Special observation in psychiatric hospitals: a literature review

Report from the Conflict and Containment Reduction Research Programme

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Background

Acutely disturbed inpatients sometimes try to harm themselves, break ward rules, act aggressively or attempt to leave hospital. Risk of suicide is particularly high for this population. Special observation (SO) is one way to keep patients safe in these situations by providing extra care and attention to the patient until s/he is less disturbed. It involves assigning an identified person to the care of the ‘at-risk’ patient for a certain period of time, above the minimum general level of observation required for all inpatients. UK practice guidelines (Department of Health, 1999) suggest three levels of special observation: intermittent, where the patient’s location must be checked at specified intervals; within eyesight, where the patient should be kept within sight at all times; and within arms length, where patients must be observed in close proximity at all times. The latter two forms of SO are collectively termed constant SO. This review examines the incidence, duration, antecedents, outcomes and temporal ecology of SO, as well as the demographic and clinical characteristics patients under SO.

Literature search

Electronic searches of the main databases were conducted to locate empirical studies of special observation in English published between 1960 and 2009. The databases searched were: PsycInfo, Cochrane, Medline, EMBASE Psychiatry, CINAHL and the British Nursing Index. Key words utilised were observation, special, constant, intermittent and one-to-one. Resulting titles and abstracts were then inspected for relevance. The search did not include theses or other grey literature, nor did it include policy documents or other analyses. The review excludes studies of children, adolescents and dementia patients, although occasionally these patients were included in hospital wide analyses of observation. As the literature accumulated, further references were obtained by following up citations. The final number of identified empirical papers was 63.

Methodologies of the studies reviewed

Nine of the studies were retrospective analyses of official incident records and/or patient notes, while 28 used descriptive data from other sources such as surveys, interviews and observation recording instruments designed for the study. Eight were classified as before and after studies. There were four case-control studies, three of which concerned inpatient suicides. The review also includes 19 studies with qualitative data describing patient and staff experiences of special observation. Two studies included more than one type of methodology. The studies were conducted in various types of ward, ranging from acute wards (n=39), forensic units (n=2), psychiatric unit in a general hospital (n=1), to a mix of wards (including several categories; n=14). In seven cases, the type of ward was unclear or unspecified. Most studies were conducted in the UK (n=41) or USA (n=12). Other countries represented were Canada (n=6), Australia (n=1), Ireland (n=1), Norway (n=1) and a mix of countries (n=1).
As has been reported previously (Bowers & Park 2001) a huge range of terms are used to describe various forms of observation. Studies refer to numbered levels of observation, constant, special, one-to-one, 15-mins, 30-mins, close, primary, specialing, continuous, and intermittent. To avoid confusion, this review uses the Department of Health (1999) guidelines to define SO as either intermittent, where the patients is checked at specified intervals, or constant, where the patient is kept within sight or reach at all times. A total of 29 studies concerned constant SO only and three were about intermittent SO only. Twenty studies included both constant and intermittent SO and these were distinguished in the results, while 5 included both types but combined them in the results. In six cases there was insufficient information to determine which form of SO was used.

**Analytic procedure**

The aim of the literature review was to establish existing evidence for and against the working model and assess commonality and links between different conflict and containment types such as patient profiles, chains of events, patient experiences, circumstances of use, etc. A structured data extraction tool was created with various headings including sample, methodology, admission status, age, gender, ethnicity, ward type, service setting, risk status, time spent on ward, rates of special observation, antecedents/causes, patients’ views, staff views, etc. Where published papers provided empirical evidence, this was entered on the tool. The headings of the resultant matrix have then been summarised for the purposes of this review. A hierarchy of evidence was established to rate the weight of each study in relation to the project’s aims. The most weight was given to studies conducted in the UK, on acute wards and/or PICUs, studies with large samples and to findings replicated across studies.

**Incidence**

Very few of the reviewed studies provided data on the rate of SO use, and where rates were reported there was wide variation in the methods employed to calculate them. The lack of standardised measures in the literature makes it extremely difficult to compare findings across studies. To aid comparisons, patient and event based SO rates were calculated, standardised to patients per 100 beds or admissions per month (Table 1). No event based rates could be calculated.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Country</th>
<th>Ward type</th>
<th>SO type</th>
<th>Patient based rate</th>
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<td></td>
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<td>100 beds</td>
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<tr>
<td>Jones et al (2000)</td>
<td>UK</td>
<td>Acute</td>
<td>Constant</td>
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<tr>
<td>Kettles et al (2004)</td>
<td>UK</td>
<td>Mixed</td>
<td>Constant</td>
<td>30.8</td>
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<td>Langenbach et al (1999)</td>
<td>UK</td>
<td>Acute</td>
<td>Constant</td>
<td>20.4</td>
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<tr>
<td>Reid &amp; Long (1993)</td>
<td>UK</td>
<td>Acute</td>
<td>Constant</td>
<td>28.3</td>
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<tr>
<td>Shugar &amp; Rehaluk (1990)</td>
<td>Canada</td>
<td>Mixed</td>
<td>Constant</td>
<td>73.4</td>
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Standardised rates could be calculated for only 5 studies. A Canadian case control study reported a rate of 73.4 incidents of constant SO use per 100 beds per month, recorded over an eight month period (Shugar & Rehaluk 1990). The rate per 100 admissions per month was much lower (13), reflecting the brief admission period for the majority of patients (the mean was 28 hours). Constant SO per 100 beds per month were calculable for one further study which showed a rate of 50.0 (Jones et al. 2000). Other studies reported rates of 28 patients per 100 admissions per month (Reid & Long 1993), 72 patients per 100 admissions per month (all types of SO; (Kettles et al. 2004) and 78 patients per 100 admissions per month (Langenbach et al. 1999). One UK study reported a mean of 37 hours of SO per 100 occupied bed days (Bowers et al. 2007). Two studies reported very different results expressed as average hours of SO per ward week: 445 hours (Porter, McCann, & McGregor 1998) and 44 (Childs, Thomas, & Tibbles 1994).

