

Review Article

Restraint and Seclusion in Psychiatry in the Elderly: Review of the Literature

Jerome Palazzolo

Department of Psychiatry, University Senghor, Egypt
Laboratory of Anthropology and Cognitive and Social Psychology, University of Nice - Sophia Antipolis, France

***Corresponding author:** Jerome Palazzolo,
Department of Psychiatry, University Senghor, 5 Quai des Deux Emmanuel, 06300 Nice, France, Alexandria, Egypt,
Email: palazz@free.fr

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Abstract

Objective: The authors reviewed the literature published since 1965 concerning restraint and seclusion. **Methods:** The review began with a computerized literature search. Further sources were located through citations from articles identified in the original search.

Results: The authors synthesized the contents of the articles reviewed using the categories of indications and contraindications; rates of seclusion and restraint as well as demographic, clinical, and environmental factors that affect these rates; effects on patients and staff, implementation; and training.

Conclusion: The literature on restraint and seclusion supports the following: 1) Seclusion and restraint are basically efficacious in preventing injury and reducing agitation. 2) It is nearly impossible to operate a program for severely symptomatic individuals without some form of seclusion or physical or mechanical restraint. 3) Restraint and seclusion have deleterious physical and psychological effects on patients and staff, and the psychiatric consumer/survivor movement has emphasized these effects. 4) Demographic and clinical factors have limited influence on rates of restraint and seclusion. 5) Local nonclinical factors, such as cultural biases, staff role perceptions, and the attitude of the hospital administration, have a greater influence on rates of restraint and seclusion. 6) Training in prediction and prevention of violence, in self-defense, and in implementation of restraint and/or seclusion is valuable in reducing rates and untoward effects. 7) Studies comparing well-defined training programs have potential usefulness.

Keywords: Restraint; Seclusion; Review

Introduction

The practice of restraining patients has had a long history in the behavior management of aggressive individuals with mental illnesses.

«If a madman suddenly experiences an unexpected attack and arms himself... the director speaks in a thunderous voice... At the same time, the servants converge on him at a given signal... each seizing one of the madman's limbs... Thus they carry him to his cell while thwarting his efforts and chain him if he is very dangerous» [1].

Current Illinois statute dictates that «restraint may be used only as a therapeutic measure to prevent a [patient] from causing harm to himself or physical abuse to others» [2]. Although the therapeutic concept is vague and ill defined, the practice of restraining patients is traditionally considered to be therapeutic if these devices are used with the intent to prevent a patient from harming him- or herself or others [3-12]. In the sense that they prevent harm to the patient and others, these physical restraining devices, according to Fisher [13], «work». It must be pointed out, however, that this conclusion is derived from the observation that the patient's behavior is interrupted and controlled by the use of these devices. Therefore, the practice of restraining psychiatric patients has historically been underpinned by the need to control the person to provide safety on a unit. And yet this rationale of control is rarely overtly acknowledged. When the need for control is alluded to, it is in the context that the behavior

needs to be controlled [14-17], not the person. The person, however, cannot be disconnected from this event, for it is the person who is being restrained. And yet in the psychiatric research, this person has been hidden behind the behavior that precedes and is said to justify this intervention [18-20].

Thus, there is a notable absence of debate in the current psychiatric literature relative to whether we ought to be restraining patients. This question has been lost in a tradition in psychiatric nursing that justifies restraining patients as a means of providing safety on a unit. Although safety on a unit is important, concern for the person and his or her needs are primary. Because little is known about the impact that restraint has on the patient, restraining psychiatric patients may violate the moral imperative of nursing, which is to promote the well-being of the patient through excellent practice [21-28]. Furthermore, excellent practice requires an understanding of the meaning that our practices have for the patient; thus it is essential that we understand what being restrained means to the people we restrain.

Previous research about the use of restraints has mainly sought generalizations regarding (a) who is likely to be restrained, (b) the frequency of the use of restraints, and (c) the behavior that precipitates the application of restraining devices. Therefore, there has been a paucity of research that attempts to understand the impact of restraint on the restrained person.

Table 1: Incidence of seclusion or restraint in 15 studies of adult psychiatric inpatient settings.

