

Hemodialysis: Falls Injury Prevention and Management for Hemodialysis Outpatients

Site Applicability

PHC Hemodialysis Units

Practice Level

Basic:

- Nurses (RN, LPN) who provide nursing care in a Providence Health Care Renal Program Hemodialysis (HD) Specialty unit

Algorithm

Follow Falls Injury Prevention algorithm (See [Appendix A](#))

Need to Know

1. This protocol is used for chronic kidney disease (CKD) patients receiving hemodialysis treatment at St. Paul's Hospital (SPH) in Centre unit and community dialysis units
2. A culture of safety is the utmost priority – through falls risk reduction education for staff, patients and their families.
3. Elderly hemodialysis patients are at high risk for falls and fall related injury pre, during and post hemodialysis e.g. post HD fatigue, hypotension, muscle cramping)
4. Aging, kidney disease progression, co-morbid diseases, poor quality of life, poor health, complications/adverse effects of HD treatment and medications (See [Appendix B](#)), lack of exercise, musculoskeletal function (decreased mobility), cognitive impairment and long term care placement
5. Footwear can also be an important factor in affecting the risk of falls for aging patients
6. The physical environment of the hemodialysis unit is identified as a significant contributing risk factor to accidental fall injury (e.g. slippery or wet floors, inappropriate HD chairs, clutter of supplies/equipment, loose blood tubing lines).
7. Vitamin D deficiency may contribute to an increased risk of fall incidence and result in bone fractures due to bone fragility.

Protocol

Assessment

1. Universal fall precaution practices are in place for all patients. (see [Appendix C](#))
2. Patients identified as high risk for falls on initial screening should have a complete fall risk assessment completed and an individualized plan of care (interventions) implemented. See [B-00-07-10011](#) and [Appendix D](#).

Cerner sites see iView section, [B-00-10-10002](#) - Fall Risk Care Plan or [Appendix E](#) for Interventions

Non-Cerner Sites see [Appendix F](#)

Interventions

1. Complete a comprehensive fall risk assessment on admission and every quarter using the Morse fall risk assessment and interventions in Cerner iView or using paper tools. See [Appendix E](#) and [Appendix F](#))
2. Ask the fall risk screening trigger questions at the beginning of each dialysis session to identify who may be at an increased risk for falls or other mobility. Include the family in discussion where appropriate particularly to understand the nature of falls if any (events/symptoms preceding a fall, injuries sustained, whether they occur on dialysis days, etc.). Refer to interdisciplinary team as necessary for additional assessment.
3. Place a visible sign for falls risk (See [Appendix D](#)) on the wall behind the chair or bed of the patient and inside the patient chart beside the nursing care guide to provide clear communication
4. If patient falls, do not move patient until assessed. Follow Post Fall Management algorithm ([Appendix G](#)). If assistance is needed to lift patient always use a mechanical lift (See [Appendix H](#))

Documentation

Cerner Sites

1. Complete a PSLS report if a fall has occurred within the hospital/CDU
2. Complete Morse Fall Scale in iView – Adult System Assessment section
3. If Morse score is 45 or higher, complete Fall Prevention Interventions in iView-Adult System Assessment Section
4. Document in Situational Awareness section of the ambulatory workflow and in nursing narrative notes as required

Non-Cerner Sites

1. Complete a PSLS report if a fall has occurred within the hospital/CDU
2. Print Morse Fall Scale ID Assessment form from chart-scan (form #7109), Appendix E – Morse Fall Scale and complete.

3. Print Fall Risk Care Plan-Inpatient ([B-00-10-10002](#)) from SHOP ([Appendix F](#) – Fall Risk Care Plan). Complete Care Plan if score is 45 or higher
4. Document assessment and interventions on the hemolog/interdisciplinary notes

Patient and Family Education

- Ensure patient and family are aware of fall risk, universal precautions and any patient specific interventions implemented to prevent fall injuries (e.g. wearing shoes or slippers with non-slip soles, take time to sit up and stand following Hemodialysis as they can feel unsteady or lightheaded)
- Advise patients and family to anticipate questions related to fall events and mobility at each visit
- Ask patient and family to advise staff if patient has had a fall
- Provide information about any medication the patient is taking that has side-effects that contribute to the risk of falling
- Encourage patients at risk for, or who have limited mobility to ask for help with pre or post dialysis weight and other mobility needs.