Simple percentages of patients subject to SO (during varying time periods) ranged from 3% (Tardiff 1981), 4% (Dennis 1998) to 8% (Neilson et al. 1996). A study of 238 patients in three London hospitals reported that 47% received intermittent SO during the first two weeks of admission and 16% received constant SO (Bowers, Simpson, & Alexander 2003). Equivalent figures for other countries were 14% and 3% in Italy and 19% and 14% in Greece (Bowers et al. 2005). A US survey of 105 hospitals 93% reported using constant SO and 91% intermittent SO (time frame for these results was not specified)(Green & Grindel 1996).

As the above figures suggest, constant SO tended to be used less frequently than intermittent or less intrusive forms of enhanced observation. Only one study could be found with which to compare standardised rates (Table 1) and this showed a higher rate for intermittent SO. In another UK study rates were 20 patients per 100 admissions per month for constant observation and 58 per 100 admissions for ‘close’ observation (named nurse to be aware of patient location at all times; (Langenbach, Junaid, Hodgson-Nwaefulu, Kennedy, Moorhead, & Ruiz 1999).

Variations in observation practices between wards in the same hospital have been found, with some wards recording twice the total hours of observation than others (Porter, McCann, & McGregor 1998). This study also found substantial differences in the use of different levels of observation between consultants with the same ward. Another study of over a thousand patients found statistically significant differences between wards in the use of enhanced observation levels (Kettles, Moir, Woods, Porter, & Sutherland 2004). Variations in use of intermittent observation by consultant before and after service re-configuration have also been reported (Melvin, Hall, & Bieneck 2005). A further study found marked and unexplained variations in constant SO between hospitals and between wards within the same hospital (Stewart, Bowers, & Warburton 2009).

**Duration**

Few studies reported the duration of SO. The mean duration per episode ranged from 34 hours (Pitula & Cardell 1996), 48 hours (Cardell & Pitula 1999), 72 hours (Bowers, Gournay, & Duffy 2000), 3.8 days (Reynolds et al. 2005), 96 hours (Jones, Ward, Wellman, Hall, & Lowe 2000), 126 hours (Dennis 1998), 6.8 days (Shugar &
Rehaluk 1990), to 211 hours (Jones, Lowe, & Ward 2000). In most cases, therefore, SO lasted for at two days or more. A survey of 105 US psychiatric hospitals found that two thirds reported that patients remained on constant observation for 2 days or less (Green & Grindel 1996). Very short periods under SO were recorded by one study, with 70% of patients receiving it for less than 45 minutes (Lehane & Rees 1996).

The minimum reported period was much shorter than this, ranging from 2 hours (Shugar & Rehaluk 1990), 3 hours (Bowers et al. 2000), 4 hours (Cardell and Pitula, 1999), 12 hours (Dennis, 1998; Jones et al. 2000b), 16 hours (Pitula and Cardell, 1996), 21 hours (Jones et al. 2000a), 2 days (Vrale & Steen 2005).

Some patients were under observation for very long periods indeed. The maximum reported period ranged from 3.5 days (Pitula and Cardell, 1996), 6 days (Cardell and Pitula, 1999), 6.8 days (Shugar and Rehaluk, 1990), 10 days (Bowers et al. 2000), 2 weeks (Vrale and Steen, 2005), 372 hours (Dennis, 1998), 408 hours (Jones et al. 2000b), 35 days (Green and Grindel, 1996), to 864 hours (Jones et al. 2000a).

**Antecedents**

Various methodologies were employed to examine the reasons why patients were placed under SO. Surveys of Trusts and hospitals reveal a wide range of antecedents. A survey of a random sample of 27 Trusts in England and Wales providing inpatient services found SO was primarily used to reduce the risk of self-harm and suicide or to prevent aggressive behaviour or absconding (Bowers et al. 2000). Others included medical conditions requiring monitoring, confusion, impulsiveness, withdrawal from drugs and agitation. In the US, hospitals identified safety concerns as the major criteria for use of constant SO (Green & Grindel 1996). These resulted from dangerousness to self/others, impulsiveness, inability to make a suicide prevention contract, psychosis, confused behaviour, the risk of the patient's absconding, risk of the patient falling. A survey of psychiatric and general hospitals identified the most common reasons for using constant SO as patients demonstrating aggressive behaviour toward others, self-harm, suicidal gestures, attempted suicide or acutely suicidal, patients in mechanical restraints and agitation (Moore et al. 1995). The study also notes that psychiatric hospitals used constant SO with patients who were medically ill more frequently than general hospitals.

