



THE USE OF RESTRAINTS FOR OLDER ADULTS IN THE ACUTE CARE HOSPITAL SETTING – UNDERSTANDING THE LEAST RESTRAINT PRINCIPLE

Abstract

The utilization of restraint is justified in certain healthcare scenarios to prevent self-harm, harm to others, and to facilitate medical interventions. The **least restraint, last resort principle** guides decision-making, promoting a balance between safety and respect for patient autonomy. Least restraint involves a preventative approach, considering intrinsic and extrinsic factors, environmental assessments, and identifying behavioural triggers. Non-pharmacological care plans, de-escalation techniques, and alternatives to restraint are highlighted as crucial elements. When restraint is required, it must be used judiciously, with careful and frequent monitoring to ensure no harm is caused, within current legislative frameworks and considering potential biases and risk of abuse.

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Key Points

- Restraints, including physical restraint, seclusion, observation, sedation, and rapid tranquillization, are utilized in acute hospital settings with the aim of ensuring the safety of older adults and those around them.
- All forms of restraint can be associated with harm. Exploration of alternative strategies and interventions can reduce the need for restraint.
- A preventative approach to challenging behaviours in older adults involves intrinsic and extrinsic factor reviews, environmental assessments, identification of behavioural triggers, and the use of de-escalation techniques and non-pharmacological care plans.
- When restraint is required, a least restraint, last resort principle should be used.
- In hospitalized older adults, reducing physical restraint use resulted in shorter length of stay, particularly for those with cognitive impairment, improved mobility, and improved ability to perform activities of daily living.

Introduction

In treating older adults in the acute hospital setting, it is sometimes necessary to limit behaviours and freedom of movement for the safety of patients and those around them. These intentional limitations including physical restraint, seclusion, observation, sedation, environmental manipulations, and rapid tranquillisation are referred to as “restraint” and often occur in the context of rapidly evolving, high-pressure and understaffed situations with immediate risks of harm. The use of various forms of restraint has been ethically debated for many years due to implications for autonomy and dignity and the potential risks of restraint-associated harm.

Indications for restraint use

While the use of environmental, chemical, and physical restraints should be approached with caution and adherence to ethical principles, there are situations where their application may be deemed necessary, including:

Prevention of Self-Harm or Injury:

Risk of falls: Many patients in hospitals are at risk of falls. Restraints, such as supervision, sensors, bed rails or belts, may be used to prevent patients from accidentally falling out of beds or chairs or whilst mobilizing. Inpatient falls often occur in the context of cognitive impairment where individuals may display impulsivity or forget their physical limitations, increasing the risk of injurious falls.

Exit seeking behavior: Patients experiencing delirium or severe agitation may pose a risk to themselves by attempting to leave the hospital without supervision.

Acute behavioural disturbances: Engaging in unsafe behaviours risking harm to themselves.

Prevention of Harm to Others:

Aggressive or violent behaviour: Restraint may be required to protect staff, other patients, and visitors.

Reduce the spread of infections: Certain patients may need to remain isolated to prevent the spread of infections such as COVID -19, RSV, C Diff, etc. If patients are unable to voluntarily comply to these restrictions, restraint may be required.

Compliance with Medical Procedures, Investigations, and Interventions:

Invasive procedures: During certain medical procedures or investigations, such as lumbar puncture or phlebotomy, it may be necessary to use restraint to ensure the patient remains in a specific position for the procedure's success and safety. Only critical/urgent procedures and treatments should be undertaken under restraint if the reason for the patient's behaviour is felt to be reversible.

Prevention of device dislodgment: Patients with medical devices, such as catheters, nasogastric tubes, surgical drains, or intravenous lines, may require restraints to prevent accidental dislodgment which could risk further harm to the patient, ensuring the continuity of medical treatment.

It is important to emphasize that the decision to use restraints should be based on a thorough and ongoing assessment of the patient's condition as outlined below. There is a need to balance patient safety as well as the safety of other patients, visitors, and staff with the preservation of patient autonomy and the avoidance of harm.

Understanding least restraint

When patients in the acute care setting display challenging behaviours, the healthcare team should take a preventative approach. Agitation and difficult behaviours in older adults are frequently associated with cognitive impairment and delirium, which must be identified. To manage difficult behaviours, a full clinical and environmental assessment is needed to identify reasons for these behaviours using the following steps:

1. Review of intrinsic factors
 - a) Identify and address unmet care needs including anxiety, thirst, toileting (including urinary retention, urinary urgency, and constipation), pain, hunger, loneliness, misinterpretation of environmental stimuli, fear, etc.
 - b) Identify delirium using a confusion assessment tool such as Confusion Assessment Method (CAM) or 4AT ([4AT](#))². If the patient is found to have delirium, carefully identify and treat causes using DIMES work up ([Causes of Delirium | Geri-EM](#)) and treat underlying causes where possible.
2. Review of extrinsic factors
 - a) Review of events leading up to challenging behaviours (triggers).
 - b) Review of staff approaches, attitudes, and behaviours and whether staff are triggering or de-escalating behaviours.
 - c) Review the environment to ensure safety and comfort and minimize danger. Assess noise levels and avoid ward/bed moves wherever possible to allow familiarization with the environment. Having a familiar friend or family stay with the patient can help to provide reassurance and de-escalate behaviours during difficult periods (with an awareness that in some forms this can constitute restraint).
3. Explore, clarify, and document personal behavioural triggers. This will often require collateral history to establish patients' baseline cognition and behavioural status, potential triggers, and possible calming strategies. Clarify whether the patient has a history of dementia, delirium, cognitive impairment, behavioural and psychological symptoms of dementia (BPSD) and/or other mental health issues.
4. Reduce non-urgent investigations or treatments, e.g., routine blood tests, non-critical medications, etc., to focus on the essentials.
5. Develop a non-pharmacological care plan considering a patient's individualized behavioural triggers. Where possible, patients should be involved in identifying their choices of strategies/alternatives in the event their behaviour becomes unsafe. See [Layout 1 \(squarespace.com\)](#).

6. Staff should be trained in de-escalation techniques such as the Gentle Persuasive Approach (GPA) - [Gentle Persuasive Approach](#)³. Staff should be assisted to identify additional support required and their limitations.
7. Alternatives to restraint for specific behaviours should be considered as outlined in Table 1 and may require the input of specialists, e.g., geriatricians, geriatric psychiatrists, psychiatrists, behavioural support teams, etc.

Table 1. Alternatives to restraint for specific behaviours (adapted from The Ottawa Hospital Least Restraint, Last Resort policy).

Presenting behaviour	Suggested alternative to reduce risk
Falls	<ul style="list-style-type: none"> • Medication review (sedating medications, e.g. sleeping medications, opiates, antihypertensives, polypharmacy, consideration of anticholinergic burden, etc.). See De-Prescribing – Blog 1 – CME Journal (geriatricsjournal.ca) • Redirect with simple instructions. For patients who do not speak English as a first language, consider the use of an interpreter including virtual video, phone, or app-based interpretation services. • Call bell demonstration. • Clutter free room. • Mattress on the floor/low bed/fall mat on the floor. • Physiotherapy focused on strength, gait, and balance. • Supervised walking. • Acceptance of risk and injury – needs discussion with SDM with careful explanation of risk of falls vs risk of restraint. • Glasses, hearing aids, walking aids easily available. • 1:1 supervision / sitter, alarm devices, trackers and fall pendants (Types of alarm devices and fall pendants), locked ward – NB these are considered environmental restraint.
Wandering	<ul style="list-style-type: none"> • Redirect with simple instruction. • Call bell demonstration. • Clutter free room.

Presenting behaviour	Suggested alternative to reduce risk
Wandering	<ul style="list-style-type: none"> • Regular toileting. • Assess for hunger, pain, thirst, cold, etc. • Room close to nursing station. • Mobilize frequently with supervision. • Provide entertainment, distraction, and diversion, e.g., photo albums, music, television, etc. • Glasses, hearing aids, walking aids easily available. • <i>1:1 supervision / sitter, alarm devices, trackers and fall pendants (Types of alarm devices and fall pendants), locked ward – NB these are considered environmental restraint.</i>
Aggression and irritation	<ul style="list-style-type: none"> • Medication review, e.g., steroids, alcohol, illicit substances, and consider risk of withdrawal. • Delirium screen. • Regular toileting. • Assess for hunger, pain, thirst, cold etc. • Increase/decrease social interactions. • Provide diversional activities (music, snacks, magazines, etc.). • Ask family to alter visiting times to overlap with peak times of agitation, e.g., late afternoon if displaying significant sundowning. • Be more flexible with visiting times. • Redirect with simple commands. • Relaxation techniques, e.g., soothing music – ask family to provide examples of past coping/ calming strategies or activities. • Allow pacing. • <i>1:1 supervision – this is considered environmental restraint. Involve family.</i>
Pulling out lines and tubes, short term interventions, e.g., catheterization, phlebotomy, vaccination, etc.	<ul style="list-style-type: none"> • Pain relief/comfort measures. • Redirect with simple instructions.

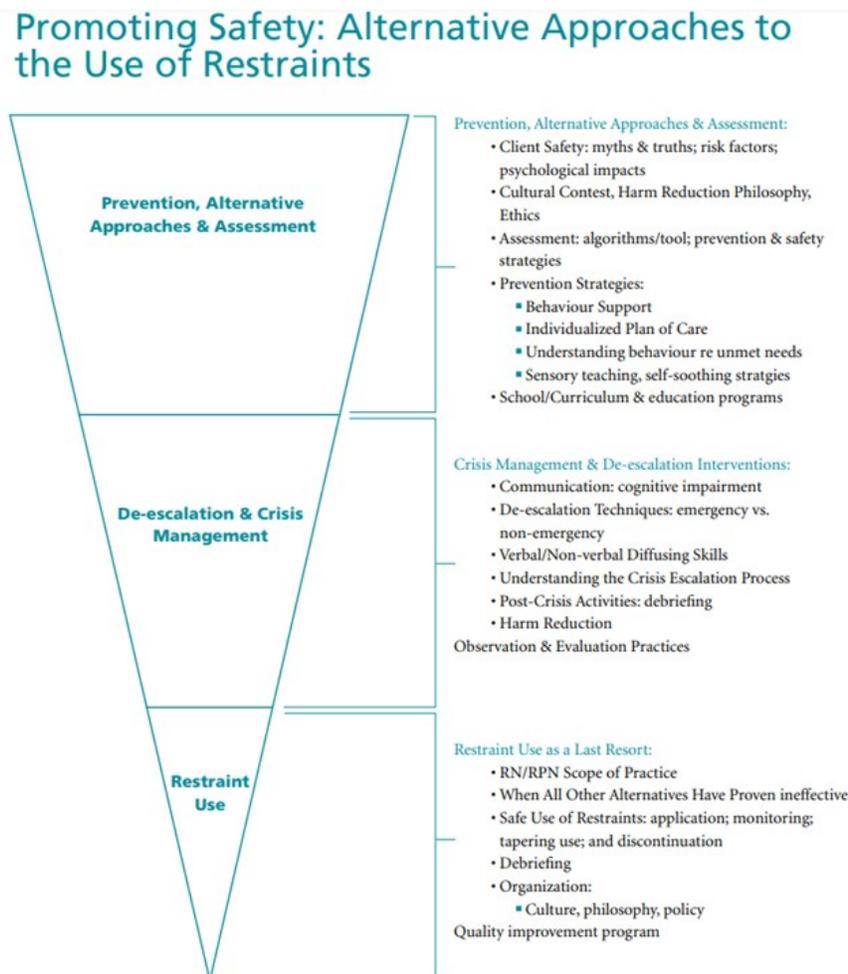
Presenting behaviour	Suggested alternative to reduce risk
Pulling out lines and tubes, short term interventions, e.g., catheterization, phlebotomy, vaccination, etc.	<ul style="list-style-type: none"> • Explain procedures and treatments carefully. • Gentle touch. • Involve family in planning care and ask for their help with supervision. • Camouflage tubing on IV, wrap IV lines, position lines out of reach, e.g., feet, use clothing to camouflage lines. • Change IV to intermittent, e.g., administer overnight when sleeping. • Assess whether intervention/treatment is required or whether it can be delayed until behaviors settle, e.g., IV to PO antibiotic switch, slow IV fluids overnight when asleep (and so less likely to pull at lines), and encourage oral fluids. • <i>Consider 1:1 nursing – this can be considered</i>

If these interventions and approaches are not sufficient to reduce the risk of harm to an acceptable level, then restraint should be considered. It is important to remember the following principles when considering the use of restraint:

- The use of restraints in healthcare settings is guided by provincial/territorial legislation and standards that seek to protect the rights and well-being of patients. Additionally, every hospital or facility must have their own policies with respect to restraining and confining patients and provide training to staff.
- Healthcare professionals must adhere to specific guidelines outlined in national, provincial, and territorial legislation. Understanding and complying with these regulations is essential to ensure that restraint use is both legally and ethically justifiable.
- The patient’s wellbeing and safety is paramount. Restraint or the threat of restraint should never be used for coercion, convenience, or punishment.
- Restraint can only be used if placing the patient under restraint, confining the patient, or using a monitoring device on the patient is authorized by a plan of treatment to which the patient (or substitute decision-maker) has consented⁴. Capable patients have the right to personal risk and refuse any form of restraint when it does not involve serious risk of harm to others. A capacity assessment should therefore be performed and documented prior to restraint use with an assessment of the patient’s decision making abilities including understanding, appreciation, reasoning, and ability to communicate (see [Assessment of decision-making capacity in adults](#) for further details of the capacity assessment process).
- Healthcare staff have a right to work in a safe environment where their personal safety and wellbeing is prioritized.

- Restraint should only be used for the minimum time-period necessary, in proportion to the patient’s behaviour within the broader clinical context and should be reviewed regularly (at least per shift but some forms of restraint require more frequent monitoring). For example, the Ottawa Hospital **Least Restraint, Last Resort** policy recommends observation every 15 minutes initially for patients in 1-3 point mechanical restraints, reduced to hourly once stable until restraints are discontinued. For patients in 4- or 5-point restraints, constant observation is recommended.
- Most guidelines suggest a patient in a manual hold or 4-point limb restraint needs constant observation.
- All restraints must be clearly documented in the patient’s chart.
- Observation levels must be identified and generally should be more frequent than for those patients who are not restrained. In certain instances, with high risk of harm (see Table 2), constant observation is required.
- Individualized care is crucial in prevention and de-escalation to avoid the need for significant restraint use as outlined in *Figure 1* below, taken from *Promoting Safety: Alternative Approaches to the Use of Restraints*⁵.

Figure 1. Alternative Strategies and Approaches to the Use of Restraints (reproduced with kind permission from *Promoting Safety: Alternative Approaches to the Use of Restraints*, 2012 - Registered Nurses’ Association of Ontario, RNAO)



Forms of restraint

Despite best efforts to use alternatives to restraint, at times restraint may be required. Multiple forms of restraint exist which can be divided into three main categories: environmental, physical, and chemical. There are outlined in Table 2. The least restrictive option should be used for the shortest period of time in line with the **principle of least restraint, last resort**.

Specific risks unique to each form of restraint are outlined but some potential consequences are associated with all forms of restraint, including loss of autonomy, changes in self image, increased agitation, depression, worsening of delirium, feeling of being humiliated, loss of trust in healthcare staff, post-traumatic health disorder, dehydration (if lack of access to fluid), incontinence (if access to toileting facilities are restricted) as well as consequences of potentially restricted mobility including venous thromboembolism, pneumonia, decreased muscle mass (deconditioning) leading to loss of ability to walk, contractures, and pressure ulcers.

