination of the relationship among the exposure, claimed injury, and preexisting medical condition is essential. The complete social and medical records should provide the necessary information.

The social history can be obtained from school records and occupational records. Records from childhood may describe congenital problems, debilitating childhood illnesses, or traumatic events that affected the plaintiff. Neurological or IQ testing may confirm that the plaintiff has a reduced earning capacity based on limited intellectual and learning abilities. The plaintiff’s occupational records may yield valuable information about other sources of exposure and other risk factors for disease that are not the responsibility of the defendant.

The litigation of workplace exposure cases depends heavily on a thorough employment history. For example, did the plaintiff ever work in a shipyard or in an environment where there was asbestos? Does the plaintiff currently work in an environment where other substances or conditions might adversely affect him? Was the alleged exposure in an enclosed area or outdoors? Ventilation and atmospheric dispersion will impact an inhalation exposure case and need to be thoroughly investigated. A former mechanic may have been exposed to airborne concentrations of chlorinated fluorocarbons, cleaned machine parts in other solvents, and inhaled
endless amounts of lead- and benzene-laden exhaust, yet his claim may arise out of his current employment in a film laboratory. Which chemical or compound caused his illness?

Obviously, exhaustive deposition questioning must be used to obtain a complete history of chemical exposures sustained over a plaintiff’s lifetime. Occupational health records may contain some of this information. These same records are likely to include pre-employment physical examinations, regular medical screenings, laboratory results, and employee attendance records. Efforts should be made to determine whether each place of employment was in compliance with state and federal laws designed to assist workers in protecting themselves from such hazards. These laws are known as the “right-to-know” legislation.

Lifestyle habits of the plaintiff and others who live with him are also important. Is the claimant living with a smoker or doing laundry for someone whose clothing may be contaminated with pathogens or carcinogenic chemicals? Does the plaintiff pursue hobbies that involve exposure to chemicals? Avid gardeners may be exposed to pesticides, fungicides, and rodenticides, in addition to organic and inorganic fertilizers. Crafters may be exposed to solvent-laden paints and glues, phenols, ketones, and other dangerous substances. Does the plaintiff spend long periods of time in a manicure salon inhaling noxious chemicals used in preparing and painting fingernails? Does the plaintiff use “harmless” household chemicals to keep the bathroom sparkling clean? Furniture polish, bleach, ammonia, spot removers, and pine cleaners are solvents known to produce a variety of transient symptoms.

Example 18.2: A 58-year-old man presents to an attorney inquiring about filing suit against his employer. He points to a rash around his face, neck, and chest and says that he works in a warehouse “around a lot of chemicals.” He believes that as the result of his exposure, he has
become sensitive to the sun and burns easily. The Legal Nurse Consultant is asked to review the medical aspects of the case.

The Legal Nurse Consultant takes an extensive history from the client, attempting to obtain a complete list of exposures that might have been sustained at the workplace and at home. Eventually, the claimant brings in a list of the chemicals and a notebook full of MSDS forms from his workplace. Upon research, the Legal Nurse Consultant learns that most of the chemicals are inert liquids and not used by the plaintiff. The potential plaintiff’s doctor has confirmed a diagnosis of contact dermatitis and attributes the cause to the chemicals in the work environment. Since a workplace exposure has been ruled out, the Legal Nurse Consultant must look to the social history. She visits the claimant’s home, making an extensive list of products in use there. The client shows her his bathroom, and she sees many bottles of aftershave cologne. When she begins to make a list of the product names, the claimant tells her that he no longer uses those products as they irritate the pruritic areas on his face and neck.

Research reveals that a number of the claimant’s aftershave products contain musk ambrette and two preservatives, methylparaben and Quaternium-15. The literature reports that musk ambrette is known to cause not only contact dermatitis, but also photosensitivity. The Legal Nurse Consultant also learns that members of the paraben family are the most commonly used preservatives in cosmetics and generally considered to be among the safest. Quaternium-15 has been identified as an antibacterial preservative belonging to a family of formaldehyde-releasing chemicals. Further research reveals that combining preservatives can cause sensitivity, characterized by localized dermatitis, to develop. The would-be plaintiff is advised that he does not have a good exposure case against his employer and any product manufacturer of the workplace chemicals.
It is easy and dangerous to overlook other sources of exposure. Because everyone is exposed to chemicals and substances every day, most individuals do not consciously consider the variety of daily exposures to which they are subject. Both the defense and plaintiff teams must construct questions and deposition outlines that will prompt the individual to confront these alternative exposures.

