

## Culpability and Prediction in Medical Error

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**ABSTRACT:** According to the World Health Organization (2023), 2.6 million people die annually due to preventable adverse events in hospitals. This data is still underestimated, as the study evaluated only 150 countries. Each year, out of the 19.4 million people treated in hospitals in Brazil, 1.3 million experience at least one side effect caused by negligence or recklessness during medical treatment. In 2021, the Federal Council of Medicine reported that 92% of colleges do not meet at least one of the three parameters deemed ideal for the proper operation of medical courses. Every hour, three medical error lawsuits (The National Justice Council states that 3 medical error lawsuits are filed every hour) are filed in Brazil, and medical culpability finds practical and doctrinal differences at civil and criminal levels. The implementation of evidence-based medicine can reduce the numbers indicated and to this end, supported by the medical literature, the practitioner has the opportunity to contain the error and, as a consequence, the accounting of deaths and unexpected events using the exact science for that. The research thus recommends strategies to reduce avoidable errors and calls for stricter penalties for gross error.

**KEYWORDS:** Culpability, medical error, duty of care, probability, prediction

### I. INTRODUCTION

Medicine sees itself as a science of the biological encompass<sup>5</sup> in migration to the human sciences. Although the study of the human body is grounded in the analysis of living organism, its structure, function, interaction and evolution, the characteristic subjectivity, in the field of applicability of norm, brings transdisciplinary analysis and the possibility of predicting an outcome becomes fundamental for reducing medical errors and preventable adverse events.

In cases which medical care is linked to a contract, express or tacit, the violation of this institute brings with it civil liability (compensation)<sup>6</sup> and, eventually, also the criminal classification of the conduct that produced a result known as a fact defined as crime before the law. An important distinction in comparative law on this matter is that, while in Portugal the superiority of lawsuits arise from extra-contractually, in this country the analysis of the link rests on the origin of medical care, with most cases stemming from the public health system.

With the proven decline of medical education in Brazil<sup>7</sup>, attested not only by the Federal Council of Medicine, but also by recently graduated physicians<sup>8</sup>, the normalization of medical error at the jurisdictional level, and the consequent reduction in the compensation value, the patient, by random reasons, attempts to classify the careless doctor's conduct within the realm of criminal law.

The Brazilian legal framework facilitates the definition medical errors through the following civil law instruments:

**Table I:**

ELEMENT	DEFINITION
Conduct	Objectively attributable action or omission
Causal link	Link between conduct and damage
Damage	Material, moral and/or aesthetic loss
Fault	<i>Strictu sensu</i> – action or omission that deserves censure or disapproval

Furthermore, the mere failure to comply with the duty of care, diligence and protection<sup>9</sup> owed to the patient carries with it the potential for condemnation against the physician.

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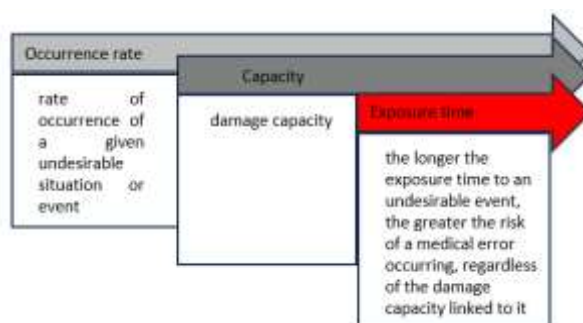
On Portuguese soil, due to the deliberate delay in the judgment of cases reaching more than 11 (eleven) years of processing, the European Court of Human Rights condemned the Portuguese State to pay non-patrimonial compensation amounting to 10,000.00 (ten thousand) euros<sup>10</sup>.

Contrary to this, doctors widely believe that verdicts are unfair. In a study of three decades of trial research, the data shows that the judiciary is consistently more sympathetic to doctors who are sued than to the patients who sue them. Doctors win about half of the cases that expert reviewers believed they should lose and almost all of the cases that experts think they should win<sup>11</sup>.

In terms of criminal law, the concept of crime, the difference between the causal link in civil and criminal law, the distinction among fault, culpability and error, and also, given the predictability of the result - terms such as conscious guilt and possible intent - deserve academic exploration before the framework that medical error is entitled to receive in a criminal context.