Related Documents

1. [B-00-07-10011](#) - Falls Injury Prevention - Acute and Sub-Acute Care
2. [B-00-12-10022](#) - Falls: Assisting patient Up from the Floor Post Fall
3. [B-00-10-10002](#) – Fall Risk Care Plan
4. [B-00-13-10058](#) - Hemodialysis: Patient Assessment Pre, Intra, and Post Dialysis
5. [B-00-13-10065](#) - Delirium: Assessment and Care
6. [B-00-07-10060](#) - Cardiac Arrest (Code Blue): Initiating, SPH and MSJ
7. [B-00-13-10059](#) - Least Restraint: Care of the Patient at Risk for or Requiring Restraint (Acute and Sub Acute Care)

References

1. Abdel-Rahman, E.M., Turgut, F., Turkmen, K., & Balogun, R.A. (2011). Review: Falls in elderly hemodialysis patients. *Q J Med*, 104:829-838. Advance Access Publication doi:10.1093/qjmed/hcr108. Retrieved January 23, 2013 from <http://qjmed.oxfordjournals.org/>
2. Deaver, K. Cote, D. (2013) Nursing Risk Assessment: fall prevention strategies in the outpatient hemodialysis setting. *Nephrology Nursing Journal* Vol. 40 (3). 259-261.
3. Hain, D. (2012) Fall prevention in adults undergoing in center hemodialysis. *Nephrology Nursing Journal*, 39 (30 251-255
4. Heung, M., Adamowski, T., Segal, J.H., & Malani P.N. (2010). A successful approach to fall prevention in an outpatient hemodialysis center. *Clinical Journal of the American Society of Nephrology* 5(10), 1775-9. Retrieved June 13, 2013 from www.ncbi.nlm.nih.gov/pmc/articles/PMC2974376/
5. Huey-Ming Tzeng & Chang-Yi Yin (2013). Frequently observed risk factors for fall-related injuries and

- effective preventive interventions. A multihospital survey of nurses' perceptions. *Journal of Nursing Care Quality/April-June 2013* 28(2), 130-138. Wolters Kluwer/Lippincott &
6. Kiel, D. (2021). Falls: Prevention in community-dwelling older persons. UpToDate(C) Literature Review. Wolters Kluwer Health. Retrieved October 5, 2021 from <https://www.uptodate.com/contents/falls-prevention-in-community-dwelling-older...>
 7. Wilkin Kiel, D., Schmader, K., & Park, L. (2016). UpToDate, Literature review: Falls in older persons: Risk factors and patient evaluation. Retrieved April 27, 2016 from <http://www.uptodate.com/contents/falls-in-older-persons-risk-factors-and-patients-evaluatio...>