**Medical Records.**

All parties must obtain the medical records as soon as possible from the plaintiff’s health care providers. Individuals are often unprepared for the degree of invasion of their privacy when entering litigation. Many are embarrassed about certain medical treatments, including treatment for sexually transmitted disease, plastic surgery, psychiatric treatment, and alcohol or chemical dependency, and may conveniently “forget” or even refuse to identify the relevant providers. Other plaintiffs may simply be poor historians and genuinely unable to remember all of their health care providers. Records of payments by the plaintiff’s insurers to providers may reveal the otherwise unidentified providers.

Plaintiffs often allege neurological or central nervous system (CNS) injury in toxic tort cases.

In no other area of the case preparation is the Legal Nurse Consultant likely to face more challenges than in the evaluation of the medical and social records for preexisting and concurrent psycho-emotional disorders. Neurological or CNS complaints are often subjective, vague, and difficult to measure or disprove. Some neuropsychological testing is poorly standardized, and results are directly related to the effort put forth by the test subject. Some tests are sensitive to the subject’s efforts to falsify present physical and mental conditions.
The Legal Nurse Consultant should work with expert neurologists, neuropsychologists, neuropsychiatrists and others skilled in measuring cognitive function when evaluating claims of toxic encephalopathy, organic brain syndrome, and convulsions. Claimed injuries to the peripheral nervous system may include allegations of neuropathy and sensorimotor dysfunction.

The medical record establishes the plaintiff’s preexisting health status, defines the existence and extent of the injury, describes the treatment rendered, and often gives a prognosis for recovery. This information not only provides an outline, but also provides a focus as the case develops.

The Legal Nurse Consultant compares post-exposure complaints with pre-existing problems to determine whether or not there is a relationship. Pathological processes are dynamic in nature, sometimes resulting in a “natural” and progressive decline in health. Such declines may be completely unrelated to the exposure although the plaintiff may allege that his condition developed or worsened as the result of the exposure. Such allegations require the defense to prove either that the underlying disease did not worsen or that the pathology is simply the product of age. The defense may also seek to prove that the plaintiff sought medical care because he thought he was affected or because he was anticipating litigation. If it is determined that an exposure caused an exacerbation of a preexisting condition, such an injury is usually compensable.

As the Legal Nurse Consultant develops chronologies, summaries, and timelines concerning the facts of the case, information will be added from the literature that describes symptoms known to be associated with a particular substance. With those additions made, one can readily compare the plaintiff’s symptoms with those known to be associated with exposure.
Further comparison can be made between the pre-existing ailments and the post-exposure complaints.

Chronologies are essential to the Legal Nurse Consultant, who must assimilate and explain the medical and scientific elements of the case to the attorney. When the financial, personnel, and equipment resources are available, computerized databases are recommended for cataloguing specific information about the plaintiff’s symptom history, such as when each symptom appeared, what events were related to the symptom, what precipitants were identified, and what treatment was given. This information can be used to create a sophisticated timeline to show the presence or absence of causal links between exposure and injury. Summaries should document the date of each contact with health care providers, the complaint, physical findings, diagnosis, treatment, diagnostic test results, and anecdotal information entered by the health care provider.

In addition, it is advantageous to paginate the medical records and cite the pages in the summary. Keep in mind that all charts, chronologies, and demonstrative evidence should be user-friendly for the nonmedical professionals, such as attorneys, insurance adjusters, and workers’ compensation panels.

_Evaluating the Corporate Defendant’s History_

When the defendant is a corporate entity, it will have to reveal corporate practices and how those practices may or may not relate to the allegations made against it. The Legal Nurse Consultant may be asked to evaluate “in-house working papers” or other documents prepared by the client during the research, development, manufacturing, and marketing of the product in question. These papers are likely to include both in vivo and in vitro studies conducted with
cellular, animal, and human subjects. These internal documents are generally considered to be proprietary and should be handled as confidential material.