Table 2. Types of restraint and their specific risk.

Type of restraint	Description	Examples	Specific risks to the individual
Environmental	Modification of physical surroundings to control a patient’s behaviour	Locked doors, disguised exits, improvised barriers, use of bed alarms, sensors, cameras, or trackers. Use of 1:1 supervision, e.g., sitters.	Potential for seclusion and isolation. Risk of injuries during escape attempts
Physical	The direct application of physical holding techniques or mechanical methods to involuntarily restricts movement.	Manual hold, e.g., holding arm for a blood test.	Skin tears, bruising, and laceration. Psychological trauma.
		Bed rails.	Strangulation, suffocation, body injury including death when patient/parts of the body are caught. More serious falls when patients climb over barriers. Skin bruising and lacerations.
		Broda or Geri chairs (reclined so difficult to stand or with table to act as a barrier to standing).	Pressure ulcers.
		Soft mitt (large glove that covers the hands to avoid e.g., the pulling of lines and tubing).	

Type of restraint	Description	Examples	Specific risks to the individual
Physical	The direct application of physical holding techniques or mechanical methods to involuntarily restricts movement.	Mechanical restraints: Wrist, ankle, torso restraints (can be used in combination as 2,3-,4- or 5-point restraints), lap belts.	Strangulation especially if incorrectly applied. Pressure ulcers. Limb ischemia. Skin bruising and lacerations. Death. ^{6,7,8}
Chemical or pharmacological	Psychoactive medication given to intentionally inhibit a behaviour or movement and not used specifically to treat illness.	Antipsychotics, benzodiazepines, mood stabilizers, antidepressants. See Management of agitation in an acute care hospital setting.	Drug specific side effects but generally associated with falls and fractures, cognitive impairment/delirium, respiratory depression, excessive sedation, etc.

Using environmental restraint:

These are usually the least restrictive options as they allow freedom of movement within boundaries. They should therefore generally be trialed as first line with careful adaptations of the environment often sufficient to avoid further restraint use which is associated with higher rates of harm.

Using chemical restraint

Chemical or pharmacological restraint involves the use of medications as an intervention to alter behaviour (subdue, sedate, or restrain) and not as a treatment. There is limited evidence of efficacy for using medications to reduce behaviours, such as wandering and verbal aggression with some evidence for their use in physical aggression, restlessness, agitation, anxiety, and lack of cooperation with medical interventions.⁹ The use of medications for acute agitation has been covered extensively and is beyond the scope of this review.¹⁰

To learn more, see:

- [Practical tips for recognition and management of behavioural and psychological symptoms of dementia](#)
- [Management of agitation in an acute care hospital setting](#)

Using physical restraint

The use of many forms of physical restraint, particularly mechanical restraint (the use of devices such as cuffs or belts to restrain), is controversial and prevalence varies significantly. In many settings, the use of specific mechanical restraints, such as wrist, ankle, and torso restraints, are expressly forbidden. For example, in the UK, the use of mechanical restraint, such as Posey restraints, is almost unknown, and their use would be seen as unacceptable within the acute hospital setting.¹¹ Physical restraints are cited as being used to reduce fall risk, risk of harm to the patient, and risk of harm to staff, but these uses are not supported by evidence:

- There is no evidence that physical restraints reduce falls in adults in the acute care hospital or in long-term care.^{12,13,14,15} Several trials have shown that physical restraints increase the rate of falls, with falls in restrained patients causing more significant injury.¹⁶ This is not just selection bias (i.e. those more prone to falls are restraint); when physical restraints were introduced in a nursing home that previously did not use restraint, the falls rate continued with increased occurrence of serious fall-related injuries.¹⁷ In hospitalized older adults, reducing physical restraint use results in shorter length of stay, particularly for those with cognitive impairment.¹⁸ The same study also showed improved mobility and improved ability to perform activities of daily living following the restraint reduction interventions.
- There is evidence that physical restraints do not reduce harm to patients¹⁹ and evidence that they do not help to increase concordance with treatments. For example, there is no evidence that restraints prevent accidental extubation in an Intensive Care Unit (ICU) setting,²⁰ with one study showing patients with physical restraints in the ICU with a GCS >9 had 6.16 increased risk of unplanned endotracheal extubation.²¹ Another study on the use of mechanical restraint found that they were associated with increased rates of delirium, agitation, overall adverse events, length of stay in ICU, post-traumatic stress disorder, and increased doses of opioids, sedatives and antipsychotics prescribed.²²
- There is no evidence of reduced risk of harm to staff. The rates of injury to nurses are broadly similar in the UK, Canada, and USA despite different restraint practices (mechanical restraint generally not used within the UK healthcare setting). Importantly, many of the injuries to healthcare staff from older adults occurs during personal care, when mechanical restraints are likely to be removed.

Post-incident review

Given the potential harms associated with restraint, post-incident review should be undertaken once the restraint period has ended. This should include assessment for physical and psychological consequences of the restraint and discussion with the patient and/or substitute decision maker (SDM) regarding the events. Individual teams and local policies should identify who is responsible for this post incident review and debrief. The risk of further restraint is high after a single episode; therefore, assessment should be undertaken to identify de-escalation and preventative strategies to reduce future incidents.

Cautions when using restraint

As per the least restraint, last resort principle, restraint strategies should be used judiciously, for the shortest period required and reviewed regularly. It is vital that staff using restraint understand the context within which they do this. This includes an understanding of conscious and unconscious biases that may be at play with the use of restraint as outlined in Table 3. For example, one systemic review found that adult Black patients experience a significantly higher rate of physical restraint in the Emergency Department compared with other racial groups.²³

Another study of medical inpatients found that patients whose preferred language was not English were 1.5 times more likely to be prescribed antipsychotics and 2.6 times more likely to be physically restrained compared to patients who preferred English.

Table 3. Specific factors associated with a higher likelihood of restraint, these should be considered as they may be associated with conscious or unconscious biases.

Factors associated with a higher likelihood of restraint^{24,25}
Male gender
Advanced age (greater than 80 years old) ²⁶
Poor socioeconomic conditions and/or homelessness

Factors associated with a higher likelihood of restraint^{24,25}
<p>Responsive behaviours</p> <ul style="list-style-type: none"> • History of aggression, injury to self or others²⁷ • Restlessness and wandering²⁸ • Challenging or disruptive behaviours
<p>Psychiatric conditions²⁹</p> <ul style="list-style-type: none"> • Personality disorder • Older persons with schizophrenia • Substance abuse or intoxication
<p>Cognitive changes³⁰</p> <ul style="list-style-type: none"> • Delirium • Dementia, especially in the moderate-severe stages • Traumatic brain injury
<p>Decreased ability to communicate</p> <ul style="list-style-type: none"> • Aphasia (post-stroke, brain injury, or associated with dementia) • Dementia
<p>Non-English preferred language in English-dominant healthcare settings³¹</p>
<p>Sensory impairments</p> <ul style="list-style-type: none"> • Hearing impairment³² • Blind or low vision impairment³³
<p>Race and ethnicity³⁴</p>
<p>History of falls and fear of falls³⁵</p>

Conclusion

The **principle of least restraint, last resort** serves as a guiding philosophy emphasizing the importance of creating a therapeutic environment that minimizes the need for restraint. Environmental, chemical, and physical restraint have their place within healthcare but require caution. As the landscape of care for older adults evolves, ongoing research and dialogue are essential to refine best practices and ensure that care of older adults aligns with ethical principles and regulatory standards. By continually striving to minimize the use of restraints and maximize patient autonomy, healthcare professionals can contribute to a culture of person-centered care in the acute care hospital setting.

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