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# The Effects Orthostatic Hypotension has on Falls: A study done in San Francisco with the Patient Population of the Veterans Affairs Hospital

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November 20, 2016

## The Effects Orthostatic Hypotension has on Falls: A Study Done in San Francisco with the Patient Population of the Veterans Affairs Hospital 2

Falls in the elderly population can be a devastating setback resulting in institutionalization, loss of freedom, or death. The Center for Disease Control and Prevention (CDC) made an alarming statement on the first day of fall reflecting “every second of every day an adult over the age of 65 falls” (2016). From those numbers it is stated that one in 12 will be seen in the emergency department and 74 people will die everyday from a fall related complication (CDC, 2016). Falls should not be looked at as a normal part of the aging process, but as a preventable anomaly with in the health care system. Having a structured plan to prevent falls with in each unit of the hospital has been proven to reduce falls and injuries caused by falls. A current protocol deserves time and energy and must be kept up-to-date with evidence-based research and data available by new trials. The Clinical Nurse Leader (CNL) plays a key role in aligning resources and data to implement with in the microsystem while bringing updated education to the nursing staff.

### **Clinical Leadership Theme**

The nursing profession is constantly hearing that falls are a problem in all disciplines and in all areas of health care. The topic may not be getting the attention it needs due to the length of time the issue has been presented. This is one of many obstacles the CNL must weather to create a safe environment in the microsystem it is one of many opportunities to utilize a variety of our learned essentials. For this project the competencies that will be used to strengthen the formulation of the project will be “Essential 3: Quality Improvement and Safety, but also Essential 7: Interprofessional Collaboration for Improving Patient and Population Health Outcomes” (AACN, 2013, p. 12 & 17). The CNL creates a culture of safety for the patients by fostering a subculture of roles, anticipation and reduction of risk while sustaining the changes that are being made and continuing to build on them. The American Association of Colleges of Nursing (AACN) defines the expectations for the CNL practice through the essential competencies and roles such as leadership, teamwork, evidence-based care, communication, learning, justice, and patient-centeredness (2013). The CNL role can establish a sustainable fall prevention program by building in a team that emphasizes education and training to promote a safer environment for the patient population.

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The CNL is a provider and manager of patient care outcomes through assimilation and application of evidence-based information that is used to educate all skilled members of the health care team and the cohort of patients and families in all care settings (AACN, 2013). Through lateral integration of available resources, the unit will use a standardized assessment tool to evaluate fall risk for patients with OH. The data will be gathered during a debriefing at a post fall huddle (PFH), this information will be used by the nurses to update the plan of care. The collected data will then be entered into a redesigned system, enhancing the quality care and safety for the patients while improving the units Autonomy, team building and motivating the staff for change.

### **Statement of the Problem**

The World Health Organization (WHO) identifies the fall statistics as follows, 424 individuals die from a fall, 700,000-1 million fall while in the hospital and 37.3 million sustain a fall that requires emergency medical attention every year (WHO, 2016). In 2008, Joint Commission mandated a national patient safety goal #9, which forces organizations to maintain a fall precaution program. Past research has shown that through successful prevention programs, falls can be reduced by one-third (AHRQ, 2013). The National Quality Forum (NQF) labeled patient falls as a “never event” and in 2008 the Center for Medicare and Medicaid Services (CMS) ceased payment for any fall that was sustained while under the care of a licensed personnel (AHRQ, 2013). Hence falls continue to be a major problem in healthcare causing extended hospital days, fractures, head injuries, inability to return home, depression and even death. These secondary problems can be amplified in the elderly. I chose to do a SWOT analysis to start thinking about what was being done well on the unit and where I needed to spend my efforts (Appendix 15). An important factor in fall prevention is to first identify the causative agent.

The global AIM of this project is to reduce orthostatic hypotension (OH) related patient falls by assessing patients within 24 hours of admission for risk factors that cause OH such as underlying comorbidities, uncontrolled hypertension, medications, or deconditioning. The project takes place on the unit of 2 B South located within the Veterans Affairs Hospital in San Francisco, California. There has been a recent rising trend in falls that are reported to be OH related. The standard protocols are not being followed by the

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nurses, the reporting form is outdated, and the fall reporting process lacks standardization. A gap in knowledge  
has been identified both in prevention and identifying OH.

After reviewing the fall incidence reports, it is clear that many of the falls were directly correlated with patient complaints of dizziness or a feeling that they may lose consciousness when they stood to ambulate. The current tool for post fall documentation evaluation is a one-page incident report that is filled out by the attending nurse and then given to the nurse manager or left in his mailbox for review. The problem identified with this is that the nurse may need to be asked a few questions for clarity and this is not always taken care of in a timely manner. The nurse manager will then meet with the CNL and the fall will be talked about in a morning huddle. The unit has not been using the post fall huddle to collect fresh information. By discussing the events of the fall days after it happened, the facts are not as clear and staff may not all be present due to schedule rotations. This has been ineffective in reducing falls. The fall report lacks any documentation or assessment guidelines for OH related falls. These patients are twice as likely to have a repeat falls. The nurses have a gap in knowledge about the correct procedure for assessing the patient with OH, causing the data to be inconsistent. During a walk around survey of nurses working over a 3-day period, many expressed confusions over how often blood pressure should be checked and in what positions the patient could be in for accurate OH reading.

The United States Department of Veterans Affairs implemented the safety post-fall huddle in 2010, but since then it has lost momentum, direction and is not being used on this unit. I seek to revitalize the program by restructuring it to incorporate current evidence-based practice and clearer guidelines for OH. The nurses will be educated through 3 short 15 minute presentations that will introduce directions for charting and the introduction of the post fall huddle. There will also be an outline to guide the nurses through the initial assessment for OH and how to follow up with monitoring the patient after. Included in this will be definitions for OH and what the VA considers a fall. By providing new education, the nursing staff will have the tools to perform a standardized assessment and identify risk factors that will be consistent with all staff.