Descriptive studies of patient data identified actual/risk of self-harm, suicide risk and aggression as primary reasons for SO. The next most common reason across the studies was absconding (Childs et al. 1994; Dennis 1998; Langenbach et al. 1999; Lehane and Rees, 1996; Shugar and Rehaluk, 1990), and in two studies absconding was the most common reason (Jones et al. 2000a, 200b). When staff were interviewed about patients observed for absconding risk in one study, risk of violence or self harm were cited as secondary problems which might occur if the patient left the ward (Dennis 1997). Other antecedents mentioned included assessment (Jones et al. 2000b; Langenbach et al. 1999), fire risk (Childs et al. 1994), sexual disinhibition (Childs et al. 1994), self-neglect (Dennis, 1998), no symptoms (Kettles and Paterson, 2007), first presentation (Kettles and Paterson, 2007; Kettles et al. 2004), safety considerations (Kettles et al. 2004; Shugar and Rehaluk, 1990), high doses of medication (Phillips et al. 1977a), medical conditions (Shugar and Rehaluk, 1990), and to decrease stimulation (Shugar and Rehaluk, 1990). A study of mixed ward
types found levels of observation increased at particular risk periods, such as after meals for patients with eating disorders and where patients were assessed to be at risk of not taking their medication (Neilson & Brennan 2001).

Given such an extensive list of antecedents it is disappointing that statistical analysis of factors associated with special observation was so uncommon. Multivariate models of official incident data showed statistical associations between constant observation and absconding, but none with physical aggression, verbal aggression, self-harm or property damage (Bowers et al. 2007). A logistic regression analysis for 980 patients assessed with a specially devised 12 item instrument found the odds of patients receiving enhanced observation were increased if patients had mild or severe suicidal intent, paranoid or delusional beliefs, questionable suicidal intent, severe agitation, moderate agitation and withdrawn behaviour (Kettles, Moir, Woods, Porter, & Sutherland 2004). Bowers et al. (2003) found patients categorised (by factor analysis) as 'self-harmers' were more likely to have received continuous special observation, as were 'angry absconders' (physical aggression, attempted abscond, missing without permission) and 'angry-refusers' (aggression, refusing regular and PRN medication). Categories of patient more likely to receive intermittent observation were 'abstainers (refusing to eat or drink) and 'medication-ambivalent' (demanding and refusing prn medication). A study of nurses’ clinical judgement found that current patient behaviour had more impact than patient history variables on decisions about which intervention to use, but assaultiveness to others and acting out were less relevant to observation than to seclusion and restraint (Holzworth & Wills 1999). One analysis found that the 10 most predictive variables (from an initial pool of 512) in a regression model were: wondering, mental health, physical health, expansive mood, suicidal ideation, communication, self-esteem/image, interpersonal relationships, employment and depressed mood (Penny & Frost 1997). With differences in statistical sophistication and measures used in the analyses it is difficult to draw any firm conclusions from such a limited number of studies. The results generally reflect those of the descriptive studies in suggesting a great number of factors are involved in the decision to place a patient on SO, and not simply whether patients are at risk of self-harm, suicide or aggression.

The reasons for using special observation are likely to differ by service setting, but only one study examined this explicitly. A study of forensic and non-forensic units identified the top six reasons as assault, threat of assault, suicidal intent, self-injury, threat of self-injury and verbal abuse, but the two forensic units ranked assault first, while the non-forensic unit ranked suicidal intent first (Whitehead & Mason T. 2006). Nurses in the forensic units scored patients higher than the non-forensic unit staff in terms of factors associated with risk of harming themselves or others. There were no significant differences for psychiatric symptomatology.

The complexities involved in judging whether patients should be placed on enhanced levels of observation are illuminated by some of the qualitative evidence available to the review. In particular, nurses have indicated that special observation can be used to manage staff anxieties (Fletcher 1999). Briggs (1974) suggests that staff sometimes project their own anxiety as that of the patient. Staff identified more circumstances where special observation is needed than patients were able to, to the extent that use of the procedure had become a ritual, rather than based on the needs of individual patients. Anecdotal evidence from one study indicated that nurses felt that special
observation did not foster therapeutic relationships with patients and tended to be used ritualistically (Moran 1979).

Safety was a predominant theme. Nurses view patient safety as the main concern and use suicidal indicators such as suicidal ideation/thoughts/plan, depressed mood, psychotic features (hallucinations), agitation and withdrawal to gauge this (Cleary et al. 1999). Among 20 patients recently placed under constant observation all mentioned that the procedure was used for their own protection (Cardell & Pitula 1999). Interviews with eight psychiatric nurses revealed that special observation was used to keep self-harming patients safe (O'Donovan 2007). This decision was usually made at assessment, but the paper also notes that special observation could be used reactively if a patient self-harmed on the unit. The majority of patients and nurses in one study stated that SO had been used to prevent self-harm (Ashaye, Ikkos, & Rigby 1997).

**Circumstances**

**Initiation**
The order for special observation usually came from a doctor (Aidroos 1986; Childs, Thomas, & Tibbles 1994; Cleary et al. 1999; Gournay and Bowers, 2000; Janofsky, 2009; Kettles and Paterson, 2007; Langenbach et al. 1999; Neilson and Brennan, 2001; O'Donnovan, 2001; Reynolds et al. 2005; Shugar and Rehaluk, 1990; Vrale and Steen, 2005). Two studies reported that the decision was usually taken by a multi-disciplinary team (Clark et al. 1999; Hodgson et al. 1993) and three that multidisciplinary teams were sometimes involved (Bowers et al. 2000; Childs et al. 1994; Langenbach et al. 1999). A survey of NHS Trusts in England and Wales found that in 50% of cases the initiation of CO was declared to be by joint medical and nursing decision and in the other half it could be initiated by qualified nurses (Bowers, Gournay, & Duffy 2000). Only one other study found a significant proportion of SO episodes to be initiated by nurses. A survey of RSUs and special hospital staff found that 63% indicated that nurses decide on level of observation (Kitchiner, Riach, & Robinson 1992). Another study found that junior grades of nurses and doctors tended to carry out the most observation assessments (Kettles, Moir, Woods, Porter, & Sutherland 2004). There does appear to be room for nurses to initiate SO in emergency situations, pending a medical assessment circumstances (Clark et al. 1999; Janofsky, 2009; Shugar and Rehaluk, 1990; Vrale and Steen, 2005), although one study found that nurses initiated SO in only 5% of cases (Langenbach et al., 1999). If not setting observation levels, nurses can have some influence and are sometimes consulted (Bowers, Gournay, & Duffy 2000; Gournay K. & Bowers 2000; O'Donovan 2007).

