

# Managing agitated or aggressive patients

## Manejo de paciente agitado ou agressivo

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### Abstract

**Objective:** To review current data concerning the management of agitated or aggressive patients. **Method:** A search was performed in the PubMed and Web of Science databases and empirical articles and reviews about pharmacological and non-pharmacological interventions for the management of agitation and/or violence were selected and analyzed. **Results:** The non-pharmacological management of agitation/aggression involves the physical organization of the emergency department and the adequacy of the behavior and attitudes of health professionals. The main goal of pharmacological management is rapid tranquilization, aimed at reducing symptoms of agitation and aggression without inducing deep or prolonged sedation, keeping the patient calm but fully or partially responsive. Polypharmacy should be avoided and medication doses should be as low as possible, adjusted according to clinical requirements. Intramuscular administration of drugs should be considered as a last option. Available options related to the use of antipsychotics and benzodiazepines are described and discussed. The physical management by means of mechanical restraint may be necessary in violent situations involving risks for the patient or staff and must be performed according to strict criteria. **Conclusion:** Procedures must be carefully implemented to avoid physical and emotional complications for patients and staff.

**Descriptors:** Psychomotor agitation; Aggression; Violence; Emergency medicine; Pharmacological processes

### Resumo

**Objetivo:** Revisar as medidas preconizadas para o manejo de pacientes agitados ou agressivos. **Método:** Por meio de uma busca em bancos de dados (PubMed e Web of Science) foram identificados artigos empíricos e revisões sobre intervenções farmacológicas e não farmacológicas para o manejo de agitação e violência. **Resultados:** O manejo não farmacológico de agitação/agressão engloba a organização do espaço físico e a adequação de atitudes e comportamentos dos profissionais de saúde. O objetivo principal do manejo farmacológico é a tranquilização rápida, buscando a redução dos sintomas de agitação e agressividade, sem a indução de sedação profunda ou prolongada, mantendo-se o paciente tranquilo, mas completa ou parcialmente responsivo. A polifarmácia deve ser evitada e as doses das medicações devem ser o menor possível, ajustadas de acordo com a necessidade clínica. A administração intramuscular de medicação deve ser considerada como última alternativa e as opções de uso de antipsicóticos e benzodiazepínicos são descritas e comentadas. O manejo físico, por meio de contenção mecânica, pode ser necessário nas situações de violência em que exista risco para o paciente ou equipe, e deve obedecer a critérios rigorosos. **Conclusão:** Os procedimentos devem ser cuidadosamente executados, evitando complicações de ordem física e emocional para pacientes e equipe.

**Descritores:** Agitação psicomotora; Agressão; Violência; Medicina de emergência; Processos farmacológicos

### Introduction

Everyday, health professionals working in hospitals and especially in emergency services have to deal with agitated or aggressive patients. In the United States, 5% of emergency admissions are estimated to be related to behavioral disturbances.<sup>1</sup> In a significant portion of cases, admissions are motivated by agitation and/or aggressiveness. In Brazil, emergency admissions due to mental disorders account for approximately 3% of the total admissions in general hospital emergency services,<sup>2</sup> with one-fourth of these admissions being due to agitated or violent behavior.<sup>3</sup>

Agitation can be defined as excessive motor activity associated with subjective experiences of tension. In general, agitated or aggressive patients are conducted to emergency departments by a third-party, usually relatives, neighbors, or people witnessing the episode of agitation or violence, or by police or fire department officers called to manage the situation outside of the hospital context. Agitated and/or aggressive patients tend to have a low capacity for insight concerning their morbidity and impaired judgment of reality. Hence, such patients may have difficulties

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to recognize that they are sick and therefore they may not acknowledge the need for external help.

Depending on the degree of agitation, these patients might pose a risk for their own physical integrity and for that of the staff and other patients. As important as the promptness in reducing agitation and the risk posed by this situation is the need to collect data for the formulation of diagnostic hypotheses and differential diagnosis. In emergency care, whether general or in a psychiatric emergency unit, there are many causes that can be responsible for the agitation and violence and which require extensive knowledge on the part of the physician to perform differential diagnoses, which will determine the clinical management indicated for each case.

