

The Code White protocol

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Summary

Objectives: Clinical management of patients presenting with acute psychomotor agitation is difficult, often because there is no predefined protocol for dealing with it. The main objective of this article is to describe our institution's Code White mixed somatic-psychiatric protocol for managing acute agitation in an emergency department. Its second objective is to present data on how long it took to initiate and complete treatment.

Methods: We retrospectively analysed 250 clinical situations over 3 years (2014–2016) from the hospital emergency department in the canton of Neuchâtel, Switzerland.

Results: The median time from emergency department arrival to treatment initiation was 7 minutes; the median duration of treatment was 119 minutes. The rate of hospitalisation after emergency department treatment was 49.2%.

Conclusion: This mixed somatic-psychiatric protocol seemed to reduce both the time before treatment initiation and treatment duration for patients presenting with acute psychomotor agitation in an emergency department.

Implications for practice: The Code White protocol improved the emergency department's ability to keep acutely agitated patients flowing smoothly and efficiently through it to other units or to discharge. On the qualitative level, it also improved staff safety and peace of mind, allowing them to carry out their many tasks more calmly.

Key words: psychomotor agitation; psychiatric emergency; emergency department; collaborative treatment; mixed somatic-psychiatric protocol for treatment of agitation



Introduction

Patients exhibiting acute psychomotor agitation can represent a significant clinical problem for healthcare professionals. On the one hand, professionals lack training in this field, and on the other, patients displaying agitation frequently meet with problematic counter attitudes or reactions. Faced with this clinical picture, most clinicians admit that their training has been poor or lacking. Moreover, despite acute psychomotor agitation being frequently encountered in general hospital emergency departments, there are few protocols for dealing with it. Some data have suggested that only about 6% of hospitals possess a specific protocol for dealing with psychomotor agitation [1].

Indeed, there seems to be little information in the literature other than an Australian protocol that involves the intervention of a combination of somatic and psychiatric emergency staff and hospital security personnel. However, this protocol fails to mention how quickly agitated patients should be dealt with or for how long they should be treated or monitored [2].

The first objective of this article is to describe a mixed approach to managing acute psychomotor agitation in an emergency department and to present the data collected during the development and testing of this new protocol. Its second objective is to report how quickly treatment was initiated and treatment duration in the emergency department. These two outcomes are important for managing the psychomotor agitation for several reasons. Firstly, the shorter the delay before intervention, the more effective the treatment. Secondly, it seems that the safety of the patient and the caregivers is improved if the treatment is started quickly. Finally, these two outcomes have a major impact on the flow of the patients through an emergency department, potentially improving the organisation of the service and the good delivery of care.

We evaluated the descriptive data for patients with acute psychomotor agitation (age, sex). We also followed up these cases in order to find out what happened to the patients after emergency department treatment for acute psychomotor agitation (hospitalisation vs ambulatory care).

Managing agitation

Preferably, initial usual care for managing patients presenting with acute psychomotor agitation would not involve pharmacological agents but would favour such techniques as verbal de-escalation, reducing visual and acoustic stimuli, and maintaining a dialogue with the patient. As far as possible, it is important to involve patients in any clinical decision-making to do with the treatment of their agitation and to avoid physically restraining them [3–5]. A pharmacological approach should be only a second-line treatment option, although it must remain a management possibility, especially because patient and staff safety must always remain a priority [6–10].

Table 1: Recommendations for pharmacological treatment of psychomotor agitation [6, 9, 11–15].

Schizophrenia, psychosis, mania	Atypical antipsychotics
Intoxication with alcohol	Haloperidol
Intoxication with psychoactive substances	Benzodiazepines
Acute confusional state (delirium)	Haloperidol or atypical antipsychotics
Unknown or complex origin	Haloperidol and/or benzodiazepines

When managing an agitated patient, the primary clinical goal should be to calm down the situation without recourse to sedation [8–10]. Avoidance of the need to sedate a patient has two major advantages in an emergency department: firstly, it enables clinicians to interact and communicate with the patient more effectively, allowing him or her to participate fully in any treatment decision-making; secondly, it helps to keep agitated patients flowing through the emergency department and on to other units or to discharge, smoothly and efficiently, with more rapid treatment initiation and shorter overall treatment durations.

Pharmacological approaches

The compounds known to be effective for the pharmacological treatment of different states of agitation [6, 9, 11–15] are shown in table 1 with their relevant indications. The pharmacological approach taken depends on the causes of agitation. Oral medication is preferred, but in the case of severe agitation, it is very often impossible. In this case, an intramuscular injection is preferred for the safety of the patient and the caregivers.