Previous studies have already attempted to mathematically understand medical error, such as Sérgio Savi<sup>12</sup> (2012) formulated the concept of lost chance and its compensation value:  $VIP = VRF \times Y$ , where: VIP – Compensation Value for the Lost Chance; VRF = Final Result Value; Y = Percentage of Probability of Obtaining the Final Result, and Vale (2020)<sup>13</sup> conducted a study on factors contributing to possible medical error:

**Figure I:**



Mathematics, as a science, brings with it certainty far from the medical chair, however, the use of exact science supported by guidelines, better known as evidence-based medicine, and the creation of a *modus operandi* of more routine cases in everyday medical practice, can significantly contribute to reducing of this global public health problem. This is a hypothesis of this theme.

Even though medical literature and the advancement of technology convey an expected path for medical development, translating this into predictability and therefore aiming at analysis,  $N$  are the conditions that frame the patient, despite this, in the face of gross error, metrics can be applied to reduce the probability of a harmful event occurring.

Probability deals in events that, even occurring under very similar conditions, yield unpredictable results. Within this subjectivity are the conditions of medical care materialized by technique, structure, doctor-patient relationship, beliefs and dogmas, institutional norms, operational hierarchy, health system, among others. For Bernardes (1987)<sup>14</sup> to believe that there is nothing more between the possible and the impossible is a distorted view of mathematics, even through probability concerns itself with the “could be”.

Uncertainties in the moments preceding decision-making need to be overcome or reduced to avoid certain surprises. In addition to the components of uncertainty, there are situations in which a certain margin of error is acceptable when adopting this or that procedure. The obvious fact is that the physical and social phenomena that individuals experience are not, for the most part, absolutely predictable or certain or impossible to happen. In general, the rule almost always indicates to the possibility of occurrence, making it challenging to even quantify the degree of “certainty” of the event. Therefore, the subarea of Mathematics that deals with this quantification is known as Probability<sup>15</sup> (free translation).

The definition of probability most frequently observed in basic education books (elementary and secondary) and in texts researched during the present investigation is the following:

**Legend I:**

$$P(A) = \frac{\text{Number of cases favorable to the occurrence of A}}{\text{Number of possible cases}} = \frac{\#A}{\#\Omega}$$

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Legend:

- $P(A)$ : Probability of the occurrence of an event A
- #A: Number of cases favorable to the occurrence of A
- $\#\Omega$ : Total number of possible cases

After solving the formula, you will obtain a fractional number that, when multiplied by one hundred (100), will give the probability percentage of that event.

When supported by evidence-based medicine, there is a likelihood of resistance to the unpredictability of outcomes, notably in routine cases of primary and secondary medical care.

Trust plays a crucial role due to the technical disparity between doctor and patient, and in this sense, the life is entrusted to the doctor who, by acting diligently, has the duty to provide devoted care - a basic human right - primarily focusing on healing or alleviating pain.

From the perspective of human rights, which ensures full living conditions, this work explores concepts and their interconnections, some pre-existing and others newly studied, namely:

1. Positive breach of the doctor-patient contract
2. Criminalization of gross medical error
3. Probability of a harmful event in medicine as an injury to the fundamental guarantee of the right to life

It is important to mention that the advancement of science and technology in this century is considered to be greater than anything we had managed to achieve previously<sup>16</sup>. In this orbit and given the transdisciplinary, multidisciplinary, and interdisciplinary scope of this work, the levels of interactions of the proposed theme deserve to be conceptualized:

1. **Multidisciplinarity** – according to Piaget “occurs when the solution to a problem makes it necessary to obtain information from two or more sciences or sectors of knowledge without the disciplines involved in the process being themselves modified or enriched”.

2. **Interdisciplinarity** – the same author is inclined to use this term to designate “the level at which the interaction between several disciplines or heterogeneous sectors of the same science leads to real interactions and a certain reciprocity in exchange leading to mutual enrichment”.

3. **Transdisciplinarity** – the concept examines “not only the interactions or reciprocity between specialized research projects, but the placement of these relationships within a total system, without any rigid limits between disciplines”<sup>17</sup>.