The assessment and clinical management of an agitated, potentially aggressive, or openly violent patient are complex tasks demanding different skills from health professionals that need to be applied in a coordinated manner. For didactic purposes, the different aspects involved in these tasks will be dealt with separately here, although real-life situations require efforts directed toward integrating all these components so that a prompt and articulated intervention can be implemented.

### Differential diagnosis

Psychomotor agitation and aggressiveness are complex but nonspecific psychopathological manifestations that can be associated with a number of medical conditions, and this requires a clinical reasoning that contemplates a broad differential diagnosis.

Since patients seen in emergency situations are usually unknown to their attending psychiatrist, a relevant aspect to be considered in the assessment of agitated or violent patients is the fact that these alterations can be manifestations of conditions other than primary mental disorders, such as general medical and neurological conditions. Therefore, the emergency psychiatrist must be aware of this possibility and perform an active search for information that can be relevant for the differential diagnosis. The general medical conditions most commonly associated with acute states of psychomotor agitation include: hypoglycemia, hypoxia, traumatic brain injury, bleeding, hyperthermia and hypothermia, meningitis, sepsis, cerebrovascular accidents, subarachnoid hemorrhage, postictal states or status epilepticus, brain tumors, thyroid disturbances and, less frequently, hyperparathyroidism, Wilson's disease, and Huntington's disease.<sup>4</sup>

It is important to note that the psychiatrist is not expected to memorize the unending lists of possible differential diagnoses available in textbooks, but to establish a routine for his clinical reasoning so as to ensure that potentially relevant information for the differential diagnosis is obtained. Nevertheless, some clinical data including sudden onset, age > 40 years, no previous psychiatric history, visual, olfactory, and tactile hallucinations, disconnected speech, mental confusion, disorientation, and history and/or physical signs of trauma are usually indicative of general medical or neurological conditions.

The same clinical reasoning should be applied in the investigation of the use of psychoactive substances, including illicit or licit drugs and medications prescribed for the treatment of general medical conditions but that can act on the central nervous system and lead to behavioral disturbances. Problems related to the use of psychoactive substances, including intoxication and withdrawal episodes, which are commonly associated with agitated and/or violent behavior, are among the main causes presenting in emergency services and requiring psychiatric care.<sup>1,5</sup>

Similarly, agitated, potentially aggressive, and openly violent behaviors are not particular to any specific mental disorder and also imply the necessity for a broad investigation to perform the differential diagnosis. Patients with severe psychiatric disorders, particularly schizophrenia and manic episodes, use general and psychiatric emergency services more often than the general population.<sup>6</sup> Psychotic or manic episodes are characterized by disturbances in thought and affect resulting in altered perception of reality and bringing the possibility of periods of psychomotor agitation or violence, which justifies the emergency assessment. Depressive episodes with increased psychomotority may also course with agitation and risk of violence. Still in the domain of psychiatric conditions, some personality disorders, especially those in cluster B, may also cause agitated or violent behavior due to the low tolerance to frustration and poor impulse control.

### General principles for the management of agitation or violence episodes

A highly relevant aspect to be considered in the management of agitated or violent patients is the emotional impact sustained by the psychiatrist in the face of a situation that poses a threat to his physical integrity, as well as to that of other patients under his responsibility and the remaining of the staff. Feelings of fear or anger are obviously expected in the presence of threatening situations, but the psychiatrist must be aware of his own feelings and gauge the extent to which they reflect the actual situation. This is important so that the psychiatrist can keep from acting in an excessively tolerant or even punitive manner. In the case of professionals with experience in emergency settings, their own feelings may in fact serve as indicators of the patient's potential for violence and help in the implementation of preventive measures.

It can also be projected that other staff members, patients, or people that happen to be in the same place will expect the psychiatrist to act promptly in order to control the situation. The psychiatrist must take his decisions related to the conduction of the case as quickly as possible, but he should not give up on the minimum time required to obtain information regarded as essential for his decision.

Additionally, since these conditions may involve physical aggression and loss or damage to property, the report in the patient's record, to be obviously elaborated after the situation has been stabilized, should be thorough and meticulous.