Table 2: Code White protocol principles.

Responsibility shared by somatic and psychiatric staff (emergency triage physician and psychiatrist).
Somatic triage and psychiatric nurses are immediately alerted.
The acutely agitated patient is managed in a somatic care booth.
An acute emergency care booth is made free immediately.
Standardised medication, following the protocol.
Minimum of 30 minutes post-injection treatment monitoring by the somatic emergency team

Table 3: Distribution of roles during a Code White

Somatic nurse-and-physician team	Psychiatric nurse-and-physician team
Use cardiorespiratory monitoring material	Creating a relational bond with the patient
Prepare injection of medication	Dialogue with the patient
Inject medication	Interaction with patient's family
Prepare material for physical restraint	Communication with the psychiatric unit
Monitor somatic symptoms	

Code White

Since January 2013, the Swiss Emergency Triage Scale (SETS) has classified a clinical picture involving the signs and symptoms of acute psychomotor agitation as a level 1 priority. In the SETS, there are four levels of emergency. Level 1 means that an immediate medical intervention is necessary. Level 2 means that a medical intervention is necessary within 20 minutes, level 3 within 120 minutes and level 4 is not urgent. [16–18]. The SETS codes this as a #1102 triage (patient is agitated, aggressive), and this is applied in most of the country's emergency departments. Recognising that "behaviour that endangers the patient's and/or others' safety and/or cannot be contained through dialogue" (triage category #1102) was a significant problem, we decided to reconsider the management of acute psychomotor agitation in our emergency department.

In order to standardise and harmonise clinical practice among the somatic and psychiatric healthcare professionals who had to manage and treat acute psychomotor agitation within our institution's emergency department, we designed a new protocol named Code White (originally "Code Blanc", in French) (see tables 2 and 3 and fig. 1). The Code White protocol is activated when the patient presents a severe psychomotor agitation with a triage category #1102, which means that they are incapable of discernment and represent a grave danger for themselves and others. In this situation, the care is given against the will of the patient but without utilisation of physical restraint.

As soon as the arrival of an acutely agitated patient is announced, an acute emergency care booth is made free as quickly as possible (within 5 minutes of the announcement). On arrival at the emergency department reception area, acutely agitated patients are very often accompanied by police officers or paramedics. The patient is quickly accompanied to the dedicated acute emergency care booth, thus avoiding time spent in the waiting room. The patient is admitted and taken charge of jointly by a somatic medicine nurse-and-physician pairing and a psychiatric medicine nurse-and-physician pairing. Measures for the management of acute psychomotor agitation can range from verbal de-escalation to physical restraint (as a last resort), as well as pharmacological treatments. When using the Code White protocol, a strict division of tasks should be observed, based on close collaboration between the somatic and psychiatric care teams.

Emergency department personnel follow the protocol's recommended guidelines with regards to pharmacological treatments and, if necessary, give an intramuscular injection. In accordance with the protocol, the patient is kept under observation (cardio-