**Practice**
Nurses do not always agree with the doctors’ decision to place a patient under special observation (Cleary et al. 1999; Dennis, 1997) and once initiated, the procedure is sometimes subject to modification by nurses. One study of 248 episodes of observation found that in two-thirds of cases nurses did not follow the doctors’ orders for close (intermittent) observation, at least in terms of near compliance; none followed them completely (Aidroos 1986). A similar proportion of patients were placed on close observation even though doctors had ordered general observation than the other way round. Anecdotal evidence suggested that the most common reason
was that nurses decided for themselves which level of observation was needed. In another study, interviews with nursing staff suggested that they often modified the official special observation policy during the course of the procedure, sometimes with junior doctors’ agreement (Duffy 1995). Senior nurses may have the authority to review and adjust observation levels in the absence of a medical officer/multidisciplinary team (Reynolds, O'Shaughnessy, Walker, & Pereira 2005). One study found that 48/71 patients were placed on SO without a full assessment (Childs et al. 1994).

Termination
There was greater consensus that special observation is usually terminated by a doctor. A study of 57 patients whose observation level changed reported that doctors appeared to continue making the decision to reduce observation levels, with teams involved in only 2% of cases (Kettles & Paterson 2007). Another found that SO always terminated formally by a doctor, but often at the suggestion of nursing staff (Duffy, 1995). Similarly, most staff interviewed in another study reported that reducing observations was the responsibility of medical staff, although this could be in discussion with nurses (Pitula & Cardell 1996). Nurses can request that a doctor terminates constant observation (Shugar & Rehaluk 1990). However, there was evidence in one unit of (unexplained) unclear decision making between medical and nursing staff as to when to start or stop constant observation (Janofsky 2009). Only one study reported that termination of a joint medical and nursing decision in the majority of cases (Bowers, Gournay, & Duffy 2000). The reliance on doctors can have unforeseen consequences. Duffy (1995) found that since only ward doctors were responsible for terminating special observation, this rarely occurred at weekends because only duty doctors were available. This meant that patients could be kept under observation for longer than necessary.

Who observes
Single site studies suggest a broad range of staff are involved in conducting SO. For example, one UK study found that observations were primarily carried out by healthcare support workers without formal training in observation (Reynolds, O'Shaughnessy, Walker, & Pereira 2005). In the US, registered nurses, mental health technicians and lay workers or sitters were found to be responsible for SO (Pitula & Cardell 1996). A broader perspective is provided by larger surveys of SO policy. A national survey of Trusts in England and Wales found that existing nursing staff usually carry out SO, but if required bank and agency staff were employed (Bowers et al. 2000). Trust policies varied as to whether agency nurses, bank nurses or nursing assistants should be permitted to carry out all levels of SO. Views were polarised as to whether student nurses and family members were allowed to carry out SO. In the US, a similar survey reported that a variety of staff provided SO (Green & Grindel 1996). In order of frequency, these were mental health technicians, registered nurses, nursing aides, licensed practical nurses, and sitters or nursing assistants. Another found that almost all constant special observation in psychiatric hospitals was provided by nurses, licensed practical nurses, nursing assistants and mental health workers, but a greater range of people were involved in general hospitals (Moore, Berman, Knight, & Devine 1995). A survey of suicide and self-harm cases subject to legal action found that of 23 cases where enhanced observation was used, observation was carried out by unqualified nursing staff in 6 cases, 5 of which were against official Trust policy (Gournay K. & Bowers 2000). In one hospital, agency nurses accounted for a third of
the total SO time (Childs, Thomas, & Tibbles 1994). It seems that the low status of SO activity means that nurses often delegate it to unqualified staff (Duffy, 1995).

**Temporal & spatial ecology**

Very little information was available on the timing and location of special observation, but it appears that most episodes of SO occur relatively early on during an admission. Two studies report that most special observation occurred early in an admission. Cardell and Pitula (1999) found that SO was used at the time of admission for 14/20 suicidal patients. It was implemented a few days following admission in two cases, and for four SO did not occur until months after admission. The other study reported that 70% of SO occurred during the first week of admission, including 40% during the first day when symptoms were most acute (Shugar and Rehaluk, 1990). Both these studies also reported on the location of special observation. Two of the three hospitals in one study routinely conducted SO in dayroom settings with a TV turned on which patients found disturbing and stressful (Cardell & Pitula 1999). In the other, use of SO was highest on the crisis unit and lowest the specialized unit, with over half of episodes beginning on the evening shift (Shugar and Rehaluk, 1990).