The results obtained in this study are presented here and will be shared at conferences in related fields. They will also be taught to undergraduate and postgraduate students, both in *lato* and *strictu sensu* programs.

## II. DISCUSSION

### A. Good faith and probability

Objective good faith, the basis of civil legislation, has wide fruition and the main ones are hermeneutics as an integrative and interpretative factor of the norm, the limitation to the exercise of a right and the one that interests us in the present study, the creation of legal duties not only instrumentals such as attachments and sides.

The purpose of this good faith, regarding adverse health events, is based on the positive violation of the contract between doctor and patient, while the punishment for the optional person who commits an illicit act, whether negligent or not, but which causes damage, transcends the classic breach of an obligation and achieves a greater premise contributing to greater effectiveness and stability of legal relationships.

Given that probability aims to reduce surprises, chances and uncertainties and also that there is no medical act free from possible error, it is impossible to absolutely predict the outcome of a medical intervention. However, evidence-based medicine and continuing medical education strive to reduce the margin of error. If the occurrence of an event rests on the possibility of success or error and if both the expected conduct and the erroneous hypothesis are documented in the literature, a new horizon of medical science emerges.

While not directly using probability, the concept of Predictive Factors in medicine already provides in the cradle of science a certain predictability for both successes and errors, mitigating inaccuracies and guiding conduct more effectively. In brief research *N* are articles on the topic:

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Table II:

ARTICLE TITLE	EXTRACT (free translation)
SAFE SURGERY CHECKLIST: A PATH TO PATIENT SAFETY	PEIXOTO, Samantha Katerine Ribeiro; PEREIRA, Bruno Mainardes; SILVA, Ludimila Cristina Souza. Safe surgery checklist: a path to patient safety. <i>Health &amp; Science in Action</i> , v. 2, no. 1, p. 114-129, 2016 <sup>18</sup> .
MEDICAL ERROR IN DIGESTIVE SYSTEM SURGERY: CONTRIBUTION TO THE STUDY OF TECHNICAL, EXPERT AND DOCUMENTARY EVIDENCE AND THEIR LEGAL IMPLICATIONS	OPITZ JUNIOR, João Baptista. Medical error in digestive system surgery: Contribution to the study of technical, expert and documentary evidence and its legal implications. 2005. Doctoral Thesis. University of Sao Paulo. <sup>19</sup>
ERRORS AND ACCIDENTS IN THE OPERATING ROOM: REVIEW OF THE STATE OF THE ART	FRAGATA, José IG. Errors and accidents in the operating room: review of the state of the art. <i>stress</i> , v. 6, p. 7, 2010. <sup>20</sup>
INTERRUPTIONS AND DISTRACTIONS IN THE TRAUMA SURGERY ROOM: UNDERSTANDING THE THREAT OF HUMAN ERROR	PEREIRA, Bruno Monteiro Tavares et al. Interruptions and distractions in the trauma operating room: understanding the threat of human error. <i>Journal of the Brazilian College of Surgeons</i> , v. 38, p. 292-298, 2011. <sup>21</sup>
CLINICAL PROFILE OF THE PATIENT IN THE INTENSIVE CARE UNIT: USE OF SCORE AS A PREDICTIVE FACTOR IN THERAPY IN PALLIATIVE CARE	SIMPLICIO, Juliana Alves et al. CLINICAL PROFILE OF THE PATIENT IN THE INTENSIVE CARE UNIT: USE OF SCORE AS A PREDICTIVE FACTOR IN PALLIATIVE CARE THERAPY. <i>CPAQV Magazine-Center for Advanced Research in Quality of Life</i> , v. 15, no. 2, 2023. <sup>22</sup>

The applicability of probability in forecasting is a measure that is refined by anticipating the likelihood of an event occurring, forming the basis for decision making. In peculiar research citing “Factors predicting mortality in damage control surgery in abdominal trauma<sup>23</sup> (free translation)” which through a retrospective cohort study<sup>24</sup> with a *samples size* of 696 patients who underwent abdominal trauma laparotomies in damage control surgery (DCS) it was observed the following product:

Out of the samples, 8.9% (n=62) underwent DCS, with over 80% of cases resulting from penetrating injuries. The mortality rate was 59.6%. In logistic regression, stratified by survival, identified several variables significantly associated with mortality, including hypotension and altered mental status on admission, intraoperative cardiopulmonary arrest, need for resuscitation thoracotomy, metabolic acidosis, hyperlactatemia, coagulopathy, fibrinolysis, trauma severity scores, and the requirement for blood products. Conclusion: despite employing the DCS strategy in a trauma center, morbidity and mortality remained high. Based on pre- and postoperative clinical and laboratory parameters, it is possible to **predict** the risk of death in the studied sample.