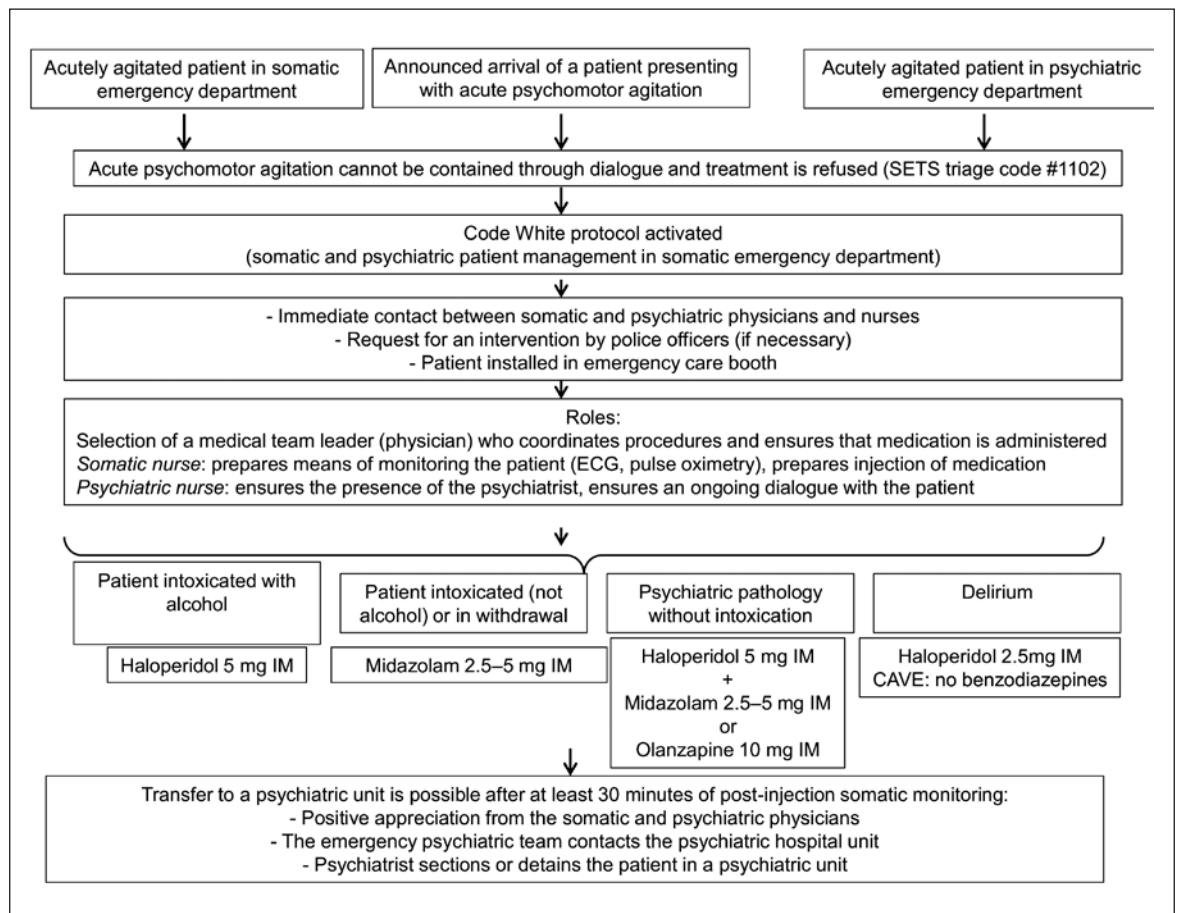


Figure 1: Code White protocol.

respiratory monitoring) for at least 30 minutes after an injection of medication so as to avoid potential drug side-effects, notably heart arrhythmia, respiratory depression or acute dystonia.

Once the patient's immediate clinical symptoms have been treated, with dialogue continuously maintained with him/her, the next stage of management depends on the aetiology of the agitation (whether somatic or psychiatric). However, the agitation is considered to be of somatic origin until evidence to the contrary [6].

Methods

The study took place in an emergency department in Switzerland that is split between two towns (sites 1 and 2) and covers a total population of approximately 180,000. Site 1 covers a population of 125,000 and the site 2 a population of 55,000. The sites are 25 km apart. The populations covered by the two sites have the same characteristics. The somatic emergency department incorporates a psychiatric emergency section. There are about 45,000 consultations per year for somatic emergencies and about 7000 per year for psychi-

atric emergencies. There were about 21,000 psychiatric emergency consultations during the reporting period (3 years). The psychiatric emergency cases are treated at the same location as the somatic emergencies on both sites. There are five consultation rooms at site 1 and three rooms at site 2. The staff for psychiatric emergencies are psychiatrists (young and experienced) and nurses present 24 hours a day. For a psychiatric evaluation, the patient can be examined directly by the psychiatric emergency staff. If necessary, the somatic emergency staff can ask for the help of the psychiatric staff or can transfer the patient to them. The staff of the two services always work closely together. The study's objectives were to quantify how long it took for a patient presenting with acute psychomotor agitation to be moved from the waiting room and be installed in an acute emergency care booth (treatment initiation), and then for how long that patient was managed in the emergency department (treatment duration) before being hospitalised in another unit or discharged for ambulatory care. The Code White protocol was introduced at the end of 2013. We carried out a retrospective descriptive analysis of the data from 2014

