Patient restraint positions in a psychiatric inpatient service

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**Aim** The use of physical intervention on psychiatric inpatient units continues to be a source of debate and controversy. Some studies and national clinical guidelines have identified particular restraint positions as both dangerous and undesirable. The following study attempts to identify clinical variables that may make physical restraint in a particular position more likely.

**Method** A cross-sectional survey design was adopted and data was obtained from a violence and aggression audit form used by the trust. This form has 122 items to be completed by staff within 72 hours of an episode of patient aggression or self-harm. Ten variables were selected for scrutiny on the basis of their potential clinical importance.

**Results** The survey found that prone restraint was significantly associated with others reporting the patient’s imminent violence and high-intensity observation after the incident. Supine restraint was significantly associated with the patient being withdrawn and/or refusing to communicate prior to the episode and with a high severity incident rating after the incident.

**Conclusion** If we work on the premise that restraint in the prone position is less desirable than interventions undertaken with the patient in the supine position, this study clearly suggests that we have an opportunity to influence the nature of intervention through quite minimal changes to training programmes. It is important that any change in emphasis around intervention does not create a sense that controlled descent to the floor is inevitable. The principle of its use as a ‘last resort in the event of loss of control on the feet’ has to be maintained.
constantly re-emphasised verbally throughout the training programme, tested in controlled role-play scenarios and monitored through audit forms that provide a detailed analysis of each incident. Role-play scenarios involve a recreation of an aggressive/violent incident in the training environment, providing participants with a safe and controlled opportunity to reinforce a sense of competence and confidence felt by staff when an intervention is brought under control. Lee et al (2003) recorded staff perception of a positive outcome if the incident was successfully resolved physically without injury to the patient and staff.

Any realistic perspective around this issue has to acknowledge that, in the heat of the moment, care staff’s perception of loss of control and the need to move a patient onto the floor can be affected by a multitude of factors. Not least of these will be the specific antecedents to the intervention and the concurrent level of threat indicated at that time. The physical intent and potential of the individual could be an indicator of the need to move a patient down to the floor but, we strongly believe, should not result in this form of intervention unless the key criterion of ‘loss (or imminent loss) of physical control of the patient on the feet’ is evident.

Lack of dignity
Paterson and Leadbetter (1999) contribute to the debate in this area when they emphasise the lack of dignity for the patient inherent in being held on the floor. McDonnell et al (1993) promote the more socially acceptable alternatives of moving an aggressive individual to a chair or bed rather than taking them to the floor. These perspectives reinforce the widely held perception that restraint on the floor is to be avoided wherever possible.

Our experience of role-play scenarios magnifies our concern that removal to the horizontal position can be undertaken with unnecessary if somewhat understandable haste. On many occasions when an aggression management teacher is role-playing a patient, the staff will initiate movement to the floor when the volume of verbal aggression increases without any accompanied increase in the physical struggle. This obviously raises concerns about the use of restraint in the horizontal position in clinical areas. We would hope, but cannot be sure, that all interventions where the patient is restrained on the floor are a result of a real loss of control of the situation in the standing position. Further study to measure accurately variations in the perceptions of ‘loss of control’ of the situation among health care staff would be a welcome addition to the debate.

Despite a more enlightened perspective on physical intervention in recent decades and the publication of documents by professional bodies such as the National Institute for Health and Clinical Excellence (NICE), NIMHE (2004) and the Royal College Of Psychiatrists (1998) the authors cannot ignore the possibility that certain staff may still adhere to a punitive ethos around restraint. Lee et al (2003) recorded concern among health care staff about the negative attitudes of some colleagues during physical intervention. Other studies have suggested an erosion of the therapeutic relationship between patient and staff after high levels of exposure to violence and aggression. Whittington and Wykes (1994) suggested that the presence of verbal and physical aggression by patients can lead to high levels of staff anxiety and produce an overemphasis on control in care. This may manifest itself in the overzealous use of physical restraint. Intervention in the horizontal position may often be favoured by staff who lack confidence about their ability to manage a violent incident successfully with the patient standing up or, more disturbingly, have developed a negative or detached relationship with the individual. We would be hopeful, however, that vigilant monitoring of our violence and aggression audit forms would enable us to link certain staff members with overuse of this form of intervention and to act accordingly.

