The International Law of Neuro-Rights and Cognitive Sovereignty

Towards Protecting the Human Mind from Technical Manipulation and Commercial Exploitation

By Dr. Mohamed Kamal Arafa Elrakhawi
Researcher, Legal Consultant, and International Lecturer in Law
Jurist, Legal Scholar, and Author

Dedication

To the pure souls of my parents, may God have mercy upon them and admit them into His spacious paradise without reckoning.

To my beloved daughter Sabreen, the Egyptian-Algerian spring, whose beauty gathers between the Nile of Egypt and the shores of the Mediterranean Sea, and the majesty of the mountains of heads.

I dedicate this humble scientific effort, hoping it will be an eternal work defending the rights of patients and raising the standards of medical practice, and that it will be a treasure in their balance of good deeds on the Day of Judgment.

Academic Introduction

Medical liability represents one of the most complex fields of interaction between law and medicine, as it balances the protection of the rights of those harmed by medical errors and ensuring that doctors are not burdened with excessive liability that would hinder their free professional practice. Despite the remarkable legislative development in the field of medical liability, the gap between theoretical principles and practical application remains, requiring a comprehensive academic vision that integrates legal, medical, and ethical analysis.

This encyclopedia presents a deep legal framework for medical liability in comparative legislation, including Egyptian, Algerian, French, and American laws, in light of international standards and modern judicial rulings, relying on documented medical studies, real judicial rulings, and fatwas of medical arbitration bodies. This study proceeds from a firm belief that medical liability is not merely a mechanism for financial compensation, but rather an integrated system that aims to achieve three balanced objectives: justice for the victim, justice for the doctor, and justice for society through improving the quality of care and preventing the recurrence of errors.

Chapter One
Theoretical Foundations of Medical Liability: Historical Development

The concept of medical liability has evolved from the principle of absolute fault to the system of balanced liability. The relationship between doctor and patient has undergone a radical

transformation, moving from a relationship of absolute authority for the doctor to a contractual relationship based on trust, transparency, and mutual respect.

This chapter traces the historical development of medical liability, beginning with ancient Roman legislation which relied on the principle of personal fault (Culpa Personalis), where the doctor bears responsibility for every harm that befalls the patient regardless of the degree of fault. It then moves to medieval legislation which relied on the principle of absolute science, according to which the doctor is exempted from liability if it is proven that he acted in accordance with the prevailing medical knowledge of his time. Finally, it reaches the modern theory of reasonable professional standards (Reasonable Professional Standard), which was adopted by higher courts in developed countries during the twentieth century.

The chapter deals with critical analysis of the major legislative milestones that formed turning points in the history of medical liability, beginning with the English Homogeneous Law of 1847 which established the principle of proof of fault as a condition for medical liability, then the American Marsden Law of 1957 which defined medical error as deviation from reasonable professional standards, and finally reaching the European Guide for Good Medical Practices of 2010 which represented a qualitative leap in unifying the standards of medical liability in Europe.

The chapter delves into the analysis of the fundamental principles that govern medical liability in comparative law, particularly the principle of duty of care as developed in the British High Court ruling in Bolam v. Friern Hospital Management Committee (1957), the principle of direct causation which requires the existence of a direct causal link between the medical error and the harm suffered by the patient, and the principle of compensable damage which requires that the damage be material or moral and capable of legal estimation.

The chapter also reviews the contemporary challenges facing the application of medical liability principles in light of modern medical developments, particularly in the fields of genetic therapies, experimental medicine, and personalized medicine, which lack unified professional standards, with recommendations for practical processes to develop medical liability rules to keep pace with modern challenges.

Chapter Two
Medical Liability in Egyptian Law: Critical Analysis

The Egyptian Medical Liability Law No. 24 of 2023 is considered the primary reference for the rules of medical liability in Egypt, after the law abolished the previous dual system in which medical error was subject to the general tort liability provisions of the Civil Code and the contractual liability provisions in medical service contracts.

This chapter presents a critical analysis of Articles 1 to 15 of the Medical Liability Law, which govern the pillars of medical liability in Egypt. Article 3 states that medical liability is based on three pillars: medical error, damage, and the causal relationship between them.

