EVALUATION OF PROFESSIONAL PRACTICE IN HEALTHCARE ORGANISATIONS

LIMITING THE RISKS OF PHYSICAL RESTRAINT OF ELDERLY SUBJECTS

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FOREWORD

There has been a substantial, almost insidious increase in the use of physical restraints on elderly patients, usually to prevent falls, contain agitation or limit wandering. The range of physical restraint devices available is constantly growing. However, this common practice is rarely included in training programmes for healthcare professionals, probably because its inclusion could itself raise major ethical and deontological problems. Physical restraints infringe the patient's freedom of movement and expose them to many risks, and are not consistently effective.

The Direction Générale de la Santé (the French national health executive) is aware that the safety of physical restraint needs to be improved and the use of restraints reduced as far as possible. It therefore asked ANAES, the French Health Accreditation and Evaluation Agency, to produce a guide to evaluation of professional practice in this area.

This report approaches physical restraint as a practice that can be:
- useful in some cases and proposes standards and practice criteria to improve safety;
- avoided to some extent if appropriate valid alternatives are available. There are examples in other countries of programmes designed to reduce the frequency of restraint use, which show that continuous quality improvement methods can lead to the introduction of alternative methods, frequently novel ones. The report suggests solutions for avoiding restraint and changes that can be made within the organisation to remove any non-essential indications for restraints.

We trust that this report will answer the needs of healthcare professionals intent on using restraints only in situations where they are appropriate, and to use them in the best possible way and for the shortest possible time.

If the safety of elderly subjects is to be improved, a deterioration in their general health to be prevented and their rights and quality of life are to be preserved, then this report needs to be seen as one element of a nationwide programme within healthcare organisations and other institutions.

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INTRODUCTION

Restraint use is an example of the dilemmas that can arise in care situations. Although it is not disputed that physical restraint is necessary in some cases to protect the patient, the risks it carries and its possible consequences are sometimes irreversible in vulnerable elderly subjects. The literature analysis (Annex 1) and study of clinical practice showed that the use of various types of physical restraint in the management of elderly patients is a common practice.

There is very little information on the subject in France, in contrast to the United States and Canada. It should be noted that indications and guidelines for the conduct of this practice are not included in courses for medical students or paramedical professionals.

A working group was formed to weigh up the benefits and risks of physical restraints for elderly subjects, suggest ways of controlling the risks and propose solutions to reduce the frequency of restraint use.

Establishments caring for elderly people should be able to assess quality and safety of their practice with regard to restraint use. This can be done using the proposed criteria and the clinical audit method the Agency recommends as a first step in quality initiatives.

The publication of standards is not intended to encourage restraint use, but to improve the safety of the practice when it is considered to be unavoidable. The working group regarded this stage as a step towards generating an attitude within healthcare organisations conducive to the implementation of a restraint reduction policy.
DEFINITION OF PHYSICAL RESTRAINT AND POPULATION CONCERNED

I. DEFINITION OF PHYSICAL RESTRAINT

There are a number of different types of physical restraints designed for elderly people:

- **postural restraints** which help to maintain correct posture and which are used in rehabilitation therapy.
- **so-called active restraints**, which are usually applied by a physiotherapist to prepare the patient for being in a vertical position after an extended period in bed,
- **passive physical restraints** which should not be confused with the above and which are defined as the use of any means, method, material or item of clothing which prevents or limits the voluntary movement of the whole body or a part of it (1,2) with the sole aim of providing security for the elderly person whose behaviour is felt to be dangerous or inappropriate (3,4).

This report deals only with passive physical restraints.

There are many different devices and techniques that can be used for physical restraint. These include

- specific methods, such as (5,7):
  - harnesses and chest straps, belts
  - wrist and ankle straps
  - geriatric chairs, chairs with a fixed tray table
  - bed rails,
- non-specific methods, i.e. any equipment used for a purpose other than the one it was designed for, often a sheet or garment which restricts voluntary movement of the body (4).

However, the most important point is that restraint should be analysed in terms of care policies and professional practice, rather than in terms of the actual devices used.

II. POPULATION CONCERNED

These practice guidelines apply to all mobile elderly people aged over 65 who are hospitalised in a care department or cared for in an institution such as a nursing or residential home. The report does not deal with the use of restraints on their own or combined with isolation as part of the treatment for non-age-related mental disorders.

III. WHO THESE GUIDELINES ARE INTENDED FOR

The report is intended for all healthcare professionals who want to assess and improve their practice, irrespective of the type of care structure for elderly people. In particular, it is intended for institutions which are actively revising their care policies and procedures. Beyond this, the frame of reference proposed by these guidelines may provide useful material for study and discussion by anyone concerned with the subject of restraint, particularly members of the governing bodies of establishments, administrators, clinical staff, user groups and families.
DATA ON RESTRAINT AMONG ELDERLY SUBJECTS

I. REASONS FOR RESTRAINT

The literature review showed that the main reason for restraint use was fear of an elderly person falling. Restraint use becomes a habit and persists because most care personnel think that if physical restraint is reduced, the elderly person will be exposed to excessive risk. The next most commonly-cited reasons were disruptive behaviours, such as agitation and wandering (8,9). It is important to emphasise that there is no scientific evidence for the efficacy of the restraints used for these reasons, which are not medical indications in the strict sense.

For example, with regard to fall risk, Tinetti et al. (1992) showed in a one-year prospective study (10) in 397 elderly nursing home residents that, for the same age and the same degree of deficit (cognitive impairment, wandering behaviour, sensory deficit, rheumatological or neurological disease, various forms of treatment, history of falls, etc.), falls were more common in residents subjected to restraint (17% versus 5%). Moreover, serious fall-related injuries were not more frequent when restraints were not used. Similar results were obtained by Capezuti et al. (1996) in a study (11) carried out in elderly nursing home residents. A comparison between the 119 subjects who had been restrained and the 203 subjects who had never been restrained showed that not only did restraints not reduce the risk of serious falls, but that they increased it, particularly in confused subjects.

Apart from age, the main characteristics of subjects who are restrained are disorientation, fall risk, and functional dependence (5,8,9,12). Furthermore, use of physical restraints is rarely formalised by a validated procedure within the healthcare organisation. The decision to use a restraint is based more on the impression that a risk exists than on a precise evaluation of that risk. There is also the added feeling that not using a restraint could lead to litigation against the carer. In order to change attitudes and practice, staff need evidence to convince them that a reduction in restraint use is not accompanied by an increase in falls and injuries (13).

II. PREVALENCE OF RESTRAINT

The prevalence of physical restraint is estimated to be between 7.4 and 17% in short-term hospital wards (14). Elderly people are three times more likely to be restrained during their stay in hospital than younger people (12,15,16). For subjects aged over 65, the figure rises to 18 to 22% (15). In long-term care homes for elderly people, the prevalence of restraint use is between 19 and 84.6%.