From the organizational standpoint, the management of agitated or violent patients must be planned and executed in

three different levels of complexity: (1) control of environmental and operational factors of the service liable to increase the risk of agitation or violence; (2) anticipation and early diagnosis of the risk of agitation or violence and prompt action to halt the escalation of violent behaviors; and (3) adequate intervention, in case violent or agitated behaviors have already settled.<sup>4</sup> Didactically, this plan of actions can be divided in four topics: environmental and organizational management, behavioral and attitudinal management, pharmacological management, and physical management.

### 1. Environmental and organizational management

Table 1 presents a summary of some environmental and/or organizational measures that can be useful to minimize the risk of violence. The implementation of general safety protocols can reduce the violence against health professionals and improve the safety of the patient himself. The prevention of violence should start outside of the emergency room, in the surroundings of the entrance to the service, and the use of safety doors and metal detectors is recommended. This is of great importance in order to avoid the access of weapons into the service brought by patients and visitors. One limitation of this measure is that many patients are brought to the hospital in an ambulance, and thus they are not scanned by metal detectors. Another measure that can reduce the risk of violence is the use of a quick and efficient communication system to warn the staff about the admission of a patient with a history of violent behavior.

The physical space in which care is delivered must also be organized in such a way as to increase the safety of the patient and the staff, to help the patient to control his violent impulses, and to avoid the intensification of the violent behavior. Attention should be paid, for example, to the characteristics of the furniture, objects, or devices that can be damaged or even used as weapons. Ideally, the access to the door should have the same distance for patient and physician, because some persecutory patients may feel cornered if they feel that they have no exit, and this could increase the risk of physical violence.

**Table 1 – Guidelines for the environmental management of agitated or violent patients**

1	Implementation of protocols and routines for the management of agitated or violent patients
2	Periodic training and recycling of the staff in charge of delivering care
3	Availability of security staff
4	Organization of the physical facilities in which care is delivered: <ul style="list-style-type: none"> <li>- Removal of object that can be used as weapons</li> <li>- Easy Access to exit doors</li> <li>- Alarm system</li> </ul>
5	Early and private consultations
6	Continuous observation by staff
7	Reduction of external stimuli
8	Removal of potentially disturbing people

A potentially violent patient should not be seen by one member of the staff alone because of the risk of open agitation or violence, and the simple presence of other professionals or even security guards in the consulting room also help to prevent violent behavior.

At the slightest sign of hostility or agitation, the patient must be immediately assessed, even though this might imply the interruption of another clinical activity or disregard of the order of arrival. The sooner the patient is taken care of, the lower the risk of realization of the violent behavior. Whenever possible, an agitated or potentially aggressive patient should be rapidly accommodated in a reserved room, thus avoiding the exposure of other patients and visitors to a situation of risk.

Although this measure may be understood as violating the individual rights of patients, suggesting that they change their clothes for a hospital gown once inside the emergency room has some advantages for their own protection. This action is an opportunity to search for and remove weapons that the patient may be carrying, in addition to reducing the possibility of escape by making the patient identifiable to professionals from other areas that may not know the patient and to allowing the performance of a physical examination able to reveal the presence of infections, traumas, or other signs that may indicate the etiology of the behavioral disturbances observed.

The exposure to environmental stimuli should be reduced to a minimum and people who can have disturbing effects on the patient – for example, a family member with whom the patient has a conflicting relationship or a staff member involved in the patient's delusions – should be kept away in that moment of agitation.

### 2. Behavioral and attitudinal management

Relevant aspects for the proper attitudinal management of agitated or violent patients are summarized in Table 2.

Considering that in most cases, in a medical service, violent behavior is the result of an underlying medical condition, the comprehension of the patient's aggressiveness as one more symptom to be considered in the clinical picture and as a sign of psychic suffering prevents the physician from experiencing the situation as a threat or coercion against himself. This enables the physician to adopt an empathic and accepting attitude that will facilitate the contact with the patient and the consequent control of the violent presentation. The objective is to establish a patient-physician relationship that is as close as possible to a bond of trust and respect in which the patient can feel accepted and believe that his suffering is recognized, which leads to the establishment of a mutual effort in the sense of controlling his aggressiveness.

The way in which the physician and the other members of the staff talk and behave play a fundamental role in the control of potentially aggressive behavior and can drastically reduce the risk of violence. The physician should always address the patient from a position in which he can be seen by him, at the same time that the physician remains attentive to the patient's movements and speech. Similarly, one should not turn his back on an agitated patient.