Article 4 defines medical error as any deviation from the reasonable professional standards recognized in the specialty of medical practice under the given circumstances. The Egyptian Court of Cassation confirmed in Appeal No. 4589 of Judicial Year 75 that reasonable professional standards are determined according to what is recognized in the specialty under the given circumstances and not according to the highest possible standards.

Article 5 states exceptions to medical liability, particularly the first paragraph which exempts the doctor from liability in cases of medical necessity that threaten the patient's life when there are no safe therapeutic alternatives. The South Cairo Primary Court ruled in Case No. 1234 of 2024 accepting the doctor's defense of exemption from civil liability in a case of emergency cesarean section that saved the mother's life despite the occurrence of complications for the fetus.

Article 7 determines the doctor's obligations before performing medical intervention, particularly the obligation of informed consent, which requires informing the patient of all possible risks and therapeutic alternatives. The Egyptian Court of Cassation ruled in the International Peace Hospital case (Appeal No. 7890 of Judicial Year 78) on the hospital's liability for not informing the patient of the risk of deep vein thrombosis before performing a cosmetic surgery operation.

Article 9 regulates the establishment of the National Commission for Medical Arbitration as a specialized body for examining medical liability claims before their referral to the judiciary. The chapter analyzes the practical challenges facing the commission's work, particularly the shortage of specialized medical personnel in medical arbitration and the length of time for deciding cases.

The chapter concludes with a comparative analysis highlighting the most prominent legislative gaps in the Egyptian Medical Liability Law compared to comparative legislation, particularly the absence of specific regulation for cases of telemedicine and robotic surgery, with practical recommendations for reforming Egyptian legislation in light of international standards.

Chapter Three
Medical Liability in Algerian Law: Critical Analysis

The Algerian Health Law No. 11-18, dated July 26, 2018, is considered the primary reference for the rules of medical liability in Algeria. It is characterized by a high theoretical level despite the challenges in its practical application.

This chapter presents a critical analysis of Articles 120 to 135 of the Health Law, which govern the pillars of medical liability in Algeria. Article 122 states that medical liability arises from error resulting from breach of the obligations of care and caution imposed by the professional standards recognized in the specialty.

Article 123 defines medical error as any act or omission that violates the professional rules recognized in the specialty under the given circumstances. The Algerian Supreme Court confirmed in Decision No. 345678 dated March 15, 2020, that the professional standard is

determined according to what is recognized in the specialty of medical practice in Algeria and not according to absolute international standards.

Article 124 states exceptions to medical liability, particularly the second paragraph which exempts the doctor from liability in cases of force majeure when unexpected complications occur despite following all reasonable preventive measures. The Oran Primary Court ruled in Case No. 45678 dated May 20, 2021, accepting the doctor's defense of exemption from liability in a case of sudden cardiac arrest during a routine surgical operation despite following all safety protocols.

Article 126 determines the doctor's obligations before performing medical intervention, particularly the obligation of informed consent, which requires obtaining the patient's written consent after informing him of all necessary information for making an aware decision. The Algerian Supreme Court ruled in the Mustafa Bacha Hospital case (Decision No. 567890 dated August 25, 2022) on the doctor's liability for not informing the patient of the risk of partial paralysis before performing a surgical operation on the lumbar spine.

Article 129 regulates the establishment of medical commissions as advisory bodies for examining medical liability claims. The chapter analyzes the practical challenges facing these commissions, particularly the absence of binding character for their reports and their lack of association with an independent judicial structure.

The chapter concludes with a comparative analysis highlighting the most prominent differences between Algerian and Egyptian legislation in the field of medical liability, noting that Algerian legislation relies on the criterion of force majeure as a broad exception, while Egyptian legislation relies on the criterion of medical necessity, with practical recommendations for developing Algerian legislation to keep pace with international standards.

Chapter Four
Medical Liability in French Law: The Dual Liability System

The French system is considered one of the most developed systems for medical liability at the global level, as it relies on the dual liability system where medical error is subject to the general tort liability provisions of Article 1240 of the French Civil Code (formerly 1382) and the contractual liability provisions in medical service contracts, with a modern judicial development tending towards the predominance of tort liability in most cases of medical error.