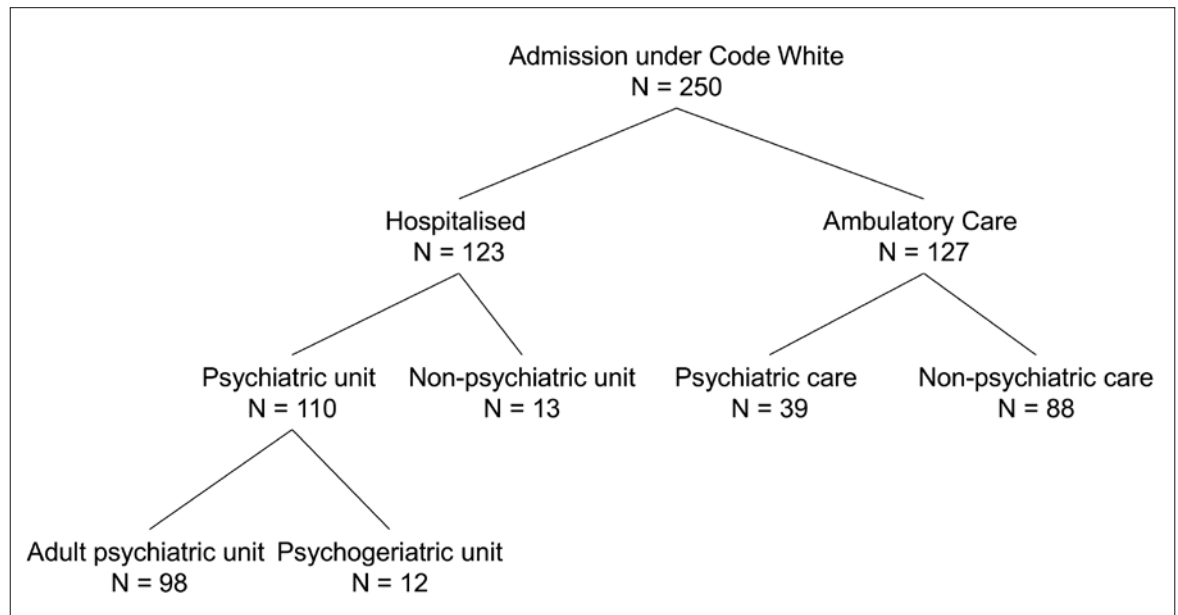


Figure 2: Outcomes for patients admitted under the Code White protocol.

to 2016 for patients admitted to the emergency department with acute psychomotor agitation classified as level 1 or level 2 on the SETS.

The medians and interquartile ranges (IQRs) of treatment initiation and treatment duration, measured in minutes, are reported. Epidemiological data on age, sex and patient destination after care in the emergency department are also presented.

Results

Over the 3 years from 2014 to 2016, a total of 250 patients presenting with acute psychomotor agitation, classified as level 1 or level 2 on the SETS, were managed in the emergency department (table 4): 61.2% (153) were male and 38.8% (97) female. The majority of patients, 82.0% (205), were aged from 21–60 years, 6.4% (16) were aged 16–20 years and 11.6% (29) were over 60 years old. The proportion the total number of psychiatric emergencies during this period that were Code White cases was 1.2%.

The rate of hospitalisation of patients who had exhibited acute psychomotor agitation in an emergency department (and who had been managed by emergency department staff) was 49.2% (123; fig. 2). Of these, 89.43% (110) were admitted to a psychiatric unit, 89.1% (98) of the 110 patients into an adult psychiatric unit and 10.9% (12) into a psychogeriatric unit (table 4).

The median time before treatment initiation for acutely agitated patients (time before being admitted into an acute emergency care booth) was 7 minutes (IQR 20.25), with little difference with regards to how

the patient was subsequently treated (hospitalisation or discharge for ambulatory care). The median treatment duration in the emergency department was 119 minutes (IQR 211.75). However, patients who were subsequently hospitalised in a psychiatric unit spent less time in the emergency department (median 114.5 min; IQR 137.50), and those who were subsequently hospitalised for a somatic problem spent more time there (284 min; IQR 506.50).

Finally, the patients' destinations according to reason for consultation were examined (table 5). Agitation/aggression could be handled without resorting to psychiatric hospitalisation in the majority of cases.

Discussion

Our findings showed that most cases of acute psychomotor agitation managed in our emergency department involved men from 21–60 years old. Half of these cases (49.2%) resulted in the patient being hospitalised, usually in a psychiatric unit. The other half of the patients left hospital once their state of acute agitation had been treated. We found no literature with data comparable to this outcome, but we found that acute agitation did not systematically result in psychiatric or somatic hospitalisation.

The median time before treatment initiation for acutely agitated patients (the time needed to install them in an acute emergency care booth) was 7 minutes. This suggests medical and nursing staff were reactive, and the acute emergency care booths were rapidly made available once a Code White was announced.

Table 4: Patient characteristics and time before treatment initiation.