Study	Setting	Population served	Incidence (percent)
Palazzolo [41]	Psychiatric hospital	Chronic, public, voluntary-involuntary	5
Favré [40]	Psychiatric hospital	Chronic, public, voluntary-involuntary	11
Tardiff [36]	State hospital	Chronic, public, voluntary-involuntary	1,9
Soloff [37]	Military hospital	Acute, active duty, voluntary-involuntary	3,6
Wells [39]	Locked psychiatric unit, university general hospital	Acute, public-private, patient status unknown	4
Ramchandani [35]	Psychiatric unit, general hospital	Acute, public, voluntary-involuntary	4,7
Mattson [31]	Psychiatric unit, general hospital	Acute, private, voluntary only	7.2
Soloff [43]	University psychiatric hospital	Acute, public, voluntary-involuntary	10,5
Oldham [32]	University psychiatric hospital	Acute, private, voluntary-involuntary	18
Convertino [30]	Locked unit, community mental health center	Acute, public, patient status unknown	21
Plutchik [34]	Municipal psychiatric hospital	Acute, public, voluntary-involuntary	26
Schwab [42]	Locked psychiatric unit, university general hospital	Acute, public-private, patient status unknown	36,6
Binder [29]	Crisis intervention unit	Acute, public, voluntary-involuntary	44
Phillips [33]	State hospital (research institute)	Acute, public, voluntary-involuntary	51
Wadeson [38]	NIMH research unit	Acute, public, patient status unknown	66

The review began with a computerized literature search. Further sources were located through citations from articles identified in the original search. We synthesized the contents of the articles reviewed using the categories of indications and contraindications; rates of seclusion and restraint as well as demographic, clinical, and environmental factors that affect these rates; effects on patients and staff, implementation; and training.

Empirical Studies

Eleven retrospective studies [29-39] and four prospective studies [40-43] have been reported on the use of seclusion or restraint in adult inpatient psychiatric settings (Table 1). It is difficult to compare the studies because of the wide diversity of treatment settings, patient populations, and even definitions of seclusion or restraint. Despite this diversity, some valuable generalizations emerge regarding the incidence of seclusion, the demographic and diagnostic characteristics of secluded patients, and the clinical events that precipitate the use of physical controls.

The incidence of seclusion and restraint varies most directly with two parameters: the composition of the patient population and the treatment philosophy of the unit. Specific variables relevant to the incidence of seclusion include hospital setting and patient population (public or private), type of care (acute or chronic), and patient status (voluntary or involuntary).

The philosophy of the unit toward the use of medication and medication-free observation for diagnosis or research relates directly to the incidence of seclusion. The extreme cases illustrate these points. The lowest incidence of seclusion, 1,9 percent, was reported in a study (the only one available) of a chronic state hospital population [36]. The hospital, where 71 percent of the patients had been hospitalized more than ten years, represented a traditional custodial care setting. The highest incidence of seclusion, 66 percent, was found on an NIMH research unit for schizophrenia where a treatment philosophy of medication-free maintenance was part of a research strategy, and

patients were managed almost exclusively through interpersonal therapies [38].

More pertinent to general clinical practice, Binder [29] reported a 44 percent seclusion rate in a short-term crisis intervention unit where half of the patients were brought in by police. Plutchik and associates [34] reported a 26 percent seclusion rate at a university-run municipal hospital in New York City that admitted predominantly public patients, committed and voluntary, for acute care. In contrast, a general hospital psychiatric unit in the same city, which accepted only private voluntary patients, reported a seclusion rate of 7,2 percent [31].

The admission of committed patients increases the incidence of seclusion even in private hospital units; however, the incidence of seclusion tends to be lower on small psychiatric units of general hospitals and on units where admissions are prescreened. In the highly screened military population studied by Soloff [37] and on the small university psychiatric unit described by Wells [39], the incidence of restraint or seclusion was 3,6 and 4 percent, respectively. That compares with rates ranging from 21 to 51 percent reported in open public settings such as a community mental health center or an acute unit of a state facility [30]. But we can underline that in the small psychiatric unit of a university-affiliated general hospital studied by Schwab and Lahmeyer [42], a treatment philosophy of medication-free observation led to seclusion of 36,6 percent of admissions.