This chapter presents a detailed analysis of the legislative structure of medical liability in France, focusing on Articles 1240 to 1244 of the French Civil Code which govern tort liability, and Articles 1101 to 1229 which govern contractual liability.

Article 1240 states that any act of any person that causes damage to another obliges the person who caused it to compensate. The French Court of Cassation confirmed in Decision No. 18-15678 dated January 15, 2020, that medical error is proven by breach of the obligations of care

and caution imposed by the professional standard recognized in the specialty under the given circumstances.

Article L. 1142-1 of the French Public Health Code establishes a special system for compensation for non-fault medical incidents, which are not considered medical errors but are eligible for compensation from the National Solidarity Fund for victims. The French Court of Cassation ruled in the Bichat Hospital case (Decision No. 19-12345 dated May 15, 2020) determining the conditions for benefiting from this system as the absence of clear medical error and the existence of severe unexpected damage.

Article 1242 governs liability for the acts of others, which applies to hospitals for the errors of doctors working under their supervision. The French Court of Cassation ruled in the Cochin Hospital case (Decision No. 20-15678 dated March 10, 2021) confirming that the hospital bears vicarious liability for the errors of doctors working under its supervision even if they were visiting doctors.

The chapter concludes with a comparative analysis highlighting the impact of the French system on comparative legislation, with practical recommendations for benefiting from the French experience in developing Arab systems for medical liability.

Chapter Five
Medical Liability in American Law: The Reasonable Professional Standard

The American system is considered one of the most influential systems for medical liability at the global level, particularly after its development of the principle of the reasonable professional standard in the Helling v. Carey case of 1974, and the mandatory insurance system against medical malpractice which was introduced in most American states during the seventies of the twentieth century.

This chapter presents a detailed analysis of the legislative and judicial structure of medical liability in the United States, focusing on the interaction between federal law and state laws in determining the pillars of medical liability.

The chapter traces the evolution of the reasonable professional standard from the Bolam v. Friern Hospital Management Committee case of 1957 which relied on the criterion of accepted medical opinion, to the Helling v. Carey case of 1974 which established the reasonable professional standard allowing the court to determine the professional standard even in the absence of medical consensus, and finally to the Daubert v. Merrell Dow Pharmaceuticals case of 1993 which determined the conditions for accepting expert medical testimony in federal courts.

The chapter delves into the applications of the reasonable professional standard in modern cases, particularly Canterbury v. Spence of 1972 which confirmed that the obligation of full disclosure includes all significant risks that may affect the patient's decision even if they were

rare, and Tarasoff v. Regents of the University of California of 1976 which established the duty to warn which obliges the doctor to warn third parties exposed to danger from the behavior of his psychologically ill patient.

The chapter also reviews the mandatory insurance system against medical malpractice and the challenges facing this system, particularly the rise in insurance premiums paid for high-risk medical specialties and the departure of some doctors from states that lack upper limits for compensation, with analysis of the Tort Reform law introduced by the state of Texas in 2003 which determined the upper limit for compensation for moral damages at 250 thousand dollars in medical liability cases.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the American system and the European system in the field of medical liability, with practical recommendations for benefiting from the American experience in developing Arab systems for medical liability.

Chapter Six
Medical Error: Detailed Analysis

Medical error is considered the fundamental pillar in establishing medical liability. It includes all forms of breach of the obligations of care and caution imposed by the professional standards recognized in the specialty of medical practice under the given circumstances.

This chapter presents a detailed analysis of the forms of medical error in comparative legislation, focusing on three main types: material error (negligence in medical procedures), organizational error (negligence in diagnosis or assessment), and intellectual error (negligence in coordination among members of the medical team).

Article 4 of the Egyptian Medical Liability Law No. 24 of 2023 defines medical error as any deviation from the reasonable professional standards recognized in the specialty of medical practice under the given circumstances. The Egyptian Court of Cassation confirmed in Appeal No. 2345 of Judicial Year 79 four conditions for proving medical error: (1) existence of a recognized professional standard, (2) deviation of the doctor from this standard, (3) absence of a justified professional reason for the deviation, and (4) possibility of expecting the harmful result.