III. DANGERS OF PHYSICAL RESTRAINT

First of all, it is interesting to note that no French language publications were found that deal with the epidemiology of complications of physical restraint. The harmful nature of physical restraint was already mentioned nearly a quarter of a century ago (17).
III.1. Morbidity

The use of physical restraint devices carries many risks that have been reported in the literature. Among 102 elderly hospitalised patients, the use of a physical restraint for longer than four days resulted in nosocomial infection in 12% of patients (RR = 1.8; CI 1.2 – 2.8) and new pressure ulcers in 22% (RR = 1.4; CI 1.1 – 1.8). However, this study did not include a control group (12).

Some complications have been reported sporadically. The incidence of others has been measured more precisely.

**Falls**

- The number of serious falls (resulting in a fracture or an injury requiring medical attention, or bed rest for longer than two days) increased in patients who were restrained (17% versus 5%). Restraint use was in itself a risk factor for serious falls (10).

- Schleenbaker et al. reported 25% of falls in restrained patients in a rehabilitation unit, against only 10.1% in unrestrained patients (18). In another study carried out in a rehabilitation unit, patients who fell had been restrained more often during their stay on an acute hospital ward than patients who did not fall (61% versus 22%) (19).

- In a residential home for the elderly, the risk of serious fall as defined by the author (causing bruising, impaired consciousness, fracture, hospitalisation or death) did not increase after physical restraint use was reduced. However, the frequency of non-serious falls rose significantly after physical restraints were removed (1.87% residents per week versus 3.01%) (20).

- These data were not confirmed by Capezuti et al., who reported a fall rate of 5.6/1 000 patient days in a control nursing home versus 2.3/1 000 patient days in a home which had implemented a restraint reduction programme (21).

**Other complications**

The following complications have also been reported:

- onset or aggravation of confusion or agitation (9);
- immobilisation syndrome (contracture, impaired tissue nutrition, pressure ulcers, inhalation of gastric contents, sphincter incontinence, muscle deconditioning and loss of muscle mass, loss of appetite etc.) (12,17);  
- loss of autonomy, longer stay in hospital and higher mortality (15, 22).

Among 24 elderly residents (mean age >85 years) in a long-stay unit, an observational study found a higher level of agitation during the period of restraint and within the next hour than when no physical restraint was used (23).

- In a short-stay unit, Robbins et al. found that mean length of hospital stay for restrained and unrestrained patients was 20 days and 8 days respectively, and mortality was 24% and 3% respectively (p < 0.001) (16).

- The loss of bone mass due to less weight-bearing and less physical activity contributed to increasing the risk of a serious fall. Immobilisation for one week could therefore cause a 10% loss in muscle strength (24).
• Although bed rails are included less often in these studies, the risk of serious injury after falling out of bed is higher when bed rails are used as a physical restraint device. In a small series, 88% of patients - who had fallen trying to get out of bed - had beds with bed rails (25).

III.2. Mortality

Deaths have been reported, caused by strangulation, asphyxia or trauma related to physical restraints. An example that is often cited is the patient who is strangled by the restraining device after slipping between the bed rail and mattress while trying to get out of bed (26). Despite the lack of precise epidemiological data, such events account for 1 in a 1000 deaths in care homes for the elderly (27). Of the people who died because of physical restraints, 78% were aged over 70; 85% of deaths took place in a care home for frail elderly people, 58% while they were in an armchair, and 42% while they were restrained in bed (27).

III.3. Carers’ experience

Although the most important consequences of physical restraint concern the person being restrained, some authors report feelings of distress among care teams (28). Strumpf & Evans analysed nurses’ experience with regard to the use of physical restraints in elderly subjects in the acute sector, and reported that they found it difficult to reconcile restraint use with respect for the patient’s autonomy and dignity (29). However, it should also be remembered that when agitated elderly people, in particular, are not physically restrained, the need for nurses to be constantly present and repeat care interventions (replace catheters, set up an infusion etc.) may be seen by them as real harassment and may lead to feelings of guilt.

In addition, it would seem that the amount of care required by restrained patients is greater than that required by unrestrained patients (30). A study by DiFabio in 15 nurses who had had to cope with caring for restrained patients in an acute psychiatric care centre showed that most of them complained of anxiety, frustration and guilt feelings (28).

Paradoxically, although the prime motive for restraint use is to make nurses feel more secure, this does not appear to happen in practice.
Limiting the risks of physical restraint of elderly subjects

PRACTICE GUIDELINES FOR THE USE OF PHYSICAL RESTRAINT

The guidelines that follow were drafted after a review of the scientific literature and of existing guidelines (31), and draw on the experience of the working group members. Opinions converged very substantially and thus reinforce the safety of this practice. The guidelines are expressed in the form of 10 practice criteria for carrying out clinical audits.

Physically restraining an elderly person with at-risk behaviour is a care intervention which requires:
• a knowledge of the risks related to immobilisation
• regular assessment of requirements and risks
• an individualised care and monitoring programme (32).

An important principle in restraint use is to work within a multidisciplinary team. As with any care practice involving risk, physical restraint must satisfy a number of essential requirements designed to limit its inherent hazards and consequences. It should be used as little as possible, in the best possible way, for the shortest possible time. There should be a restraint order giving the reasons for the restraint use, information should be provided for the patient and their family, and the patient’s safety and the efficacy of the measure should be monitored and assessed frequently. Ideally, the least restrictive method should be identified and used, so as to preserve or improve the elderly person’s functional status (2).

I. DECISION TO USE A RESTRAINT

The literature review did not reveal any absolute indications or contraindications to restraint use. However, it should always be remembered that restraints should only be used when other alternatives have been tried and have failed (33, 34), and only out of a concern to maintain or improve the patient’s functional status (2). Some authors specify that restraints should never be used to make up for a lack of staff, for the convenience of the care team or a carer, or as a disciplinary or punitive measure (3, 7, 35, 36).

The decision to immobilise an elderly person in bed or in a chair must be taken by a medical professional, and should take account of the opinions of the members of the care team (7, 32, 37). Such a decision should only be taken after an assessment of the risk of a fall and of excessive wandering or agitation, often caused by dementia or by tumoral or vascular brain disease. In particular, the following points should be considered carefully as they are:
• either causal factors which it may be possible to change, so avoiding restraint use,
  - drug therapy (diuretics, hypnotics, antihypertensives)
  - cardiovascular disease
  - orthostatic hypotension
  - sensory deficit
  - inappropriate shoes or clothing
• or vulnerability factors which increase the hazards of restraint use and the likelihood of the patient becoming bedridden (7, 37, 38):
  - being elderly (> 75 years)
  - history of falling
  - urinary incontinence and a need to urinate at night
  - reduced autonomy and mobility
  - impaired cognitive state and judgement (disorientation, confusion)
Limiting the risks of physical restraint of elderly subjects

- muscle weakness
- nutritional status.