Appendices

[Appendix A:](#) Fall Prevention Algorithm

[Appendix B:](#) Medications and the Risk of Falls

[Appendix C:](#) Universal Fall Prevention Strategies

[Appendix D:](#) Fall Risk Sign

[Appendix E:](#) Morse Fall Scale

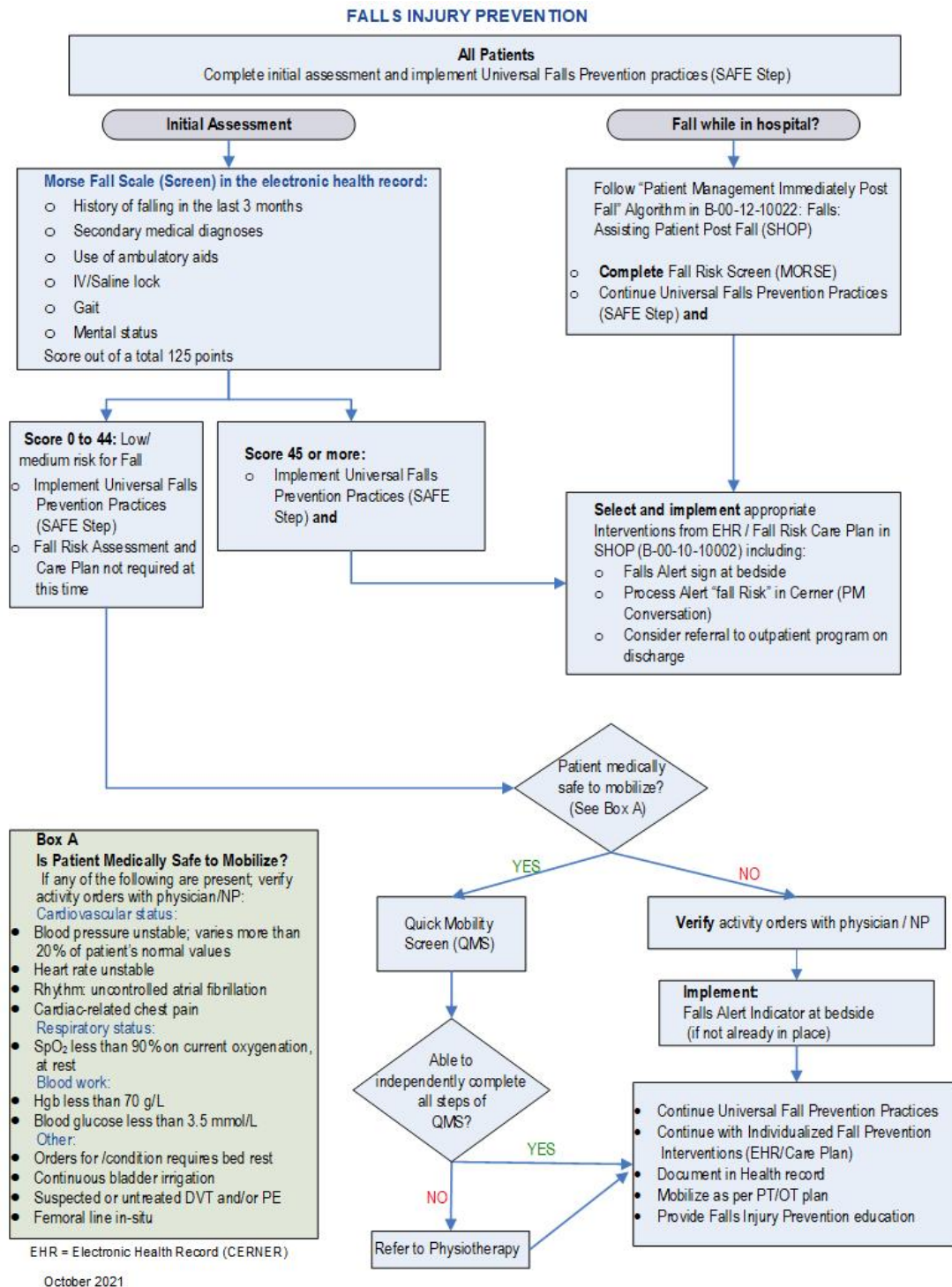
[Appendix F:](#) Fall Risk Care Plan

[Appendix G:](#) Assisting the Patient Following a Fall Algorithm

[Appendix H:](#) HoverMatt and HoverJack Locations

Persons/Groups Consulted: Renal clinical Practice Group		Developed By: Clinical Nurse Educator, Renal Program	
First Released Date:	October 2016		
Posted Date:	16-DEC-2021		
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Last Reviewed:	16-DEC-2021		
Approved By: <i>(committee or position)</i>	PHC		
	Professional Practice Standards Committee Renal Practice Group		
Owners: <i>(optional)</i>	PHC		
	Renal Program		

Appendix A: Fall Prevention Algorithm



Appendix B: Medications and the Risk of Falls

Medications and the Risk of Falling

Which drugs can increase the risk of falls?

In theory ANY drug that causes one of the following effects can increase the risk of falling:

- Drowsiness
- Dizziness
- Hypotension
- Parkinsonian effects
- Ataxia/gait disturbance
- Vision disturbance

As well, theoretically ANY drug that causes the following effects can increase the risk of a serious outcome if an individual falls:

- Osteoporosis or reduced bone mineral density: Increased risk of fracture if a fall occurs
- Bleeding risk: Increased risk of a cerebral hemorrhage if a fall occurs

What can be done if you are taking a drug that can increase the falls risk?

Individualize treatment. Drugs are just one of many factors that can increase the risk of falling.

Assessment: Are you at high risk?

- ☐ **Have you had a slip, trip, near fall or fall in the last 6 months?**
- ☐ Are you **taking a drug that can cause the effects listed above** (see attached list of drugs)
- ☐ Are you taking a **high dose of the drug?**
- ☐ Are you **displaying any of the adverse effects listed above**, such as drowsiness?
- ☐ Are you over the age of 65? Elderly patients may be more sensitive to adverse drug effects because of alterations in the way that the body absorbs, distributes or eliminates the drug.
- ☐ Are you **taking more than one drug that increases the falls risk?**
- ☐ Are you at **high risk of falling for other, non-drug reasons?**
- ☐ Is it **difficult for you or your doctor to monitor** for an adverse drug effect?