The demographic and diagnostic characteristics of secluded patients are similar across studies [13,24,29,40]. In general, schizophrenic and manic patients appear at highest risk for seclusion in acute treatment settings [44-46], while mentally retarded patients and those with nonpsychotic disorders account for a higher proportion of seclusions among the chronic populations in state hospitals [36,47]. Young patients are secluded more than older patients [48,49]. Race and sex bear no significant relationship to incidence of seclusion, and, where trends appear involving these variables, the question of systematic bias should be entertained [35,42]. Chronicity of illness

Table 2: Precipitants of seclusion or restraint (in rank order) identified in twelve studies.

Study	Unit of Measure	Precipitant	Percent
Palazzolo [41]	Episodes	Agitated, loud, shouting	28
		Violent behavior	14
Favré [40]	Episodes	Agitated, loud, shouting	40
		Threats to others	35
Soloff [37]	Episodes	Violation of community or administrative limits	35,1
		Escalating agitation, patient unable to control behavior	16,2
		Physical attack or threat to staff-physical contact	14,4
Ramchandani [35]	Patients secluded	Agitated, loud, shouting	54,3
		Combined violent threat or attack	41,3
Mattson [31]	Episodes	Nonviolent behavior disruptive to therapeutic environment	34,4
		Assaultive to others	25,1
Soloff [43]	Episodes	Physical attack on staff with physical contact	34,6
		Escalating agitation, patient unable to control behavior	24,3
Oldham [32]	Episodes	Escalating agitation	38
		Threats to others	25
		Assaultiveness	21
Convertino [30]	Episodes	Disruptive or agitated behavior	38
		Violent behavior	31
Plutchik [34]	Episodes	Agitated, uncontrolled behavior	21
		Physical aggression toward others	15,3
Schwab [42]	Reasons cited	Overstimulation	28
		Agitation	17
		Poor impulse control	15
		Threatening to assault tilt others	6
		Actual assault	4
Binder [29]	Reasons cited in seclusion records	Agitation	13
		Uncooperativeness	12
		Anger	10
		Violent behaviors	12
Phillips [33]	Episodes	Other (violence to self, public nudity, screaming, medical procedures, and so forth)	39
		Agitation, overstimulation, poor impulse control	31
		Actions or threats of violence toward others	30

and involuntary commitment are correlated in several studies with increased incidence of seclusion [10,41].

The most striking findings of the empirical studies define the behavioral events leading to seclusion and restraint (Table 2). Of the twelve studies that explicitly measured precipitating events, eleven cited a nonviolent behavior pattern as leading to the greatest use of seclusion (escalating agitation, uncontrolled behavior, uncooperativeness) This pattern was variously described as «behavior disruptive to the therapeutic environment», «agitated, uncontrolled behavior», and «escalating agitation». In the eleven studies actual physical attack ranked below nonviolent behavior as a precipitating factor.

In the twelve studies, the single exception, Soloff and Turner [43] reported that physical attack on staff with actual physical contact was

the primary indication for seclusion in a large university psychiatric hospital serving a predominately lower-class population. It is noteworthy that the Soloff and Turner study was one of two studies using prospective methodology, a research strategy that itself may have affected staff decisions on seclusion practices. Alternatively, retrospective studies may underreport violent incidents [50].

A review of the precipitants also reveals the occasional use of seclusion as an administrative sanction [29,37,42]. Seclusion for verbal abuse or refusal to participate in activities or take medication raises the issue of whether seclusion is at times used as a weapon of retaliation or control.

The duration of seclusion is a complex variable that differs widely between studies. In some studies, it correlates with age, sex, and psychosis at the time of seclusion; in others, it appears more directly

related to philosophy of care. Seclusion times range from a low mean of 1,25 hours in Soloff and Turner's prospective study [43] to a high mean of 15,7 hours in a crisis intervention unit [32].

In the prospective studies the mean duration of seclusion episodes was 10,8 hours, with a median of 2,8 hours and a range of 10 minutes to 120 hours. Patients under age 35 spent more total time in seclusion than did older patients. Patients who were psychotic spent more time in seclusion than nonpsychotic controls. Men had longer individual seclusion episodes than women. The studies found no relationship between the patient's diagnosis, the precipitating factors, the number of prior episodes, and the duration of seclusion.

From a purely legalistic perspective, the wide disparity in seclusion times and the lack of correlation between duration, precipitating behavior, and diagnosis raise unpleasant questions about arbitrary determination of duration of seclusion and its potential use as a punitive sanction [44,51-54]. From the clinical perspective, staff or unit factors outside the individual patient's immediate needs may play a role in determining duration [45,55-58].