From these findings, we obtain data the clinical origin, the surgical form, mortality, its cause, and the prediction, generating for future identical and/or similar procedures a starting point that demands particular forethought.

In any search engine for articles and journals that investigates predictive factors and ends with the medical concept, there will be a wide range of data that can guide actions aimed at reducing the chances of avoidable harm.

The positive violation of the contract is an institute that frames the core of the doctor's activity, notably regarding the mandatory and extra-contractual bond itself and the attached duties of any subject in a contractual relationship. We can list the following duties attached to the medical act:

- a) Right to information
- b) Correct completion of the medical record
- c) Management of assistants and staff
- d) Choice of aseptic surgical environment
- e) Pre- and post-operative care/procedures
- f) Diligence, care, and protection

Any action that violates the above institutes in a non-exhaustive list constitutes an accessory violation.

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The concept of chance as a probability has already been addressed by the Brazilian Superior Court of Justice regarding medical error, observing that if there is probably and probabilistically the opportunity (chance) or the possibility of eliminating harm (reducing pain) and not carrying it out, the doctor becomes liable to conviction. A classic example is the examination without observing the best techniques, where the management itself spreads cytological material capable of causing metastases in a patient who originally had a neoplasm in a single organ.

It is the loss of a chance of cure or survival applied since 2012 in Brazil via REsp 1.254.141/PR where “there is no need to determine [if] the ultimate good [the life] was taken away from the victim [patient]. The fact is that the chance to live was taken away and that is enough<sup>25</sup> (free translation from case)”. In this provision, probability measures the chance of something happening, far from, for example, a random event, being one in which, it is not possible to know which result will be found before carrying it out, despite the inaccuracy of medical science, being it an ancient art, currently based on technology and high progress in research, it cannot be claimed that it is impossible to know the expected result.

### B. Human rights, guilt, and crime

The dignity of the human person is a term that has a wide range of enjoyment for its concept, however, its foundation is based on the existence of life and its protection, this branch of law being concerned with how human beings individually and collectively live in society and between each other, as well as their relationship with the State.

Nowadays, medical errors or adverse health events operate to shorten lives or reduce their quality, and this study focuses on this in particular. With 2.6 million annual deaths resulting from medical error, according to WHO<sup>1</sup>, adversity already reaches a controversial ranking in both developed and developing societies. There are even documentaries<sup>26</sup> with the name MEDICAL ERROR: AN ACCEPTABLE LEVEL OF RISK? (free translation)

There is no doubt that there is a need to criminalize gross errors in healthcare. The agenda for analysis is the differentiation of error and guilt and after that, with the probability brought by evidence-based medicine, once the rudimentary error is confirmed, the doctor must respond in a criminal context.

The error achieves greater conceptual ease and can be understood as the false perception of reality. Based on Spinoza<sup>27</sup> “falsehood consists of the deprivation of knowledge that inadequate ideas, that is, mutilated and confused, involve”. The gross error under consideration still fluctuates between partial deprivation of knowledge and absolute lack of knowledge; in this last sphere we have ignorance resting on the differentiation between error and ignorance. If the doctor acts with ignorance, he must also be criminally liable.

Error still comes from objective predictability, while guilt, *a priori*, is subjective. The error is based on a generic principle where a comparison is made between the conduct in the specific case and that which exempts the damage.