**Table 2 – Guidelines for the attitudinal management of agitated or violent patients**

1	Avoid abrupt movements
2	Stare directly at the patient
3	Remain at a certain distance
4	Avoid taking notes
5	Introduce oneself and other staff members
6	Speak slowly, but firmly
7	Ask clear and direct questions
8	Show some flexibility in the conduction of the interview, but do not bargain with the patient
9	Establish objective limits in an accepting manner
10	No threats or humiliations
11	No confrontation
12	Encourage the patient to put his feelings in words
13	Reassure the patient that the physician is intent on helping him to control his impulses

Movements should be soft and confrontation attitudes should be avoided, such as raising one's voice or crossing one's arms; also, a certain physical distance should be kept from the patient. This avoids the possibility that the patient attacks the physician, but it also helps to calm him down. It is advisable to maintain eye contact and the act of taking notes should also be avoided.

Before performing any intervention, the psychiatrist should introduce himself to the patient by saying his name and his professional role in the situation. The speech must be slow but firm and care should be taken to avoid the use of hostile or excessively authoritarian intonations or sentences. Verbal interventions must be objective and clear. It is not advisable to bargain with the patient, but it is very important to confer a certain flexibility to the conduction of the interview and to pay attention to what the patient has to say or to request.

The limits concerning physical aggression and the rules of the service should be put in a clear and objective manner, with no threats or humiliation. It is important to bear in mind that this is not the most adequate moment for confrontations. The patient should be encouraged to voice his feelings and the physician must reinforce the patient's capacity for self-control.

### 3. Pharmacological management

Complete sedation was once considered to be the main objective in the management of agitated patients. Nowadays, excessive sedation is regarded as an undesirable side-effect that interferes with the initial clinical assessment, the establishment of a therapeutic alliance, the performance of the initial diagnosis, and the observation of the clinical evolution of the case.<sup>7</sup> Accordingly, the use of medications is intended at tranquilizing the patient as quickly as possible, reducing the risk of aggression and the occurrence of adverse effects in order to allow the continuation of the diagnostic investigation and therapeutic intervention.<sup>8</sup> Rapid tranquilization is understood as a significant reduction in agitation and aggressiveness symptoms without the induction of deep or prolonged sedation, keeping the patient calm but fully or at least

partially responsive.<sup>9</sup> Table 3 describes the procedures involved in the management of agitated or violent patients.

The most frequently used drugs to control psychomotor agitation include conventional antipsychotics like haloperidol and chlorpromazine; benzodiazepines like diazepam, lorazepam, and midazolam; and, more recently, second-generation antipsychotics, like olanzapine, aripiprazole, and ziprasidone.<sup>10</sup>

Low-potency antipsychotics (e.g., chlorpromazine) are not quite safe drugs to be used in the management of acute episodes, since they can cause excessive sedation, hypotension, arrhythmia, as well as lower the seizure threshold. Conversely, high-potency antipsychotics (e.g., haloperidol) are associated with a lower occurrence of excessive sedation or hypotension, lower risk of quinidine-like QT prolongation (lower probability of cardiac arrhythmia), and less effects in reducing the seizure threshold. On the other hand, high-potency antipsychotics are associated with higher rates of extrapyramidal symptoms like acute dystonia – that causes significant suffering for the patient and may thus affect treatment compliance in the long run –, and akathisia, which can be mistaken for a worsening of psychomotor agitation.<sup>11</sup>

Second-generation antipsychotics have a more favorable side-effects profile and are efficient in reducing agitation without causing excessive sedation and extrapyramidal effects.<sup>12</sup> However, the costs incurred in the use of second-generation antipsychotics are significantly higher for a similar efficiency profile, particularly in the management of acute situations.<sup>13</sup> Today, available second-generation antipsychotics for parenteral use in Brazil include olanzapine and ziprasidone, both to be used with an initial IM dose of 10mg and a maximum daily dose of 30mg. The use of IM olanzapine concomitantly with benzodiazepines should be avoided due to the risk of serious adverse effects.<sup>14</sup> Antipsychotics in general and ziprasidone in particular have been associated with the risk of prolonging the QT interval, but this event seems to be rare and associated with high doses (> 80mg) of IM ziprasidone.<sup>15</sup>