**Outcomes**

**Suicide and self-harm**

A small number of studies reported that patients were under SO at the time of suicide. For intermittent SO the proportion ranged from 18% (Appleby et al. 1999), 45% (King et al. 2001) to 62% (Busch, Fawcett, & Jacobs 2003). Rates were lower for constant SO: 2% (Powell et al. 2000), 3% (Appleby et al. 1999) and 9% (Busch, Fawcett, & Jacobs 2003). However, a case control study found no association between SO and suicide (Powell, Geddes, Deeks, & Goldacre 2000). Another found that constant special observation at any time during the admission was higher among suicide cases (43%) than controls (5%) (Sharma, Persad, & Kueneman 1998). The difficulty of making clinical judgements as to when SO should be reduced or terminated is illustrated by two contrasting case studies (Pauker & Cooper 1990). For one patient, 3.5 months of continuous observation did not reduce life-threatening acting out and the consultant felt that it had become counter-therapeutic and decided to gradually reduce observation levels. The patient and family appraised of the reasons for this and the risks. The patient improved and was eventually discharged. In a second case, a suicidal episode for a long term patient resulted in increased neuroleptic dose and constant observation. After signs of improvement, the level of observation was reduced to intermittent (every 15 minutes). Improvements continued, but with no warning sign the patient committed suicide. An audit of 31 cases of suicide and self-harm found that 17 cases required a nurse to be within sight of the patient at all times and two were under intermittent SO (Gournay and Bowers, 2000). In all of the constant observation cases, nurses did adhere to the instruction, and while out of sight the patient committed the act of self-harm or suicide. Another study controlled for a wide range of patient, conflict, staff and environmental factors, and found that constant SO was not associated with levels of self-harm (Bowers et al. 2008). However, greater use of intermittent observation was predictive of lower
counts of self-harm. Official counts of self-harm over time have been found to have no statistical association with trends in the use of constant SO (Stewart et al. 2009).

Other outcomes

One UK study reported outcomes in terms of a generalised measure of untoward incidents on the wards. No untoward incidents were recorded for patients on the highest level of observation (observed by a designated nurse in close proximity at all times) during the first week of admission (Langenbach, Junaid, Hodgson-Nwaefulu, Kennedy, Moorhead, & Ruiz 1999). Incidents were recorded for 11% of patients on the next level of observation (nurse to be aware of patient’s location at all times) and 3% of those under general observation. The same study found no significant correlation between staff sickness and higher levels of patient observation (Langenbach, Junaid, Hodgson-Nwaefulu, Kennedy, Moorhead, & Ruiz 1999). In contrast, a study from Canada found a significant correlation between constant SO and staff sickness (statistic not specified), with sick days increasing after a peak in continuous observation (Phillips et al. 1977b). Other factors such as changes in administrative policy or epidemics among staff were not to be associated with observation hours (details not provided).

Subjects on SO have been found to remain in hospital for longer than other patients and have a significantly poorer outcome at discharge (Shugar & Rehaluk 1990).

Evidence for the impact of SO on staff sickness levels is mixed. One study found no association (Langenbach et al. 1999), while another reported a statistically significant correlation between hours of continuous observation and sick days per month for a two year period (Phillips et al. 1997b). An intervention study reported reduced rates of staff sickness after ceasing to use SO, but the association between these two measures was not formally measured (Dodds and Bowles, 2001).

SO can be a significant drain on hospital resources. If overtime, bank or agency sources are used the financial cost can mount quickly, exerting pressure on nursing budgets which generally have little flexibility (Bowers et al. 2000). Childs et al. (1994) report that over a three month period, the number of supervisions performed does not initially appear excessive. However, with nurses working a 37.5 hour week, a total number of 12.98 whole time equivalents (WTE) were needed purely to supervise, amounting 1.18 WTE per ward. In the US, the estimated cost per day for the staff person who provided CO ranged from $64 to $575, with a mean of $254.53 (Green and Grindel, 1996). Another US study found constant SO accounted for up to 20% of the total nursing budget, equivalent to $450, 000 (Moore et al. 1995). Three quarters of units absorbed the cost for these services. The only UK estimates show intermittent and constant SO to cost £45 million and £35 million respectively across all inpatient psychiatric wards in England (Flood, Bowers, & Parkin 2008). Cost savings from reducing SO use have also been reported (Dodds & Bowles 2001).

Other containment methods

Few studies considered SO in the context of other methods of containment. One case note study of 200 patients found that use of emergency ECT and restraint was not related to the decision to use of SO (Phillips et al. 1977a). On the other hand, a study
of nurses’ clinical judgement (based upon hypothetical situations) found that seclusion or restraint was usually recommended in combination with SO (Holzworth & Wills 1999). The frequency of recommendations for SO only and observation with seclusion were very similar and both much higher than other treatment options. Special observation is sometimes used in combination with oral or IV tranquillisation (Lehane & Rees 1996). In one study, 62% of patients had additional medication during constant SO, 35 were given IM medication, 12 ECT and five mechanical restraint (Shugar & Rehaluk 1990). In another, there was no statistical association between observation level and use of tranquilisers (Langenbach, Junaid, Hodgson-Nwaefulu, Kennedy, Moorhead, & Ruiz 1999). A comparison across wards found that one which had never locked its doors had the lowest rate of intermittent and constant SO observation and the highest level of trained staff (Melvin, Hall, & Bienek 2005). Finally a study of 381 patients receiving various containment measures, reported that 16% received constant SO only, 14% constant SO and emergency medication, 2% constant SO and restraint/seclusion, while 19% received constant SO, emergency medication and restraint/seclusion (Tardiff, 1981).

**Characteristics of patients subject to special observation**

Very few studies provided demographic information for patients placed under SO. Where data were presented there was usually no comparison with non-SO patients.