The other contributing factors that were found during the environmental unit observation (appendix 7) is that the nursing staff does not have a clear understanding of the newly implemented hourly rounding. Further

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education is needed to promote universal fall precautions, comfort care, room safety check, items in ease of reach, and toileting, especially prior to pain medication. The patients are not being assessed during admission using the chosen fall reduction assessment tool (FRAT). I will recommend the Morse Fall Scale (MFS) which is a simple, easy and reliable way to predict if a patient is a fall Risk (appendix 10). This assessment should be done once per shift or with any change of condition. The numerical score is used to identify no risk (0-24), low (25-50) or high (above 50) risk for falls.

The nurses should be using a teach back method with patients to make sure they understand their fall precautions clearly. The visual cue program that was adopted through the Joint Commission is the catch a falling star program. I have observed that most patients have a gold star placed outside the door, but there is nothing inside the room to remind the patient not to get up alone. The patient wears a yellow armband, but with a visual observation, only 42% of the patients have the band on. There should also be non-skid socks in the patient's rooms and on the patient's feet. I found multiple pairs of socks in the cubby holes closets at the patient's bedside, but they were not always on the patient's feet. I used this time to continue the environmental survey as part of my initial assessment.

I reviewed the documentation process in the electronic charting or electronic medical record (EMR). At this time there is no alerts that notify nurses to the patients fall status, nor does it identify medications that could potentially cause OH. This project will partner with the quality management team and Pharmacy staff to develop clear identifiers and alerts in the EMR for the nursing staff, as medications are a common cause of OH. The pharmacy has been working on a medication list and will be implementing it with the IT department, but I am unsure if it will be completed by the end of my project time. The statistic show that uncontrolled hypertension and newly medicated patients are most likely to experience a drop in blood pressure. EMR does currently have a fall assessment form, but my preceptor, the CNL on the unit, feels that the nursing staff are following the documentation from the shift before and it may not be accurate. I have chosen to take the teaching opportunity to reintroduce the charting guidelines and the importance of filling out the assessment by what is going on with the patient at the time of that nurses shift.

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The last concerning piece of data that was found to be reoccurring in the fall cases is that these patients usually had a sitter assigned to them. This brings attention to the question, where was the sitter? After researching the fall reports and talking with the staff, it appears that the patient care attendants (PCA) are frequently being pulled out of the patients rooms to help the nursing staff answer patients call lights. This opens a new problem of staffing and budget concerns that will not be addressed in this project, but the nursing staff will be spoken to about removing sitters from the rooms. A study at St. David's North Austin Medical Center used tele virtual sitters and reported a zero fall rate (2014). Staff was able to identify other problems using the virtual sitter with the patient while maintaining HIPPA guidelines, like lack of eating or depression, families were able to take breaks and get res from their caregiver responsibilities without worrying. The PCA expressed concern as they are told to do different duties, the nurse agrees to stay with the patient, but often gets pulled away or leaves to chart stating "the patient is sleeping". There is no reason the nurse needs to leave the patients room to chart as they have portable computers for medication delivery to the patient's rooms. It is best practice to leave the sitter in the room if they are brought in to watch that patient, with no exceptions. If the nursing staff feel they have a high acuity and need more help, they should approach the charge nurse or nurse manager.

### **Project Overview**

The goal of this project is to measure fall rates, identify barriers to fall prevention, implement solutions to the barriers, design an all inclusive evaluating tool, educate the staff, using current evidence-based research on OH related falls, test it and sustain it. The project will identify key factors that cause OH and develop clear standardized guidelines for the initial assessment and follow up assessment of the patient (Appendix 12). The staff will use a standardized format to assess patients within 24 hours of admission for fall risks and signs of OH. The staff will provide teaching to patients through the use of the patient pamphlet (Appendix 9) to change behaviors and awareness of falls caused by a drop in blood pressure. A clear understanding of what defines a fall will be outlined for the staff to promote continuity for charting and incidence purposes. The nurses will demonstrate 90% efficiency with the new protocols within 3 months (Appendix 13). This will be evaluated by

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meeting the goal of 50% reduction of repeat falls and 30% reduction of first time falls in a 3-month period and  
charting audits.

Each fall will be followed by a post fall huddle for dissemination of all factors observed by the staff present during the fall. This process has proven to be helpful in understanding the mechanisms of a fall to prevent future falls. Once a patient is identified as a OH fall risk, that information will be passed through the end-of-shift report, and each charge nurse will be aware of the patients on the unit that are at risk. The nurses will comply with the blood pressure measurements per protocol (Appendix 10). During this project the data charted will be audited to reinforce proper and effective charting. The environment will be a safe environment where open communication is rewarded without fear of penalizations. Each nurse will be approached privately to discuss charting errors and examples used during teaching will be anonymous.

The appointed team leaders will be in the form of fall champions. There will be 3 fall champions per each 12-hour shift to ensure one is always available and to balance out the workload. The chosen staff member's can act as a liaison to the nurses during the transition period. A study guide has been given to each champion to promote continuity of teaching. The champions will continue to monitor the fall rates and help maintain the team's participation in sustaining the fall prevention program after my project time is over. The data collection on falls will continue to be measured, the measurements will help show the success of the program and the champions leadership. The champions will be responsible for the new nurses receiving the training on the fall protocols to maintain continuity. If the work load becomes too much for the champions, they may need to compose a fall teams for sustaining the program.