When discussing guilt, despite its comparative bias with the duties of diligence, care, and protection, it is necessary to differentiate guilt from culpability and its broad and *strictu sensu* characteristics. In guilt, it is not the doctor's action itself that is contrary to the law, but rather the result of the conduct. In this sense, we have the following elements of guilt:

- 1) voluntary human conduct (medical act);
- 2) violation of an objective duty of care, in which imprudence, incompetence and / or negligence are present;
- 3) unintentional naturalistic result (error);
- 4) causal link between the conduct and the result (cause and effect relationship);
- 5) and predictability of the result, despite not wanting it (EBM probability).

In terms of culpability, expressed as a degree of censure and reprehensibility of the doctor who should have acted differently, as indicated in medical literature, the exhaustion of the formative elements considered by imputability – liability for the criminal practice; potential awareness of illicitness; and, the enforceability of different conduct, militate in the sense of assessing the value of the criminal offense.

What is criminalized is not an inevitable or inseparable error from the fact of the technique, but an avoidable error protected by similar or completely different conduct duly provided for in guidelines.

The area of analysis of culpable error under the spectrum of criminal law must still oscillate between action and omission, in order to delve deeper into the topic under discussion.

If the action is a positive act normally covered by the verb to do, the omission acts under the cloak of the duty not being fulfilled. Fault in the strict sense still holds the doctor responsible for the lack of duty of care, acting with negligence, recklessness, and malpractice. Its cumulative elements<sup>28</sup> are:

- i) involuntary result: it is necessary that the agent does not intend to produce the result or does not take the risk of producing it, as in such cases, he would be acting with intent and not with guilt;
- ii) objective predictability: it is necessary for the average person to be able to predict at least as much as possible the consequence of his conduct, otherwise this element will not be present;

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iii) absence of subjective predictability (except in conscious guilt): it is necessary that the agent, in the specific case, did not foresee the result, otherwise, as a rule, he acted with intent, even if in the indirect modality (if the agent, in the specific case, foresees the result and still practices the conduct, he, as a rule, acted with intent and not with guilt).

Within the scope of this research, it is easy to criminalize the error by exhausting the following elements:

1. The medical act is a voluntary human conduct;
2. There is a violation of the duty of care, diligence and protection in the case of imprudence, negligence and malpractice;
3. Error acts as an involuntary naturalistic result;
4. There is a causal link and breach of positive duty;
5. There is predictability of the result supported by the medical literature;
6. Ignorance of the technique leads to assumption of the risk of the result.

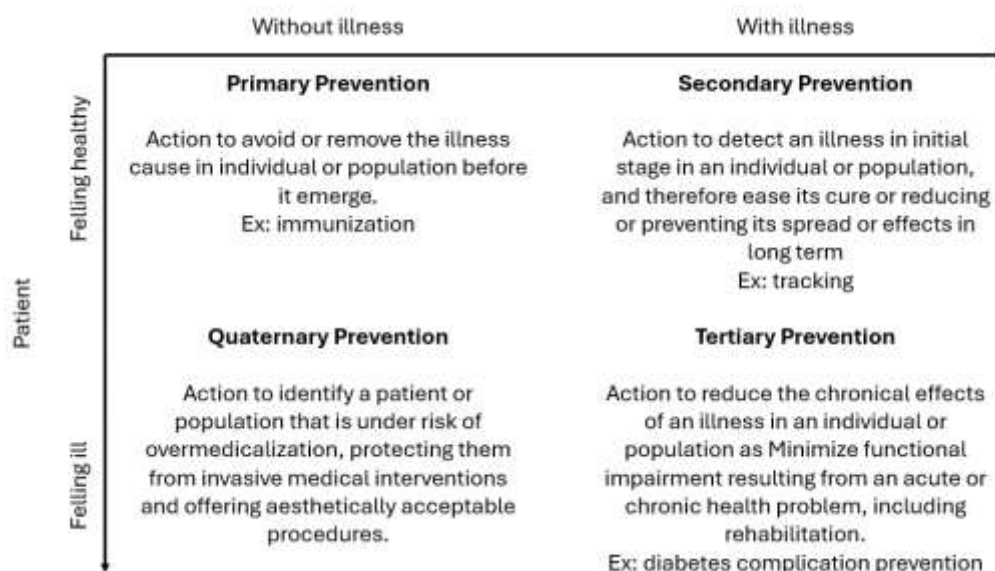
Some exceptions and improvements to the framework:

1. The doctor always assumes the risk of producing the result and this result is always or almost always supported by Evidence-Based Medicine;
2. Objective predictability rests again on the medical literature and the findings on the indicated therapy;
3. The absence of subjective predictability is almost exhausted by medical science and even when acting under the institute of conscious guilt, the doctor is held responsible.