**Age**

The mean age for SO patients had been reported as 28 (Jones et al. 2000a) and 35 (Jones et al. 2000b). Twenty is the most common lowest age (Ashaye, Ikkos, & Rigby 1997); Jones et al. 2000a, 200b), while on study reported a minimum age of 21 (Pitula and Cardell, 1996). The highest age was 41 (Jones et al. 2000a), 47 (Pitula and Cardell, 1996), 59 (Jones et al. 2000b) and 60 (Ashaye et al 1997). One study found SO patients to be significantly younger, with the highest number of patients in the 17-24 and 25-34 age groups (Tardiff, 1981).

**Gender**

Two studies found no statistically significant relationship between gender and observation level (Kettles et al. 2004; Tardiff, 1981), while another found a significantly greater proportion of women under constant SO (Shugar and Rehaluk, 1990). The remainder of studies with available data were descriptive, but all reported more women than men under SO (Dennis, 1997; Pitula and Cardell, 1996). Of 71 patients placed on SO in one study, 26 were male and 45 were female, but 37 of the women were under SO because of self-harm (Childs et al. 1994). Similarly, another study found twice as many women than men under SO among patients diagnosed with depression and personality disorders (Phillips et al. 1977a).

**Ethnicity**

Only two studies reported data on the ethnicity of patients under SO. In one, all but one of the 13 patients studies was white (Ashaye et al. 1997), while the other found no significant effect for race (Tardiff, 1981).

**Legal**

One study found legal status to be the factor most strongly related to observation, with involuntary patients significantly more likely to be placed on the highest level (patient
observed in close proximity; Langenbach et al. 1999). Compared to a control group involuntary admissions were four times more common among patients placed under SO (Shugar and Rehaluk, 1990). Other studies found initiation of SO was usually accompanied by detention under MHA (Duffy, 1995), or the majority of SO patients to have been detained under the Mental Health Act (Childs et al. 1994; Dennis, 1997).

**Diagnosis**
Some studies were restricted to suicidal patients, so are excluded from this section. A ten year retrospective study found diagnosis was significantly correlated with placement on constant SO. The most frequent diagnosis was schizophrenia (43%), followed by depression-neurotic and psychotic (22%) and personality disorders (14%) (Phillips et al. 1997a). Descriptive studies also identified schizophrenia as the most common diagnosis if patients under SO (Ashaye et al. 1997; Childs et al 1994; Dennis, 1997; Jones et al. 2000a). Another study found SO patients to be significantly more likely to be diagnosed with depression, mental retardation or other nonpsychotic disorders (Tardiff, 1981). Depression was also a frequently reported diagnosis in other studies (Childs et al., 1994; Jones et al. 2000b). However, one study found no difference between SO patients and controls in the proportion of patients diagnosed with affective psychosis, schizophrenia or personality disorder (Shugar and Rehaluk, 1990). Phillips et al. (1977a) found a significant interaction between diagnosis and age and gender: SO patients were more likely to be female than male, with a diagnosis of schizophrenia or depression. If suffering from depression, she was likely to have been in the 30-50 age group, but if schizophrenia then the patient was likely to be in the 15-29 or 35-40 age categories. Finally, patients with diagnoses of psychotic disorders have been reported as significantly more likely to feel overly observed (Moorhead et al. 1996). The same study reported a trend for patients who were not caused discomfort to perceive themselves as observed at a lower intensity than others.

**Length of stay**
Two studies reported associations between constant SO and length of stay, but one found SO patients remained in hospital 1.5 times as long as control subjects (Shugar and Rehaluk, 1990), while the other found patients in hospital for shorter periods were more likely to receive emergency measures, including constant SO (Tardiff, 1981).

**Other**
The only other available data concerned the marital status of patients under SO. Single patients in one study were found to significantly more likely to be placed on the highest level of SO than others (35% vs 10%)(Langenbach et al. 1999). The majority of SO patients were reported to be single in another study (Ashaye et al. 1997).

**Staff and patient experiences of special observation**
There was more evidence available in the literature about staff experiences and views of SO than patients, although almost all the studies in this section were qualitative and small scale.

**Staff**
There was a consistent theme across studies that nurses found SO stressful to conduct. In particular, many studies mentioned nurses’ unease about the intrusiveness of the intervention and the potential for patients to react aggressively to it. However, there was a general consensus that SO was probably needed for some patients, especially those at risk of self-harm and suicide. Some studies emphasised the need to for good communication with patients under observation to alleviate some of the negative consequences (Cleary et al. 1999; Duffy, 1995; Fletcher, 1999). This interaction with patients leads some nurses to view their role during observations as positive and therapeutic (Mackay, Paterson, & Cassells 2005; Vraie and Steen, 2005; (Yonge & Stewin 1992). The introduction of a new SO policy which placed a greater emphasis on engagement with patients was welcomed by nursing staff and led to increased patient satisfaction (Reynolds et al. 2005). However, there was also a sense that SO tends to be a custodial rather than therapeutic intervention (Briggs, 1974; Phillips et al. 1977a; Reid and Long, 1993; Westhead et al. 2003)

Some studies reported nurses feeling that SO was used inappropriately in some cases. This included doubts about the suitability of SO as means of preventing absconding (Ashaye et al. 1997; Clark et al. 1999), as an unconscious means of alleviating staff anxiety (Briggs, 1974), and doctors placing patients under enhanced observation in circumstances where nurses judged this to be unnecessary (Cleary et al. 1999; Neilson and Brennan, 2001). Another found that nurses sometimes felt pressurised by medical staff to carry out observation against their judgement (Dennis, 1997). A study of medium secure units reported nurses observing patients with the negative consequences to themselves in mind should an incident occur (Mason T., Mason-Whitehead, & Thomas 2009).