We should also establish a balanced perspective in this area by noting that physical intervention in the prone position is not roundly condemned and may be seen to have some positive effects. Aschen (1995) reported that restraint of a patient in the prone position resulted in a shorter period before the violent behaviour was brought under control. This may be because, in the author’s view, this kind of restraint is inherently more physically restrictive than any other position and may deter a patient from prolonged struggle.

Any overall concern about restraint in the prone position should take into account the continued shortage of high-quality evidence about its benefits or otherwise. A recent Cochrane Review (Sailas and Fenton, 2002) concluded that ‘few other forms of treatment are so lacking in basic information about their proper use and efficacy’.

The study reported below was part of a series of investigations into the relationship of restraint position and patient characteristics. The first step in this series was to compare the characteristics of incidents in which patients were horizontally restrained (either prone or supine) with those in which patients were vertically restrained (Whittington and Wykes, 1994). A number of statistically significant (p<0.05) associations with horizontal restraint position were established by this analysis, including younger age, detention under section 2 of the Mental Health Act, self-harm or personal gain as the incident trigger and increased restlessness, unclear thoughts or no warning signs prior to the incident. The purpose of this paper is to...
report a descriptive analysis in which a comparison between prone and supine incidents was conducted. The dataset comprised the 165 incidents of horizontal restraint examined above, of which 69 (42 per cent) were supine and 96 (58 per cent) prone.

The research question concerned the issue of evidence-based physical interventions for acutely disturbed psychiatric inpatients. In particular the study was intended to establish whether the decision to physically restrain a patient in the prone or supine position was associated with any specific patient, staff or situational characteristics. These included precursors of the restraint episode (for example patient behaviour beforehand), components of the restraint episode itself (for example grade of staff involved and concurrent interventions) and outcomes of the episode (staff and patient injury).

**Method**

A cross-sectional survey design was adopted and the data was obtained from the violence and aggression audit form used by the trust. A total of 10 variables were selected for scrutiny on the basis of their potential clinical importance. All incidents for the period 1999–2001 in which a patient was physically restrained by staff (n=650) were initially examined. Many patients had been involved in multiple incidents (more than 20 incidents in some instances). To remove the influence of such multiple involvement, only the first episode of restraint for each patient over the three-year period was included (n=266). Differences between the two horizontal positions were examined using a chi-squared test or Fisher’s exact test for categorical variables and a Mann-Whitney Test for skewed continuous variables.

**Results**

Table 1 reports frequencies for each of the positions on each of the 10 clinically relevant variables studied. It can be seen that prone restraint was significantly associated with others reporting the patient’s imminent violence (p=0.012) and high-intensity observation after the incident (p=0.005). Supine restraint was significantly associated with the patient being withdrawn and/or refusing to communicate prior to the episode (p=0.002) and

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**Table 1. Frequencies That Each of the Restraint Positions Were Used**

<table>
<thead>
<tr>
<th>TIMING</th>
<th>Variable</th>
<th>Supine</th>
<th>Prone</th>
<th>Difference (95% CI)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEFORE</td>
<td>Non-white patient</td>
<td>23%</td>
<td>22%</td>
<td>1.3% (–11.2%, 14.6%)</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Occurred at the weekend</td>
<td>19%</td>
<td>30%</td>
<td>−11.4% (–23.7%, 2.2%)</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Increased restlessness</td>
<td>59%</td>
<td>67%</td>
<td>−7.2% (–21.9%, 7.4%)</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Withdrawn, refusal to communicate</td>
<td>13%</td>
<td>1%</td>
<td>12.0% (4.4%, 22.0%)</td>
<td>0.002**</td>
</tr>
<tr>
<td></td>
<td>Others reported patient’s imminent violence</td>
<td>0%</td>
<td>8%</td>
<td>−8.3% (–15.6%, −1.7%)</td>
<td>0.012**</td>
</tr>
<tr>
<td>DURING</td>
<td>Minutes in restraint (median, IQR)</td>
<td>10 (20)</td>
<td>10 (20)</td>
<td>−</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>High-intensity level of observation post incident</td>
<td>52%</td>
<td>73%</td>
<td>−21.2% (−35.2%, −6.3%)</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>Staff injury sustained</td>
<td>17%</td>
<td>18%</td>
<td>−0.3% (−11.7%, 12.0%)</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Patient injury sustained</td>
<td>6%</td>
<td>6%</td>
<td>−0.5% (−8.0%, 8.4%)</td>
<td>NS*</td>
</tr>
<tr>
<td></td>
<td>Rated as high severity</td>
<td>39%</td>
<td>25%</td>
<td>14.1% (−0.1%, 28.2%)</td>
<td>0.053</td>
</tr>
</tbody>
</table>