Consider intervention, especially if you have assessed the patient as high risk:

- Consider risk/benefit ratio: Does the benefit of the drug outweigh a possible risk of falling?
- Is there a safer drug or non-drug alternative?
- Is it possible to minimize the dose without losing the benefit of the drug?

Medications and the Risk of Falling

Examples of drugs that can increase the risk of falling, or of a serious outcome if a fall occurs (and possible mechanisms)

ACE Inhibitors (3) Benazepril Captopril Cilazapril Enalapril/enalaprilat Fosinopril Lisinopril Perindopril Quinapril Ramipril Trandolapril	Methsuximide (1,2,5) Oxcarbazepine (1,2,5,6) Phenobarbital (1,2) Phenytoin (1,2,5,7) Primidone (1,2) Topiramate (1,2) Valproic acid (1,2,5) Vigabatrin (1,2)	Cyproheptadine Diphenhydramine Hydroxyzine Meclizine Promethazine Trimeprazine	Digoxin (mechanism unknown) Eye drops (6) Herbal and Natural health products Natural sleep aids Natural products for sexual enhancement (possible adulteration with undeclared drugs) Metoclopramide (1,2,4) Muscle Relaxants (1,2) Baclofen Carisoprodol Chlorzoxazone Cyclobenzaprine Dantrolene Methocarbamol Orphenadrine Tizanidine Nitrates (2,3) Isosorbide dinitrate Isosorbide mononitrate Nitroglycerin NSAIDs ASA/acetylsalicylic acid (8) Opiates/narcotics (1,2,3) Alfentanil Butorphanol Codeine	Fentanyl Hydromorphone Meperidine Methadone Morphine Oxycodone Oxymorphone Nalbuphine Pentazocine Propoxyphene Sufentanil Proton Pump Inhibitors (9) Esomeprazole Lansoprazole Omeprazole Pantoprazole Rabeprazole Sedative/hypnotics Benzodiazepines Barbiturates (1,2,5) Alprazolam Bromazepam Chloral hydrate Clorazepate Diazepam Diphenhydramine Doxylamine Flurazepam Lorazepam Midazolam Nitrazepam Oxazepam Pentobarbital Phenobarbital Temazepam Triazolam Zopiclone Thiazolidinediones (7) Pioglitazone Rosiglit
Alcohol (1,5) Alpha Receptor Blockers (2,3, especially initial doses) Alfuzosin Doxazosin Prazosin Tamsulosin Terazosin	Antidepressants (1,2,3,6) Amitriptyline Bupropion Citalopram Clomipramine Desipramine Doxepin Escitalopram Fluoxetine Fluvoxamine Imipramine Maprotiline Mirtazapine Moclobemide Nortriptyline Paroxetine Phenelzine 1,2,3 Sertraline Tranylcypromine 2,3 Trazodone Trimipramine Venlafaxine	Antipsychotics (1,3,4) Chlorpromazine Clozapine Flupenthixol Fluphenazine Haloperidol Loxapine Methotrimeprazine Olanzapine Paliperidone Perphenazine Pimozide Pipotiazine Prochlorperazine Quetiapine Risperidone Thiopropazine Thiothixene Trifluoperazine Zuclopenthixol Corticosteroids, oral (7) Corticosteroids, inhaled, high-dose (7) Beclomethasone Betamethasone Budesonide Cortisone Dexamethasone Fludrocortisone Fluticasone Hydrocortisone Methylprednisolone Prednisolone Prednisone Triamcinolone	Anticonvulsants (1,2,5,6,7) Carbamazepine (1,2,6) Ethosuximide (1,2,5) Fosphenytoin (1,2,5,7) Gabapentin (1,2,5,6) Lamotrigine (1,2,6) Levetiracetam (1,2,5)	Antihistamines, sedating (1) Cold Medications that contain sedating antihistamines (1) Azatadine Brompheniramine Cetirizine Chlorpheniramine Clemastine

Possible mechanisms (often unclear): (1) Drowsiness; (2) Dizziness; (3) Hypotension; (4) Parkinsonian effects; (5) Ataxia/gait disturbance; (6) Vision disturbance; (7) Osteoporosis or reduced bone mineral density increases the fracture risk if a fall occurs; (8) Risk of serious bleeding if a fall occurs. Drugs are listed by generic (chemical) name under each drug group. For Brand (manufacturer's) names, check in the CPS to find the generic name. This list includes only those drugs for which there is evidence of increased risk of falls or their consequences. There may be other drugs that increase this risk in certain patients.