For each type of risk, the cause should be identified and corrective action taken, insofar as this is possible. For example, hypotension is a cause of falls for which corrective action can be taken.

A decision to use a restraint can only be taken if alternatives to restraint have failed and if the risk behaviour persists.

The relative benefits and risks of restraint should therefore be assessed for each patient. Reasons for restraint should be explicit and noted in the patient’s file. An individualised programme should be drawn up for monitoring the patient and avoiding the risks related to restraint.

II. INFORMATION FOR ELDERLY SUBJECTS AND THEIR FAMILY

Information is still too frequently incomplete, or provided too late. The patient and their family should be informed of the need for restraint (39) so that the decision can be taken with their consent. The reasons for and aims of the restraint, methods or equipment used, and the foreseeable duration and monitoring of restraint use should all be explained. Throughout the period of restraint, the care team should ensure that the patient and their family understand the medical reasons which have led the team to temporarily deprive an elderly person of their mobility (31). These explanations should be repeated as often as necessary, for both the elderly person and their family. The involvement of the patient’s family should be sought (38,40). It is also important to explain to families why the care team is not restraining an elderly person as in many cases the patient’s family is in favour of restraint use (41).

The presence of members of the patient’s family at certain times of the day can reduce the duration and risks of restraint and so improve the elderly person’s quality of life at this stage of care (32).

III. RESTRAINT ORDER, CONTENT AND DURATION OF VALIDITY

In current practice nurses usually initiate the restraint of an elderly person. However, all authors and all experts consulted agree that, because of the risks to be controlled, a clinical judgement has to be made and a restraint order has to be completed, stating the reasons for restraint. They specify that doctors and the care team must collaborate closely and combine all the skills of a multiprofessional team in order to consider all aspects of treatment, just as they had considered all aspects of the decision to use a restraint (4).

• Restraint order

As all medical prescriptions, the order should be in writing, should mention the time and date, and the name of the person signing the order (38, 42). It should state the reasons for the restraint, its likely duration, the risks to be prevented, the monitoring schedule and the restraint device to be used. If no doctor is available or in an emergency, the order may be made retrospectively and confirmed as soon as possible by a doctor.

• Duration of validity of the restraint order
For most authors, the validity of a restraint order should be limited to 24 hours. At the end of this period the elderly person’s clinical state and the efficacy of the restraint should be reviewed, to verify that the measure is appropriate and so limit the risks (3).

IV. APPLICATION OF A RESTRAINT

IV.1. Planning care and risk prevention

- **Choice of device**
  The specific conditions and methods that are the least restrictive and most appropriate for the patient for the duration of restraint should be found (39). An attempt should be made to give the patient some freedom of movement (2, 43).

  The device to be used should be chosen individually for each patient and situation. It should be used in accordance with the manufacturer's instructions, be in good condition, suitable for the patient's size and should be comfortable and safe. Nothing should ever be used in a way for which it was not intended, particularly bedsheets or clothes, in view of the risks involved. Equipment used for restraint should be applied by professionals who are particularly aware of the risks and trained in the use of the device.

  Many authors have pointed out the risks of bed rails used to reduce falls. They say that the risk of serious injury after falling out of bed is higher if bed rails are used for restraint than if there are no bed rails. The presence of bed rails also increases the likelihood that an elderly person will remain in bed, thereby increasing the risk of a fall when he or she does try to get out of bed. Although bed rails are not often considered to be restraint devices, their use should be subject to the same requirements and precautions as all other methods of restraint in view of their possible serious consequences (44, 47).

  For patients with digestive problems such as nausea, vomiting and problems swallowing, the head of the bed should be raised if a patient is kept lying down.

  Restraint devices used in bed can cause axillary compression if they are attached to the head of the bed; this position should therefore be avoided as far as possible.

- **Monitoring**
  It is important that there should be a written plan for the patient to be monitored at regular intervals (39, 43). Monitoring procedures should take into account the particular risks of the device used for restraint and the requirements and specific risks related to the elderly person’s state of health. Monitoring should include physical, psychological and environmental aspects.

  — **Physical parameters**
  All authors emphasised the importance of checking at least every hour for any symptoms related to:
  - respiratory function
  - state of the skin at attachment and load-bearing points (48)
  - hydration
  - continence (40, 43).
Some authors recommend that clothing should be chosen which carries no risk of discomfort or compression and that the elderly person should be released as often as possible (at least every two hours) to preserve their functional status (2,39,48,49).

When their state of health allows it, the elderly person should be encouraged to carry out as many everyday activities as possible. Suitable physical activities should be suggested to avoid the consequences of immobilisation.

_Psychological and environmental parameters_

It is important to listen actively to the elderly person to capture their feelings of fear, humiliation or other emotions with regard to restraint (2). It is essential to accept their perception of their situation. Personal effects and familiar objects should be placed near them (40). Recreational activities should be suggested to maintain their psychological well-being. As nurses and nursing auxiliaries are constantly with or near patients, they should play an important part in maintaining a high quality relationship.

**IV.2. Assessment of the elderly person’s state of health and removal of the restraint**

The need to continue using a restraint should be reviewed at least once a day by the doctor who made the order and the care team (2,3,38,49,50). The review should address the changes in the patient's state of health and the consequences of restraint. Physical and psychological consequences of restraint should be looked for routinely. The aim is to discontinue a measure that is more harmful than good.

If it is decided to remove the restraint, this should be explained to the elderly person and their family. Depending on the situation, the explanation will focus on either:

- changes in the elderly person’s behaviour which make it possible to remove the restraint
- the harmful consequences of restraint which justify stopping it even though the risk of falling, in particular, is not reduced.

The working group has produced practice standards to meet the requirements for each stage of the process. They refer to the 10 following criteria (see also Annexes 2 and 3):
PRACTICE STANDARDS FOR RESTRAINT USE

Criterion 1: Restraint use is subject to completion of a restraint order. Reasons for the restraint should be noted in the patient record.

Criterion 2: The restraint order should be completed after the benefit-risk ratio for the elderly person has been assessed by the multidisciplinary team.

Criterion 3: A monitoring schedule should be drawn up and copied into the patient's record. Its purpose is to prevent the risks related to immobilisation, and in particular it should specify care in terms of hygiene, nutrition, hydration and psychological support.

Criterion 4: The elderly person and their family should be informed of the reasons for and purpose of the restraint. Their consent and participation should be sought.