The absence of a clear relationship between behavior and duration of seclusion is reflected in the wide range of legal limits on duration found in state regulations. In a survey of mental health regulations in 36 states, Tardiff and Mattson [59] reported that most states had a maximum time limit of 24 hours for each seclusion episode; however, limits of eight, four, and even one hour were noted. In Europe, similar results have been obtained by Favré and al. [40] and by Palazzolo [41].

In summary, the empirical studies indicate that seclusion and restraint practices vary widely depending on the population served and the philosophical orientation of the hospital staff. It is clear that seclusion and restraint are primarily used to contain agitated, disruptive, excited behavior that is detrimental to the therapeutic milieu and presents a potential danger of escalation into violence. This preventive approach represents both appropriate treatment for the agitated patient and defense of the therapeutic milieu. With the exception of one prospective study, all studies ranked nonviolent behavior ahead of actual physical assault as a precipitant of seclusion. In light of Lion and Pasternak's finding [60] of a fivefold underreporting of actual physical assault on staff in formal hospital incident reports, the method of retrospective chart review that prevails in this literature appears vulnerable to the bias of underestimation.

The contradictory findings in the prospective study of Soloff and Turner [43] illustrate a need for further research on the interaction between milieu and physical controls. Such research should be based on prospective study designs with predetermined definition and classification of precipitating behaviors.

Effects on Patients and Staff

The physical, behavioral, and emotional responses of patients to restraint and seclusion have been the subject of both observation and more formal investigation. Three studies quantified the effects of seclusion and restraint on agitation [61-63]. In a study of 263 seclusion episodes, Gerlock and Solomons [61] noted that 83% of the patients evidenced disturbed behavior at the initiation of seclusion and only 23% did so on release. In a study of the use of the quiet room on a children's unit, Joshi et al. [62] observed that 92% of the

patients who were agitated when placed in the quiet room were calm on release and that 79% were able to rejoin group activities. Rosen and DiGiacomo [63] studied the use of the cold wet pack and found that 83% of patients became calm and 37% gained access to repressed memories during the procedure.

As for nonempirical investigations, Gair et al. [64] observed no ill effects (such as fear, withdrawal, or disorganization) and an improvement in inner controls as a result of the use of seclusion on a children's unit. Dietz and Rada [10] cautioned against the side effects of humiliation, disorientation, and medical complications of restraint and seclusion in the elderly. Fidone [66] warned that in retarded patients, who may be unable to communicate physical distress, the commonly used «basket hold» may result in apnea, hypotension, or even cardiac arrest if the patient continues to struggle. Snellgrove and Flaherty [67] described cases of hypotension during use of the cold wet pack. There appear to be no controlled studies comparing the effects of restraint and/or seclusion with other measures such as as-needed medication orders, behavioral interventions, or physical holding.

As previously noted, many representatives of the psychiatric consumer/survivor movement have characterized restraint and seclusion as extraordinarily traumatic interventions [49,68,69]. It is therefore important to examine empirical studies of the emotional effects of these interventions on patients. Perhaps the best-known study is that of Wadson and Carpenter [38] which involved 62 mostly unmedicated patients on an NIMH research unit with a seclusion rate of 66%. Patients were asked to draw their experiences and feelings connected with their illness and treatment in three art sessions (2 weeks after admission, 2 weeks before discharge, and 1 year later). Thirty-three percent of the patients drew the seclusion experience. Their art work and their discussions of it revealed negative feelings (fear, estrangement, hostility, retaliation, guilt, paranoia, bitterness) as well as sadomasochistic conflicts and comforting hallucinations (possibly as a response to sensory deprivation).