* Confidence interval using Newcombe’s method  ** Fisher’s exact test  NS=not statistically significant

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**REFERENCES**


with a high severity rating after the incident (p=0.053). The prone position was used more frequently at the weekends, but this association was not statistically significant.

There was no association between patient ethnicity and restraint position and the duration of restraint was the same in both positions. Staff and patient injuries following the episode were similar whichever position was adopted.

Discussion
Analysis of the data and its relevance to practice raises a number of pertinent questions and possible conclusions about the nature of physical intervention on the inpatient units covered by the survey.

When an incident occurs staff will very often be widely dispersed and would, by implication, respond to an incident from different directions. Once they place hands on the violent patient we would expect staff to be acutely aware of protecting the head of the patient if a controlled descent to the floor was initiated as a last resort.

If staff are following the directives set down and repeatedly practised in training, they would be looking to move the patient in the direction of the member of staff who is securing the head so that they are best able to protect the head during a potentially hazardous descent to the floor. The member of staff securing the head may be holding it at the back or at the front. It can often simply depend on the direction from which they arrive at the incident. We would hope that it is this consideration, random to some extent but underpinned by a real concern for the safety of the patient’s head during intervention, that explains why so many of the variables identified apparently affect the position so minimally. The low levels of patient injury would tend to reinforce this protective inclination on the part of staff.

The prone position may be more likely to be associated with others reporting imminent violence, because that warning would have afforded staff an opportunity to approach the patient from the front, establish appropriate eye contact and attempt to de-escalate the situation. The importance of appropriate eye contact to the verbal de-escalation process is emphasised by Turnbull et al (1990). Where this strategy of de-escalation fails, physical intervention would then be initiated from the front – making a controlled descent to the floor in the prone position a safer option because the member of staff at the front is best placed to protect the face if the patient moves forwards towards the floor.

The greater likelihood of the use of high-intensity observations following interventions in the prone position seems more difficult to explain, but may reflect a greater difficulty for staff in identifying the patient’s facial reactions to verbal interventions in this position before restraint is discontinued. This sense of an incomplete picture of the level of calm and self-control the patient has reached may push the staff towards initiating a high level of observation after intervention as a precautionary measure. Staff holding a patient in the supine position may be best placed to protect the face if the patient is uncommunicative and restraint in the supine position and the patient’s withdrawal/refusal to communicate and a high incident severity rating would seem to reinforce the practical application of the physical interventions being taught to the staff in question. A patient who was withdrawn and uncommunicative would often be likely to be turned away from staff engaged in an attempt to verbally defuse and de-escalate a potentially violent situation. Any sudden violent assault from the patient in this position would more probably be met with a physical intervention from behind and the securing of the patient’s head from the back. In the same way, an incident classified as being of high severity may well involve an assault already being undertaken when staff intervene, with no real opportunity to de-escalate. The staff are taught that it is safer to intervene from behind when an assault is already under way, so securing the head from behind would again be a likely outcome.

Once the head of the patient has been secured from behind, any controlled descent to the floor should involve moving the patient safely onto their back where the member of staff is positioned to protect the head through the descent. Reassuringly, interventions taught to staff seem to be being practically applied to the clinical reality.

If we work on the premise that restraint in the prone position is less desirable than in the supine position, this study clearly suggests that we have an opportunity to influence the nature of intervention through quite minimal changes to our training programme. If we feel that staff are intervening appropriately from behind and that these interventions are directly linked to a descent into the less dangerous supine position we can look to place more emphasis on the benefits of securing the violent patient’s head from behind in our training programme. Such a strategy would obviously have to recognise the additional anxiety a patient will experience through not being able to see the member of staff holding onto their head. It is important that any change in emphasis around intervention does not create a sense that controlled descent to the floor is inevitable – the principle of its use as a ‘last resort in the event of loss of control on the feet’ has to be maintained.

REFERENCES