The unit will maintain the universal fall precautions through hourly rounding. Since this is newly implemented on this unit, the nurses still need cueing for performance. The unit has teaching signs for the 5 p's and rounding protocols that was a project from my last semester. The incident report sheet will be redesigned to incorporate OH falls. For the sake of testing the PDSA cycles, the rough draft copy is approved for temporary use while the form is being approved by management for use. Because this is a government involved hospital, all forms of documentation must be approved by higher management. The literature reviews consistently named



communication, education, disseminating evidence-based knowledge with the nursing staff as being a key component in successful implementation of a program. As far as education for the patients, pamphlets are the number one source of information delivery (Appendix 9). I have created a pamphlet to mirror the nurse's teachings, as the nurses should continue to verbally supply that information.

### **Rationale**

Hospital indicators show that a change in practice is necessary to improve patient outcomes. Although the current policy is not affective due to non-compliance, providing the nurses with a comprehensive tool when used effectively, data shows that there will be improvement in reducing OH falls. By incorporating OH into the current falls assessment, developing a clear guideline for monitoring patients with OH with ease of use, the medical staff can meet this urgent need to reduce falls. For this project, the Merck parameters will be used to evaluate qualifying OH patience. This definition states "hypotension is an excess fall in blood pressure (B/P) when an upright position is assumed. The consensus definition is a drop over 20mm Hg systolic or a drop 10mm Hg diastolic or both (Beers, 2006). To assess a patient, the blood pressure will be monitored 30 minutes prior to meals from a supine to standing position, measured at 1 and again at 3 minutes of standing on four occasions (Valbusa, Labat, Salvi, Vivian, Hanon, & Benetos, 2012).

The VA currently tracks falls via a paper report. This form of tracking has proven to be less effective than through an electronic medical record (EMR). The informatics nurse will help with online changes to support this program, and add a check box to the patients chart for a PFH. The post fall huddle is a 15-minute debriefing that collects data from staff present at the time of the fall that answers, what happened, how it could be improved or prevented in the future (Appendix 8). The Fall Champion should then disseminate the information collected to the team and mark the patients chart and update the care plan. The CNL can then mine supplementary data from the EHR to create a customized plan for that patient. The extended plan is that pharmacy will also put alerts on patients chats when they are taking a medication that has potential OH side effects. This should be included in the patients care plan with the OH assessment.

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The Quality Management and Performance Improvement Department (QMPID) is involved with this project primarily because they monitor quality indicators for the entire hospital. If successful, they will help the CNL implement the project through out the hospital. The post fall assessment is limited as it does not promote a thorough evaluation of the circumstances surrounding the fall. The addition of the PTH will help provide this information. The QMPID is aware that not only has the number of falls on the unit increased, but patients are falling multiple times despite the current fall-prevention strategies. The current trend after review of the incidence reports supports an expansion of the current post-fall report and assessment. The national benchmark as reported by the Collaborative Alliance for Nursing Quality Outcomes (CALNOC) and the National Database of Nursing Quality Indicators (NDNQI). The numbers that CALNOC and NDNQI report that are inline with the change period are 5.08 per 1,000 patient days (2016). The VA has been under the benchmark number averaging 4.6-1.8 during our project time. We have seen a 50% reduction in the 4 months of data collected. Prior to this project, the nurse manager verbalized the fall rates had reached 7.46 at one point over the last 4 quarters. The current trend of repeat falls has uncovered the unique circumstances of OH related falls. This problem was brought to the CNL team leader during my last semester, due to the amount of time that the project needed, the CNL discussed this to be considered as my last semester project. Hossain and Lipsitz claim that patients with a fall history and OH are likely to sustain multiple falls (2015). For identifying purposes, this project will use the CALNOC and NDNQI's definition of a fall, an unplanned descent to the floor with or without injury, including assisted falls (2013).

A root-cause-analysis is a structured method used in the analysis of adverse event and is helpful in identifying problems surrounding these events see (Appendix 7). This is an efficient way to identify the root cause with out placing blame or focus on an individual (AHRQ, 2013). There are clinical guidelines that must be met for the Joint Commission when implementing a fall program. They require a root-cause-analysis to be used to analyze why an adverse event occurred. The focus was on systematic method and individual performance and the relationship to OH falls. By performing a RCA, the leader can organize the events to understand why the problem is occurring. In this case there was a combination of factor influencing the falls,

many stemming from a gap in current evidence-based knowledge. There is a disconnect in communication between all staff members. The lack of consistent communication for fall alert patients has been an on-going issue and compliance with the protocol. Although a fall program has been in place, it is hard to tell its effectiveness due to inconsistencies in protocol.

This unit has responded well with past projects with posted literature. I have utilized the staff board in the back nursing station to display fall data, charts and evidence-based research summaries to keep the staff thinking about falls. I have a small locked mail box that staff can drop anonymous ideas that pertain to this project. A fall brochure for patient teaching is being used to promote an understanding of falls (Appendix 9). Over the course of this 4-month project, I have set up 3-15-minute meeting for staff teaching. The presentation is delivered through a projected power-point on the wall, staff can sit and watch the images while I talk. At the end of the presentation I let the staff bring up concerns of ideas they have. This has been a great part of helping me build the team environment and gain valuable information from the staff. It also assists me to get to know the staff and lets me become part of their environment.

Over a 2-week period the new guidelines for assessment were tested using the PDSA cycle with the new charting to the EMR (Appendix 2). For the factor of quality in the program, changes will be made as problems are identified. I have been present on the unit at all times to field questions and be a resource to the nurses for implementation of the program. There is a gap in knowledge for the initial nursing assessment of OH and the nurses have asked for a set guideline to follow (Appendix 10). To assist the process, I appointed 3 fall prevention nurses titled "Champion" for each shift, they will be available for help through out the project. Research supports the use of the Champion position to promote the success of projects (Connelly, 2016). The education is unit and department based and will focus on the new protocol and training to assess for OH and the course of action for charting then changing the patients care plan. The new post-fall assessment is found in the EMR and will be completed by the team leader for the PFH. There is a box to check that the post fall huddle occurred as well a small area for narrative (Appendix 1).