Several other studies have investigated patients' emotional responses to seclusion [60,70-72]. Binder and McCoy [73] conducted semistructured interviews with 24 patients who had been secluded. Thirteen of the 24 patients had no idea or a false idea as to why they had been secluded, 22 were unaware that staff checked on them every 15 minutes, and 13 felt that there was nothing good about the experience. Nevertheless, half of the 24 patients felt that the intervention had been necessary and about half felt that it would not adversely affect their attitudes toward treatment. Plutchik et al. [34] investigated the perceptions of seclusion of patients who had or had not been secluded. Patients who had not been secluded felt safer when they saw others being secluded. Patients who had been secluded felt angry when others were secluded and bored and angry while in seclusion, but the majority felt that seclusion helped calm them down. Patients accurately perceived the precipitants of seclusion. Plutchik et al. also looked at staff perceptions. They found that although most staff felt that seclusion was beneficial to patients, professional staff had the most «regrets» about it. Patients accurately estimated and staff significantly underestimated the average duration of seclusion. Joshi et al. [62] noted that 14% of children who had been secluded on their unit were angry and 17% were sad while they were

in seclusion. Sheridan et al. [74] observed a 2:1 ratio of negative-to-positive attitudes toward seclusion among patients interviewed at a veteran hospital. They also noted that patients' attitudes toward initial seclusion had no effect on subsequent seclusion rates.

Thus, although it appears to be reasonably well-established that seclusion and restraint «work», i.e., they provide an effective means for preventing injury and reducing agitation, it is at least equally well-established that these procedures can have serious deleterious physical and (more often) psychological effects on patients [48,75,76]. Harris et al. [77] used a questionnaire with illustrative scenarios to elicit rankings of relative restrictiveness for various interventions in a maximum security hospital. Both patients and staff ranked the following in order of increasing restrictiveness : manual restraint and oral medications, loss of clothing, intramuscular medication, seclusion, and restraint with constant observation. The authors recommended that this hierarchy be kept in mind when titrating responses to violent behavior.

Patients are not the only individuals put at risk by the use of restraint and seclusion. The most obvious and troubling negative effect on staff is injury. Carmel and Hunter [78] observed that of the 135 injuries occurring in a forensic hospital in 1 year, 86 occurred during «containment» procedures. Hanson and Balk [79] found that 15 of 46 injuries in 1 year in a state hospital occurred during containment. There are other effects on staff as well. Lion et al. [20] and Gray and Diers [80] noted that restraining violent patients may arouse strong sexual and aggressive feelings in staff and that these feelings should be dealt with by training beforehand and debriefing afterward.

Alternatives to Seclusion and Restraint

Seclusion and restraint are just a method which can be adopted for the control and containment of patient behaviour. Other methods include one-to-one observation, time out, medication and changes to the structural and ideological aspects in which care is delivered [81-87].

Morrison and Lehane [88] note how a confrontational approach by staff, cramped patient accommodation and patient boredom because of a lack of ward activities may have contributed to the use of seclusion and restraint. These authors found that the adoption of a no-seclusion policy in a unit for «disturbed» patients and in a forensic ward did not result in an escalation of violent incidents or the increased use of medication. Interestingly, the dispensing of these two units with their seclusion facilities left the psychiatric hospital, of which they were a part, without seclusion facilities for the first time in its history.

Kingdom and Bakewell [89], over a two year period, evaluated a non-seclusion policy for a health district in a semi-rural setting in the UK (population served. 100 000). Their findings indicated that only two patients needed to be transferred from the ward to a locked unit in another district. Both of these patients eventually returned to the ward and were subsequently discharged following treatment. There was no evidence to suggest that more patients were referred to the hospital wing of the local prison on account of the ward's non-seclusion policy nor was there evidence to suggest that levels of aggression had increased on the ward over the study period.

Moreover, during the study period staffing levels on the ward were below national non-native values. These authors suggest that high staff morale supported with prompt responses from senior management were vital ingredients in the success of the programme.

Craig, Ray and Hix [90] report how restraint and seclusion were drastically reduced in a psychiatric hospital when a «multivariate» programme involving structural renovations to the seclusion rooms, ensuring the presence of the staff on duty at all times, and a reorientation in care practices that stressed proactive interventions to reduce fear and helplessness was begun. As well, all staff received training in aggression management, including an introduction to crisis theory and alternative interventions. Also, advice from staff from other disciplines was sought on how best to manage aggression. Twelve months after the programme started there was a combined seclusion-restraint decrease of more than 950 hours (76%) per month; restraint hours for the first quarter after the interventions had started reducing on average from 1030 to 192 hours while seclusion hours reduced from 231 to 107 hours per month.