Criterion 5: The choice of restraint device should meet the patient's needs. It should ensure that the elderly person is safe and comfortable.

If the elderly person is restrained in bed, the device should be attached to fixed parts, to the bed base or frame, and never to the mattress or to rails.

If the bed is adjustable, restraints should be attached to those parts of the bed that move with the person.

If the person is restrained when lying down, the risks of regurgitation and pressure ulcers should be prevented.

Criterion 6: An elderly person should be restrained in such a way that their privacy and dignity are maintained.

Criterion 7: Subject to their state of health, the elderly person should be asked to carry out daily living activities and maintain their functional status. The restraint should be removed as often as possible.

Criterion 8: Depending on the person’s state, activities should be suggested to ensure their psychological well-being.

Criterion 9: The elderly person’s state of health and the consequences of the restraint should be reviewed at least every 24 hours and noted in the patient record.

Criterion 10: The restraint should be renewed every 24 hours, if necessary and after review, by a restraint order stating reasons.
V. RESTRAINT REDUCTION PROGRAMMES

Studies of restraint reduction programmes show that it is possible to reduce physical restraint use within establishments caring for elderly people, without commensurately increasing the frequency of serious falls or prescription of psychoactive drugs.

A project carried out by Levine et al. (51) in New York State reduced the prevalence of restraint use from 39 to 6% in the nursing homes which took part in the programme. The project lasted for 18 months and focused on educating care staff. Information documents were distributed to all teams during the first four months of the project. The aim was to make staff aware of the consequences of physical restraint, to develop a better understanding of elderly patients’ behaviour and to suggest alternatives to restraint devices. It is interesting to note that during the information phase, the authors reported a reduction in restraint use from 39 to 20%. Subsequently, every decision to use a physical restraint had to be preceded by a global assessment of the subject and justified with a written document in the patient record. A retrospective analysis did not show any increase in falls or accidents during restraint reduction periods.

Similar results were obtained by Neufeld et al. (13,52). The restraint reduction programme was based on individualised management after a multidisciplinary team had assessed the patient’s autonomy. Sixteen nursing homes took part in the programme, i.e. a total of 2,075 beds. Participants received information through a number of documents that were distributed. A 39-minute video was aimed at nurses, nursing auxiliaries and families. Standards were drafted for the administrative bodies (legislation, architectural modifications) and a guide was written for the clinical coordinators in the programme. Action taken within each establishment was supervised by a nurse (clinical coordinator). The clinical coordinators and an administrative representative from each establishment were asked to attend a two-day training course on the subject. The programme managers subsequently visited the nursing homes every three months to record any accidents and to give advice about difficult cases, if required. Finally, a quarterly newsletter was published to distribute various items of information, particularly results and details of novel alternatives to restraint. The project lasted for two years and achieved a significant reduction in the use of physical restraint, from 41 to 4%. In addition, the programme achieved a substantial reduction in incidents and accidents at the same time as the reduction in restraint use.

These data have been confirmed by other studies. Evans et al. (53) achieved a reduction of 56% in prevalence of restraint use over a 12-month period, by means of a programme of education and specialist advice (12 hours a week). This was achieved without increasing the number of care staff.

Finally, a restraint reduction programme was successfully carried out in the state of Colorado (33). The first stage of the project was to carry out an assessment of practice in 214 nursing homes in the state. A questionnaire was sent to identify any obstacles to reducing restraint use. It also helped identify the evaluation tools used among residents, the prevalence of restraint use, the reasons for restraint and any alternatives being used. The data collected from 175 (82%) nursing homes were used to produce an intervention strategy and a dossier for care staff containing circulars from the health authorities on restraint use in elderly people and an information guide for residents and their families.
based amongst other things on scientific data analysing the hazards and consequences of restraints. As information for care staff was a key factor in the success of the project, audiovisual equipment was made available to them, and educational workshops were offered to all staff in nursing homes, irrespective of grade. Finally, the media (television, radio, newspapers) were used to launch a major campaign to raise awareness amongst the general public of the problems of restraint use. All these actions were supported by the state of Colorado. The results of the study were very encouraging as most carers found the educational material “very useful”. The measures taken to reduce restraint use in the homes that had taken part in the project were very well accepted by the staff. Finally, some of the positive results of the project that deserve mention were the increasingly common practice of global assessment of the elderly person and the use of sometimes novel alternatives to restraint.

In the same perspective, a legal reform - The Omnibus Budget Reconciliation Act (OBRA) - was introduced in 1987 (54). It included a new draft federal law which obliged healthcare organisations to document physical restraint use in medical records. Its aim was to reduce the use of physical restraint and to promote alternative solutions. This involved drawing up a care plan, starting from a global assessment of the elderly person and taking account of their rights and quality of life. The OBRA legislation did not come into force until 1st October 1990. However, as a result, American nursing homes for the elderly have significantly reduced the proportion of residents subject to physical restraint measures and improved the management of the elderly in institutions (55). In the two years following implementation of OBRA, the percentage of nursing home residents subject to physical restraint dropped from 44 to 15% in ten HCFA (Health Care Financing Administration) regions, without a related increase in the number of serious falls (33), care costs or number of cases of litigation. The legislation also demonstrated that restraint reduction generally improved residents’ quality of life and physical condition. The directives were subsequently extended to hospitals by JCAHO (Joint Commission on Accreditation of Healthcare Organization) (56).

In addition to providing information for teams and training, the main element of these programmes was a multidisciplinary and multidimensional assessment of the elderly person. The assessment determines whether physical restraint is appropriate, while bearing in mind that the main aim must be to improve the elderly person’s functional capacity. The initial analysis should first all define the reason for potential restraint use, while trying to identify the possible causes or factors of the behaviour that holds a risk. This analysis is important because it can establish alternatives to physical restraint. A decision algorithm proposed by the working group is given in Annex 4.
ALTERNATIVES TO RESTRAINT

The literature contains a great deal of information about alternatives to restraint. There are many alternatives, often empirical and based mainly on the common sense of the carer, but few of them have been studied formally to demonstrate their efficacy. Only the Colorado study (33) gives success rates for alternatives (see Annex 5). They were grouped into four main categories:

- physiological and nursing care approaches
- physical modifications
- activity-related approaches
- psychosocial approaches.