Barbara Cadario and BC Falls and Injury Prevention Coalition. Drugs and the Risk of Falling: Guidance Document. Revised August 2011.

Appendix C: Universal Fall Prevention Strategies

Universal Falls Prevention

Safe



S

top

- scan for safety (i.e. clutter, spills etc.)

T

hink toileting

- remind patient to ask for help;
regular toileting prevents falls

E

quipment

- chair, commode, aids close to
patient with brakes on

P

atient

- non-slip footwear;
• frequently used items close by
• visual & hearing aides in place
• educate to ask for help and wait
20 seconds before standing

Developed by: The PHC Falls Injury Prevention & Management Steering Committee

PHC-PM176 (R.Oct-15)

Appendix D: Fall Risk Sign



Appendix E: Morse Fall Scale



How you want to be treated.
SPH Renal Incentre Hemodialysis Unit

Interdisciplinary
Assessment

MORSE FALL SCALE



Morse Fall Scale		Score							
		Date (DD-MM-YY):							
		Time:							
History of Falling in Last 3 Months	0 - No 25 - Yes								
Secondary Diagnosis	0 - No 15 - Yes								
Use of Ambulatory Aid	0 - None/bedrest/nurse assist 15 - Crutches/cane/walker 30 - Furniture								
IV or IV Lock	0 - No 20 - Yes								
Gait	0 - Normal / bedrest / wheelchair 10 - Weak 20 - Impaired								
Mental Status	0 - Oriented to own ability 15 - Overestimates/forgets limitations								
Morse Fall Score:									
Initials:									

A score of ≥ 45 identifies a patient at high risk for falling.

(From Morse J, Morse R, Tytko S- Development of a scale to identify the fall-prone patient. Canadian Journal on Aging 8:366-377, 1989; with permission)

Appendix F: Fall Risk Care Plan

Site Applicability PHC Acute Care Inpatient Units at MSJ, SPH, HFH-Rehab, May also be used in Hemodialysis Outpatient Units	Practice Level RN, RPN, LPN
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- Morse Fall Risk Assessment score 45 or more indicates the patient is at risk for falling
- [Universal Fall Prevention Strategies](#) are in place for all patients

Falls Risk – Prevention Interventions (as in Cerner Documentation)			
Mobility	Environment	Elimination	Sensory
<input type="checkbox"/> Collaborate with OT/PT <input type="checkbox"/> Encourage handrail /safety bar use <input type="checkbox"/> Encourage personal mobility support item use <input type="checkbox"/> Protective barriers for side rail gaps **use with caution** <input type="checkbox"/> Mobilize <input type="checkbox"/> Use gait belt <input type="checkbox"/> Accompanied ambulation <input type="checkbox"/> Non-slip footwear or socks (Red Socks) <input type="checkbox"/> Appropriate pain management <input type="checkbox"/> Wheels locked for transfers <input type="checkbox"/> Bed at patient knee height (mobile patients) <input type="checkbox"/> Bed in low position (if immobile/high risk of fall) <input type="checkbox"/> Mobility device safety harness <input type="checkbox"/> Developmentally appropriate bed <input type="checkbox"/> Pediatric crib or stretcher side rails up <input type="checkbox"/> Upper or half-length side rails up <input type="checkbox"/> Lower length side rails down	<input type="checkbox"/> Alarms on <input type="checkbox"/> Familiarize with surroundings <input type="checkbox"/> Family with patient <input type="checkbox"/> Hourly or more frequent monitoring <input type="checkbox"/> Traffic path in room free of clutter <input type="checkbox"/> Sensory aids within reach <input type="checkbox"/> Personal items within reach <input type="checkbox"/> Call device within reach <input type="checkbox"/> Minimize distractions during ambulation <input type="checkbox"/> Move close to the nurses station <input type="checkbox"/> One to one observation <input type="checkbox"/> Keep door open at all times <input type="checkbox"/> Provide visual cues or reminders <input type="checkbox"/> Adequate room lighting <input type="checkbox"/> Organize lines, tubes and drains <input type="checkbox"/> Other	<input type="checkbox"/> Incontinence product(s) <input type="checkbox"/> Bathroom <input type="checkbox"/> Bedpan/urinal <input type="checkbox"/> Toileting at regular intervals <input type="checkbox"/> Bedside commode <input type="checkbox"/> Collaborate with continence advisor <input type="checkbox"/> Diapered **Use briefs (pull-up), only use diapers if all other interventions unsuccessful** <input type="checkbox"/> Increased toileting as indicated <input type="checkbox"/> Supervision with toileting <input type="checkbox"/> Appropriate elimination drainage bag (e.g. leg bag) <input type="checkbox"/> Other	<input type="checkbox"/> Communication board or device <input type="checkbox"/> Glasses <input type="checkbox"/> Hearing aids or amplification device <input type="checkbox"/> Large print reading materials provided <input type="checkbox"/> Translation services or translated material <input type="checkbox"/> Other