### **Cost Analysis**

The cost of the project stem from hourly wages of support staff and a scant amount of printing costs which were absorbed by the hospitals annual operating costs. The estimated hours spent from the CNL will be calculated at \$47.00 per hour (Appendix 5) for full effect, although this project was completed during my clinical hours. The staff cost for meeting times and huddles will be estimated in 15 minute increments. There are 3 planned teaching meetings, two mock huddles and a monthly CNL meeting that the Champions are encouraged to attend. There is a \$200.00 budget for new printing of materials for education, surveys and patient use. I have requested that the color theme” yellow” match the fall reduction program that was chosen, but these are items already in the ordering cue and there is not extra cost.

The cost associated with implementing the fall programs significantly outweigh the potential costs of one fall with injury. Most of the change comes from energy and support of the staff, and validating the time it takes to change procedures. Some of the numbers that I presented to the staff were the 2012 Center for Disease Control and Prevention (CDC) estimation of 30 billion falls annually (2014). Similar numbers were reported in 2015 through Medicare as they estimated a 2.5-billion-dollar monthly cost for 800,000 patients who fell and sustain an injury (Burns, Stevens, Lee, 2016). Further information from the CDC calculate an average \$13,316-\$35,000 cost for an injury related fall with an extended hospital stay of 6.3 days (Appendix 5) (2014). As mentioned previously, in 2008 CMS announced they would no longer pay additional costs associated with fall related injuries or extended stay (2015).

The rate at which OH is involved is unclear, but generally research reports it to be representative of approximately 11% or higher of all falls. After review of the fall reports, it appears that this unit experience 35-27% OH related falls. Due to the uncertainty of injury projected saving are difficult to accurately project. Other factors that can be taken into consideration is that the unit may be understaffed at the time of the fall. The Institute of Medicine (IOM) has brought to light safe patient care within the microsystem. There are many programs a broad that help consumers evaluate the choices they make for health care. The Hospital Consumer Assessment of Health Care Providers and Systems, monitors and displays scores for competing medical

facilities. For this reason, a high fall rate could bring a poor score to the hospital and drive away patients. I do not see many research that takes this portion into consideration, this should be considered as it is priceless and ultimately may tarnish the facilities reputation.

### **Methodology.**

The project is best explained using the Kurt Lewin's Change Theory see (Appendix 3) (Connolly, 2016). The implementation of this project or the unfreezing portion was complicated due to the need for behavior change and time constraints working with other team members. The project was able to move forward with education and administrative support (Appendix 6). Still there was a push back that caused delays in the project and a loss of focus. According to the IHI Improvement Map, a successful fall program can take 1-2 years and the unfreezing and refreezing can require a similar time frame, something this project did not have (IHI, 2015). Continued support is needed from administration to win staff over. The ideas that have been generated from the team huddles have been well utilized in the planning which will hopefully provide the staff with encouragement that their ideas are being utilized.

I worked within a second framework of methodology, Kotter's Eight-Step Process for Leading Change (Appendix 4). I needed to seek guidance due to the resistance of the staff. This helped me stay focused on the steps needed to keep the staff engaged, an example is creating a sense of urgency this was obtained by providing data associated with the Increased falls on the unit. This got their immediate attention, this is step 1 of the framework. In addition, the budgetary ramifications the hospital undertakes along with the devastation the patient suffers with an injury related to OH falls create that sense of urgency among the staff. Step 2 was to build a guiding coalition by building confidence in the nursing staff through education and stakeholder support This was extremely effective on this unit as they had lacked it in the past and responded quickly. What I have found is the nurses are competitive and looked forward to getting the data for each shift to see "who's winning". After gaining support from staff members we were able move into step 3, to form a strategic vision and initiative. This took place in the form of increasing patient satisfaction and decreased OH fall rates. Step 4 is to enlist a volunteer army or champion, nurse leaders and the floor CNL will sustain the project after I leave. The

most time consuming portion of the project was the initial removal of the barriers which is step 5. By presenting evidence-based research that supports fall reduction paired with efficient pt. assessment I was able to get the staff's attention. Through examples of injuries related to OH falls I was able to create the sense of urgency adding the momentum. We were able to meet step 6 and keep momentum going with celebration of short-term wins, comparing fall data monthly after staff/patient education. Report back to staff during team huddles and meet step 7, sustain acceleration by rewarding appointed champions with one 8 hour paid day off per month. This was the nurse manager's idea and was huge when it got approved by management. The Champions are chosen by monthly assessment of participation. I will leave the CNL to institute the changes, After the OH fall program has been successfully implemented for 6 months, the champions will take the program to subsequent floors, which will be the final step in the framework, step 8.

### **Data Source/Literature Review**

The review of literature supports OH as a contributing factor in repeat falls and needs to be assessed early in admission so that patients can be identified and monitored. The Merck Manual defines Orthostatic hypotension as a physical finding defined by the American Autonomic Society and the American Academy of Neurology as a systolic blood pressure decrease of at least 20 mm Hg or a diastolic blood pressure decrease of at least 10 mm Hg within three minutes of standing (Beers, 2006). Burns, Stevens, Lee, report the average cost per patient fall is 30,000.00 per incident (2016). With the average age of the Unites States population exceeding the death rate, the urgency to reduce falls is crucial to balancing an independent lifestyle and the safety of the patient population.

During this project a review of literature was performed using PubMed, CINAHL and Cochran databases. The key words searched were: falls, patient falls interventions, fall risk, multifaceted fall intervention, in-patient fall reduction, fall programs, post fall huddles, and orthostatic hypotension related to falls. Several research articles were evaluated for relevancy to support this project. Many were eliminated due to date and there was limited availability supporting OH falls.