Since the relative safety of the subject product is important to the case, the defense must demonstrate that their product was properly labeled and packaged with instructions for safe use. The Legal Nurse Consultant may be asked to compare MSDS inserts with their contemporaneous package labeling and any other packaging information in an effort to evaluate claims of proper labeling. Litigants in the past have tried to show that internal corporate studies were fraudulent, leading to misrepresentation to the governing body and the public.

Despite organization, diligence, and persistence, it may be difficult for the plaintiff to prevail in attempts to prove that a corporate defendant showed reckless disregard and conspired to defraud the public regarding the safety of the product. This is not to say that litigants are not successful in proving these claims. In many instances, when it can be demonstrated that a corporate entity has committed a civil wrong, executive and supervisory staff not only may be found civilly liable, but may face criminal charges as well.

Identifying and Working with Experts

The Legal Nurse Consultant may participate in the selection of experts for preparation of the case. It should be noted that these complex cases tend to require specialized experts, such as epidemiologists, toxicologists, industrial hygienists, safety engineers, and physicians practicing in such specialty areas as occupational medicine, neurology, oncology, immunology, and pulmonology.

Epidemiologists evaluate causal links based on observations of the relationships between a disease entity and its presence in the general population. Like other scientists and researchers,
epidemiologists must have a well-defined research hypothesis, a well-defined and adequate cohort, high-quality data, analysis of attributable actions, and minimal bias or skew in the data.

Like the epidemiologist, the toxicologist also contributes significantly to the case. The toxicologist may be the best expert to describe or refute the soundness of methods used in evaluating or testing a chemical substance. The toxicologist evaluates “poisonous” materials and their effects on living organisms. This is known as the “dose-response effect.” A chemical considered “harmless,” “safe,” or “nontoxic” in small doses can be toxic in higher doses. For example, two aspirin can relieve pain, but a full bottle is lethal. Simply put, “the dose is the poison.”

Because the toxicologist must evaluate dose-response when assessing any chemical substance at issue, the discovery process must obtain the most accurate possible data regarding the exposure and the environment in which the exposure occurred.

Various medical experts may be called on to evaluate the medical and psychosocial data in a toxic tort case. Neuropsychologists and other cognitive experts may offer testimony about any changes or lack of changes in cognition or perception in the post-exposure plaintiff. Early school records may become important as the only objective baseline data available that delineate the subject’s ability to process cognitive and sensory information.

The search for the experts may be pursued through the writings found in the literature search and through various professional organizations, such as the ACGIH, the American Institute of Chemists, and other organizations like the National Environmental Law Center. Appropriate experts may include practitioners, researchers, and academicians from universities, the National Institutes of Health, the Environmental Protection Agency, the Food and Drug Administration, the Centers for Disease Control, and other research facilities. The appropriate
experts must be identified for trial testimony. In researching possible experts, the Legal Nurse Consultant must consider whether the candidates could be deemed biased if a defendant company funded any of their research.

The Legal Nurse Consultant is often the person on the litigation team who interacts directly with the experts as the case develops. The attorney must be able to rely on the Legal Nurse Consultant to summarize the findings of the various experts, to assess the expert’s suitability as a witness, and to determine the relevance of the expert’s testimony. Moreover, as the liaison between the experts and the attorney, the Legal Nurse Consultant is in the best position to coordinate the efforts of the various experts, often preventing costly overlap of research and testimony.

Reviewing the Literature

Along with collecting data about the plaintiffs and the defendants, both sides will perform literature searches. Gathering factual data in an effort to support toxicological and medical findings and conclusions is required to substantiate or refute claims. In some instances, the Legal Nurse Consultant will perform this task for the experts. At other times, the attorney may prefer to have the experts perform their own searches for purposes of strategy. When experts perform their own searches, they will be free of any accusation that conclusions were drawn and opinions formed on the basis of another’s bias in how the literature searches were conducted.

