



Best Practice

Evidence Based Practice Information Sheets for Health Professionals

Physical Restraint - Part 2: Minimisation in Acute and Residential Care Facilities

Introduction

There is a growing concern surrounding the use of physical restraint in health care institutions and many facilities have investigated ways in which the use of restraint can be reduced. However, the information reported in the literature is at times inconsistent and a number of different approaches to restraint minimisation have been proposed.

A systematic review focusing on physical restraint was conducted by The Joanna Briggs Institute¹. This systematic review addressed a number of different issues, including:

Restraint Minimisation Programs

Do restraint minimisation programs safely reduce the use of physical restraint devices?

Components of Restraint Minimisation Programs

What are the components of restraint minimisation programs reported in the literature?

Restraint Alternatives

What interventions have been used as alternatives to physical restraint or to reduced the need for restraint?

This Information Sheet Covers the Following Concepts:

- Restraint-free Care
- Restraint Minimisation Programs
- Restraint Education
- Restraint Alternatives
- Management of Specific Populations
- Multiple Support Activities

Levels of Evidence

All studies were categorised according to the strength of the evidence based on the following revised classification system.²

Level I Evidence obtained from a systematic review of all relevant randomised controlled trials.

Level II Evidence obtained from at least one properly designed randomised controlled trial.

Level III.1 Evidence obtained from well designed pseudo-randomised controlled trials (alternate allocation or some other method).

Level III.2 Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies or interrupted time series with a control group.

Level III.3 Evidence obtained from comparative studies with historical control, two or more single arm studies, or interrupted time series without a parallel control group.

Level IV Evidence obtained from case series, either post-test or pre-test and post-test.

Restraint-free Care

There is a growing discussion in the professional literature on restraint-free care. Restraint-free care differs from restraint minimisation in that restraint devices are not used for any reason and are usually not kept by the health care facility. While there are some examples reported in the literature of restraint-free care from the residential care setting, there is scant information from the acute care setting.

As a result of this, the term 'restraint minimisation' has been used in this publication, not to offer support for the use of physical restraint devices, but rather to enable the evidence to be summarised in a logical and coherent manner. The impact of restraint-free care on patient and resident outcomes (and on care delivery and cost) is an area in urgent need of further investigation.

Restraint Minimisation Programs

Acute Care

There is little research evaluating restraint minimisation programs in this setting. No randomised controlled trials (RCTs) or controlled trials were identified during the literature search, and only three before and after studies have investigated the impact of restraint minimisation programs in the acute care setting. Based on these three studies, it appears that the use of physical restraint can be minimised, however the reduction in restraint use was not as great as has been achieved in residential care settings.

Residential Care

One RCT evaluated the impact of a restraint education program for staff combined with specialist nurse consultation, compared to either restraint education alone, or to no intervention. The education supported by consultation resulted in a 56% reduction in the use of restraints over a 12 month period, while education alone resulted in a reduction of 23%. This reduction was not accompanied by any increases in staff numbers, psychoactive drugs or serious fall-related injuries.

A large number of before and after studies support the findings of this RCT, that physical restraint can be safely reduced in this setting. Additionally, the findings of a small number of studies suggest that while minor injuries may increase following restraint reduction, serious injuries may decline. However, this is an area that requires further investigation.

Components of Restraint Minimisation Programs

In evaluating the structure and approaches to restraint minimisation reported in the literature, two common themes emerge. Firstly, all programs incorporated education to help change the organisational culture and to provide strategies for the successful removal of restraints. Secondly, multiple activities were commonly used to facilitate the minimisation of restraint use.

Restraint Education

Education was an important characteristic of most programs. Because of the many reports describing restraint education, specific issues related to this education are summarised below.

Format of Education

A range of different approaches to the education were used during restraint minimisation programs and included in-service education, education packages, mandatory and voluntary education, workshops, seminars, videos and computer-assisted education. One program used an educational competency on physical restraint to assess the knowledge and skills of new staff. There was considerable variability in the duration of the education programs. Some programs were only one or two hours, eight hours, two days and ten sessions conducted over four months. While most education was conducted within single organisations, some educational programs were conducted across two or more facilities.

Content of Education Sessions

While there was some variation in the content of the education sessions between the different minimisation programs, a number of issues were common to many programs, including:

- impact of physical restraint
- resident's rights and resident autonomy
- myths and misconceptions about the use of restraints

- ethical aspects of restraining people
- legal and legislative aspects of restraint use and restraint minimisation
- dangers and adverse outcomes as a result of physical restraint
- specific behavioural problems (reasons or management), including agitation, wandering, treatment interference, risk of falling and positioning problems
- restraint alternatives

Restraint Alternatives

There has been little evaluation of restraint alternatives and the description of alternatives identified in the literature was often inadequate. Therefore a focus of the systematic review became the development of a list of possible alternative interventions. However, caution is needed in using this information as these suggestions have been subject to little evaluation. They are included in this information sheet to provide a list of potential options for clinicians.