Frith, J., and Newton, J. L. (2016) proves that validation of a questionnaire for orthostatic hypotension for routine clinical use can reduce falls. A cohort study of 50 individuals that were divided into 3 groups with a median age of 67 years (interquartile range 26–89 years) with a median Charlson Comorbidity Index of 3. Using the Orthostatic Grading Scale. The symptoms were categorized as mild, moderate or severe, to simplify the outcome. Orthostatic Hypotension Questionnaire scores were significantly different between these 3 groups ( $P < 0.001$ ). The internal consistency was high (Cronbach's alpha 0.882), but the Ceiling effects did not limit the total scores. The Orthostatic Hypotension Questionnaire is a valid patient report tool to quantify the symptoms associated with orthostatic hypotension. it will be a clinically useful tool to measure and quantify non-specific symptom load in people with orthostatic hypotension. The Orthostatic Hypotension Questionnaire (OHQ) could be a beneficial way to pre-screen patients for potential risks of OH, since many are a-symptomatic.

Gangavati, A., Hajjar, I., Quach, L., Jones, R. N., Kiely, D. K., Gagnon, P., & Lipsitz, L. A. (2011, 03). Hypertension, Orthostatic Hypotension, and the Risk of Falls in a Community-Dwelling Elderly Population: The Maintenance of Balance, Independent Living, Intellect, and Zest in the Elderly of Boston Study. The study seeks to prove the relationships between uncontrolled and controlled hypertension, orthostatic hypotension (OH), and falls in participants at Hebrew Rehabilitation Center in Boston. The average median age was 78.1 and the participants totaled 722 adults living within a 5-mile radius of the facility. The baseline blood pressure measurement was taken in the supine position and after 1 and 3 minutes of standing along with a 3-hour interview. Systolic OH (SOH) and diastolic OH at 1 and 3 minutes were defined as a 20-mmHg decline in systolic BP and a 10-mmHg decline in diastolic BP upon standing. As per multiple studies, this baseline drop in blood pressure is most consistent and I will use it as a guideline in my project Falls data were prospectively collected using monthly calendars over a year's time. To qualify the population must have at least two falls within 1 year of follow-up. The study showed that OH was highest in participants with uncontrolled hypertension but, OH by itself was not associated with falls. There have been multiple studies that relate uncontrolled hypertension to OH. This study demonstrates the risk of falls is nearly 2.5 times higher in people with combined SOH at 1 minute and uncontrolled hypertension as those with controlled hypertension

without SOH. In addition, SOH at 1 minute is most prevalent in people with uncontrolled hypertension. In contrast to prior studies, these data suggest that a systolic drop of 20 mmHg after 1 minute, if combined with uncontrolled hypertension, creates a greater risk of falling than SOH at 3 minutes of standing, which is the standard criterion. It is important to note that there was some concern for recall bias, effective recording of the episodes and the blood pressure was not measured past 3 minutes.

Zia, A., Kamaruzzaman, S. B., & Tan, M. P. (2015, 01) prove that blood pressure lowering therapy in older people may be the cause of postural hypotension contributing to falls? This study seeks to examine the association of postural BP changes and BP therapy with the risk of falls among community-dwelling older people in a case-control manner and prove that Individual receiving antihypertensive therapy were not associated with falls. Minimal standing systolic BP (SBP) was significantly lower among fallers [128 ( $\pm 27.3$ ) vs. 135.7 ( $\pm 24.7$ ) mmHg;  $P = 0.01$ ], although patient who fell did not meet the criteria for OH, when on a diuretic and a  $\alpha$ -blockers their standing blood pressure was representative of OH. The study did show that the use of two or more antihypertensive was associated with repeat falls. There was also mention that uncontrolled hypertension was linked to an increased fall rate, in fact a higher incidence than treated hypertension.

Rubenstein, L. Z., & Josephson, K. R. (2006, 09) proves that fall prevention in elderly people will improve quality of life, decrease depression, and reduce mortality. This study points out evidence-based guideline in prevention of falls associated with OH and how important this area of research is due to the heavy burden of after-math associated with falls, like depression, cognitive impairment, reduced independence, and increase in mortality. It goes on to list that interventions are complex and difficult to execute and must be feasible, sustainable, cost effective to be considered for wide spread use. They have highlighted some multidimensional approaches that are promising and are being currently used. It again points out that adults over the age of 65 are more likely to fall and that this population make up 13% of the death rate annually from falling. It describes 13% of patients that fall had reported a feeling of dizziness or vertigo. These are common complaints of patients experiencing OH. Rubenstein and Josephson capture data from 12 articles studying



causative agents and fall prevention. They were able to identify etiology, comorbidities and risk factors that contribute to falls. Although the data was not OH specific it was very helpful. This article explained the need for a specific fall intervention to replace the “blanket intervention”.

Wilbert, W. U. (2013, December). Summarize how the effectiveness of a fall prevention and efficient management program studied in a small rural Veterans Medical Center was successful in reducing the amount of times patients fell. The staff underwent training for a year before this Retrospective medical review commenced. There were 70 patients reviewed from January 1 until March 31, 2009. The study sought to emphasize the importance the nurses had on implementing a fall reduction program. The study reflected that in a short period of time the fall rate dropped from 4.5 per 1,000 patient days in 2008 to 3.9 per 1,000 patient days in 2009. The importance of staff education is a key factor in gaining compliance and success in implementing a new program and sustaining it.

Wolf, L., E. Constantine, C. Limbaugh, K. Rensing, P. Gabbart, and P. Matt. Validate that implementation of a standardized fall prevention program will reduce the amount of falls. Conducted a project the focused on reducing patient falls in three oncology units. The main goal of the project was to decrease the number of falls by 30% and falls with injury by 50%. The authors implemented a standardized falls process for assessment, intervention, and post fall huddle. Used was a rapid improvement event technique correlated with the hospitals lean methodology. By using this method, they saw a 22% reduction in falls and a 37% reduction in falls with injury. Although the percentage values did not make the goal they still showed a great success. This article was helpful and included many steps for a fall prevention program.