Alternatives to restraint can be proposed as a function of whether the risk is related to falling, agitation, confusion or excessive wandering (6,34,36,38,57,58). Before any of them are implemented, the patient's requirements and environment need to be assessed carefully. These alternatives, given in Tables 1-3, are just proposals to be adapted by individual care teams to the specific situation of each elderly person. For each type of risk, medical causes should be remedied first, as far as possible. The other proposals involve changing the environment and the attitude of professionals, which may limit risks by protective mechanisms.
Table 1. Proposed alternatives to physical restraint: Risk of fall

<table>
<thead>
<tr>
<th>Medical reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not overlook medical causes which might need to be treated quickly:</td>
</tr>
<tr>
<td>- orthostatic hypotension, blood sugar disorders, sleep disturbances</td>
</tr>
<tr>
<td>- depression, dehydration, cardiovascular disease</td>
</tr>
<tr>
<td>- Review the various combinations of drugs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes to the environment and bedroom furniture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove any equipment that is not required (furniture and others)</td>
</tr>
<tr>
<td>Increase lighting (an elderly person needs lighting that is two to three times more intense than an adult, particularly if they have a cataract)</td>
</tr>
<tr>
<td>Put a rubber mat next to the bed in case they fall</td>
</tr>
<tr>
<td>Beds should be low (less than 45 cm high)</td>
</tr>
<tr>
<td>Remove wheels from bedside tables and trays tables</td>
</tr>
<tr>
<td>Permanently immobilise wheels on the bed, and set it at a low position</td>
</tr>
<tr>
<td>Put up time indicators (calendar, clock)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support for the elderly person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage physical activity, walking, autonomy</td>
</tr>
<tr>
<td>Tell them when carers will be round to see them</td>
</tr>
<tr>
<td>Suggest activities to occupy them</td>
</tr>
<tr>
<td>When the patient is awake, take them to the toilet every hour, and once or twice during the night</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When moving around</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help the person when they are moving around</td>
</tr>
<tr>
<td>Provide technical aids (toilet seat raiser, support rails)</td>
</tr>
<tr>
<td>Check that the shoes used are suitable, and done up</td>
</tr>
<tr>
<td>Check that the person is using glasses, hearing aids, walking aids</td>
</tr>
<tr>
<td>Point out to the person places where they are at risk (slippery floors, stairs)</td>
</tr>
<tr>
<td>Encourage the person to support themselves on rails in corridors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When putting the person in a bed or armchair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put the armchair where the patient would like it</td>
</tr>
<tr>
<td>Stabilise the bed or armchair (immobilise wheels)</td>
</tr>
<tr>
<td>See that the person is comfortable (clothes and position)</td>
</tr>
<tr>
<td>Adjust the angle of the armchair or height of the bed to make it easier for them to stand up</td>
</tr>
<tr>
<td>Adjust armrests to a height that gives the patient support</td>
</tr>
<tr>
<td>Do not put any object in front of the armchair which could get in the way during transfers</td>
</tr>
<tr>
<td>Put personal effects and familiar objects near the patient (watch, glasses, photos etc.)</td>
</tr>
<tr>
<td>Explain what the call system is for, and how to use it</td>
</tr>
<tr>
<td>Don’t leave the patient sitting for too long</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t pull the person, but stand next to them to help them in order to avoid them being dragged backwards</td>
</tr>
<tr>
<td>Teach the person how to get up from and sit down into an armchair by leaning on the armrests</td>
</tr>
</tbody>
</table>
### Table 2. Proposed alternatives to physical restraint: Risks related to agitation and confusion

<table>
<thead>
<tr>
<th>Medical reasons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Do not overlook medical causes for agitation or confusion which might need</td>
<td>- check that drug therapy is appropriate (multiple drugs, drug interactions)</td>
</tr>
<tr>
<td>to be treated quickly:</td>
<td>- look for signs of pain, sleep problems, depression, hyperthermia</td>
</tr>
<tr>
<td>- Correct any sensory deficits</td>
<td></td>
</tr>
<tr>
<td>Changes to the environment</td>
<td>- Reduce aural stimuli</td>
</tr>
<tr>
<td>- Avoid the presence of people with disruptive behaviour</td>
<td></td>
</tr>
<tr>
<td>Support for the person</td>
<td>- Organise times when carers will be with the patient and if possible ask the patient’s family or close friends to spend time with them</td>
</tr>
<tr>
<td>- Make a note of the patient’s habits and respect their routine:</td>
<td>- respect their sleeping times, food habits, interests</td>
</tr>
<tr>
<td>- Encourage friendly contact</td>
<td>- See that the patient knows their carers:</td>
</tr>
<tr>
<td>- Tell the patient that the care team is always there</td>
<td>- Give one’s name and function, as necessary</td>
</tr>
<tr>
<td>- Adopt a calm and reassuring attitude</td>
<td>- Tell the patient that the care team is always there</td>
</tr>
</tbody>
</table>

### Table 3. Proposed alternatives to physical restraint: Risks related to excessive wandering

<table>
<thead>
<tr>
<th>Medical reasons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Do not overlook medical causes for wandering which might need to be treated</td>
<td>- new drug therapy, use of certain drugs, anxiety, pain</td>
</tr>
<tr>
<td>quickly:</td>
<td></td>
</tr>
<tr>
<td>Changes to the environment</td>
<td>- Improve security in the premises</td>
</tr>
<tr>
<td>- Designate safe areas where patients can walk about</td>
<td></td>
</tr>
<tr>
<td>Support for the person</td>
<td>- Improve and encourage the patient’s orientation:</td>
</tr>
<tr>
<td>- Take them round the premises and show them where everything is (dining room,</td>
<td>- Show them where the switches are, and how to use them</td>
</tr>
<tr>
<td>corridors, toilets, treatment room, nurses’ station)</td>
<td>- Explain the daily routine (mealtimes and who is on duty)</td>
</tr>
<tr>
<td>- Reiterate reminders</td>
<td>- Reorient the patient calmly</td>
</tr>
<tr>
<td>- Attract the patient’s attention by visual barriers:</td>
<td>- Place photos, posters, television screens, mirrors on exits</td>
</tr>
<tr>
<td>- Put the patient near a window or in a place where there is something to</td>
<td>- Tell the patient that the care team is always there</td>
</tr>
<tr>
<td>interest them</td>
<td></td>
</tr>
</tbody>
</table>
CRITERIA FOR IMPLEMENTING A RESTRAINT REDUCTION POLICY

The aim of the practice standards given earlier is to minimise the hazards of restraint use by improving the process that goes from ordering the restraint to monitoring the patient. However, as the benefits of immobilising an elderly person are often outweighed by the risks, restraint use should be reduced to a minimum. This can only be done by using structured programmes within a healthcare organisation or unit.

The standards below are a guide for a restraint reduction policy. They cover the criteria for the decisions, organisation and actions needed to implement gradual changes in professional practice and, in fact, make up a continuous safety and quality improvement programme.

**Criterion 1:** The establishment’s or unit’s policy on use of physical restraint is formulated in a document available to carers, patients/residents and their family and close friends.

**Criterion 2:** Restraint use is measured, recorded and analysed.

**Criterion 3:** Restraint-related incidents and accidents are recorded and analysed, and form the basis for preventive action plans.