Staffing issues expressed included having adequate numbers on the ward during observations (Kitchiner, Riach, & Robinson 1992; Westhead et al. 2003), the need to consider the gender of the observer (Mason T., Mason-Whitehead, & Thomas 2009) Neilson and Brennan 2001; Yonge and Stewin, 1992), and concerns about whether nursing assistants and agency staff are suitable to conduct SO (Clark et al. 1999).

Patients
Fewer studies (n=11) reported patient perspectives on SO, but a number of themes were evident from the available literature. Most studies of patient perspectives of SO report resentment of the associated intrusion and restrictions of being under SO. On the other hand, the presence of someone with the patient engendered feelings of safety (Jones et al. 2000b; Pitula and Cardell, 1996).

The attitudes of staff have a strong impact on the patient experience of SO. A friendly, communicative and positive attitude is appreciated by patients and lessens the negative aspects of the procedure (Jones et al. 2000a). Thus interviews with 14 suicidal patients reported feelings of discomfort, anxiety and distress if staff showed a lack of empathy or acknowledgement (Cardell and Pitula, 1999). Another study also found that suicidal patients in particular want to be observed by nurses they knew and talk them (Jones et al. 2000b). Lack of familiarity has been identified as a reason for negative attitudes among patients towards agency staff who observe them (Dodds & Bowles 2001). In contrast, one study found positive perceptions of lay workers
because they don't monitor participants constantly during personal hygiene or toileting and are more likely to engage patients in activities (Pitula and Cardell, 1996). Interviews with 13 patients who had received constant SO found that 11 patients benefited from it, nine were satisfied with their interactions with staff during the procedure (Ashaye et al. 1997). Only a quarter of patients in one study reported that they had been involved in the decisions made regarding observation levels (Reynolds et al. 2005).

**Changes to SO policy and use**

Six papers describe the outcome of changes to ward management and SO policies. Four were specifically designed to reduce SO use, although two papers report results from the same hospital which reduced SO use to zero over an 18 month period (Dodds & Bowles, 2001). Reductions in self-harm, violence, absconding and staff sickness were also reported and there was a substantial saving in staffing costs. The introduction of a behavioural checklist designed for use with all patients successfully reduced staff hours spent on SO and use of seclusion also reduced, but there was a slight increase in the number of recorded incidents on the ward (Moran 1979). A similar intervention was used to reduce patients leaving the ward without permission (Richmond, Dandridge, & Jones 1991). A reconfiguration of a service in Scotland from five to four larger wards resulted in increased occupancy, fewer total staff hours and a 60% reduction in constant SO. Finally, an audit following a new SO policy (accompanied by a staff training course to support it) found it to have been generally well implemented, but one of the five wards accounted for 12 of the 14 patients placed under SO (Dennis, 1998).

None of these studies is particularly convincing. The designs are weak and data is not subject to rigorous statistical analysis. However, as a whole they do indicate that it is possible to reduce the use of SO. The consequences for patients are less clear with some studies reporting much more optimistic findings than others. Further evaluation is required which takes account of other forms of containment which might be substituted for SO.

**Evidence for and against the working model**

Most of the studies included in the review were descriptive accounts of the frequency and circumstances of SO use. Relatively few reported data which could shed light on the impact of nursing practice on conflict and containment. The studies demonstrate that the functions of SO are confused, which makes identifying potential for changing and improving nursing practice much more difficult. For example, one study suggests that SO can be used as an alternative to seclusion (Lehane and Rees, 1996). In one sense this represents a positive reduction in the use of restrictive containment measures, but also suggests that at least some form of containment is still required. This is echoed by nurses’ view of SO as an unpleasant but necessary intervention. Alternatively, reduced SO can be couched in terms of a broader attempt to reduce control oriented interventions and to offer more structure to the organisation of the ward and to interaction with patients (Dodds and Bowles, 2001). This approach appears to have decreased the rate of deliberate self-harm, absconding and violent incidents and thus the need for SO. In other words, conflict and containment were
reduced together although such a link is not explicitly examined in this study. The implied role of organisational support and technical mastery is made more explicit by another study. Better training and giving authority to nurses to review and adjust SO levels reduced levels of its use and improved the experience for patients (Reynolds et al. 2005).

A difficulty for the working model is that whilst SO is a form of containment, the opportunity to engage with patients on a one-to-one basis may have therapeutic benefits. A number of studies reported that positive appreciation and engagement with patients helped reduce the risk of untoward incidents occurring, but this was delivered during the course of SO. Thus, a study of suicidal inpatients perceptions found that positive attitudes from observers engendered hope and self-confidence in patients and ultimately greater compliance with the team and medication (Cardell and Pitula 1999). Distractions provided by an observer were regarded as highly therapeutic in terms of reduced suicidal feelings. Patients’ feelings were negative where these qualities were felt to be lacking. Similarly, SO can be viewed as an opportunity to engage in therapeutic interaction with patients rather than being a ritualistic task to perform (Jones et al. 2000b; Vrale and Steen 2005). Thus, the working model is supported because the patient’s experience of observation is strongly influenced by the characteristics and behaviours of the observer, but contrary to the model, this positive appreciation occurs during containment.