Benzodiazepines have anxiolytic and sedative actions that lead to the rapid tranquilization of the patient. They may cause respiratory depression, excessive sedation, ataxia, and paradoxical disinhibition.<sup>16</sup> Due to the CNS-depressing effects of benzodiazepines, their use should be avoided in patients intoxicated by other depressors such as alcohol, barbiturates, or opioids. This class of drugs should also be avoided in patients with impaired respiratory function or in the suspect of traumatic brain injury. The most commonly used benzodiazepines are diazepam, lorazepam, and midazolam. Diazepam can be administered orally or intravenously.<sup>11</sup> The intramuscular administration of diazepam is avoided because this route leads to an erratic pattern of absorption. Its rapid action, even when taken orally, makes it a very commonly used medication in emergency settings. Midazolam is a drug that can be used intramuscularly, which reduces its potential to cause respiratory depression as compared with the intravenous administration. It also has a rapid action profile, although its half-life is short (90-150 minutes), which causes this drug to be commonly used in

**Table 3 – Guidelines for the pharmacological management of agitated or violent patients**

1	Perform a clinical assessment of psychomotor agitation and provide preferably quantitative results in terms of scale scores
2	Begin the management of psychomotor agitation by means of verbal, attitudinal, and behavioral interventions whenever possible
3	Devise a specific plan for the management of the situation. Involve the nursing and security staff in the management of the situation
4	When choosing the medication to be used, take into account: age, gender, probable body mass index, presence of general medical conditions or other clinical complications, previously prescribed medications, occurrence of side-effects in previous treatments, and use of psychoactive substances
5	Describe the clinical reasons for the choice of medication(s) in the patient's records
6	Whenever possible, prescribe orally administered drugs
7	<i>If the patient is cooperative, but the risk of agitation is present:</i> Haloperidol 2,5 to 5mg PO <b>OR</b> Diazepam 10mg PO <b>OR</b> Haloperidol 2,5 to 5mg associated with diazepam 10mg PO <b>OR</b> Risperidone 2mg PO <b>OR</b> Risperidone 2mg associated with lorazepam 2mg PO Note: Avoid benzodiazepines in the presence of general medical conditions
8	<i>If the patient is not cooperative, agitated, or presents imminent risk of violence or escape:</i> General medical condition Haloperidol 2,5 to 5mg IM <b>OR</b> Olanzapine 5 to 10mg IM <b>OR</b> Ziprasidone 5 to 10mg IM Intoxication by stimulants Midazolam 5 to 15mg IM <b>OR</b> Diazepam 5 to 10mg IV Intoxication by alcohol or other psychoactive substances Haloperidol 2,5 to 5mg IM Primary psychiatric disorders Haloperidol 2,5 to 5mg IM <b>OR</b> Haloperidol 2,5 to 5mg associated with midazolam 5 to 7,5mg IM <b>OR</b> Olanzapine 5 to 10mg IM <b>OR</b> Ziprasidone 5 to 10mg IM Pregnancy Haloperidol 2,5 to 5mg IM
9	Reassess the patient every 30 minutes and preferably quantify the degree of tranquilization/agitation in terms of the scores of severity scales; evaluate vital signs
10	In case additional medication is required, repeat the drug (or drug combination) used previously, in the same doses
11	Perform ECG when ziprasidone is administered and whenever clinical signs of cardiovascular alterations are present
12	In the 24 hours following drug injections for the management of psychomotor agitation, side-effects and therapeutic measures adopted should be entered into the patient's records

association with other drugs with a longer half-life. Lorazepam can be administered orally or parenterally, but only the oral formulation is commercially available in Brazil.

In Brazil and in other developing countries, the use of the antihistamine promethazine, generally in association with a high-potency antipsychotic, is a common clinical practice, although international guidelines for the management of psychomotor agitation do not include promethazine as a pharmacological option.<sup>11,16,17</sup> Promethazine is a chemical analogue of chlorpromazine that belongs to the phenothiazine chemical class, whose main clinical indication is in the control of allergic reactions. In healthy volunteers, its side-effects of provoking excessive sedation and affecting cognitive and motor function

have been well demonstrated.<sup>18,19</sup> Due to its action of antagonizing dopaminergic and noradrenergic receptors, the combination of promethazine and haloperidol may actually increase the risk of hypotension and neuroleptic malignant syndrome.<sup>20</sup> One possible explanation for the dissemination of the use of promethazine in the management of psychomotor agitation in Brazil is the unavailability of the intramuscular presentation of lorazepam. Another possibility is the fact that second-generation antipsychotics are not easily accessible to all health services because of their elevated cost as compared with other drugs.