Brazil adopted, in art. 18, I, of the Penal Code<sup>29</sup>, the theory of will (for there to be intent there must be awareness and will to produce the result – direct intent) and the theory of assent (there is also intent when the agent accepts the risk of producing the result – possible intent). In other words, the prediction or awareness of the result is sufficient for intent, not requiring the subject (doctor) to want to produce it. The agent's assent to the result is sufficient.

### C. Diligence, care, and protection

The world is currently focusing on quaternary health care that aims to protect individuals from harmful and unnecessary actions<sup>30</sup>. The act of identifying people at risk of excessive medicalization and protecting them from new unnecessary interventions, avoiding iatrogenic damage and proposing ethically acceptable measures<sup>31</sup> means self-restraint from avoidable errors. Medical intervention even finds in the literature a vast framework aimed at reducing the risk to the patient<sup>32</sup>:

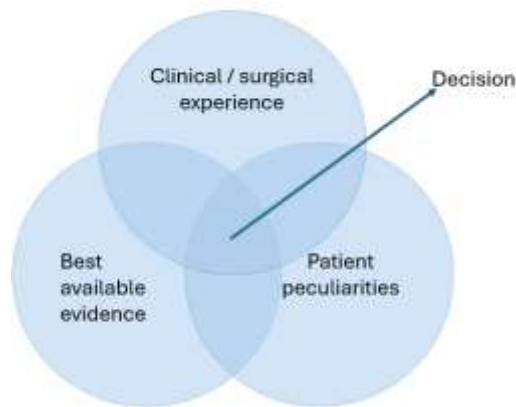


The doctor accused in the criminal sphere of breaching the duty of care will be able to use his history to exclude guilt, that is, the same probability brought by the EBM that tends to frame his conduct will be the guiding principle for his defense and consequent acquittal or irresponsibility in the face of avoidable damage or not. An acceptable risk zone would be created.

Medicine must focus on decision-making in a zone of intersection (point of convergence) with the following variables:

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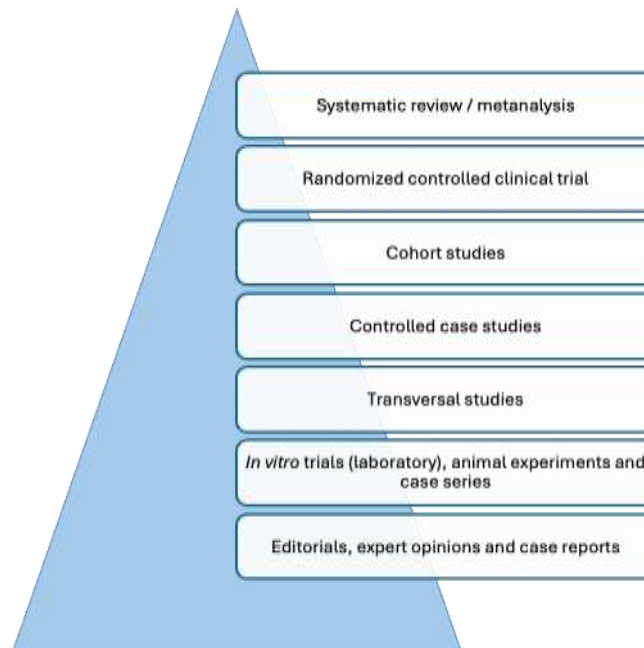
Intersection zone:



EBM translates into the practice of medicine in a context in which clinical experience is integrated with the ability to critically analyze and rationally apply scientific information in order to improve the quality of medical care<sup>33</sup>. In EBM, the doubts that arise when solving patient's problems are the main stimuli for seeking to update knowledge<sup>34 35</sup>.