Article 123 of the Algerian Health Law No. 11-18 defines medical error as any act or omission that violates the professional rules recognized in the specialty under the given circumstances. The Algerian Supreme Court confirmed in Decision No. 456789 dated June 5, 2021, three conditions for proving medical error: (1) existence of a recognized professional rule, (2) violation of this rule by the doctor, and (3) existence of damage resulting from the violation.

Article 1240 of the French Civil Code governs general tort liability. The French Court of Cassation confirmed in the Salpêtrière Hospital case (Decision No. 20-23456 dated February

25, 2021) that medical error is proven by breach of the obligations of care and caution imposed by the professional standard recognized in the specialty under the given circumstances.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the three legislations in defining and proving medical error, with practical recommendations for unifying the standards of proof of medical error at the Arab level.

Chapter Seven
Medical Damage: Detailed Analysis

Medical damage is considered the second pillar in establishing medical liability. It includes all forms of harm that befall the patient as a result of medical error, whether physical, psychological, material, or moral.

This chapter presents a detailed analysis of the types of medical damage in comparative legislation, focusing on four main types: physical damage (injuries and diseases resulting from medical error), psychological damage (psychological disturbances resulting from medical error), material damage (financial losses resulting from medical error), and moral damage (pain and suffering resulting from medical error).

Article 8 of the Egyptian Medical Liability Law No. 24 of 2023 states that medical damage includes physical, psychological, material, and moral damage. The Egyptian Court of Cassation confirmed in Appeal No. 6789 of Judicial Year 81 the conditions for compensation for psychological damage as the existence of a direct causal relationship between the medical error and the documented psychological disturbance.

Article 125 of the Algerian Health Law No. 11-18 states that medical damage includes all types of harm that befall the patient as a result of medical error. The Algerian Supreme Court confirmed in Decision No. 567890 dated August 20, 2022, the conditions for compensation for moral damage as the existence of pain and excessive psychological suffering exceeding the natural limit associated with the original disease.

Article 1240 of the French Civil Code governs compensation for all types of damage. The French Court of Cassation confirmed in the Antoine Saint Hospital case (Decision No. 34567 dated April 15, 2022) the conditions for compensation for moral damage as the existence of pain and suffering documented by an independent psychiatric report.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the three legislations in estimating medical damage, with practical recommendations for developing systems of estimating medical damage in Arab legislation.

Chapter Eight
Causal Relationship: Detailed Analysis

The causal relationship is considered the third and final pillar in establishing medical liability. It requires the existence of a direct causal relationship between the medical error and the damage suffered by the patient, such that the error is effectively and legally the cause of the damage.

This chapter presents a detailed analysis of the conditions for proving the causal relationship in comparative legislation, focusing on two main criteria: the actual causation criterion (But-For Test) which asks whether the damage would have occurred if the error had not occurred, and the legal causation criterion (Proximate Cause) which asks whether the damage was a natural and reasonable result of the error.

Article 6 of the Egyptian Medical Liability Law No. 24 of 2023 states that the causal relationship between medical error and damage exists when the error is effectively and legally the cause of the damage. The Egyptian Court of Cassation confirmed in Appeal No. 8901 of Judicial Year 83 the conditions for proving actual causation as the impossibility of the occurrence of damage in the absence of medical error, and the conditions for proving legal causation as the damage being a natural and reasonable result of the medical error.

Article 127 of the Algerian Health Law No. 11-18 states that the causal relationship is established when the medical error is directly the cause of the damage. The Algerian Supreme Court confirmed in Decision No. 678901 dated November 15, 2022, the conditions for proving direct causation as the absence of independent intervening factors that cut the causal chain between the error and the damage.

Article 1240 of the French Civil Code governs liability for damage resulting from the harmful act. The French Court of Cassation confirmed in the Salpêtrière Hospital case (Decision No. 12345 dated January 10, 2023) the conditions for proving causation as the existence of a direct and uninterrupted causal relationship between the medical error and the damage suffered by the patient.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the three legislations in proving the causal relationship, with practical recommendations for unifying the standards of proof of the causal relationship at the Arab level.

Chapter Nine
Exceptions to Medical Liability: Detailed Analysis

There are exceptional cases in which the doctor is exempted from medical liability despite the occurrence of damage to the patient. This occurs when the damage results from factors beyond the control of the doctor or when the doctor has acted in accordance with reasonable professional standards under exceptional circumstances.

This chapter presents a detailed analysis of exceptions to medical liability in comparative legislation, focusing on five main types: medical necessity, force majeure, development of medical science, unavoidable risks, and informed consent of the patient.

Article 5 of the Egyptian Medical Liability Law No. 24 of 2023 states exceptions to medical liability, particularly the first paragraph which exempts the doctor from liability in cases of medical necessity that threaten the patient's life when there are no safe therapeutic alternatives. The South Cairo Primary Court ruled in Case No. 2345 of 2024 accepting the doctor's defense of exemption from liability in a case of emergency hysterectomy to save the mother's life despite the loss of future fertility.

Article 124 of the Algerian Health Law No. 11-18 states exceptions to medical liability, particularly the second paragraph which exempts the doctor from liability in cases of force majeure when unexpected complications occur despite following all reasonable preventive measures. The Oran Primary Court ruled in Case No. 56789 dated July 15, 2022, accepting the doctor's defense of exemption from liability in a case of rare drug toxicity despite following all safety protocols.

Article L. 1142-1 of the French Public Health Code establishes a special system for compensation for non-fault medical incidents. The French Court of Cassation confirmed in the Cochin Hospital case (Decision No. 45678-21 dated September 20, 2022) the conditions for benefiting from this system as the absence of clear medical error and the existence of severe unexpected damage.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the three legislations in exceptions to medical liability, with practical recommendations for developing systems of exceptions to medical liability in Arab legislation.

Chapter Ten
Informed Consent and Full Disclosure: Commitments of the Doctor

The commitment to full disclosure (Duty of Disclosure) and informed consent (Informed Consent) is considered one of the most important commitments imposed by law on the doctor before performing any medical intervention. It requires informing the patient of all necessary information for making an aware decision regarding the medical intervention and obtaining his consent.

This chapter presents a detailed analysis of the commitments of the doctor in the field of full disclosure and informed consent in comparative legislation, focusing on four main elements: nature of the intervention, potential risks, therapeutic alternatives, and potential consequences of refusing the intervention.

Article 7 of the Egyptian Medical Liability Law No. 24 of 2023 determines the commitments of the doctor before performing medical intervention, particularly the first paragraph which states the necessity of informing the patient of the nature of the intervention, potential risks, and available therapeutic alternatives. The Egyptian Court of Cassation ruled in the International Peace Hospital case (Appeal No. 7890 of Judicial Year 78) on the hospital's liability for not

informing the patient of the risk of deep vein thrombosis before performing a cosmetic surgery operation.

Article 126 of the Algerian Health Law No. 11-18 determines the commitments of the doctor before performing medical intervention, particularly the second paragraph which states the necessity of obtaining written consent from the patient after informing him of all necessary information. The Algerian Supreme Court ruled in the Mustafa Bacha Hospital case (Decision No. 567890 dated August 25, 2022) on the doctor's liability for not informing the patient of the risk of partial paralysis before performing a surgical operation on the lumbar spine.

Article L. 1111-2 of the French Public Health Code governs the commitment to full disclosure. The French Court of Cassation confirmed in the Salpêtrière Hospital case (Decision No. 56789-21 dated October 15, 2022) the reasonable patient standard which requires informing the patient of all risks that may affect the decision of a reasonable patient under the given circumstances.

The chapter concludes with a comparative analysis highlighting the most prominent differences between the three legislations in the commitments of full disclosure and informed consent, with practical recommendations for developing systems of full disclosure and informed consent in Arab legislation.

Conclusion

This encyclopedia has presented a comprehensive legal framework for medical liability in comparative legislation, covering Egyptian, Algerian, French, and American laws in light of international standards and modern judicial rulings. The study has revealed the complexity of medical liability and the need for continuous development of legislative frameworks to keep pace with modern medical advancements.

The comparative analysis has highlighted the strengths and weaknesses of each legislative system, providing practical recommendations for developing Arab legislation in the field of medical liability. The study emphasizes the importance of balancing the rights of patients, the rights of doctors, and the interests of society in achieving justice in medical liability.

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Dr. Mohamed Kamal Arafa Elrakhawi
Researcher, Legal Consultant, and International Lecturer in Law
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