Nurses also recognised the potential of SO to benefit patients. Interviews with six PICU nurses found they regarded observation as more than simply watching patients, and involved a complex caring role which included the use of approaches to minimising aggression and violence during the procedure (Mackay et al. 2005). These nurses, therefore, regard SO as a procedure which can implemented in a highly skilled manner, and in this sense technical mastery does not necessarily lead to less containment. Staff also believe that SO can be useful for those deemed to be most at risk as an opportunity for quality one-to-one time and means of providing a safe environment (Westhead et al. 2003).

Support for the role of teamwork in the model is unclear because of disagreements between medical and nursing staff over the appropriate observation level for patients. In one study, similar numbers of patients were placed under SO when doctors had ordered general observation as the other way round (Aidroos, 1986). On balance, lack of teamwork skill did not lead to increased containment as the working model would predict. Disempowering nurses from decision making may contribute to the perception that SO is a low-grade activity which can be carried out by unqualified staff, thus reducing the skilled application of the procedure and the likelihood of therapeutic effects. Effective teamwork is also called into question when nurses routinely amend the prescribed level of SO without informing the consultant.

**Points the model has missed**

Placing a single patient under the constant special observation of a nurse leaves the rest of the ward under-resourced. In essence, this makes the procedure relatively expensive to implement. The influence of this over decisions to use SO at the ward level, or more likely at a wider hospital or Trust level, is unknown. In theory, keeping
service costs down in this way may result in no constant special observation being used, reserving its use for the very high risk patients, and/or encouraging the use of temporary or untrained staff to conduct the procedure (which is commonly reported).

Alternatively, high levels of SO on a ward may have a negative influence on other patients because there may be fewer staff available for their needs. The working model does not take account of levels of staffing on the ward. A prospective case note study found that constant SO was less likely to be used when there was more qualified staff present on the ward (Langenbach et al. 1999). Higher levels of staff sickness have been reported when the amount of SO increases (Phillips et al. 1977b). Another study cryptically referred to lower staff numbers reducing the options available in responding to incidents, but did not elaborate on the implications for SO or other forms of containment (Lehane and Rees, 1996).

Clinical judgement is a central theme in the SO literature, particularly for nurses whose role in the decision making process seems to vary so greatly. However, there is not the evidence base to make sound judgements about which kind of observation is best for which patients in which circumstances. Statistical models appear to have limited clinical utility, while some studies show nurses to regard patients’ current behaviour as the main criterion for initiating SO rather than a past history of harmful actions or patients’ mental state (Hodgson et al. 1993; Holzworth and Wills 1992). The two cases described by Pauker & Cooper (1990) illustrate the difficulty of gauging the risks associated with reducing observation. The authors argue that, “we must accept that facilitating patient improvement and autonomy will engender a small but significant unavoidable risk of mortality" (p.490).

**Discussion**

**Summary**

Up to half of psychiatric patients may be placed under special observation during their admission, but rates of use vary greatly between studies. This sometimes reflects local nursing policies but there is also evidence of idiosyncratic practice. Doctors seem to initiate most SO but nurses can have a great deal of influence over how observation is actually conducted, which does not always follow the prescribed form. SO is regarded as an intervention for patients at risk of suicide or self-harm, but is in fact used for a range of purposes including absconding and aggressive behaviour. The effectiveness of SO is uncertain, but current evidence is stronger for intermittent than for constant SO. Patients placed under SO tend to be young, female, involuntary admissions with a diagnosis of schizophrenia or depression. The quality of the available data is limited, so firm conclusions about the characteristics of SO patients cannot be drawn. Staff find SO difficult to conduct but necessary intervention while patients often resent the level of intrusion associated with it. It is not clear whether it is desirable to stop using SO altogether or if efforts to do so have resulted in increased use of other forms of containment.

**Lessons for future research**
There is very little empirical evidence to guide nurses and medical staff as to which types of SO work best. The few studies that are available are inconclusive. Two recent studies employed statistical analyses to examine the effects of SO. One found greater use of intermittent SO was associated with fewer incidents of self-harm but there was no apparent benefit for constant SO (Bowers et al. 2008). The other found that hours of constant SO was not predictive of self-harm outcomes (Stewart et al. 2009). However, these studies utilised shift and weekly counts of ward events rather than daily data. SO may have been initiated in response to self-harm incidents, but self-harm could also have occurred while patients were under SO. Importantly, the lack of statistical relationship between constant SO and self-harm could also reflect poor implementation of observation practices, such as miscommunication between observers and other staff members or unclear decision making as to when to commence or stop various levels of observation. Patient level outcome studies of SO are urgently required. These studies must take into account the role of other forms of containment which might be used in conjunction with or instead of SO when managing difficult patients.

The review shows that the practice of SO is poorly understood. Much of the available research is limited to descriptive accounts of constant SO or a generalised elevated level of observation. The very limited data on usage makes it almost impossible to make meaningful comparisons across studies and settings. Of particular not is the scant information on the use of intermittent SO and the rationale for opting for one time interval over another. More research is needed on the use of intermittent SO because current evidence indicates that is a more effective (and less expensive) method than constant SO, and is also used more often. The primary purpose of SO is assumed to be self-harm and suicide prevention, but the review has identified a range of reasons for its use including preventing absconding, aggressive behaviour, property damage, medical conditions, confusion, impulsiveness, withdrawal from drugs and agitation.

Future research should pay more attention to the decision making processes before during and after SO. Wide variations in SO practices and the ad-hoc amendments to prescribed SO are reported in the literature, making it essential that the decisions that inpatient staff make in determining what form of SO is used for particular problem behaviours are better understood.
References


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