Ideally, the Legal Nurse Consultant will have access to a library with such basics as references on occupational health, toxicology, chemistry, and medicine. The Internet is a valuable tool for locating specialized online databases and for providing access to the various regulatory and advisory agencies.
The authoritative literature discusses and describes the illnesses and symptoms known to be caused by the product at issue. Detailed information may be found about signs and symptoms of illness as the result of acute and chronic exposures in humans and animals. In the area of solvent toxicity, for example, Sweden has conducted long-term studies of individuals exposed to various solvents. These studies address findings ranging from serious illness to subtle changes seen only at the cellular level.

As in other areas of legal nurse consulting, attention must be paid to gathering data relevant to the time frame of the case. In addition, the literature search should also include the most current information. Where possible, it is suggested that research specialists and librarians familiar with scientific databases be consulted in conducting searches of widely accepted and peer reviewed literature.

Often, the toxic tort case requires a jury to sit through tedious testimony regarding biochemistry, pharmacology, toxicology, and physics; subjects they may be unable to understand. As a result, attorneys may present as evidence “studies” with jury appeal that were not conducted by proper scientific method. These “studies” may have had inadequate numbers in their study population, may not have been subject to peer review, or may have been published in the popular literature rather than in scholarly journals.

In some venues, courts have been very generous in allowing spurious findings to be accepted into evidence in the toxic tort case, believing that because the subject matter is complex, it is better to allow all literature and expert testimony. New case law severely limits the ability to include such material as evidence. Standards established as the result of Daubert v. Merrell Dow Pharmaceuticals (1993) have resulted in the trial judge’s role as gatekeeper. In this role, the judge evaluates the basis of the methodology, reliability, and relevance of expert
opinions. If the judge determines that the expert opinions are not based on valid scientific methodology, the expert opinions are not admitted as evidence in the courtroom.

Although Daubert standards are not utilized in all courts, they are becoming more widely recognized. The Legal Nurse Consultant should understand how these standards are interpreted and applied to medical evidence. Equipped with the awareness of Daubert standards, the Legal Nurse Consultant will be able to better analyze the medical records, medical expert reports, and medical literature.

The literature search may include obtaining journal articles and abstracts published in foreign journals. The Legal Nurse Consultant who overlooks or disregards materials simply because they are in another language may be missing articles published by distinguished researchers from well-respected institutions. Articles published in a foreign language may have English abstracts that will provide a clue to the articles’ usefulness. Certified translators may be used to provide authentic translations. The Legal Nurse Consultant may be asked to obtain a translator and should be aware that translators can be costly.

Ultimately, the literature search will yield such diverse items as doctoral dissertations, medical journal articles, textbook reference materials, regulatory position papers, and even “letters to the editor,” making anecdotal reports of findings. From this eclectic assembly, each side will find relevant materials to prove its own and dispel the opposition’s causation theories. The Legal Nurse Consultant has a core knowledge and understanding of medical conditions, pathophysiology and expertise as a registered nurse to assist the legal team with PowerPoint and video presentations as well as working with trial support companies to assure an understanding of the medical information and issues presented before the jury during the trial phase.
Summary

It is insufficient for a litigant to merely profess that he is ill as the result of chemical exposure. The plaintiff’s trial team must prove that the client sustained a sufficient period of exposure to a substance at a dose high enough to cause the alleged harm, or the significant and likely potential that the exposure will cause future harm or damage. The defense team will attempt to prove otherwise.

Undoubtedly, work experience in specialty areas of nursing may assist Legal Nurse Consultants in preparing the toxic tort case. Experience in occupational health or in pulmonology may be helpful. For other types of cases, nurses who are knowledgeable about immunology, neurology, or oncology may find it easier to master the reading material. There is no requirement that Legal Nurse Consultants be experts in occupational medicine or other specialty areas in order to assist in preparing these cases. The basic requirement includes a willingness to use one’s nursing and general science backgrounds in preparing cases with objectivity and careful analysis.