### **Timeline**

The project started on August 1, 2016 and is expected to ended November 18, 2016. The actual implementation ran for 3.5 months. The first 2 weeks were spent mining data, meetings with nursing staff to collect survey information, and performing a comprehensive microsystem assessment. The first 15-minute presentation was held on August 1, 2016. During this meeting the idea was presented to the staff with current guidelines and the opportunity to express ideas. The second 15-minute meeting took place on August 8<sup>th</sup>, the

purpose of this meeting was to introduce the project and start the 3 PDSA cycles which ran over a week's time (Appendix 3). Once the PDSA cycles started, the obstacles became more evident. Working with different departments took longer than expected and the data needed from them left the project at a standstill, I had to develop ways to work around them and implement the data when it was available. I can understand why a multifaceted team project takes an extended amount of time.

There were unforeseen circumstances with my preceptor this semester. I originally planned this project in semester 2 of this program. My CNL preceptor became pregnant during that time and went on maternity leave, leaving me with a CNL in her office. She was due back late July to start this project with me, but a turn of events left her unable to return to her position. I have continued on with the preceptor that she left me with, but it has been challenging. I have been in contact with both during the duration of my project to ensure success. It was beneficial to be paired with a CNL during my project to support my learning. The staff support came very slowly, as they were not optimistic of the changes being addressed. There was additional time needed to help the team develop communication and knowledge before the program could be started. Having a program in place may have alleviated some portion of time in comparison to starting a new program, but changing existing habits with the staff was challenging.

### **Expected Results**

By developing a standard protocol for assessment the nursing staff will be guided through the steps to make an accurate assessment. With focusing on bridging the knowledge gap with the nursing staff, I have been able to feel a rise in morale and a significant positive shift in compliance. The nurses are meeting the goal at 87% efficiency after the November 15<sup>th</sup> audit. The unit has transitioned into the new protocols using consistent signs on the door, arm bands on the patients, reminders posted in the patient's rooms and the non-slip sock on the patient's feet. The reported fall rate in August was 5 and the new number from October was 2. The nurses and PCA are charting OH assessments and identifying them consistently through hand-offs. The one thing that surprised me during my project is that the VA was heavily involved in creating the post fall huddles, yet this unit was not incorporating it into their fall prevention program. Recently they did implement an hourly rounding to

prevent falls, but the nurses are struggling with the change. I have identified that a change in culture on this unit would be well suited to help the unit develop into an efficient microsystem. The nursing staff, many of whom are charge nurses, have an “old fashioned” mind set and although they keep up on evidence-based education, they may not always believe it will make a difference in patient outcomes.

My expected results are that 95% of admitted patient will be assessed for fall risk in the first 24 hours. A reduction in patient falls by 30% by Mid November. By identifying risks for orthostatic hypotension a reduction in repeat patient falls by 50%. Decrease moderate to severe injuries from falls to 1.00 per 1000 patient days by within the same timeframe. The nursing staff will continue to maintain their hourly rounding and move patients close to the nursing station when possible. Patients will be educated not to get up alone and the risks associated with falls. OH patients will understand guidelines for getting out of bed or changing positions slowly. The nurses will demonstrate 90% compliance with the new OH protocol for measurement and documentation (Appendix 14). All staff will meet 100% participation with post-fall huddles. The analysis of this programs effectiveness will be evaluated with the PDSA cycle and focus on integrating injury prevention into the fall prevention through monitoring OH. The Champions will continue to be rewarded for participation, if the leader is not doing their job effectively, they will be replaced by a new nurse. As it may not be in the programs best interest to appoint new Champions, it is vital the leaders know their position is based on performance to encourage effort.

### **Nursing Relevance**

During the bi-monthly safety/fall meeting the nursing staff had commented that they were too busy to attend the PFH. It is important for all team members to attend the huddle as it is a time for brainstorming and exchanging information from observations. The practice of huddling is not a new skill for this unit as they have morning huddles daily. This is a time the nurse manager makes the staff aware of updates and address current problems. To get staff to warm up to the idea, perhaps a mock huddle would be beneficial as to promote participation and to show value in the information exchange. Current evidence-based literature indicates that falls are preventable when approached from a multidisciplinary intervention (Wilbert,2013). Although nurses

see the time involved in participation with this project, the time spent when a patient falls takes away from the care of other patients, it is costly to the hospital, the patient may lose independence, or even loss of life.

Stressing that the huddle is not longer than 15 minutes and appointing a team lead for documentation purposes will alleviate some of the existing burden on the staff nurses.

Bridging the knowledge gap and setting a standardized method for evaluating OH has created confidence in the nursing staff and an increased compliance. Through strong leadership through the appointed champions, the unit can provide safe outcomes for the patients. Making the nursing staff accountable for the diligent efforts needed to implement this project has been successful. The PFH are a great place to see communication and sharing of knowledge, autonomy and patient advocacy. There are times in the chaos that just being reminded helps reignite the process. There is a balance between the patient falling and the combination of care that will need to be delivered, that is why this project is more successful when approached as a team effort.

The long term effects of implementation will free up time in the long run for nurses and provide a safer environment for the patients. PFH reduce falls and repeat falls from occurring. This embraces the Joint Commissions (JCAHO) standards of Patient Safety Goal 9, Improves over-all patient safety. The staff will gain an increased feeling of satisfaction with participation. By providing education to the nursing staff and running mock huddles, the staff will gain confidence in performing the new task. Through this there will be a change in culture, participation and an over-all improvement in satisfaction both with the nurses and patients. In time, the increased participation in this program will reduce fall rate or eliminate them on most months. This will be a great success that the unit can be proud of.