****PHC Considerations****

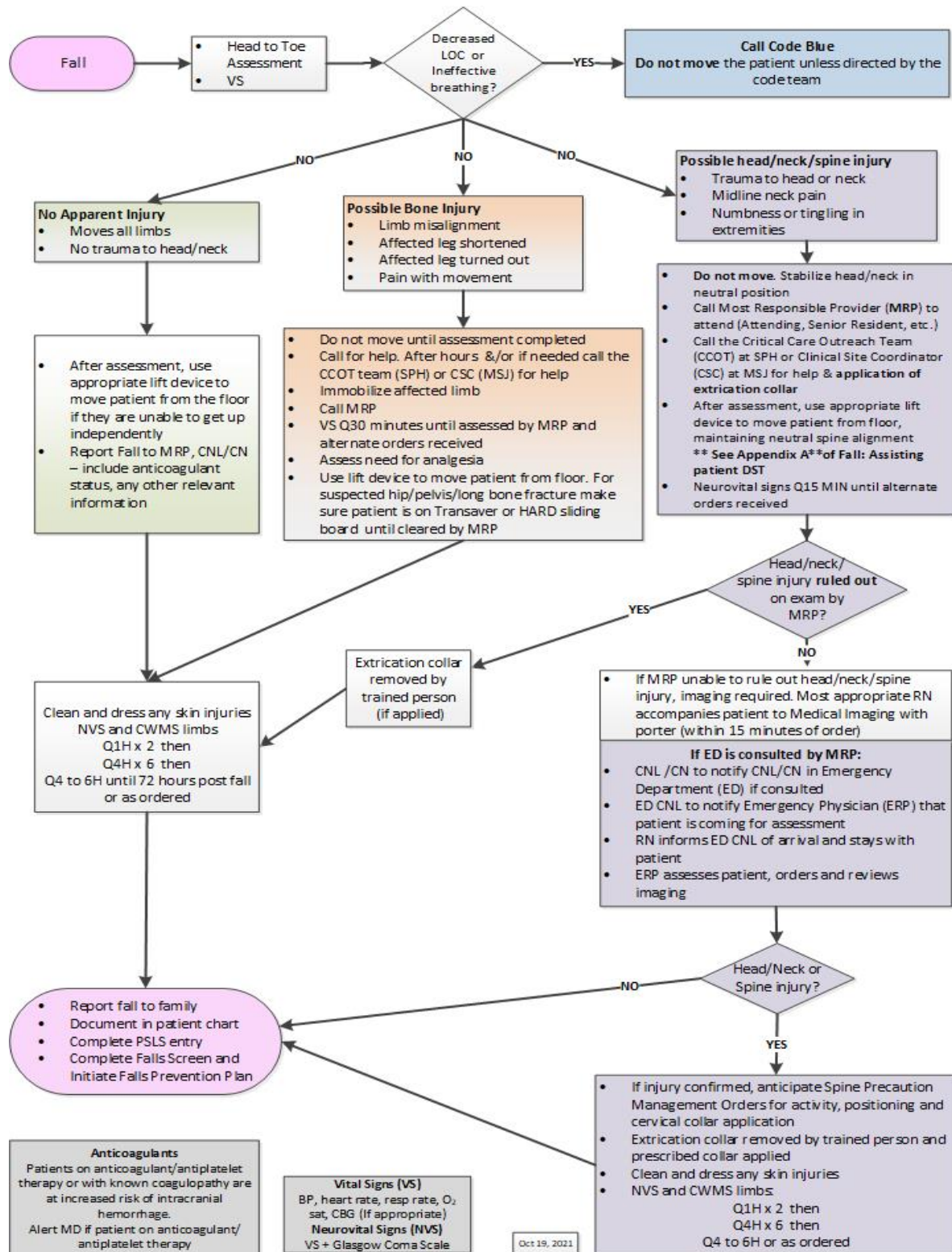
Universal Falls Prevention Practices apply to all patients

- | | |
|---|--|
| <ul style="list-style-type: none">• Bottom bed rails are down• Familiarize patient to surroundings• Individual toileting schedule/plan in place• Review medications that cause urgency & consider referral to Pharmacy• Clutter-free access to bathroom• Assistance for transfers to/from bed/wheelchair/toilet/commode• Ensure bed/chair brakes are on for transfers | <ul style="list-style-type: none">• Non-slip socks/ well-fitting shoes with enclosed heel• Bed in lowest position• Call bell & personal items within reach• Increase supervision (e.g. when patient mobilizes or completes ADLs)• Discuss fall prevention strategies with patient & family• Remove clutter/physical hazards |
|---|--|

Evaluate/Reevaluate falls prevention strategies:

- On admission
- With change in condition
- Following a fall
- On transfer to another unit
- Every 3 months for hemodialysis outpatients

Appendix G: Assisting the Patient Following a Fall Algorithm (B-00-12-10022)



Appendix H: HoverMatt and HoverJack Locations

HoverMatt™ and HoverJack™

Locations:

- o Portable carts containing a HoverMatt, a HoverJack and an air supply canister with hose are available at PHC and are located in the following areas:

FOR USE AT:	LOCATED ON:
ST. PAUL'S HOSPITAL	
10 th floor	10C - Equipment Room # 10204
9 th floor	9CD - Laundry Room #9214
8 th floor	8C - Equipment Room # 8219
7 th floor	7D - Equipment Room # 7204
6 th floor	6C - PD Supply Hallway
5 th floor	5AB - Equipment Room
Emergency Department Mental Health/2East, 2North	Emergency Acute 1
MOUNT SAINT JOSEPH HOSPITAL	
4East, 4West, 1South	4East - Medication Room #4240C
3East, 3West, Emergency	3East - Room #3203
HOLY FAMILY HOSPITAL	
Rehab 1 & 2, Rehab Gym	Rehab 1, Med Room

Security:

- o Each cart is locked to the wall inside the designated locations above, using a STAXI-type locking mechanism. The STAXI key is available at each nursing unit associated with the equipment.
- o On each cart, the supply canister is secured to the top shelf of each cart so that it cannot be removed.

Cleaning:

If the **HoverJack** or **HoverMatt** ***IS NOT*** soiled with blood/body fluids, then Housekeeping is responsible for cleaning the unit after each use.

- Dirty **HoverJack**: leave inflated and call the Housekeeping Call Centre within the location of the soiled HoverJack/HoverMatt
- Dirty **HoverMatt**: Identify a clean surface to lay the mat on e.g. a clean stretcher
- Use disinfectant solution such as Virex 252, Virox or Sani-Cloth wipes to wipe down either the HoverJack or the HoverMatt
- Return the cleaned HoverJack/HoverMatt to the storage cart and secure the cart to the wall again in the designated storage area for that floor. (See locations on page 1)
- If the **HoverJack** or **HoverMatt** ***IS*** soiled with blood/body fluids, handle as follows:

Unit Staff

1. Call Linen Services (local **68128**) to advise that HoverJack or HoverMatt is coming down for laundering.
 2. Have the area Ward Aid deliver the HoverJack or HoverMatt ***directly*** to linen services between the hours of 0600 and 1500
- **DO NOT SEND TO LAUNDRY**

Laundry Services

- Buckle all clasps and close all valves
- Wash at max temperature 105 degrees F, bleach strength 1:50

Ward Aid

- Indicate on the storage cart that the HoverJack or HoverMatt has gone for cleaning by placing a masking tape label on the cart e.g. ***"Sent to laundry on 01/01/16"***
- Pick up the unit from Linen Services. Linen Services staff will call when the unit is ready for pick up
- Return the HoverJack or HoverMatt to the storage cart in the designated location

Repair:

- Send the damaged unit (HoverJack or HoverMatt) to physical plant with requisition specifying repair needed

- If the HoverJack or HoverMatt are needed while the designated unit is out for repair, borrow a unit from one of the other identified locations

Maintenance:

- Once a week the unit Ward Aid checks the cart to ensure
 - The storage cart is in place in the designated location OR has a masking tape label indicating where it is
 - The contents of the cart are in place i.e. HoverMatt/Jack, air supply canister with hose, masking tape for labelling.