Whether Legal Nurse Consultants are working for attorneys or consulting firms, they must possess the ability to review and analyze information from a variety of sources. Legal Nurse Consultants must be able to work with experts and act as liaisons between the experts and the attorneys in order to bring a powerful, proficient multidisciplinary team approach to this novel area of litigation.
References


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**Additional Reading**


Test Questions

1. All of the following agencies or advisory bodies have informational resources on chemical exposures EXCEPT:
   
   A. Natural Resources Conservation Service
   
   B. Environmental Protection Agency
   
   C. American Conference of Governmental Industrial Hygienists
   
   D. Occupational Safety and Health Administration

2. You are working for the plaintiff’s attorney in an environmental exposure case and are asked to obtain information about the health of the plaintiff’s neighbors. Why?
   
   A. The plaintiff and his attorney care about those around the plaintiff and want to be assured that they are healthy.
   
   B. If the neighbors are sick all the time, the plaintiff’s case will look better to the jury. If many of the neighbors have a variety of symptoms, it will prove that the chemical in the groundwater has made everyone sick.
   
   C. The attorney wants to prove that his client’s illness is part of a cohort of individuals who have been made ill by the exposure. Similar symptoms in the neighbors may strengthen the claim.
D. This a great opportunity for the plaintiff to find out more about his neighbors.

3. Mrs. Jones has alleged that since she had breast implants, she has developed a tendency to develop rashes and rhinitis. You review the medical and social records. All of the following are items of importance in your review, EXCEPT:

   A. Mrs. Jones has had saline implants for 10 years. She has her hair colored every 4 weeks at the same salon where she has her nails done.

   B. Mrs. Jones has 8 children, 6 of whom are being treated for eczema and multiple food allergies.

   C. Mrs. Jones had silicone implants until one of them broke and was replaced with saline.

   D. Mr. Jones’ sister has lupus.

4. A worker had a single, acute exposure to formaldehyde and claims that as a result he has elevated liver enzymes. He has approached a plaintiff attorney regarding the merits of his claim. You are asked to do a literature search and compare it against the medical record. You find that the worker has had intermittent liver enzyme elevations over the last few years. The employer’s occupational health clinic notes make a reference to his being referred to a chemical dependency treatment program. Your first step is

   A. To advise the plaintiff attorney not to accept the case because the plaintiff is an alcoholic.

   B. To consult the databases for information on liver injury as the result of exposure to formaldehyde.

   C. To ask what the route of exposure was before starting the reviews.

   D. To request the plaintiff’s childhood medical records.
5. The defense attorney has asked you to assist in an alleged ammonia (inhalation) exposure case. The plaintiff, a 30-year-old female, works for the defendant janitorial service and states that the use of household concentration ammonia products over the past year has resulted in her progressive development of emotional problems, clumsiness, uncoordinated movement, fatigue, paresthesias, and urinary incontinence. All of the following information is critical and will be beneficial in the mitigation of this case EXCEPT:

A. The plaintiff’s family physician referred her to a neurologist two years ago for a multiple sclerosis workup.

B. Inhalation of household ammonia products causes few effects unless they are in large quantities.

C. The plaintiff had mononucleosis as a teenager.

D. The plaintiff’s condition has rapidly deteriorated since the birth of her baby 4 months ago.

Appendix A

Measuring Exposure

- Immediately dangerous to life and health (IDLH) — The maximum concentration from which one could escape within 30 minutes without experiencing irreversible health effect or impairing self-rescue.

- Material safety data sheet (MSDS) — Form included with shipment of products containing chemical substances. The MSDS lists the chemical ingredients, their Chemical Abstracts Service registry identification information, and information related to exposure and handling. Manufacturers and vendors are legally required to include this with each shipment of product.

- Permissible exposure limit (PEL) -- Similar to TLV/TWA.

- Personal protective equipment (PPE) — Includes protective garments, masks, goggles, and resp

- Short-term exposure limit (STEL) — A short exposure added to the TLV/TWA. STEL exposures may not exceed 15 minutes more than 4 times daily, with each exposure separated by at least 60 minutes. Workers must not suffer irritation, chronic tissue damage, or inability for self-rescue.