In addition to the careful observation of evolution, diagnostic-laboratory evaluation, active listening<sup>36</sup> and multidisciplinary care, the doctor's feeling, disciplined by scientific evidence, supports his conduct. EBM finds in the medical literature<sup>37</sup> a hierarchical pyramid that reproduces the reliability of the evidence advocated as follows:

Table III:



If the EBM brings with it the possibility of classifying conduct that gives room to a gross error, it must also act to ensure the practice of medicine without greater procedural risks.

For instance, in the studies *Risk factors for bariatric surgery: a systematic review*<sup>38</sup> and *Predictive factors for complications in plastic surgery procedures - safety score suggestion*<sup>39</sup> free translation, the possibilities of early gallstones with a higher incidence in women in that study were found, while in this study complications were related to the performance of an associated procedure ( $p=0.049$ ) and surgery time greater than 240 minutes ( $p=0.049$ ). In other words, it is based on pre-, trans- and post-operative planning that are predictive of reducing the incidence of complications according to the studies analyzed.

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In this particular one, a doctor aware (or should be) that there are complications in the female public for bariatric surgery and analyzing the variables of concurrent procedure and surgical time in plastic intervention, including confirmed by Vale (2020)<sup>13</sup> the time variant, has a new operating premise that tends to have the following procedural behavior.

A doctor who is held responsible for the complication of gallstones or unsuitable surgical time in an aesthetic procedure should have the ability to detail the cause and consequently make any criminal conviction impossible as long as there are peculiarities that allow for this zone of exception.

The acquisition of knowledge of Clinical Epidemiology, the development of scientific reasoning, self-learning attitudes and the ability to integrate knowledge from different areas are fundamental for practicing of EBM<sup>36</sup> and the same probability that Evidence-Based Medicine applies in framing a doctors' conduct should reflect his fair action, removing any chance of conviction.

### III. IN PRACTICE

For pedagogical purposes, an old study entitled COMMON ERRORS IN THE INTERPRETATION OF KNEE MAGNETIC RESONANCE: HOW TO RECOGNIZE AND AVOID THEM<sup>40</sup> (free translation) was randomly selected and has the following causes:

- a) presence of structures that are not seen in all exams, and when they appear they can be taken as pathological signs;
- b) anatomical variations that occur sporadically;
- c) artifacts inherent to the method, which may appear in certain sequences and with certain parameters.

Considering that this study is over twenty years and since then the technology and the accuracy as the gold standard in diagnostic tests<sup>41 42</sup> have evolved in this period, an error based on the three variables above could be considered a gross error capable of a criminal framework.

In eventual intent, the agent does not actively seek the result, but demonstrates itself indifferent and accepts its occurrence, which is rarely verifiable in medicine. However, in conscious guilt the doctor irresponsibly believes that the result will not occur or that it will be avoided, not accepting its occurrence. The core of analysis is the predictability of complications or conduct extenuated by the guidelines, that is, the measure that should have been taken was not taken due to a clear lack of technical knowledge and is therefore punishable<sup>43</sup>.

This aspect has already been applied in Brazilian law:

(free translation from case) CRIMINAL LAW. SERIOUS BODILY INJURIES RESULTING FROM A SURGICAL ACT PERFORMED BY A FEDERAL PUBLIC SERVANT. RESPIRATORY ARREST WITH CONSEQUENT ISCHEMIC ENCEPHALOPATHY WHICH RESULTED IN A DEEP COMA FOR THE VICTIM. COMPLAINT. ART. 129, ITEM I, II, III AND IV C/C ART. 18, I SECOND PART, OF CP. MATERIALITY. AUTHORITY. ANESTHESIST AND SURGEON. CO-RESPONSIBILITY. EVENTUAL DOLO. CONSCIOUS GUILT. OBSERVANCE OF THE DUTY OF CARE. REQUIREMENT. CHARACTERIZED IMPRUDENCY AND NEGLIGENCE. CRIMINAL DISCLASSIFICATION OPERATED IN SENTENCE. ART. 129, § 6, DO CP. CONDITIONAL SUSPENSION OF THE PROCESS. ART. 89 OF LAW No. 9,099/95. 1. In the case of a criminal offense committed on the premises of a hospital linked to the federal public foundation, as well as one of the defendants being a federal public servant - therefore demonstrating the interest of the Union - the Federal Court is competent to process the matter, in terms recommended in art. 109, IV, of the Federal Constitution of 1988. 2. Hypothesis in which the defendants, anesthesiologists and surgeons, were accused of serious bodily injury (irreversible brain injury) caused by respiratory arrest with consequent ischemic encephalopathy - resulting in coma depth of the victim - occurred during the course of surgical intervention. 3. Criminal materiality and authorship that prove to be indisputable given the extensive evidentiary material produced. 4. The arguments put forward by the co-defendant, a surgeon, in order to see his criminal authorship ruled out in the face of the allegation that it is only the anesthetist's duty to verify and remedy such problems, do not succeed, since the co-responsibility of both defendants, in this case, is inseparable. And, compliance with the duty of care, here, is required of the doctors responsible for the surgery, whether surgeons or anesthetists. 5. Case in which the surgical procedure presented several particularities that, occurring in isolation, constitute the risk of the surgical act, and there is no way to require the prediction of such events, even if the necessary measures are taken pre- and intra-operatively, as in fact it gave. However, in the hypothesis, the sequence of problems clearly perceived by the doctors would prove to be sufficient for the defendants, doctors with extensive experience, as they rightly claim, to deduce that the surgery was not taking place within the usual patterns commonly experienced which, for in turn, it would also be enough for both parties to have predictability of the potential consequences arising from these abnormalities, in order to reinforce the precautions used in the procedure performed on the patient. 6. The evidence in the case file is conclusive in the sense that the defendants acted with the lack of care necessary for the situation that presented themselves to them. Since, in the act, the duty of this care was required of them, as it was in this case, its failure to check arises as a result of the reckless and, in particular, negligent action adopted by the defendants, resulting in the brain injuries caused to the victim, being the conduct, therefore, punishable by way of guilt. 7. In the case of eventual intent, "the agent tolerates the production of the result, the event being indifferent to him, regardless of whether it occurs or not. He assumes the risk of producing it. In conscious



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guilt, on the contrary, the agent does not want the result, does not assume the risk nor is it tolerable or indifferent to it. The event is represented (predicted) to him but he trusts in its non-production". 8. In this case, there is no talk of possible intent, as it is evident that throughout the procedure the accused did not even consider the possibility of such injuries occurring to the victim, acting with the certainty that these would never occur. 9. The sentence that resulted in the disqualification of the criminal offense was maintained, condemning the defendants for incurring the sanctions of art. 129, § 6º, Penal Code, which abstractly sanctions from 02 (two) months to 01 (one) year, the remittance of the case to the Federal Public Prosecutor's Office of first instance (so as not to suppress the degree of jurisdiction) for the purposes of verify the possibility of providing an opportunity to suspend the process referred to in art. 89 of Law No. 9,099/95, is a measure that is necessary, no matter how beneficial it is for the defendant. Precedents of this Court (ACR nº 2001.70.00.024043-1/PR, DJU 12.08.2004). (TRF-4 - ACR: 1640 RS 2000.71.01.001640-9, Rapporteur: TADAAQUI HIROSE, Judgment Date: 03/08/2005, SEVENTH PANEL, Publication Date: DJ 03/14/2005 PAGE: 637) <sup>44</sup>

In the above understanding, there is a recognition of the inherent risk and the finding of conduct giving rise to criminal liability, given the technical disparity between the parties and the loss of the chance of cure and survival due to non-compliance with the triad of diligence, care and protection.

## CONCLUSIONS<sup>45</sup>

Medical error is a global problem that claims millions of lives every years. The use of mathematics supported by evidence-based medicine, bringing to light its predictability and the expected conduct of doctors, acts to reduce uncertainty through commitment to science. The gross error must be resolved within the scope of criminal law with a focus on a prudent course of action, given that the guidelines address the guiding elements of medical conduct and therefore assess predictive factors capable of reducing medical error, facilitating its criminal classification in the event of non-compliance with the duty of objective care.

In this way, the results achieved here encourage the need for continuing medical education and the prevalent action of quaternary care in order to increase compliance with the duties of care, diligence and protection to the patient based on the canon of human rights, life.

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