**Criterion 4:** Information about the hazards of restraint use is given to care teams.

**Criterion 5:** Care teams are trained in the appropriate use of restraints.

**Criterion 6:** Care teams are trained in the use of tools for assessing the state of health of elderly persons.

**Criterion 7:** Care teams are trained in alternatives to restraints.

**Criterion 8:** The use of alternatives to restraint is encouraged and facilitated. There is a formal system for assessing these methods.

**Criterion 9:** If a restraint measure is renewed without a satisfactory outcome for the elderly person, the establishment can call on a professional with expertise in the subject of restraint (doctor, nurse, psychologist) to help teams clarify the advantages and drawbacks of restraint use, and find alternatives.
CONCLUSION

Restraint should not be used as an expedient measure to prevent falls, injury or behaviour problems in elderly subjects. There is no evidence that it is effective in these indications. The prolonged immobilisation imposed by restraint results in the physical and psychological deconditioning of patients, which actually increases the likelihood of falls or injury.

The literature highlights two main points:
- use of a restraint requires an assessment of the elderly person’s state of health, and a strategy for care and monitoring which must be tailored to the individual. Practice should be based on the fundamental principles of quality and safety of care.
- restraint use should be the exception, in view of the risks restraint entails. An increasing number of interventions designed to prevent and reduce recourse to physical restraint in elderly subjects have been proved to be effective. A search for alternatives to reduce restraint use in care units and institutions should be constantly encouraged.

Training and information is needed for teams caring for elderly people, and restraint reduction programmes should be implemented to allow continuous improvement in professional practice while respecting one of the fundamental rights of the person, that of freedom of movement.
REFERENCES


26. Katz L, Weber F, Dodge P. Patient restraint and
safety vests: minimizing the hazards. Dimens Health Serv 1981;58:10-1.


55. Hawes C, Mor V, Phillips CD, Fries BE, Morris JN, Steele-Friedlo E, et al. The OBRA-87 nursing


ANNEXES

Annex 1. Search strategy
Annex 2. Example of a specific record sheet for each episode of restraint
Annex 3. Final assessment form for institution of restraint use
Annex 4. Decision algorithm
Annex 5. Success rates for alternatives to restraint use
ANNEX 1. SEARCH STRATEGY

The MEDLINE, HealthSTAR and EMBASE databases were searched for English and French publications over the period 1990-1999.

Basic key words:
Fall OR Accidental fall, combined with Aged OR Ageing, and with Restraint OR Physical restraint OR Prevention.

- Guidelines, consensus conferences
  The basic key words were combined with:
  Practice guideline OR guideline OR Health practice guideline OR Recommendation (title) OR Clinical protocol OR Consensus development conference OR Consensus conference (title).
  → 29 references from MEDLINE, 18 from EMBASE, and 18 from HealthSTAR.

- Literature reviews, meta-analyses
  The basic key words were combined with:
  Review literature OR Literature review OR Meta analysis.
  → 11 references from MEDLINE, 4 from EMBASE, and 1 from HealthSTAR.

- Articles on medical decision making
  The basic key words were combined with:
  Decision analysis OR Medical decision making OR Decision trees OR Decision support techniques.
  → 3 references from MEDLINE, and 2 from HealthSTAR.

FURTHER SEARCHES (1994-1999):

- Epidemiology of falls in the elderly
  The key words Fall OR Accidental fall, combined with Aged OR Aging, were combined with Prevalence OR Epidemiology.
  → 31 references from MEDLINE, and 15 from HealthSTAR.

- Prevention of falls and restraint use in the elderly
  Fall OR Accidental fall, combined with Aged OR Aging, and with Restraint OR Physical restraint OR Prevention.
  → 70 references from CINAHL.

- Risks associated with restraint use in the elderly
  The key words Fall OR Accidental fall, combined with Aged OR Aging, and with Restraint OR Physical restraint, were combined with: Side effect OR Adverse effect.
  → 40 references from MEDLINE, and 3 from HealthSTAR.

- Ethical aspects of restraints
  The key words Fall OR Accidental fall, combined with Aged OR Aging, and with Restraint OR Physical restraint, were combined with: Ethics.
  → 80 references from Bioethicsline.
The French literature
The PASCAL and BDSP databases were searched for the period 1994-1999. → 33 references from PASCAL, and 58 from BDSP.
## ANNEX 2. EXAMPLE OF A SPECIFIC RECORD SHEET FOR EACH EPISODE OF RESTRAINT

### General details

1: Care unit: /---------------------------------------/

2: Patient’s surname: /---------------------------------------/  3: First name: /---------------------------------------/

(Insert first three letters or make the name anonymous)

4: Age: /------/  5: Sex: M /------/ F:/------/

6: Date admitted to unit: /------/------/------/

7: Date of start of episode of restraint: /------/------/------/

8: Date of observation day: /------/------/------/

### Criterion 1 - Restraint ordered by doctor

1: Restraint planned and ordered by a doctor  0 yes  0 no

or

2: Restraint ordered in emergency by a doctor  0 yes  0 no

or

3: Restraint applied by care team and subsequently confirmed by a doctor  0 yes  0 no

or

4: Restraint applied by care team and subsequently rejected by a doctor  0 yes  0 no

5: Specify for 3 and 4 whether the time between institution of restraint and confirmation or rejection of the indication by a doctor was 3 hours or more  0 yes  0 no

—  If the answer to question 4 is yes, go straight to criterion 2

6: If the restraint was instituted or confirmed by a doctor within a maximum of 3 hours, is there a written record of the restraint order in the patient’s record giving the reasons for the restraint  0 yes  0 no

—  If yes, what are these reasons:

- Risk of falling  0 yes  0 no
- Agitation  0 yes  0 no
- Excessive wandering  0 yes  0 no

Other, specify:

- Duration  0 yes  0 no
- Restraint device to be used  0 yes  0 no
Limiting the risks of physical restraint of elderly subjects

- Name and signature of person ordering the restraint

  
  Criterion 1 is satisfied if the answer to all the following questions is yes:
  (1 or 2 or 3) and 6 and 7 and 8 and 9

Criterion 2 - Assessment by the multidisciplinary team of benefit-risk ratio for the elderly person

1: The possible causes of the behaviour or situation resulting in restraint have been identified or at least looked for

2: Any risks of restraint for the elderly subject have been assessed

3: The benefit-risk ratio has been assessed by a multidisciplinary team

  Criterion 2 is satisfied if the answer to all the following questions is yes 1-2-3

Criterion 3 - Monitoring

1: Monitoring is planned and recorded in the patient record

2: Risks related to immobilisation are being avoided

3: Care related to hygiene, nutrition and hydration is provided

4: Psychological support has been given

  Criterion 3 is satisfied if the answer to all the following questions is yes: 1-2-3-4