- Threshold limit value (TLV) — Also known as TWA (time weighted average). The daily exposure that a worker can sustain to airborne concentrations 8 hours per day, 40 hours per week without adverse effect. These exposures may be described in parts per million (ppm) or billion (ppb), or in the case of dermal exposure, in milligrams per cubic meter (mg/m3).
Appendix B

Advisory and Regulatory Agencies

- American Conference of Governmental Industrial Hygienists (ACGIH) http://www.acgih.org/
- American Industrial Hygiene Association (AIHA) http://www.aiha.org/
- Environmental Protection Agency (EPA) http://www.epa.gov/
- Food and Drug Administration (FDA) http://www.fda.gov
- Occupational Safety and Health Administration (OSHA) http://www.osha.gov/
- National Academy of Sciences (NAS) http://www.nas.edu/
- National Research Council (NRC) (not to be confused with the Nuclear Regulatory Council) http://www.nas.edu/nrc/
- National Institute for Occupational Safety and Health (NIOSH) http://www.cdc.gov/niosh/homepage.html
- Society of Toxicology (SOT) http://www.toxicology.org/
Appendix C

Toxic Tort Treasures

1. Obtain all medical records, mental health records, school records, and employment records. (Special authorizations may be required for sensitive information [e.g., HIV status]. Separate authorizations are also required for mental health records.)

2. Obtain missing records (e.g., billing records indicate that an office visit occurred, yet office records for that date are missing; EMS run sheet, lab results).

3. Prepare a list of additional health care providers mentioned in the records, so that the attorney can obtain these records.

4. Review past medical history carefully. For example, a plaintiff states that leukopenia was first diagnosed following the exposure in question. With careful review of the records, the Legal Nurse Consultant learns that a hematologist was consulted 6 years prior to the incident in question for leukopenia. The plaintiff failed to share this history with the attorney or current physicians.

5. Family medical history (e.g., asthma) should not be ignored. The defense team will address genetic influences vs. exposure.

6. Note current medications listed in the health care providers’ records. Often, you may see a current medication not previously mentioned. Who prescribed this medication? This may lead to identification of yet another treating health care provider.

7. In preparing the chronological summary, you may become aware of time lapses in which there are no medical records. Question this! Why are there large time gaps? Did the
plaintiff live elsewhere during this period? Was the plaintiff healthy and not in need of medical care?

8. Pharmacy records provide another source of identification of additional treating physicians.

9. Note conflicts in the records. Sometimes the plaintiff is simply a poor historian, or will carefully select what he shares with a particular health care provider. This will become evident to the prudent Legal Nurse Consultant in preparing the chronological summary. Often it is clear that a particular physician may not have been made aware of some previous events, such as motor vehicle accident resulting in neck and back injuries. For example, a neurologist diagnosed a plaintiff with neuropathies and related them to the alleged toxic exposure. The physician was unaware of the plaintiff’s history of neuropathies related to a motor vehicle accident.

10. Question the existence of other lawsuits. The plaintiff may be alleging the same injuries in more than one case.

11. Note the absence of a physician’s physical examination or appropriate diagnostic tests. For example, the plaintiff’s alleged symptoms included watery eyes, stuffy nose, congestion, wheezing, and shortness of breath as a result of the exposure in question. The plaintiff stated that his symptoms began immediately following the incident and continued for several months. Although the treating physician saw the plaintiff within 2 hours of the alleged exposure, the physician failed to document any physical findings. One week later, the plaintiff was seen by his physician on follow-up. Again, no physical exam was documented. Because there were no documented physical findings, it is not
clear whether diagnostic tests should have been ordered. Question this lack of
documentation. Is this treating physician a hired gun?

12. Finally, be suspicious and be inquisitive!
Appendix D

Medical Records Summary Excerpt

Many different formats may be used in summarizing medical records. Some key bullets that should be included in the summary would include the following: The date of the medical record reference, usually in month/day/year format. A description of what the information is, for example, office records, nurse’s notes or hospital records. The chief complaint or background information should be documented. The current complaint, as well as any current medication should be included. Typically, physician physical examination findings as well as impression and plan would be included. In some cases, the attorney will ask for your impression and recommendations, which should also be included. Finally, depending upon particular attorney preference, bates references may be included.

Example: 02/10/01: Office records of John Doe, MD (Dermatologist):

Chief complaint/Background information:

Current complaint. Current medication:

Physical examination findings. Physician’s Impression and Plan:

Other pertinent information: Your conclusions and recommendations:

Bates reference: