



Interventions Table: Physical Restraints

Created by:

Colorado Foundation for Medical Care

October 1, 2009

*This material was prepared by CFMC, the Medicare Quality Improvement Organization for Colorado, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services.
The contents presented do not necessarily reflect CMS policy. PM-4050-080 CO 2009*

Interventions Table: Physical Restraints

Table of Contents

Introduction	ii
Abbreviations	iv
Interventions Table: Physical Restraints	1
Alternatives - Bed-Chair Pressure Sensors.....	1
Alternatives - Motion Devices.....	1
Alternatives -Music	1
Barriers to PR Reduction	2
Data Feedback and Target Setting.....	2
Educational - Impact on Caregiver Knowledge.....	3
Educational -Staff Education.....	3
Educational – Use of Advanced Practice Nurse (APN) or Clinical Nurse Specialist	4
Fall Prevention	7
Informational	8
Multifaceted Intervention	10
Role of Physician	10
Side Rails	10
Summary Reviews.....	12

Interventions Table: Physical Restraints

Introduction

The purpose of this Interventions Table is to provide a succinct overview of information published during the past eleven years regarding successful or potentially successful interventions to reduce physical restraints. Some citations may not be actual studies of specific interventions, but are included, as they provide important information or commentaries regarding relevant publications. The genres of citations include editorials, observational studies, informational publications, randomized control trials, and reviews of multiple published articles. Citations are grouped and alphabetized by type of intervention (see Table of Contents for listing of interventions), with the exception of the summary reviews of published articles, which are provided at the end of the table. The project team conducted a search of the MedLINE and PubMed databases via OVID for articles written in English within the most recent ten-year period (1999 – 2009), acknowledging the fact that 2009 publications do not encompass the entire year. In addition, we evaluated references contained in publications in the Interventions Table, which resulted in the inclusion of several 1998 citations. Medical Subject Headings (MeSH) keywords used in the database searches are listed below:

- Nursing home + physical restraint + intervention
- Nursing home + physical restraint + resident outcomes
- Nursing home + physical restraint + outcomes
- Nursing home + physical restraint + collaboration
- Nursing home + physical restraint + collaborative
- Nursing home + physical restraint + systematic review
- Nursing home + physical restraint + APN
- Nursing home + physical restraint + pressure sensors
- Nursing home + physical restraint + alarms
- Nursing home + physical restraint + alternative
- Nursing home + physical restraint + activities
- Nursing home + physical restraint + recreational therapy
- Nursing home + physical restraint + music
- Nursing home + physical restraint reduction
- Nursing home + physical restraint reduction + residents
- Nursing home + physical restraint reduction + behavior
- Nursing home + physical restraint reduction + barrier
- Nursing home + falls management
- Nursing home + falls management + restraint

Highlights from the citations are presented in the Interventions Table. The information noted in the table is not intended to provide a comprehensive summary of each citation. The full articles should be referenced for complete information. In addition, other citations may be available that are not represented in this table. One citation was included in the Interventions Table despite it being published in 1997, which is one year earlier than search criteria used for this document. This article or the associated data was referenced in several publications in the table, and thus was included in this document.

Interventions Table: Physical Restraints

The evidence rating, based on review criteria from Cochran¹, Agency for Healthcare Research and Quality (AHRQ)², and Grading of Recommendations, Assessment, Development, and Evaluation (GRADE)³, is designated by use of three categories: *Excellent* (providing the strength of a randomized control trial), *Moderate* (e.g., observational or retrospective study), or *Limited* (e.g., case study, opinion piece, or small sample). Ratings were determined relative to the strength of evidence found in specific publications and not applied to the overall strength of evidence of the type of intervention. When clear delineation of evidence rating was not evident, ratings were applied based on consensus of the project team.

¹ Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.1 [updated September 2008]. The Cochrane Collaboration, 2008. Available from www.cochrane-handbook.org.

² Systems to Rate the Strength of Scientific Evidence: No. 47. Rockville, MD: Agency for Healthcare Research and Quality. AHRQ Publication No. 02-E015 (Contract 290-97-0011 to the Research Triangle Institute); 2002.

³ Guyatt GH, et al. GRADE: An Emerging Consensus on Rating Quality of Evidence and Strength of Recommendations. *BMJ*. Apr2008;336:924-6.

Interventions Table: Physical Restraints

Abbreviations

The following abbreviations are found throughout the table:

Abbreviation or symbol	Meaning
↑	increase or increased
↓	decrease or decreased
<	less than
>	greater than
APN	Advanced Practice Nurse
CNA	Certified Nursing Assistant
LPN	Licensed Practical Nurse
LTC	long term care
MD	Medical Director
MDS	Minimum Data Set
min or mins	minutes
mo or mos	month or months
NH	nursing home
nsg	nursing
org	organization
PR	physical restraint
QM	Quality Measure
qtr or qtrs	quarters
RCT	Randomized Control Trial
re	regarding
RN	Registered Nurse
SNF	Skilled Nursing Facility
SR	side rail
w/	with
yr	year

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Alternatives - Bed-Chair Pressure Sensors	Kwok, et al, 2006 ⁴ Excellent – RCT	180 patients w/ perceived fall risk in two geriatric rehab wards in Hong Kong hospital. Randomized to sensor (n=90) or control (n=90). Both received standard fall prevention protocols Aim: Investigate whether access to bed-chair pressure sensors ↓ PR use in geriatric rehabilitation wards	Over 10 mo period: <ul style="list-style-type: none"> • Sensor group: Nurses encouraged to use bed-chair pressure sensors (signal relayed to nursing call bell system) to ↓ fall risk • Assessment of fall risk based on mobility status & cognition • Principal investigator explained use of bed-chair pressure sensors & emphasized importance of PR reduction to improve patients' outcomes. 	<ul style="list-style-type: none"> • Access to sensors neither ↓ PR use nor ↑ clinical outcomes. • No difference in mobility or incidence of falls in 2 groups. • Authors recommend sensors may only be effective in ↓ PR when combined with organized PR program (not part of current study) • Instead of using pressure sensors as alternative to PR, they appeared to have been used as additional safety measure against falls.
Alternatives - Motion Devices	Freeman, 2004 ⁵ Limited – Case study	88 yr old male w/ advanced Alzheimer's dementia, falling an average of every other week over 3 months Aim: Determine if motion device will decrease falls	Intervention: Motion device placed on dresser in from to bed; audible alarm. Only one resident studied.	<ul style="list-style-type: none"> • Resident had no falls for 4 months after device implemented (no further follow-up) • Other motion devices should be investigated on larger scale • Minimal cost (\$30)
Alternatives - Music	Janelli & Kanski 2000 ⁶ Moderate- Small sample	n=40 patients w/ PR use 23 female, 17 male Aim: Determine effect of musical intervention on behavioral reactions of patients using PR	Listening to preferred music for 30 min while not restrained.	<ul style="list-style-type: none"> • ↑ positive behaviors observed while patients listened to music compared to pre or post-intervention. • May be appropriate for some as alternative to PR.

⁴ Kwok T, et al. Does access to bed-chair pressure sensors reduce physical restraint use in the rehabilitative care setting? Journal of Clinical Nursing 2006 15, 581–587.

⁵ Freeman MA, Motion device: an alternative to physical restraints. Geriatr Nurs. 2004 May-Jun 25(3):175.

⁶Janelli LM & Kanski GW. The use of music to release the ties that bind. Perspectives 2000 Summer;24(2):2-7.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Barriers to PR Reduction	<p>Moore and Haralambous, 2007⁷</p> <p>Limited - Qualitative data via interviews; small sample of staff, residents & family.</p>	<p>3/50 NHs selected based on location, level of care & level of PR use; voluntary participation of staff, residents & family.</p> <p>n=47 (18 staff, 12 residents, 17 family) Staff (6 per NH):</p> <ul style="list-style-type: none"> • 8 RN • 6 personal care attendants • 1 activities staff • 2 general practitioners • 1 pharmacist <p>Aim: Compare staff perspectives w/ residents & family from same NH re barriers to ↓ use of physical, chemical & environmental restraints</p>	<p>Informational (no true intervention):</p> <ul style="list-style-type: none"> • 30 min to 1.5 hour interviews with staff. • 1.5-2 hr focus group w/ residents & families at each NH <p>Qualitative methodology to explore policies, processes, beliefs and attitudes that influenced PR use</p> <p>Barriers to PR reduction:</p> <ul style="list-style-type: none"> • Fear of resident injury • Staff & resource limitations • Lack of education re alternatives • Environmental constraints • Policy & management issues • Beliefs & expectations (of staff, family & res) • Inadequate review practices • Communication barriers 	<p>Recommendations: family & staff educ w/ evidence-based practice re resident care & PR use needed in some NH.</p> <p>Findings:</p> <ul style="list-style-type: none"> • Staff more aware of environmental & resource limitations • Must identify barriers to tackle them • Few staff reported access to training re PR use & alternatives • Consistent staffing beneficial & reassuring for residents & promoted client-centered practice. • MDs authorize PR use, but have minimal capacity to assess need • Minimal use of allied health professional (Physical Therapist, Occupational Therapist, etc) for PR assessment
Data Feedback and Target Setting	<p>Baier, et al, 2008⁸</p> <p>Moderate – Baseline & re-measure</p>	<p>n=7,091 volunteer NH using Setting Targets-Achieving Results (STAR) site to set targets for a t least 1 of 2 QMs</p> <p>Aim: Evaluate improvement among NH that set targets using NH STAR Site for 2 QMs</p>	<p>NHs using STAR site to set targets re:</p> <ol style="list-style-type: none"> 1. Proportion of long-stay residents w/ daily PR use & 2. Proportion of high-risk long-stay residents who have pressure ulcers <p>NH used STAR site to evaluate clinical performance, identify targets & track achievement of targets</p>	<ul style="list-style-type: none"> • Greater relative improvement in NH w/ STAR targets. • If STAR targeting was routinely utilized & level of improvement realized by all NH nationwide, an estimated 45,000 residents would have better PR & PU outcomes at end of 1 year.
Data Feedback and Target Setting	<p>Castle, 2003⁹</p> <p>Excellent – RCT; however, cause-and-effect may be disputed</p>	<p>Intervention n=120 NH Control: n=1,171 NH</p> <p>NH selection: NH stratified by state w/ random sample of 10% of NH from eligible NH; excluded hosp-based and NH < 100 beds.</p> <p>Aim: Examined whether providing outcomes info facilitated improvements in quality over a 12-mo period</p>	<p>30 pg report from OSCAR data (1998-1999) mailed to administrators of intervention NH in 2nd qtr of 1998 w/ rates of:</p> <ul style="list-style-type: none"> • PR use • Urethral catheterization • Contracture • Pressure ulcers (PU) • Psychotropic medication use • Quality of care deficiencies 	<p>Intervention NHs:</p> <ul style="list-style-type: none"> • PR & psychotropic medication use significantly lower after 12 months • May provide evidence that outcomes initiatives in LTC will positively affect quality of care <p>Unclear as to which specific interventions used by NHs upon receipt of OSCAR report, may have had the most impact on rate improvement.</p>

⁷ Moore K and Haralambous B. Barriers to reducing the use of restraints in residential elder care facilities. J Adv Nurs. 2007 Jun;58(6):532-40.

⁸ Baier RR, et al. Aiming for star performance: the relationship between setting targets and improved nursing home quality of care. JAMDA 2008 Oct; 9(8):594-8.

⁹ Castle NG. Providing Outcomes Information to Nursing Homes: Can It Improve Quality of Care? Gerontologist 2003; 43(4):483-492.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Educational - Impact on Caregiver Knowledge	<p>Kuske, et al, 2009¹⁰</p> <p>Excellent -RCT</p>	<p>96 caregivers & 210 residents Randomized to 3 groups: 1. Education group (EG) 2. Relaxation group (RG) 3. Control group (CG)</p> <p>Aim: Determine impact of intervention on interaction of staff & residents w/ dementia</p>	<p>Interventions:</p> <ul style="list-style-type: none"> • EG - 3 month training on dementia care. • RG – relaxation training <p>Data collected at baseline, immediate post intervention, & 6 mo follow up.</p>	<ul style="list-style-type: none"> • EG: Significant ↓ in PR use at 6 months • EG: Significant positive effects on caregivers' knowledge post intervention & at 6 months • EG & RG: Caregivers' overall competence ↑ significantly • RG: more successful in ↓ caregivers' health complaints
	<p>Palmer, et al, 1999¹¹</p> <p>Limited to Moderate– Pre-post intervention; outcomes based on questionnaire; no quantitative evidence</p>	<p>All Colorado NHs (n=214)</p> <p>Aim: develop PR reduction intervention tool based on questionnaire, and assess usefulness based on follow-up questionnaire; all measures based on questionnaires.</p> <p>Note that data obtained via questionnaire (bias potential) with no quantitative evidence</p>	<p>Interventions:</p> <ul style="list-style-type: none"> • Developed and distributed tools based on 1st questionnaire (re barriers to PR reduction) that was sent to all Colorado NHs • Educ tools for NH, family, media • PR assessment tool & educ materials for least restrictive interventions <p>Measures:</p> <ul style="list-style-type: none"> • Obtained via 2nd questionnaire sent to all NH • Remaining barriers • Frequency of assessment • Perceived level of success to ↓ PR 	<p>Results of 2nd questionnaire: 82% of 175 responding Colorado NHs found educ materials helpful & indicated:</p> <ul style="list-style-type: none"> • Higher perceived level of success reducing PRs • ↑ frequency of assessment • ↓ barriers to PR reduction • Recommended use in other states
Educational - Staff Education	<p>Neufeld, et al, 1999¹²</p> <p>Moderate – Two year prospective study, pre-post intervention</p>	<p>16 NH with 2075 beds in CA, MI, NY & NC; 2-part study: Study A: Serious injury rates after order to discontinue restraints (n=859 residents who used PR at baseline). Study B: Any injury rates 3 mos pre & 3 mos post intervention (n=2075); goal ≤5% PR use.</p> <p>Aim: Describe injury rate after PR removal and after educational intervention</p>	<p>Interventions (Study A & B):</p> <ul style="list-style-type: none"> • 2-day seminar for administrator & nurse clinician • Quarterly site visits from educators for consultation and data collection. 	<p>Study A: In 15/16 NH, serious injuries ↓ or remained the same after d/c of PR.</p> <p>Study B:</p> <ul style="list-style-type: none"> • 13/16 NHs reached goal of ≤5% w/ no ↑ in staff or antipsychotic use; 3/16 NHs had PR rate between 5% and 10%. • PR use ↓ 90% from 41% to 4.05%. • Minor injuries & falls ↑ • PR-free care safe w/ assessment & alternatives.

¹⁰ Kuske B, et al. Training in dementia care: a cluster-randomized controlled trial of training program for nursing homes in Germany. Int Psychogeriatr. 2009 Apr;21(2):295-308.

¹¹ Palmer L, et al. Reducing inappropriate restraint use in Colorado's long-term care facilities. Jt Comm J Qual Improv. 1999 Feb;25:78-94.

¹² Neufeld RR, et al. Restraint Reduction Reduces Serious Injuries Among Nursing Home Residents. JAGS 1999; Oct;47(10):1202-7.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Educational - Staff Education (continued)	Testad, et al, 2005 ¹³ Excellent –RCT; however, potential for biases noted	NH residents w/ dementia from 4 NH w/ random assignment to: Intervention n=55 or Control n=96 at baseline, n=87 at re-measure Aim: Decrease problem behavior & use of PR through staff education	Interventions: <ul style="list-style-type: none"> • 6 hr seminar on dementia, behavior, PR alternatives • 1 hr guidance/mo for 6 months Note that data obtained via interview (bias potential) with charge nurse on: <ul style="list-style-type: none"> • Frequency of PR use • Level of agitation: Brief Agitation Rating Scale (BARS) Scores 	<ul style="list-style-type: none"> • PR use ↓ 54% in intervention group; ↑ 18% in control group • Agitated behavior remained unchanged or ↑ slightly (higher BARS scores) in intervention group
Educational – Use of Advanced Practice Nurse (APN) or Clinical Nurse Specialist	Capezuti, et al, 2007 ¹⁴ Moderate - Pre-post test design	4 NHs in PA; 2-part study, same intervention: Study A: Looking for ↓ side rail (SR) use in residents with SR at baseline (n=251) Study B: Compare SR use & bed-related falls between baseline (n=710) and 1 month (n=719), 1year (n=707) for all NH residents Aim: ↓ SR use in 4 NHs	Facility-wide education & APN consultation for 3-6 months including: <ul style="list-style-type: none"> • Individual resident evaluation by APN w/ recommendations • Inservices • Committee & care plan participation 	Study A: <ul style="list-style-type: none"> • 130 residents (51.4%) ↓ SR use; for group that ↓ SR use, there was also ↓ fall rate Study B: <ul style="list-style-type: none"> • At NH level, 1 of 4 NH significantly ↓ restrictive SR use Finding: APN consultative model safely ↓ SR use in 25% of NHs
	Evans, et al, 1997 ¹⁵ Excellent - Prospective 12 mo RCT Note: Article is >10 year limit, but data used in several table citations	3 NH in PA randomly assigned to 3 groups (n=463 residents at study close): <ol style="list-style-type: none"> 1. n=152: 6 mo PR educ (RE) 2. n=127: 6 mo PR educ + Geriatric Nurse Specialist (GNS) consult (REC) 3. n=184 control (Ct) Aim: Examine effect of 2 interventions on PR use at NH level	RE & REC: 6-month education program: <ul style="list-style-type: none"> • Ten 30-45 min. educ sessions by GNS re: PR hazards, assessing & managing resident behaviors likely to lead to PR use REC: additional 12 hours/week GNS unit based consultation. NH PR rates observed at baseline, 6 mo, 9 mo & 12 mos. SR use excluded from PR measure.	<ul style="list-style-type: none"> • Only REC had significant ↓ in PR prevalence at 6 months, 9 months & 12 months • Average ↓ in PR use at 12 months: 23% RE, 11% Ct, 54% REC • REC residents 25-40% more likely to have ↓ PR use (without ↑ staff, psycho-active drugs, or serious fall-related injuries)

¹³ Testad I, et al. The effect of staff training on the use of restraint in dementia: a single-blind randomised controlled trial. *Int J Geriatr Psychiatry* 2005; 20: 587–590.

¹⁴ Capezuti E, et al. Consequences of an Intervention to Reduce Restrictive Side Rail Use in Nursing Homes. *JAGS* 2007;55:334–341.

¹⁵ Evans LK, et al. A clinical trial to reduce restraints in nursing homes. *JAGS* 1997 Jun;45(6):675-81.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Educational - Use of Advanced Practice Nurse (APN) or Clinical Nurse Specialist (continued)	Koch & Lyon, 2001 ¹⁶ Limited – Case study, descriptive analysis	Phase 1 – 1 NH: staff, family & resident educ + APN consultation Phase 2 – Add PR involvement to incident reports & case study of 1 resident w/ severe dementia, restrictive SR use, multiple bed-related falls, other PR use. Aim: Description of NH approach to remove chemical & PR	12 week staff education program including: <ul style="list-style-type: none"> • Seminars & workshops • Reference material & time to read research papers on use of PR & their consequences. • APN consultation 	Phase 1 & 2 (case study): <ul style="list-style-type: none"> • ↓ falls to 0 • SR removal, but cont. daily PR use • ↑ family & interdisciplinary involvement • Improved documentation • ↑ understanding of resident rights & staff role in pursuing best practice
	Strumpf, et al 1998 ¹⁷ Moderate to Excellent – Prospective phase-lag	174 NH residents (1 NH) hospitalized between 1994 & 1997. Aim: Assess effect of APN to ↓ PR in hospitalized NH residents.	Prospective phase-lag-design: <ul style="list-style-type: none"> • Phase I Pts-standard care • Phase II Pts-assessment by study APN, who consulted with staff on ways to avoid PR 	<ul style="list-style-type: none"> • APN intervention significantly ↓ <i>daily</i> PR use • Did not significantly ↓ <i>overall</i> PR use • Work redesign at hospital during Phase II timeframe, which may have affected results of study
	Wagner, et al, 2007 ¹⁸ Moderate - Secondary data analysis (used data from Capezuti ³ , pre-post design)	n=273 NH residents w/ SR use & APN recommendations for alternatives Aim: Determine cost effectiveness of APN recommendations to ↓ SR use	No true intervention, but evaluated cost of APN intervention <ul style="list-style-type: none"> • APN recommendations categorized as related to: mobility, injury risk, nocturia/incontinence, sleep, consultations w/ other disciplines, & rail modification. • Cost determined for each 	<ul style="list-style-type: none"> • 1,275 SR alternatives recommended - median cost \$135/resident. • Higher cost for residents w/ fall history • APN model can be effectively implemented without incurring substantial costs.

¹⁶ Koch S and Lyon C. Case study approach to removing physical restraints. Intl Journal of Nsg Practice. 2001; 7: 156-161.

¹⁷ Strumpf N, et al. The effects of an advanced practical nurse intervention on physical restraint use among hospitalized nursing home residents. Gerontologist 1998;38 (Special Issue 1):247.

¹⁸ Wagner LM, et al. Description of an advanced practice nursing consultative model to reduce restrictive siderail use in NH. Res Nurs Health. 2007; Apr30(2):131-140.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Fall Prevention	Capezuti, et al, 1998 ¹⁹ Moderate - Secondary analysis of data	Part 1: PR removed (n=38) vs. continued PR use (n=88) Part 2: n=633 residents in 3 NH w/ varying rates of PR reduction (11%, 23% & 56%) Aim: Test relationship between PR reduction & falls/injuries, using data collected in a clinical trial of interventions to ↓ PR use in NH	Secondary analysis of data from clinical trial to ↓ PR in 3 NH Part 1: compare fall/injury rates in residents w/ PR removed to residents w/ cont PR use • Part 2: survival analysis to test relationship between PR removal & falls/injuries in NH w/ varying rates of PR reduction	Part 1: • No ↑ risk of falls or injuries with PR removal • PR removal significantly ↓ chance of minor injuries due to falls Part 2: • NHs w/ least PR reduction (11%) had a 50% higher rate of falls & > twice rate of fall-related minor
	Capezuti, et al, 1999 ²⁰ Limited - Descriptive	Aim: Describe interventions to reduce bed-related falls	Description of process to select individualized interventions to reduce bed-related falls and SR use	Administrator & staff need interventions to support safety & individualized care for residents
	Dunn, 2001 ²¹ Moderate - Pre-post intervention, ex post facto descriptive study	n=97 residents from 1 NH Data analyzed before & after restraint free policy implementation. Aim: Determine if there is a difference in falls when PR are allowed or prohibited in one NH	Implementation of PR-free policy Pre-post intervention measure: # of falls & fall related injuries comparing 2 periods: Period 1: 1 yr w/ restraint use (1995) Period 2: 1 yr after implementation of restraint-free policy (1996)	• No significant difference in # of falls before & after PR-free policy. • Significant ↓ in # of reported injuries after PR-free policy • Period 2: more falls with no apparent injury, fewer fractures & lacerations, & fewer hospitalizations Indicate resident will fall w/ or without PR due to aging process & risk factors
	Gilbert & Counsell, 1999 ²² Moderate Quantitative pre-post test	Convenience sample of patients in neurological unit; implemented restraint-reduced environment. Aim: Assess the need to change to more positive, patient-focused, PR-free model	Assessment pre and post PR ↓ intervention, of: 1. Nursing perception via Perception of Restraint Use Questionnaire (PRUQ) 2. Fall rate 3. Fall rate w/ injury	• Results support ↓ PR use indicated by similar fall rate and fall rate w/ injury pre and post intervention Nursing perception of PR indicate trend toward less emphasis on PR use to control specific unsafe or undesirable behaviors

¹⁹ Capezuti E, et al. The relationship between physical restraint removal and falls and injuries among nursing home residents. J Gerontol A Biol Sci Med Sci. 1998 Jan;53(1):M47-52.

²⁰ Capezuti E, et al. Individualized interventions to prevent bed-related falls & reduce siderail use. J Gerontol Nurs. 1999 Nov;25(11):26-34.

²¹ Dunn KS. The effect of physical restraints on fall rates in older adults who are institutionalized. J Gerontol Nurs. 2001 Oct;27(10):40-8.

²² Gilbert M and Counsell C. Planned change to implement a restraint reduction program. J Nurs Care Qual. 1999 Jun;13(5):57-64.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Fall Prevention (continued)	<p>Kallin, et al, 2005²³</p> <p>Limited to Moderate - Prevalence study, data based on questionnaire</p>	<p>n=3,323 LTC residents (2,008 cognitively impaired) in Swedish geriatric care:</p> <ul style="list-style-type: none"> • 69 residential care • 31 NH • 66 group homes for dementia • 7 rehab units • 2 somatic geriatric • 2 psychogeriatric clinics <p>Aim: Determine factors assoc. w/ falls among cognitively impaired older people in geriatric care</p>	<p>Multi-dimensional Dementia Assessment Scale (MDDAS) forms sent to facilities. Staff asked to complete forms using 1 wk observation period & return forms re: factors related to falls.</p> <p>Data on PR use, pain, previous falls & falls w/ injuries included</p>	<p>Use of PR w/ cognitively impaired residents not associated with ↓ falls.</p> <p>Fall prevention strategies include:</p> <ul style="list-style-type: none"> • Treatment of psychiatric & behavioral symptoms • Improved gait & balance • Adjustment of drug treatment • Careful staff supervision
	<p>Rask, et al, 2007²⁴</p> <p>Moderate to Excellent – Convenience sample</p>	<p>Intervention: n=19 nonprofit org owned NHs in GA (convenience sample) Control: n=23 NHs in same org</p> <p>Aim: Evaluate feasibility & effectiveness of falls management program (FMP)</p>	<p>Intervention: implementation of FMP, with key components:</p> <ul style="list-style-type: none"> • Org leadership buy in & support • Facility based falls coordinator • Interdisciplinary team • Intensive education & training • APN consultation & oversight <p>Key outcome measures:</p> <ol style="list-style-type: none"> 1. Process of care documentation 2. Fall rates 3. PR use rates 	<p>Intervention group:</p> <ul style="list-style-type: none"> • PR relative use ↓ 44% • Fall rates approximately the same • Process documentation improved <p>Control group:</p> <ul style="list-style-type: none"> • PR relative use ↓ 30% • Fall rates ↑ 26% • Process documentation improved <p>FMP may be helpful tool to manage fall risk while attempting to ↓ PR use.</p>

²³ Kallin K, et al. Factors Associated With Falls Among Older, Cognitively Impaired People in Geriatric Care Settings: A Population Based Study. Am J Geriatr Psychiatry. 2005 June (13): 501-509.

²⁴ Rask K, et al. Implementation and Evaluation of a Nursing Home Fall Management Program. JAGS 2007 55:342-349.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Informational	Andrews, 2006 ²⁵ Limited - Editorial	NH residents w/ dementia demonstrating challenging behavior	“Back to basics approach” w/ focus on: <ul style="list-style-type: none"> • Core values & activities • Proximities, interactions & relationship w/ people to ↓ PR use 	<ul style="list-style-type: none"> • Person centered approach to care w/ residents with dementia may ↓ PR use • Will not be easy to engage staff • APNs will have central role • Need national guidelines & standards of practice for all challenging behavior
	Carroll-Solomon, et al. 2000 ²⁶ Limited – Descriptive; no quantitative data	4 NHs Description of knowledge transfer process related to PR use in SNFs Aim: Describe NH experience using value-based program to reduce PR use.	Values-based PR reduction program focuses on preserving residents' rights & using comparative data sharing to identify opportunities for improvement. Builds upon collaborative cyclical model used by CHE System's LTC facilities. Note: no actual measures or quantitative data reported	The experiences of 4 of the system's facilities described; demonstrating different aspects of strategies to target PR reduction; no outcome data reported.
	Dimant, 2003 ²⁷ Limited – Discussion, no intervention tested	Aim: Describe principles of a process of care to help providers avoid restraints	No true intervention; used literature to outline process of care: <ol style="list-style-type: none"> 1. Assessment (identify diagnosis & cause) 2. Care planning (goals, risks, appropriateness) 3. Management (obtain MD order, apply correctly, anticipate risks, outcomes) 4. Monitor (continually assess care plan, monitor for complications) <ul style="list-style-type: none"> • Quality Assurance and improve (goal to reduce or eliminate use) 	Need: <ul style="list-style-type: none"> • MD involved in assessment, care planning, and management • MD should be familiar with vast array of available treatments, devices, etc. • MD must be educated and held accountable
	Godkin and Onyskiw, 1999 ²⁸ Moderate – Discussion, review, no quantitative data	Aim: Summarize empirical evidence re: effectiveness of interventions or programs to ↓ PR use in LTC	<ul style="list-style-type: none"> • Programs to ↓ PR w/ education, PR removal & individualized interventions: successful ↓ PR use • No significant negative consequences for residents or staff w/ PR reduction programs or interventions 	Goal of least-PR or PR free – appropriate & achievable through: <ul style="list-style-type: none"> • Mandatory educational programs for staff • Individualized assessment • Implementation of appropriate interventions for residents • Adequate administrative support Educational programs had positive impact on nurses' knowledge, attitudes, & practices regarding PR use. Findings must be considered in light of methodological weaknesses noted in the studies.

²⁵ Andrews GJ. Managing challenging behaviour in dementia. BMJ. 2006 Apr 1;332(7544):741.

²⁶ Carroll-Solomon PA, et al. Preserving residents' rights in long-term care settings: a values-based approach to restraint reduction. J Healthc Qual. 2000 Jul-Aug;22(4):10-9.

²⁷ Dimant J. Avoiding physical restraints in long-term care facilities. J Am Med Dir Assoc. 2003 Jul-Aug;4(4):207-15. Review.

²⁸ Godkin MD and Onyskiw JE. A systematic overview of interventions to reduce physical restraint use in long-term care settings. Online J Knowl Synth Nurs. 1999 Aug 11;6:6.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
	Nay and Koch, 2006 ²⁹ Limited – Descriptive study from qualitative data	n=272 caregivers, healthcare professionals, and stakeholders in Australia participated in public forums, interviews, or NH site visits Aim: Identify alternatives to PR in aged care facilities in Australia No true intervention tested.	Conducted: <ul style="list-style-type: none"> • Lit review-current PR practice/issues • 14 public forums • 25 telephone interviews • 16 NH site visits Topics discussed: <ul style="list-style-type: none"> • Legal & other issues • Options to overcome barriers • Analysis of existing resources • Definition of PR & appropriate use • Barriers to PR free environment • New options for PR free environment 	Key points to reduce PR use: <ul style="list-style-type: none"> • Practices to ↓ PR use implemented w/in organizational context • Manager & team commitment • Family, residents & staff should be informed re efficacy of PR & PR alternatives Recommendations to ↓ PR use: <ul style="list-style-type: none"> • Implement national policy guidelines • Adopt best practice philosophy regarding ↓ PR use • Staff educ regarding PR alternatives & maintaining constant communication w/ families
Informational, (continued)	Sullivan-Marx, et al, 1999 ^{30,31} Moderate to Excellent - Secondary data analysis (used data from Evans ¹⁵ , a RCT)	3 NHs in PA: Aim ³⁰ : Evaluate predictors of continued PR use following reduction efforts (n=135) Aim ³¹ : Identify resident characteristics & environmental factors associated w/ PR initiation (n=335)	Intervention done in primary study; here, evaluated association of PR initiation and con PR use after intervention Measures: <ol style="list-style-type: none"> 1. Factors that predict continued PR use³⁰ 2. Resident characteristics assoc w/ PR initiation³⁰ 3. Environmental factors assoc w/ PR initiation³⁰ 	Continued PR use w/ severe cognitive impairment &/or when fall risk was rational for PR ³⁰ PR initiation w/ lower cognitive status & higher ratio of licensed nursing (LPNs) ³⁰ Efforts to ↓ PR use will require: <ul style="list-style-type: none"> • Education in assessment • Analysis of fall risk • Individualized interventions • Greater attention to staff mix
	Wiley, 2000 ³² Limited - Descriptive only	Aim: Describe various approaches to implement PR ↓ programs	Kast & Rosenzweig model of systems theory to describe the approaches NHs have taken to implement a restraint-free or restraint-elimination program.	Description of benefits that residents & staff receive when they participate in a restraint-reduction of restraint-elimination program; no quantitative data.

²⁹ Nay R and Koch S. Overcoming restraint use: examining barriers in Australian aged care facilities. J Gerontol Nurs. 2006 Jan;32(1):33-8.

³⁰ Sullivan-Marx EM, et al. Predictors of continued physical restraint use in nursing home residents following restraint reduction efforts. JAGS. 1999 Mar;47(3):342-8.

³¹ Sullivan-Marx EM, et al. Initiation of physical restraint in nursing home residents following restraint reduction efforts. Res Nurs Health. 1999 Oct;22(5):369-79.

³² Wiley B. Redesign in the long-term care industry: a restraint reduction or restraint elimination program in the nursing home. J Health Hum Serv Adm. 2000 Fall;23(2):214-41.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Multifaceted Intervention	Mayhew PA, et al, 1999 ³³ Limited – Developed own project for 1 NH; case study	Implemented research-based approach to restraint ↓, and details case study with 75 yr old cognitively impaired resident Aim: Describe research utilization project to enhance restraint ↓ & discuss case study.	Intervention: <ul style="list-style-type: none"> • Interdisciplinary task force • Restraint policy changes • Educational efforts for staff 	<ul style="list-style-type: none"> • Facility restraint rate ↓ 28%, 2 yrs post intervention • Used trial and error process with case study to find intervention where resident would not attempt to get up alone • Used table in front of chair to remind resident not to get up alone, but may be considered restraint • Need to individualize PR alternatives
Role of Physician	Caprio, et al., 2008 ³⁴ Limited - Commentary	Aim: Discuss how physician's role fits into quality of care equation for NHs & implications for new clinical, research & policy directions for LTC	Description of MD's role with NH staff in assessing risk and managing PR use	<p>MD can play an important role:</p> <ul style="list-style-type: none"> • managing high-risk NH residents without PR • working w/ interdisciplinary teams • comprehensive fall evaluations <p>↓ or elimination of PR can be:</p> <ul style="list-style-type: none"> • measured over time • relevant quality indicator of MD & facility interactions in process of care
Side Rails	Capezuti, et al, 2002 ³⁵ Moderate - Secondary analysis of data (Evans, et al, 1997 ⁵)	2 part study: Part 1 – n=463 residents Part 2 – n=319 residents w/ consistent SR use for 4 observation periods: 0/1 SR (n=188) or 2 SR (n=131) Aim: Analyze effect of PR reduction on nighttime PR use & examine relationship between bilateral SR use & bed-related falls/injuries	3 NHs in PA used educ & APN intervention to determine effect on PR; primary study excluded SR use and night observation. Part 1 –PR use from 10pm-6am measured via observation Part 2 –Bilateral SR use measured at 4 collection periods & compared to incident reports from collection period	<ul style="list-style-type: none"> • 38.6% vest or wrist PR at night ↓ to 8.8% 6 months post-intervention. • Bilateral SR use ↑ from 58.7% to 64.1%, despite ↓ in other nighttime PRs • Despite high use of bilateral SR, SRs do not significantly ↓ likelihood of falls, serious injuries or recurrent falls
	Hoffman, et al, 2003 ³⁶ Limited to Moderate - Descriptive; one NH only	3 NH units in one NH Aim: Reduce use of bed rails, using BedSAFE quality improvement (QI) program	BedSAFE QI program to safely ↓ SR use: <ul style="list-style-type: none"> • Interdisciplinary team • Individualized resident assessment • Select appropriate alternatives • Improve communication w/ resident and family 	<ul style="list-style-type: none"> • 27% ↓ bed rail use across 3 units • 11% ↓ falls from bed across 3 units • Marked decrease in injuries when floor mat used

³³ Mayhew PA, et al. Restraint Reduction: Research Utilization and Case Study with Cognitive Impairment. Geratr Nurs. 1999;20:305-8

³⁴ Caprio TV, et al. Commentary: The physician's role in nursing home quality of care: focus on restraints. J Aging Soc Policy. 2008;20(3):295-304.

³⁵ Capezuti E, et al. Side Rail Use and Bed-Related Fall Outcomes Among Nursing Home Residents. JAGS. 2002 (50): 90-96.