Criterion 4 - Information delivered

1: Information has been given to the elderly person about the reasons, aims and methods involved in the restraint

2: Information has been given to the family

  Criterion 4 is satisfied if the answer to questions 1 and 2 is yes or if the answer to 1 is yes and to 2 is no

Criterion 5 - Restraint device

1: Restraint in bed

2: Restraint in chair

3: Type of device used

  3-1: Specific equipment
Limiting the risks of physical restraint of elderly subjects

3-2: Non-specific equipment

4: Equipment suitable for size of person

5: For a standard bed:
   5-1: The restraint device is attached to the bed base or frame

   5-2: The restraint device is attached to the mattress or bed rails

6: For an adjustable or medical care bed:
   - The restraint device is attached to the parts which move with the patient

7: Equipment is adequate in terms of safety for this person

8: Equipment is adequate in terms of comfort for this person

9: The head of the bed is raised

10: Action has been taken to prevent pressure ulcers

— Criterion 5 is satisfied if the answer to all the following questions is yes: 3-1, 4, 5-1, 6, 7, 8, 9, 10

Criterion 6 - Application of restraint to the person

1: Clothing is appropriate and preserves the patient’s privacy and dignity

2: The physical application of restraint to the person is appropriate for their needs

3: The place where the elderly person is restrained is appropriate

4: The restraint device is discreet and allows some freedom of movement

— Criterion 6 is satisfied if the answer to all the following questions is yes: 1, 2, 3, 4

Criterion 7 - The restraint is removed as often as possible

Mobilisation has been planned and is being carried out

— Criterion 7 is satisfied if the answer to the following question is yes: 10
— *Criterion 7 is satisfied if the answer to this question is yes*

**Criterion 8 - Activities for psychological health**

Activities are offered to the person during the day

If yes, which; specify type and frequency:

— *Criterion 8 is satisfied if the answer to this question is yes*

**Criterion 9 - Assessment**

Since the start of restraint:

1: The state of health of the elderly person has been assessed daily

2: The consequences of restraint on the patient’s physical and psychological state have been assessed daily

3: The consequences of restraint on the physical and psychological state have been recorded in the patient record

— *Criterion 9 is satisfied if the answer to questions 1, 2 and 3 is yes*

**Criterion 10 - Extension of restraint**

- The removal or extension of the restraint has been validated by a restraint order stating reasons, every 24 hours

— *Criterion 10 is satisfied if the answer to this question is yes.*
## ANNEX 3. FINAL ASSESSMENT FORM FOR RESTRAINT USE

Date information collected: --------------------------------------------

### Abbreviations used
- **PR:** Patient record
- **QC:** Question to carers
- **O:** Observation
- **NA:** Not applicable

<table>
<thead>
<tr>
<th>No.</th>
<th>Sources</th>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PR</td>
<td>A restraint order was issued before the restraint was applied. The reasons are given in the patient record.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>QC + PR</td>
<td>The restraint order was written after the benefit-risk ratio for the elderly person had been assessed by a multidisciplinary team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>PR</td>
<td>Monitoring was planned and recorded in the patient record. It avoids the risks related to immobilisation and in particular specifies hygiene care, nutrition, hydration and psychological support.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>QC + PR</td>
<td>The elderly person and their family have been informed of the reasons for and aims of the restraint. Their consent and participation have been sought.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>O + QC</td>
<td>In the case of restraint in bed, the device is attached to the fixed parts, bed base or frame, never to the mattress or to bed rails. In the case of a variable-height bed, the restraints are fixed to the parts of the bed that move with the patient. In the case of restraint with the patient lying down, preventive measures have been taken to reduce the risk of regurgitation and of pressure ulcers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>The way the elderly person has been restrained maintains their privacy and dignity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>The elderly person is asked to carry out daily living activities and to maintain their functional status. The restraint is removed as often as possible.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>O + QC</td>
<td>Activities appropriate to the elderly person’s state of health are being proposed to them to preserve their psychological health.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>PR</td>
<td>The elderly person’s state of health and the consequences of the restraint have been assessed at least every 24 hours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>PR</td>
<td>The restraint has been prolonged, if necessary. This requires a restraint order that states reasons and is renewed every 24 hours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEX 4. DECISION ALGORITHM

* Risk of falling
* Agitation, behaviour problems
* Excessive wandering

ASSESSMENT
Look for a reason for the problem:
- environmental cause
- individual reason

Is this problem hazardous for the subject or for others?

NO

YES

INTERVENTION
* Treat the cause
* Try alternatives to restraint:
  physical, physiological, occupational,
  psychological, environmental