### **Summary Report. Project Overview.**

The VA, nestled in the hills of San Francisco (SFVAMC) has an operating bed count of 624, A separate community living that houses 120 veterans, and a clinic that specializes in homeless veterans and their medical needs. Originating in the Civil War as the first federal hospital, the VA has progressed into one of the largest health care systems in the world and is responsible for providing a portion of training to approximately 60% of

The Effects Orthostatic Hypotension has on Falls: A Study Done in San Francisco with the Patient Population 20 of the Veterans Affairs Hospital

the medical residence. They are highly valued as a nationally recognized provider of clinical research and programs associated with Epilepsy, HIV, Cardiac Surgery, Post Traumatic Stress Disorder, Renal Dialysis just to name a few. The unit of 2 B South houses telemetry, seizure observation patients and acts as a transitional care unit (TCU). There is a unit coordinator, a registered charge nurse, registered nurses, patient care assistant (PCA), medical doctors, residence, dieticians and social worker's working together to provide complex care to the patients. Due to it's teaching environment, the unit often times has nursing or CNL students precepting. There is a waiting lounge for family or discharged patients that are waiting for a ride. The staff has access to a cafeteria that is a glass structure overlooking the San Francisco Bay, it is a phenomenal place to go and decompress over the days' event.

The unit structure was evaluated to understand the dynamics of staffing. The team usually consists of 4-5 registered nurses, a nurse assigned to the monitors, 2 PCA, a unit clerk, a CNL, and one charge nurse that does not take patients. The charge nurse manages patients that will be leaving the unit, meal breaks for the staff, takes care of their assigned patients while they are away, deals with staffing assignments, sick calls, and anything else that pops up. Oddly many of the floor nurses are CNL graduates that are unable to find jobs as CNL's so they work as floor nurses. The VA was a firm supporter of this role, hoping to have one on every unit. The direction has sense changed and is no longer being planned. The nurse manager's office is on the unit, Douglas maintains an open-door police as noted when passing by his office there is always someone sitting and talking with him. He often comes out on the unit and walks the halls talking to the nursing staff and is always in the morning huddles. He has a very laid back approach and is not always engaged in the staff's constant complaints.

The communication was evaluated for effectiveness and the staff's readiness to change. The pace of the unit is a steady flow of travelers through the halls ways. The patient's main complaint is the noise level is too loud, especially at night. The patients present with many levels of care, some ambulatory, often going outside to walk, and some are bedridden on a video monitor. There is a communication board in the hallway across from the unit desk the board has an AIM statement with a current project. There are 4 areas with in the nursing station

visible to staff only that have graphed data on current changes that are being implemented and reports of how the staff is doing. There are posters in the bathrooms and hallways that promote hand hygiene and patient-centered care. The unit uses email to keep staff informed of the daily huddle, updates, change in protocol, annual training updates and requirements and all other concerns. This is the form of communication I used for the surveys. All training is done with Nancy Vanderlinden NP, and through the VA's site called SharePoint. The nurses do a face-to face hand-off in the hallways around the nurse's station, sometimes going to the patient's room for specific details. They meet-up with the nurses that are taking each patients as the assignments vary.

The global AIM of this project was to bring attention the recent increase in falls that are proven to be linked to OH. By taking a team approach, we were able to gain the knowledge to educate the staff, patients and families on the effects of falling due to a drop in blood pressure. As an added extra, the current fall plan was updated with new evidence-based research to make it easier to use and flow better on the unit. During the initial unit assessment, it was found that the nursing staff were non-compliant with the current safety fall prevention measures. During a walk around check, patients were not wearing their arm bands, the socks were in the cubby's not on their feet, signs were not up as identifiers and the patients were unaware of safety guidelines. Open communication through survey and brief face-to-face interviews brought quick and helpful insight to some of the underlying problems that are not as easily assessed by an outsider.

A large adjustment was made after each PDSA cycle due to gaining large volumes of knowledge each time. The champions were involved early on as they are expected to be the point expert for the staff. My favorite part of this project was working through the barriers with each team member and their different views. I must say that I gained an equal amount of knowledge from the interactions with the nursing staff as I did during my research. The magnitude and impact that this project has on the unit will carry over from the units CNL onto the other areas of the hospital through the monthly meetings. A successful project can benefit the medical field as a whole. Projects of this magnitude will always be growing and changing as new evidence-based information is presented.

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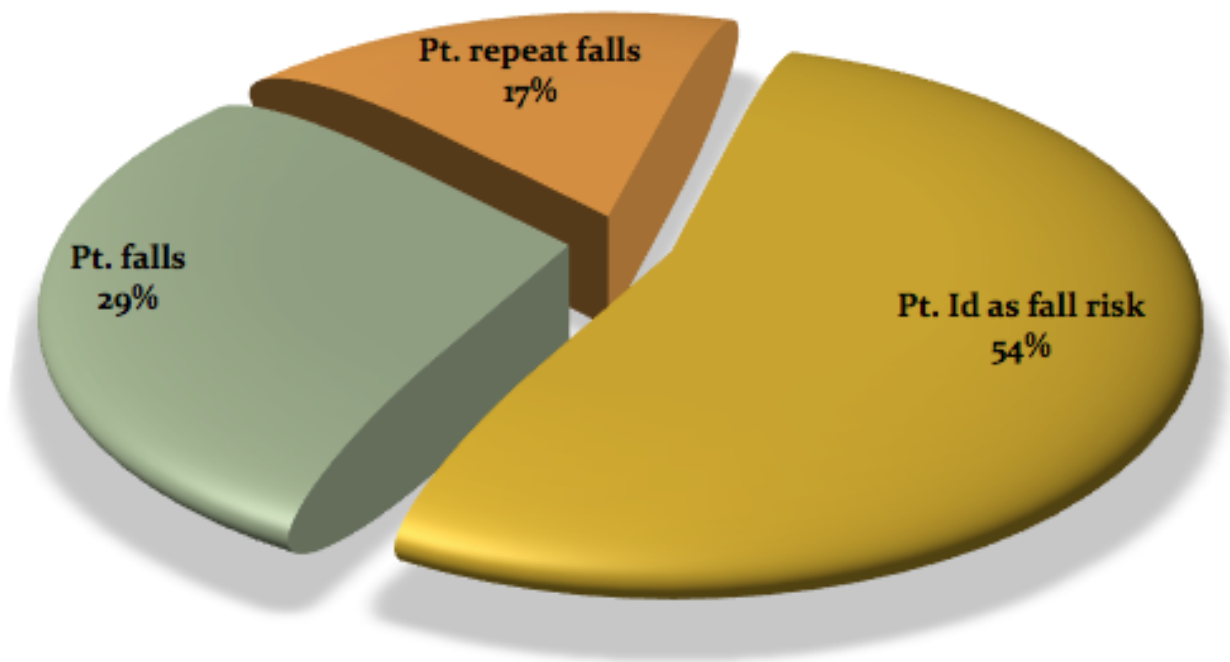