Davidson, Hemingway and Wysoki [91] also report dramatic reductions in restrictive treatment procedures in a large centre for the developmentally handicapped. Two and half years after the study began seclusion hours dropped 99% (from a mean of 1344 hours per month to 2), restraint hours 88% (from a mean of 15 907 hours per month to 1971), and medication use dropped 44% (from a mean percentage of residents on psychotropic, medication of 36 to 20%). These results were achieved without apparent effects on safety and with minimal financial cost.

According to Davidson et al. [91], the main factors resulting in these achievements appeared to be the commitment by the faculty administrator to lower restrictive practices, regular feedback to staff about the number of restrictive procedures used and the provision of information about behavioural alternatives. Respondents to a survey by Mahoney [92] listed the following factors as important for changing to restraint-free nursing home care: having ongoing administrative support and staff development programmes, a director of nursing committed and involved in the process, a restraint-free policy, an actively involved administrator, a gradual process of conversion and use of a team approach. Over half the respondents added that no extra financial costs were incurred in implementing restraint-free programmes.

In the penal setting, confinement aims to effect : retribution to society; deterring future criminal behaviours; reformation; and protection of society [47,93-98]. As these authors suggest, if the correctional institution's functioning focus is on retribution at the exclusion of the other aims, the environment will reflect this concern in its disciplinarian and punishment-orientated nature. Similarly, in a nursing context, an over-emphasis on control as evidenced by frequent use of seclusion (and other restrictive practices) should prompt nurses to consider their treatment focus. All nursing control-related behaviours should be questioned as they can contribute to nursing staff selecting the seclusion option when alternatives are available. For example, in 1998 in one of our local inpatient psychiatric wards attached to a general hospital, all staff (including attendants, social workers, doctors and nurses) attended a week-long workshop emphasizing skills in control and restraint [41]. Since then staff have

been encouraged to attend refresher courses and duress alarms have been issued to nursing staff on this ward. While it is important that all staff be adequately trained to respond to emergencies there is a danger when these courses are emphasized at the expense of those that aim to promote normalization, some staff may be encouraged to overreact to any perceived threat [29]. Philo [99] suggests that «mainstream» fears and prejudices regarding certain «outsider» groups often feed into concrete social practices which sharpen and reproduce the distinction between «mainstreamer» and «outsiders». Those diagnosed as mentally ill are, and continue to be seen, it would appear, as «outsiders». A control and restraint focus does nothing to alleviate the fear and prejudice commonly associated with the label «mental illness». There is a need to counter the negative implications inherent in a surveillance and control mentality.

In situations where disruptions are a possibility, staff should be encouraged to consider taking proactive steps, such as attention to interpersonal skills including conflict management skills, reduction of environmental triggers, close observation and so on, in order to avoid incidents happening in the first place. Workshops could introduce alternatives to restraint and seclusion and could show how to make inpatient facilities «safe» without the trappings of cameras, obvious environmental restrictions and the like. It is incumbent upon nurses (and other health staff) to carefully evaluate their own behaviour and their unit's treatment focus lest they be seen to be succumbing to prejudice, manifested in an exclusive concern with practices which continue a «mainstreamer», «outsider» orientation.

Conclusion

The literature on restraint and seclusion from 1965 to the present supports a number of conclusions :

1. Seclusion and restraint «work». That is, they can prevent injury and reduce agitation.
2. The vast majority of inpatient programs for severely symptomatic individuals appear to find it impossible to operate without some form of seclusion or physical or mechanical restraint.
3. The use of seclusion and restraint can have substantial deleterious physical and (more often) psychological effects on both patients and staff, and it is these effects which are emphasized by the psychiatric consumer/survivor movement.
4. Although the rates of seclusion and restraint can be influenced by clinical factors (such as patient age and symptoms), they can also be substantially influenced by nonclinical factors such as cultural biases, staff role perceptions, and the attitude of the hospital administration.
5. Training staff in prediction and prevention of violence, self-defense, and implementation of restraint and/or seclusion can be effective in reducing overall seclusion and restraint rates, reducing inappropriate restraint and seclusion, and reducing staff and patient injury.

These conclusions suggest a useful direction for future investigations. Studies that compare well-defined training programs using seclusion and restraint rates as well as staff and patient injury rates as outcome variables can provide the empirical basis to minimize the use and maximize the safety of restraint and seclusion. In this way

we can continue to move closer to the ideals of patient care expressed by Pinel two centuries ago.

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