A restraint alternative was considered to be any intervention that was used in place of a restraint device, or reduced the need for physical restraint. Table 1 lists the potential alternatives.

Specific Populations

A number of suggestions were identified relating to the management of specific populations, and these have been summarised in Table 2. Once again this has received little evaluation and have been included to provide a list of potential options for clinicians.

Table 1: Restraint Alternatives

Environmental Changes

- improved lighting
- easy to turn on lights
- non-slip strips on floor and non-slip floors
- ensuring a path clear of furniture
- easy access to safe outdoor areas
- locked exit doors
- cloth barriers across doorways attached with velcro
- activity areas at the end of each corridor
- structural design of units modified to enhance visibility of residents

Safety in Bed

- concave mattress
- bed boundary markers to mark edges of bed, such as mattress bumpers, rolled blanket or 'swimming noodles' under sheets
- water mattress to reduce movement to edge of bed
- positioning cushions to prevent movement to edge of bed
- use of body length pillows to aid positioning
- soft floor mat or a mattress by the bed to cushion any falls
- person at risk to sleep on a mattress on the floor
- individualise bed height
- bed height adjusted to lower leg length
- no bedrails, or half bedrails with low beds
- removal of wheels
- chair or table at bedside to help with transfer
- non-slip strips on floor by bed
- trapeze to enhance mobility in bed
- visual reminders to encourage the patient or resident to use call bell

Seating and Position Support

- chairs with deep seats
- rockers or recliners
- large pillows (like bean bags) on floor
- high back or supportive chairs
- removal of wheels
- pillows on seats

- bean bag cushions for chair to reduce risk of slipping for person with continuous 'jerky' movements to stop them moving out of chair
- customised seating (wedge cushions, D-placement cushions or with hole in centre)
- wheelchair arm cushion to prevent sideways slumping / leaning of person with CVA

Activities and Programs

- developing rehabilitation and exercise programs that involve teaching the resident safe transfer techniques
- development of an ambulation program
- physical, occupational and recreational therapies
- exercise incorporated into the daily plan of care
- night time activities for those who wander at night
- individual and group activities
- recreational and social activities
- appropriate outlets for industrious or anxious behaviour
- structured daily routines
- wandering should be permitted

Toileting and Continence

- frequent assistance with toileting
- individual elimination rounds
- toileting schedule
- cleaning promptly after soiling
- incontinence evaluation
- identify bathroom with picture
- bedside commode

Alterations to Nursing Care

- additional supervision and observation
- evaluate and monitor conditions that can alter behaviour
- increase staffing levels
- individualised daily routines, such as toileting and napping
- structured daily routines
- individual needs of person known to staff
- nursing assistants learning to anticipate and be present during transfers

- call bell within reach
- at risk patients near nurses station
- change bothersome treatments, such as initiate oral feeding instead of IV or NG and removal of catheters and drains as soon as possible
- individualised person centred care
- facilitated napping
- limit time spent in bed to sleep time

Psychosocial Alternatives

- companionship
- active listening
- increased visiting
- encourage staff and resident interaction
- provide companionship using family, friends or volunteers
- familiar staff
- increase social interaction
- therapeutic touch
- massage
- relaxation techniques
- behaviour modification
- reality orientation
- white noise for insomnia
- sensory aids
- quiet room
- sensory stimulation
- decreased sensory stimulation
- reduced environmental noise

Physiological Alternatives

- treatment of infections
- reduce pain / schedule analgesics
- schedule analgesia to help overcome insomnia
- checking medication
- remove any physiological causes of mental state impairment

Alarms

- bed, chair or wrist alarms for cognitively impaired
- alarms to manage wandering
- exit door alarm
- electronic sensor system

Table 2: Management of Specific Populations

Cognitively Impaired Person

- wall-mounted white board marker to record day of week & the names of staff
- continuous orientation to environment
- provide familiar objects from person's home
- reality orientation
- involving patient in conversation
- a confusion box containing such things as laundry to fold, stuffed animals, purses and wallets
- small hand held objects
- changing resident's seating arrangements throughout the day
- television or radio
- listening to music
- bed, chair or wrist alarms
- remove or treat cause of delirium
- identify bathroom with picture
- confused patients near nurses station

Person at Risk of Falling

- coloured armbands to identify people at risk of falling
- fall precautions and risk factors identified for each person
- fall prevention program

Person who Wanders

- picture taken and kept in nurses station to aid in finding them
- identify those who are mobile and confused on admission
- a unique house coat designed and used for wandering patients to aid in easy recognition by staff
- implemented a "code yellow" that required all staff to immediately look in their area for the missing patient
- visual barriers for doors

- cloth barriers across doorways, attached with velcro
- locked door or closed unit
- alarm devices and exit door alarms
- sheltered courts and gardens and easy access to safe outdoor areas
- circular corridors, activity areas at the end of each corridor
- provide activities, walking and recreation
- night-time activities for those who wander at night