Instructions for Use: HoverJack™ HoverMatt™



1. A minimum of THREE (3) staff members must be present when using the **HoverJack™ & HoverMatt™** to logroll and raise a patient from the floor in supine position. Additional staff may be required if the patient is over 180 pounds.
2. Never leave a patient lying unattended on the **HoverJack™ or HoverMatt™**

Step 1: Positioning the Patient on the Burgundy HoverMatt & Blue HoverJack

- Place the **burgundy HoverMatt** on the floor beside the patient, with the foot end of the mat adjacent to the patient's feet.
- Have Hard sliding board/Transaver ready as needed.
- Position the patient on the **burgundy HoverMatt** by: logrolling the patient into side-lying position; rolling the matt in half lengthwise; sliding the rolled half of the mat under the patient. Slide appropriate board under patient if being used. Then logroll the patient onto his/her other side and flatten out the mat underneath him/her. Adjust board so patient is lying full on the board on top of **burgundy HoverMatt**.
- Connect the patient safety straps on the **burgundy HoverMatt** so that they lie loosely over the patient's torso & legs. Do not over tighten; the straps tighten up while the mat is inflating.
- Place the **blue HoverJack** on the floor parallel to the **burgundy HoverMatt**. Line up the valve-end of the **blue HoverJack** with the foot-end of the **burgundy HoverMatt**. Make sure that the chamber identified with valve #4 is on the top and the chamber with valve #1 is against the floor.

- Securely tighten all 4 of the red-capped DEFLATION valves on the **blue HoverJack** (one in each chamber to maintain inflation of the mat). Uncap the 4 white INFLATION valves (one in each chamber).
- Undo the patient safety straps on the **blue HoverJack** and tuck them underneath before starting the transfer.
- Slide the **blue HoverJack** over, tucking the edge of the **blue HoverJack** as much as possible under the edge of the **burgundy HoverMatt**.

Step 2: Inflating & Moving the Burgundy HoverMatt

- Undo the Velcro closure on the foot end of the **burgundy HoverMatt**, to expose the port for the air hose from the portable air supply. There is a port on each end, use whichever is most convenient.
- Plug in the portable air supply.
- Insert the flexible hose into the port on the **burgundy HoverMatt**, snap the hose into place and re-seal the velcro closure.
- Turn on portable air supply. The air supply MUST remain turned on to keep the **burgundy HoverMatt** inflated while you are transferring the patient.
- Grasp handles on the **burgundy HoverMatt** and pull the patient on an angle, either head first or feet first until patient is centered on the **blue HoverJack**.
- Turn off the air supply and remove the hose; this allows the **burgundy HoverMatt** to deflate.

Step 3: Inflating blue HoverJack

- Secure the patient with the patient safety straps on the **blue HoverJack**.
- Insert the hose into the valve #1 inlet on the **blue HoverJack** (i.e. the chamber closest to the floor) and hold it in place. Turn on air supply and inflate the first chamber.
- Remove hose when chamber is fully inflated (takes about 10 to 15 seconds). Valve will automatically close, maintaining inflation in that chamber.
- Using the same process, inflate the 3 remaining chambers in sequence from bottom to top, using valve #2, valve #3 and valve #4. NOTE: Ensure that each chamber is fully inflated to prevent the patient from tipping off the mat.
- When inflating valve #4, monitor the tightness of the safety strap on the patient's torso and legs, adjusting as needed.
- Turn off air supply and cap all 4 white inflation valves.

Step 4: Moving the patient from HoverMatt/Jack to stretcher or bed

- Make sure transfer surfaces are as close together as possible. If possible, have the stretcher or bed slightly lower than the **blue HoverJack**.
- Unbuckle the patient safety straps on the **blue HoverJack**.

- Re-attach the air hose to **burgundy HoverMatt** and turn on the air supply.
- Grasp handles on **burgundy HoverMatt** and pull patient on an angle, either head first or feet first until patient is centered on the stretcher or bed.
- Turn off the air supply to the **burgundy HoverMatt** once the patient is transferred. Unbuckle the patient safety straps on both the **HoverMatt & HoverJack**
- Logroll the patient off the **burgundy HoverMatt**, stabilizing the body as necessary.
- **NOTE:** If patient is on Hard sliding board/Transaver use that to side patient off the burgundy **HoverMatt** onto the bed.
- **CAUTION:** If it is necessary for any reason to lower the patient back down to the floor, release air from the chambers **one at a time. NEVER RELEASE ALL CHAMBERS AT ONCE.** Start with the top chamber, opening the red deflation valve slowly. When the top chamber is fully deflated, move in succession downward to each chamber in succession.
- Once the patient is off the **blue HoverJack**, allow it to deflate one chamber at a time, starting at the top. It is easiest to deflate if a staff member lies on the mat while it is deflating.