³⁶ Hoffman SB, et al. BedSAFE. A bed safety project for frail older adults. J Gerontol Nurs. 2003 Nov;29(11) 34-42.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Staffing-Factors or Perceptions Related to Restraint Use	Janelli, et al, 2002 ³⁷ Moderate to Excellent – RCT; however, small sample	n= 40 med surg pts randomized: n=20 experimental group n= 20 control group Aim: Explore music as alternative to PR	Intervention: out of PR while listening to preferred music. Control: out of PR but not listening to music	Patients who listened to preferred music had more positive behaviors while out of restraints than patients who were out of restraints but not exposed to music.
	Janelli, et al, 2005 ³⁸ Moderate to Excellent – RCT; however, small sample, likely low power	30 patients in PR randomly assigned to 3 groups (n=10 ea): A) out of PR, listening to music B) out of PR, no music C) in PR, listening to music Aim: Examine effects of preferred music on behavior in PR pts & assess as possible PR alternative	Listening to individualized music (based on personal preferences) Observe/record behavior: 1. 15 min during pre-intervention for all groups 2. 30 min during preferred music for groups A & C, no music for group B 3. 30 min post-intervention when PR returned, for all groups	Group A • ↑ mean scores for positive behavior & ↓ mean scores for negative behavior (not statistically significant) - may indicate some benefits to patients out of PR & listening to preferred music.
	Lee, et al, 1999 ³⁹ Moderate – Qualitative study, small sample	N=20 RNs in medical & geriatric settings of Hong Kong hospitals Aim: Explore nurses' perceptions of use of PR on elderly pts in Hong Kong	Semi-structured interviews to explore nurses' perceptions of use of PR on elderly pts No intervention.	<ul style="list-style-type: none"> • Mixed feelings about PR use • Did not question the 'routine' practice of PR use • Knowledge of consequences & alternatives to PR use was limited • Overriding concern for pts safety & PR provided a sense of security
	Saarnio, et al, 2009. ⁴⁰ Moderate- Quantitative survey (78% response rate)	N=1148 nurses in 70 institutions in Finland from <ul style="list-style-type: none"> • Healthcare wards (n=259) • Municipal NH (n= 468) • Private NH (n=80) Distribution of questionnaires: Mailed to contact person at 70 facilities who selected survey participants at their facility. Aim: Map nsg staff's individual, communal & alternative modes of action w/ PR use	Individual: linked to consideration towards older people Communal: joint discussion, decision-making & written guidelines. Alternative: 2 modes: understanding older person & focus on negotiation No true intervention tested, but assesses what nurse characteristics affect the actions taken by nurses when dealing with a resident w/ PR.	<ul style="list-style-type: none"> • 33% w/ written guidelines of PR use. • 57% of units – multidisciplinary team decide PR use; else RN decides • Alternative modes: move resident closer to nsg office, use adjustable bed • PR use linked to cont education, nsg individual ways of operation & workplace org culture Conclusions/relevance to practice <ul style="list-style-type: none"> • Ed can be used to ↑ PR alternatives & ↓ PR use • Ed should include ethics re PR use • Written PR guidelines needed

³⁷ Janelli LM, et al. Individualized music--a different approach to the restraint issue. Rehabil Nurs. 2002 Nov-Dec;27(6):221-6.

³⁸ Janelli LM, et al. The influence of individualized music on patients in physical restraints: a pilot study. J N Y State Nurses Assoc. 2004 Fall-2005 Winter;35(2):22-7.

³⁹ Lee DTF, et al. Use of physical restraints on elderly patients: an exploratory study of the perceptions of nurses in Hong Kong. J Adv Nurs. 1999 Jan;29(1):153-9.

⁴⁰ Saarnio R, et al. The use of physical restraint in institutional care of older people in Finland: nurses' individual, communal and alternative modes of action. J Clin Nurs. 2009 Jan;18(1):132-40.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
Summary Reviews	Evans, et al, 2002 ⁴¹ Moderate to Excellent - Literature review of 16 studies; associated with JBI, 2002 ⁴⁰ review	16 studies reviewed. Criteria: Must be evaluation of restraint minimization in acute or residential care setting Objective: Investigate PR minimization in acute & resident care 2 Aims: <ul style="list-style-type: none"> • Determine effectiveness of attempts to minimize PR use • Generate description of characteristics of PR minimization programs 	<ul style="list-style-type: none"> • The common approach to restraint minimization involved a program of multiple activities, with restraint education being the characteristic common to most programs 	<ul style="list-style-type: none"> • Evidence suggests PR can be safely ↓ in residential care settings through a combination of education & expert clinical consultation
	JBI, 2002 ⁴² Moderate to Excellent - Summary of literature review by Evans, et al, 2002 ⁴³ ; excellent & comprehensive PR alternative table & management of specific populations table	Systematic review of evidence based literature addressing: <ul style="list-style-type: none"> • Do PR minimization programs safely reduce use of PR? • What are components of PR minimization programs in literature? • What interventions have been used as alternatives to PR or to ↓ need for PR? Aim: Summary of systematic review of PR focusing on: <ul style="list-style-type: none"> • PR minimization programs • Components of PR minimizations programs • PR alternatives 	Multiple interventions addressed including: <ul style="list-style-type: none"> • Restraint free care • PR minimization programs • PR education • PR alternatives (table 1) • Management of specific populations (table 2) • Multiple support activities <ol style="list-style-type: none"> 1. Organizational approach 2. Minimization vs. abolition 3. Changes in PR order 4. Gradual process 5. Develop a plan 6. PR experts 7. Resident assessment 8. Family Participation 9. Stereotype Patient Protocols 10. Learning from others <p>Note that comprehensive tables 1 and 2 can be found at: http://www.joannabriggs.edu.au/pdf/BPISEng_6_4.pdf</p>	<ul style="list-style-type: none"> • Restraint education with clinical consultation or restraint education alone can safely ↓ PR use in the residential care setting. PR reduction programs: <ul style="list-style-type: none"> • Incorporated educ to change org culture • Provide strategies for success • Multiple activities used to minimize PR use PR education summary: <ul style="list-style-type: none"> • Format – inservices, educ packages, mandatory & voluntary education, workshops, seminars, videos & computer assisted • Content: <ul style="list-style-type: none"> ➢ Impact of PR ➢ Resident rights & autonomy ➢ Myths & misconceptions ➢ Ethical aspects of retraining people ➢ Legal & legislative aspects ➢ Dangers & adverse outcomes ➢ Specific behavior problems ➢ PR alternatives

⁴¹ Evans D, et al. A review of physical restraint minimization in the acute and residential care settings. *J Adv Nurs*. 2002 Dec;40(6):616-25.

⁴² JBI, 2002 Physical Restraint – Pt 2: Minimization in Acute and Residential Care Facilities. *Best Practice*. Vol 6 Iss 4, Blackwell Publishing Asia, Australia.