Number of patients:	250
Site 1	210 (84.0%)
Site 2	40 (16.0%)
Age:	
16–20 years old	16 (6.4%)
21–40 years old	110 (44.0%)
41–60 years old	95 (38.0%)
>60 years old	29 (11.6%)
Sex:	
Female	97 (38.8%)
Male	153 (61.2%)
Destination:	
Hospitalised	123 (49.2%)
In a psychiatric unit	110 (44.0%)
Ambulatory care	127 (50.8%)
Time before treatment initiation, in minutes, median (IQR)	7.00 (20.25)
Patients hospitalised	9.00 (22.00)
Psychogeriatric unit	26.00 (60.50)
Adult psychiatric unit	7.49 (20.00)
Non-psychiatric unit	11.00 (17.00)
Ambulatory care	5.00 (14.00)
Treatment duration, in minutes, median (IQR)	119.00 (211.75)
Patients hospitalised:	118.00 (169.00)
Psychogeriatric unit	193.00 (543.50)
Adult psychiatric unit	109.00 (118.00)
Non-psychiatric unit	284.00 (410.00)
Ambulatory care	123.00 (282.00)

IQR = interquartile range.

Before the Code White protocol was introduced, the time before treatment initiation for acutely agitated patients was much longer, which was not only difficult for patients but also for care teams. The new, mixed somatic-psychiatric protocol raised the profile of acute agitation among emergency department staff, and the complete assessment of such clinical situations meant that patients presenting with signs of agitation were taken more seriously.

The median duration of treatment in the emergency department for a state of acute psychomotor agitation was 119 minutes. We hypothesise that the Code White

protocol helped to reduce the time spent in emergency department care and to improve the flow of acutely agitated patients through the department to other units or to discharge home. However, we were unable to compare these results with similar data in the literature.

Installing acutely agitated patients over 60 years old in acute emergency care booths took more time and they then remained there longer. We hypothesise that the complex somatic problems affecting patients in this age group, combined with the longer observation periods in the emergency department necessary once their state of acute agitation has been treated, are two factors that partially explain these findings.

Once the emergency department management of acutely agitated patients had begun, subsequent admissions to psychiatric units occurred faster than admissions to somatic units. We postulate that the Code White protocol improved collaboration between psychiatric and somatic care teams, thus expediting the transfer of the relevant patients to a psychiatric unit. For most situations of agitation treated with the Code White, a later psychiatric hospitalisation was avoided (table 5). This is positive, because it avoids perhaps the necessity of non-voluntary hospitalisation.

Finally, we believe that the Code White protocol has improved patient safety, partly owing to the far more rigorous nature of preparations for management acutely agitated patients and partly owing to the cessation of heterogeneous treatment practices, which were often the result of the individual past experiences of members of the care team. According to emergency department staff, the new protocol increased their peace of mind and safety; they also felt reassured by the more clearly defined treatment framework. We do not know if this protocol has an influence on the number of caregiver accidents, but empirically these accidents are rare. We consider that significant time was saved because all the care team members knew their own predetermined roles. The protocol seemed to greatly reduce the potentially anxiety-provoking aspects of dealing with acutely agitated patients.

Table 5: Patients' destination according to reason for consultation.

	Patients' destination				
	Psychiatric unit	Psychogeriatric unit	Non-psychiatric unit	Non-psychiatric ambulatory care	Psychiatric ambulatory care
Reason for consultation					
Agitation/aggression	39.2% (96)	4.9% (12)	4.9% (12)	35.1% (86)	15.9% (39)
Confusion	0.0% (0)	0.0% (0)	33.3% (1)	66.7% (2)	0.0% (0)
Anxiety/suicidality	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Hallucinations	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

The study nevertheless had a few limitations. Firstly, we were unable to make before and after Code White comparisons of the time needed to install agitated patients in acute emergency care booths (treatment initiation time) and the treatment duration, because of changes in the software for clinical and administrative data that took place in 2013. But the median treatment duration estimated before the Code White implementation was approximately 240–250 minutes. Secondly, this was not a prospective study. Thus all comparisons between usual care and treatment under the Code White protocol were impossible. Future prospective studies will be necessary. Thirdly, collection of data about staff perceptions of Code White did not follow a particular protocol and was merely qualitative. Follow-up qualitative studies of the Code White protocol (perhaps with the aid of focus groups) would also be very informative.

Conclusion

Half of the patients admitted to an emergency department for acute psychomotor agitation were not subsequently hospitalised; we believe that this was because the targeted Code White treatment protocol enabled them to be treated rapidly and specifically. Although currently available data do not allow us to state so categorically, we believe that patient management using the mixed somatic-psychiatric Code White protocol to deal with acute psychomotor agitation offers significant improvements in terms of the time needed for treatment initiation, the treatment duration and the flow of agitated patients through an emergency department. Qualitatively, care teams stated that this type of protocol increased their peace of mind and their safety, although this will have to be confirmed in future studies. Finally, a randomised prospective study (usual care versus the Code White protocol) will be indispensable in order to fine-tune the present study's outcomes.

Disclosure statement

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