Person who Tamper with Medical Devices

- IM instead of IV therapy
- abdominal binder placed over padded gastrostomy tube
- mittens or socks on hands instead of wrist restraints
- soft football shaped foam in person's hand covered with stockingette to protect medical devices

Agitated or Violent Person

- rocking chair and recliners
- soothing music
- offer diversions such as TV or radio

Person with Impaired Mobility

- physical and occupational therapy
- rehabilitation and exercise programs
- teach safe transfer techniques
- development of an ambulation program
- create path clear of furniture
- non-slip floor treatment
- body padding
- mobility aids
- use of transfer rails
- appropriate shoes and treaded slippers
- encouraging consistent use of assistive devices

Multiple Support Activities

In support of restraint education, most programs involved a large number of other activities. While these activities have been summarised caution is needed in interpreting and using this information as these individual activities have not been subject to rigorous evaluation. Additionally, there is little information regarding the optimal format, timing, duration or combination of activities.

1. Organisational Approach

The majority of restraint minimisation programs identified in the literature involved the entire organisation, rather than single units or wards. This organisational approach usually involved the formation of a restraint committee, was multidisciplinary and often entailed a change in organisational policy.

2. Minimisation vs Abolition

The aim of many programs appeared to be the minimisation of physical restraint rather than abolishing its use. One program described their policy as one of 'least restraint', while another aimed for 5% or less of residents restrained. One restraint minimisation program used a protocol that specified conditions under which restraint could be used as last resort. These conditions included such things as the potential for suicide, violence and protection of life-sustaining treatment.

3. Changes to How Restraint is Ordered

A number of programs changed how restraints were ordered. For example, an acute care facility developed a physician's physical restraint order form that limited restraint to a maximum of 24 hours and 'as necessary' restraint orders were prohibited. A residential care facility developed a restraint summary form to be completed by the physician that required consent and the rationale for using restraint. Accompanying the physician's form, a nursing summary form was also developed,

addressing the rationale for restraint, recent accidents and the alternatives tried.

4. Gradual Process

Most programs appeared to be conducted over an extended period of time, and there were no reports describing a rapid restraint minimising process. Programs commonly focused on the removal of easy restraints first. For example, removing restraints from people with good mobility but who also wandered. Difficult cases have been managed individually, often in consultation with a number of different health care disciplines.

5. Development of a Plan

Prior to attempting restraint minimisation most organisations developed a plan. This plan took the form of protocols for specific situations where restraints could be used or guidelines for the use of restraints. One report described the development of an interdisciplinary management protocol that articulated expectations and documented expected outcomes.

6. Restraint Experts

A few programs utilised what was termed restraint experts. These experts received advanced training to enable them to provide support and advice during the minimisation process. As an extension of the restraint experts, a number of programs reported using clinical specialists to work with staff to help plan and remove physical restraints. This expert consultation took the form of periodic visits by consultants. For example, a gerontological nurse specialist assessed each restrained resident and worked with staff to develop alternative interventions.

7. Patient and Resident Assessment

A common feature of restraint minimisation programs was some form of assessment to determine if physical restraints could be removed and to aid in



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Recommendations

In regard to the use of physical restraint devices, based on the findings of a single RCT

- Restraint education with clinical consultation or restraint education alone can safely reduce the use of physical restraint in the residential care setting. (Level II)

the development of an individualised plan of care. For example, one program developed an assessment tool that also listed possible restraint alternatives based on the assessment, while another used a bedrail assessment tool that aided in the assessment of the person's bed mobility, bed transfer ability, sitting and standing balance, and gait. Other approaches included case conferences and assessment by a gerontological nurse specialist.

8. Family Participation

Families were involved in a number of restraint minimisation programs. This

involvement ranged from simply being notified that the use of physical restraint was to be reduced to education programs for the family of restrained residents.

9. Stereotype Patient Protocols

A number of programs involved the development of strategies for specific clinical situations. During one program strategies were developed for the management of four stereotype groups of people, the wanderer, the unsafe mobile person, the person who interferes with medical devices and the physically aggressive person. Another developed a

falls management protocol and a wandering patient protocol. This approach was commonly a feature of restraint education.

10. Learning from Others

Some programs communicated information about successful restraint minimisation and the experience and approaches used to achieve these successes. Others organised visits by staff to restraint-free areas or utilised a newsletter to communicate successful strategies. During another program any dramatic break-through, such as a resident starting to walk after restraints were released, were shared with others.

References

1. Evans D, Wood J, Lambert L, FitzGerald M., 2002, Physical Restraint in Acute and Residential Care, A Systematic Review No. 22 The Joanna Briggs Institute, Adelaide, South Australia.
2. NHMRC, 1999, A guide to the development, implementation and evaluation of clinical practice guidelines, Canberra, NHMRC.

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