⁴³ Evans D, et al. 2002 Physical Restraint in Acute and Residential Care, A Systematic Review No. 22. The Joanna Briggs Institute, Adelaide, South Australia.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
	<p>Sullivan-Marx et al, 2001⁴⁴</p> <p>Limited to Moderate - Descriptive review of secondary data from Carson, et al, 1998⁴⁵</p>	<p>n=8,333 hospitalized patients w/ hip fractures from 20 medical centers 1983-1993</p> <p>Aim: Report findings from a descriptive study of restrained hip fracture patients & discuss approaches to PR-free care</p>	<p>Abstracted from hospital records:</p> <ul style="list-style-type: none"> Demographic data Functional status on admission Diagnosis of confusion/dementia PR use <p>Interventions discussed:</p> <ul style="list-style-type: none"> Individualized approach based on comprehensive assessment Treat underlying cause of delirium Treat pain, maintain hydration & oxygenation Enable frequent family contact & supportive interaction w/ staff Activity and exercise programs to prevent functional decline 	<ul style="list-style-type: none"> Acute confusion or delirium and PR use ↑ risk for poor outcomes Administrators, family and health team must support PR free care PR free care of acutely confused older adult is beneficial and achievable in any setting Individualized approach to avoid PR use for pts w/ acute confusion and cognitive impairment includes: <ul style="list-style-type: none"> ➢ Knowing the patient ➢ Acknowledge patient's right to make choices ➢ Establish relationships w/ providers ➢ Allow participation and direction of care by patient
<p>Summary Reviews (continued)</p>	<p>Wang & Moyle, 2005⁴⁶</p> <p>Moderate to Excellent Literature review of findings from 22 papers related to dementia & PR in NH or LTC setting</p>	<p>42 manuscripts from 1992-2003 reviewed, 22 met criteria. Inclusion criteria:</p> <ul style="list-style-type: none"> PR use and resident w/ dementia Explicit research methodology Based in LTC <p>Exclusion criteria:</p> <ul style="list-style-type: none"> Focus on other forms of restraint Focus on resident without dementia Anecdotal & discussion papers, narrative review & non-explicit methodology <p>4 dominant themes identified:</p> <ol style="list-style-type: none"> Relationship between PR use & cognitive decline Falls/injuries & mortality PR reduction, removal & alternatives to use Nurses attitudes towards restraints <p>Aim: Provide a critical review of contemporary literature published between 1992 and 2003 on use of PRs on resident w/ dementia in LTC</p>	<p>Interventions & Alternatives:</p> <p>Mayhew, et al (1999)</p> <ul style="list-style-type: none"> Multi-disciplinary team research based approach Evidence based educ - staff & families Encouraging staff to promote dignity and quality of life <p>Sullivan (1999a, 1999b)</p> <ul style="list-style-type: none"> PR reduction efforts associated with existing government regulations, staff education & educ w/ consultation from GCNS. <p>Werner, et al (1994): Most common alternatives (environmental, nsg, psychosocial, physiological, activities)</p> <ul style="list-style-type: none"> Wheelchair adaptations & seating Nsg: ↑ supervision & assistance Reality orientation Treatment of infection Participation in structured activities <p>Cohen, et al (1996) and Koch & Lyon (2001):</p> <ul style="list-style-type: none"> Staff educ & commitment of staff, resident & families 	<ul style="list-style-type: none"> No scientific evidence that PR protects resident from injuries. (multiple studies) PR removed in >90% of resident in study (Werner, et al, 1994) Staff educ programs: effective in changing work practices (Middleton et al, 1999 & Bradley et al, 1995) In PR free environment – care plans more individualized & led to ↑ communication between staff & resident (Cohen, et al, 1996 & Koch & Lyon, 2001) <p>Suggestions for Practice:</p> <ul style="list-style-type: none"> To avoid potential injury, adequate assessment of resident & environment prior to PR consideration Ongoing educ programs in PR use & creative alternatives Encourage nsg to consider behavior patterns of residents to id ways to prevent agitation Encourage nsg to use evidence-based practice & work towards PR free environment RN must ensure polices & laws are followed to prevent improper PR use

⁴⁴ Sullivan-Marx EM. Achieving Restraint-Free Care of Acutely Confused Older Adults. J Gerontol Nrs. 2001 Apr 27(4):56-61.

⁴⁵ Carson JL, et al. Perioperative blood transfusion and postoperative mortality. JAMA. 1998 279: 199-205.

⁴⁶ Wang W and Moyle W. Physical restraint use on people with dementia: a review of the literature. Aust J Adv Nurs. 2005 Jun-Aug;22(4):46-52.

Interventions Table: Physical Restraints

Type of Intervention	Citation & Evidence Rating	Targeted Sample & Aim	Specific Interventions & Related Information	Outcomes/Findings
<p style="text-align: center;">Summary Reviews (continued)</p>	<p>Wang & Moyle, 2005 (continued)</p>		<ul style="list-style-type: none"> • Alternative equipment • Contrary to Werner (1994), PR alternatives found inexpensive & additional staff not required w/ PR removal <p>Koch & Lyon (2001)</p> <ul style="list-style-type: none"> • Commitment of senior staff – key • Addressing staff misconceptions about PR use <p>Schnell, et al (2001)</p> <ul style="list-style-type: none"> • Simple management system to ↑ success of PR release regulations <p>Middleton, et al (1999); Bradley, et al, (1995)</p> <p>Ed programs to ↑ staff awareness & knowledge of alternatives</p>	<ul style="list-style-type: none"> • To ↓ PR use for convenience, enlist assistance from federal & state government & geriatric or dementia orgs <p>Nurses' Attitudes</p> <ul style="list-style-type: none"> • Moderately positive, ambivalent attitudes towards PR use & nsg happier when decision for PR use was interdisciplinary (Hardin et al, 1994) • PR use in-services assisted to identify PR vs. enabler & between use as convenience & positive PR for residents (Sundel et al, 1994) • Nurses held differing views of PR use & what it involves, both positive & conflicting attitudes towards its use (Hantikanen 1998; 2001) • Often PR decisions made based on nurses' rights & environmental considerations rather than residents' well-being (Hantikanen 1998; 2001) • To absolve themselves from the responsibility of decision-making, staff believed resident behavior would need to change before limiting PR use (Hantikanen 1998; 2001) • PR seen as means of controlling behavior. PR decisions often based on 'routines, emotions & attitudes rather than empirical facts' (Hantikainen & Kappeli, 2000) <p>Decision to use PR based on disease perspective & PR removal closely linked w/ resident autonomy or to ↓ suffering or make them feel good (Karlsson, et al, 2000)</p>