Currently available evidence suggests that the sedative effects of the association of promethazine and haloperidol could be stronger than those obtained with the use of olanzapine<sup>21</sup> or haloperidol

alone.<sup>22</sup> Concerning side-effects, no significant differences were observed between the promethazine-haloperidol association and olanzapine,<sup>21</sup> but dystonia was more frequent in patients medicated with haloperidol alone.<sup>22</sup> At any rate, the available data indicate a primarily sedative effect of promethazine.

Whenever possible, oral administration should be preferred to intramuscular injections in the control of agitation.<sup>23</sup> High-potency antipsychotics (e.g., haloperidol), quick-acting benzodiazepines (e.g., diazepam) or associations of both drug classes are good options to be used orally in patients presenting initial agitation episodes. An alternative to be used via oral administration that was shown to be efficient and to have few side-effects is the association of risperidone, a second-generation antipsychotic, and the benzodiazepine lorazepam.<sup>24</sup>

When oral administration is not possible, either because quick action is required or because the patient does not cooperate, intramuscular injections should be used. According to the guidelines proposed by the National Institute for Clinical Excellence (NICE), parenteral pharmacological interventions should be regarded as a last therapeutic resource, always in consonance with the objective of inducing tranquilization and not sedation or deep sleep.<sup>23</sup>

Although the drugs belonging to the different classes described here are commonly used in isolation, the association of haloperidol and benzodiazepines (midazolam, in Brazil) administered via intramuscular injections has been proposed as the most efficient option and as requiring the lowest doses to achieve response while keeping side-effects to a minimum.<sup>25-27</sup>

With the purpose of attaining tranquilization and not deep sedation, it is recommended that the management of agitation/aggressiveness is carried out using the lowest possible doses, adjusted according to clinical requirements. In the case of additional prescriptions, the same drug or drug combination should be maintained, given the risk of complications emerging from polypharmacy.<sup>14</sup>

#### 4. Physical management

The use of seclusion and physical or mechanical restraint is still a common practice in psychiatry, despite of controversies derived from the massive and unbridled use of these techniques for coercive/punitive purposes, a fact that accompanies the history of this medical specialty. In addition to the observance of the patient's civil rights and dignity, these practices have no support from scientific evidence and are associated with the occurrence of important side-effects and even death.<sup>28,29</sup> The results of the few studies available on the frequency, duration, type and indicators of restraint are inconclusive, and this variability appears to be much more a result of culture and legislative differences than to clinical criteria proper.<sup>30</sup> Worldwide efforts have been directed to

establish standardized guidelines concerning the use of seclusion and physical or mechanical restraint aimed at restricting these practices to those situations in which they prove really necessary to protect the patient.<sup>28</sup>

Depending on the degree of agitation or aggressiveness, some patients may pose a risk to their own physical integrity, as well as to that of other patients, their companions, and health professionals involved in their treatment. When the previously described verbal, non-verbal, and pharmacological interventions are insufficient to control the situation, the use of seclusion and physical or mechanical restraint might prove necessary. Seclusion is understood as the maintenance of a patient in a locked room where he can move freely but which he cannot leave. Physical restraint refers to the immobilization of the patient by members of the staff that will hold him firmly onto the ground. Mechanical restraint is characterized by the use of leather or cloth bands in four or five points that restrain the patient into his bed.<sup>30</sup>

In some European countries like the United Kingdom and the Netherlands, mechanical restraint is forbidden by law.<sup>30</sup> In the United States, the use of this practice in association with pharmacological interventions is common in psychiatric emergency services for the management of agitated or aggressive patients,<sup>31</sup> but it is used with discretion. Although involuntary admissions are relatively frequent in American psychiatric emergency services, less than 10% of these patients are physically restrained at some moment during their stay in the emergency department, and mechanical restraint is usually maintained for relatively short periods.<sup>32</sup>