Do not use restraint

YES Interventions effective NO

Restraint
## ANNEX 5. SUCCESS RATES OF ALTERNATIVES TO RESTRAINT USE*

<table>
<thead>
<tr>
<th>Physical Modifications</th>
<th>Yes</th>
<th>No</th>
<th>Not tried</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Modify environment (e.g. increase lighting, establish wandering paths, disguise exits)</td>
<td>49.6%</td>
<td>12.4%</td>
<td>38.0%</td>
<td>129</td>
</tr>
<tr>
<td>b. Adapt wheelchairs</td>
<td>90.6%</td>
<td>3.9%</td>
<td>5.5%</td>
<td>128</td>
</tr>
<tr>
<td>c. Provide body props</td>
<td>87.5%</td>
<td>8.7%</td>
<td>5.6%</td>
<td>126</td>
</tr>
<tr>
<td>d. Use alternative beds</td>
<td>76.6%</td>
<td>3.9%</td>
<td>19.5%</td>
<td>128</td>
</tr>
<tr>
<td>e. Remove wheels from beds/chairs</td>
<td>37.6%</td>
<td>14.4%</td>
<td>48.0%</td>
<td>125</td>
</tr>
<tr>
<td>f. Install alarm/safety devices (e.g. ambulam, transfer disk)</td>
<td>85.3%</td>
<td>5.4%</td>
<td>9.3%</td>
<td>29</td>
</tr>
<tr>
<td>g. Reduce unnecessary visual or auditory stimuli (e.g. eliminate buzzers, bells, intercoms, television)</td>
<td>50.4%</td>
<td>14.2%</td>
<td>35.4%</td>
<td>127</td>
</tr>
<tr>
<td>h. Personalize rooms</td>
<td>79.1%</td>
<td>9.3%</td>
<td>11.6%</td>
<td>129</td>
</tr>
<tr>
<td>i. Use secured unit</td>
<td>42.3%</td>
<td>20.3%</td>
<td>37.4%</td>
<td>123</td>
</tr>
<tr>
<td><strong>Activity-related Approaches to Reduced Restraint Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Structure daily activities</td>
<td>89.1%</td>
<td>7.8%</td>
<td>3.1%</td>
<td>129</td>
</tr>
<tr>
<td>b. Permit or encourage wandering/pacing</td>
<td>84.5%</td>
<td>9.3%</td>
<td>6.2%</td>
<td>129</td>
</tr>
<tr>
<td>c. Provide physical exercise</td>
<td>88.4%</td>
<td>10.1%</td>
<td>1.6%</td>
<td>129</td>
</tr>
<tr>
<td>d. Provide nighttime activities</td>
<td>42.5%</td>
<td>17.3%</td>
<td>40.2%</td>
<td>127</td>
</tr>
<tr>
<td>e. Provide weekend activities</td>
<td>82.7%</td>
<td>11.8%</td>
<td>5.5%</td>
<td>127</td>
</tr>
<tr>
<td>f. Utilize volunteers to increase programming</td>
<td>66.7%</td>
<td>15.5%</td>
<td>17.8%</td>
<td>129</td>
</tr>
<tr>
<td>g. Use buddy system to monitor surveillance</td>
<td>19.7%</td>
<td>17.3%</td>
<td>63.0%</td>
<td>127</td>
</tr>
<tr>
<td><strong>Physiological and Nursing Care Approaches to Reduce Restraint Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Assess underlying physical or psychosocial problems</td>
<td>95.4%</td>
<td>4.6%</td>
<td>0%</td>
<td>130</td>
</tr>
<tr>
<td>b. Assess sleep patterns</td>
<td>82.2%</td>
<td>10.1%</td>
<td>7.8%</td>
<td>129</td>
</tr>
<tr>
<td>c. Relieve pain</td>
<td>93.0%</td>
<td>6.2%</td>
<td>0.8%</td>
<td>129</td>
</tr>
<tr>
<td>d. Use appropriate footwear</td>
<td>88.5%</td>
<td>9.2%</td>
<td>2.3%</td>
<td>130</td>
</tr>
<tr>
<td>e. Use eyeglasses, hearing aids, or dentures</td>
<td>79.8%</td>
<td>17.1%</td>
<td>3.1%</td>
<td>129</td>
</tr>
<tr>
<td>f. Increase hydration</td>
<td>78.5%</td>
<td>13.8%</td>
<td>7.7%</td>
<td>130</td>
</tr>
<tr>
<td>g. Provide additional supervision and observation</td>
<td>91.6%</td>
<td>6.1%</td>
<td>2.3%</td>
<td>131</td>
</tr>
<tr>
<td>h. Provide daily physical ambulation</td>
<td>91.6%</td>
<td>8.4%</td>
<td>0%</td>
<td>131</td>
</tr>
<tr>
<td>i. Relocate near nursing station</td>
<td>86.3%</td>
<td>9.2%</td>
<td>4.5%</td>
<td>131</td>
</tr>
<tr>
<td>j. Institute toileting schedule</td>
<td>91.6%</td>
<td>7.6%</td>
<td>0.8%</td>
<td>131</td>
</tr>
<tr>
<td>k. Implement repositioning techniques</td>
<td>87.5%</td>
<td>9.3%</td>
<td>3.1%</td>
<td>129</td>
</tr>
<tr>
<td>l. Schedule daily nap</td>
<td>75.6%</td>
<td>16.8%</td>
<td>7.6%</td>
<td>131</td>
</tr>
<tr>
<td>m. Reassess drug use/medications</td>
<td>95.4%</td>
<td>4.6%</td>
<td>0%</td>
<td>130</td>
</tr>
<tr>
<td>n. Take out of room, as appropriate</td>
<td>90.1%</td>
<td>6.9%</td>
<td>3.1%</td>
<td>131</td>
</tr>
<tr>
<td>o. Provide frequent reminders to avoid a specific behaviour</td>
<td>86.0%</td>
<td>10.1%</td>
<td>3.9%</td>
<td>129</td>
</tr>
<tr>
<td>p. Provide repeated reassurances</td>
<td>90.8%</td>
<td>7.6%</td>
<td>1.5%</td>
<td>131</td>
</tr>
<tr>
<td>q. Encourage acceptance of problem behaviour by staff and family</td>
<td>87.7%</td>
<td>8.5%</td>
<td>3.8%</td>
<td>130</td>
</tr>
<tr>
<td>r. Institute more skilled therapy (e.g. physical therapy, medical, psychosocial)</td>
<td>93.8%</td>
<td>13.4%</td>
<td>0.8%</td>
<td>129</td>
</tr>
<tr>
<td>s. Provide massage</td>
<td>40.2%</td>
<td>14.2%</td>
<td>45.7%</td>
<td>127</td>
</tr>
<tr>
<td>t. Provide snacks</td>
<td>83.8%</td>
<td>13.1%</td>
<td>3.1%</td>
<td>130</td>
</tr>
<tr>
<td>u. Provide diversion/redirect</td>
<td>92.4%</td>
<td>6.9%</td>
<td>0.8%</td>
<td>131</td>
</tr>
<tr>
<td><strong>Psychosocial Approaches to Reduce Restraint Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Actively listen/explore feelings and perceptions of resident</td>
<td>80.6%</td>
<td>14.0%</td>
<td>5.4%</td>
<td>129</td>
</tr>
<tr>
<td>b. Encourage familiar possessions</td>
<td>85.3%</td>
<td>12.4%</td>
<td>2.3%</td>
<td>129</td>
</tr>
<tr>
<td>c. Encourage independence in other aspects of care</td>
<td>89.1%</td>
<td>10.2%</td>
<td>0.8%</td>
<td>128</td>
</tr>
<tr>
<td>d. Use behavioural strategies</td>
<td>85.8%</td>
<td>10.2%</td>
<td>3.9%</td>
<td>127</td>
</tr>
<tr>
<td>e. Modify sensory stimulation (eg, aromatherapy, relaxing paint colours)</td>
<td>52.4%</td>
<td>12.7%</td>
<td>34.9%</td>
<td>126</td>
</tr>
<tr>
<td>f. Increase visiting/socialization</td>
<td>84.4%</td>
<td>12.5%</td>
<td>3.1%</td>
<td>128</td>
</tr>
<tr>
<td>g. Provide reality orientation</td>
<td>71.9%</td>
<td>25.8%</td>
<td>2.3%</td>
<td>128</td>
</tr>
<tr>
<td>h. Accept residents’ perception of their reality</td>
<td>88.3%</td>
<td>11.7%</td>
<td></td>
<td>128</td>
</tr>
</tbody>
</table>

* as reported by Colorado nursing homes (33). “Yes” means the intervention was tried and successful, “No” means it was tried, but not successful, and “Not Tried” means the intervention was never tried.