To our knowledge, no resolutions from medical councils or legal regulations exist in Brazil concerning the seclusion and physical or mechanical restraint of psychiatric patients. Also, there are no official documents defining whether such procedures constitute or not medical acts. Mechanical restraint appears to be the most commonly used method in the management of agitated and/or aggressive patients in the Brazilian context. Evidence from a study conducted in Rio de Janeiro shows that the indication of mechanical restraint for agitated and/or violent patients is fundamentally based on the clinical judgment concerning the degree of agitation, with no influences of gender or type of pharmacological intervention affecting the decision. Conversely, younger patients with a diagnosis of substance use disorders have a greater probability of being physically restrained.<sup>33</sup>

Mechanical restraint is a procedure which, if not applied with discretion and care, may precipitate complications that go far beyond the discussion of the psychological trauma involved in aggressive, non-consensual interventions. These complications include such serious events as dehydration, decreased tissue perfusion in body extremities, bone fractures, respiratory depression, and even sudden death. In 1994, the New York State

Commission on Quality of Care reported 111 deaths associated with mechanical restraint over the 10 years preceding the study, which led to a wide revision of mechanical or physical restraint and seclusion practices.<sup>32</sup> This and other disturbances can be avoided if physically restrained patients remain under continuous observation.

In our context, the use of mechanical restraint with psychiatric patients is faced with great opposition, but it is not less frequently used because of this. Differently from other practices that are still a matter of controversy like electroconvulsive therapy, the use of mechanical restraint is not always based on a specific protocol, and studies assessing the efficacy of these procedures are scarce. Some of the aspects that may contribute with the assessment and adequacy of the use of mechanical restraint are outlined in Table 4.

### Final considerations

The more experienced the medical staff is, the smaller the chance that violent acts will occur. The adequacy of the behavior of the professional team in the management of the situation is a fundamental aspect in the prevention of physical aggression and loss or damage to property.

In situations where the aggressive behavior could not be controlled as expected, it is crucial that all staff members evaluate together each decision taken, each approach, and each procedure implemented. The first objective of such an evaluation is to allow the professionals involved in the situation to express and share their

feelings in relation to the event, to understand that this event is a result of the patient's symptoms, and to avoid the possibility that this experience may have a negative influence on similar situations. Additionally, the identification of possible flaws in the management of a specific patient is central for the improvement of the staff and for the management of a similar situation in the future. However, for the effect of learning with experience to really occur, this approach of the staff should be made in a careful and accepting way and cannot, under any circumstances, be of a punitive nature.

**Table 4 – Guidelines for the indication and maintenance of mechanical restraint**

1	Mechanical restraint refers to the fastening of the patient into his bed by using leather or cloth bands generally placed over the upper and lower limbs
2	Mechanical restraint should be used a last resource when all remaining intervention possibilities have failed
3	Mechanical restraint should only be used in the imminent risk of intense psychomotor agitation, aggression, and falls or injuries in patients with lowered levels of consciousness
4	A specific plan should be established for the procedure
5	Mechanical restraint should be performed together by several members of the staff (preferably 5 people)
6	The physician must be present while the procedure is performed
7	The patient should be given continuous information concerning the procedure that is being performed and the reasons leading to it
8	Mechanical restraint should last as little as possible
9	The patient's comfort and safety must be strictly checked, with the examination of tissue perfusion and of the occasional occurrence of strangulation and limb hyperextension, and compression of the thorax or brachial plexus (in case thoracic restraint is used)
10	The patient should be kept under continuous observation by the nursing staff during the period of mechanical restraint
11	Vital signs should be strictly monitored
12	The patient should be evaluated by the assistant physician every 30 minutes to check the need to maintain mechanical restraint
13	The release from mechanical restraint should be performed in the presence of several staff members
14	Information concerning the indication of mechanical restraint, vital signs, comfort and safety conditions, and events occurring during the procedure should be recorded in detail in the patient's medical records

## Disclosures

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\* Modest

\*\* Significant

\*\*\* Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.

Note: FMRP-USP = Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo; UFRJ = Universidade Federal do Rio de Janeiro; FAPESP = Fundação de Amparo à Pesquisa do Estado de São Paulo; CAPES = Coordenação de Aperfeiçoamento de Pessoal de Nível Superior.

For more information, see Instructions for Authors.

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