Appendix 1

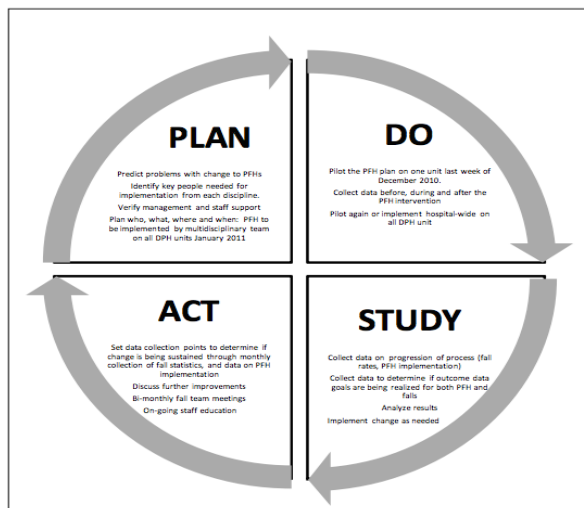
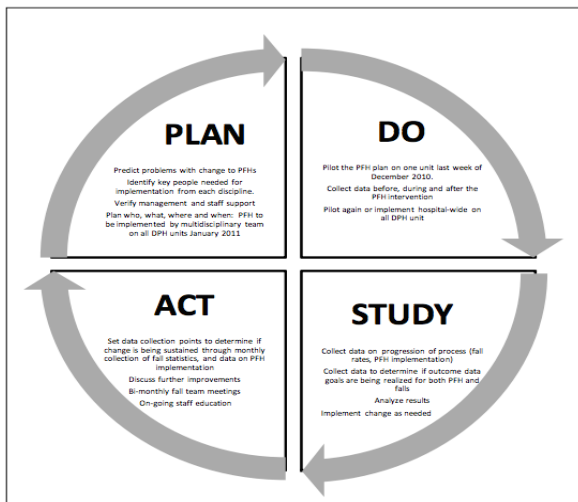
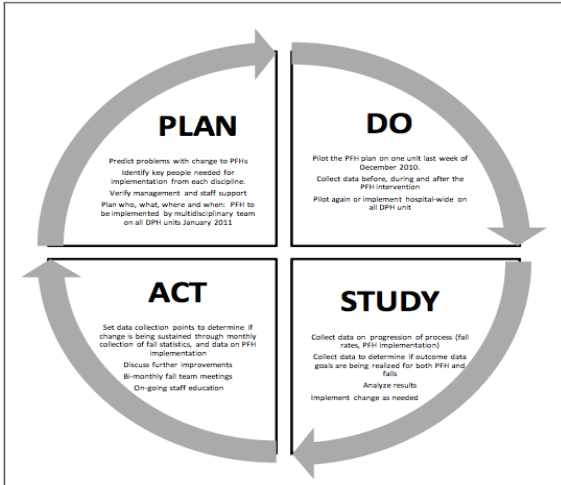
Fall Data

Months 2016	July	August	September	October
Census	118	117	117	132
Patient Days	1532	1585	1625	1116
Total # of Falls	7	5	4	2
Pt. w/repeat falls	4	3	1	0
OH Falls	4	4	3	2
At Risk Pt.	13	11	11	10
Mean fall rate	4.6	3.15	2.46	1.8

**Patient Falls**



Appendix 2



### Appendix 3

## Kurt Lewin's Change Theory



Appendix 4

Kotter's 8 Step Process for Leading Change





Appendix 5

## Fall Prevention Program

Formulas	FY-2016	FY-2016
<b>Description</b>	<b>Cost of program</b>	<b>Cost of fall</b>
12 RN Staff Salary for 12 hours	3840	
Paper and printing	200	
Data collection	100	
Fall prevention education meetings 3x15 minute 64 staff	1354	
IT staff cost	500	
Staff development and supplies	400	
<b>Total</b>	<b>6394</b>	<b>0</b>
<b>Cost of Injury</b>		
Cost of average fall with injury (CDC, <a href="http://www.cdc.gov">http://www.cdc.gov</a> )		17500
Average cost of one hip fracture (CDC, <a href="http://www.cdc.gov">http://www.cdc.gov</a> )		18000
One Fall with serious injury can cost (Heinrich, et al, 2010)		42840
<b>Total</b>	<b>0</b>	<b>78340</b>
<b>Other Assets</b>		
Monthly meeting for CNL and Champions 1 hour x 4 staff	188	
<b>Total</b>	<b>188</b>	<b>0</b>
<b>Project Totals</b>	<b>6582</b>	<b>78340</b>

**Appendix 6**

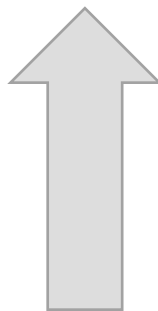
Forward motion of change

- Administrative support
- Staff education
- Multidisciplinary support
- IT support

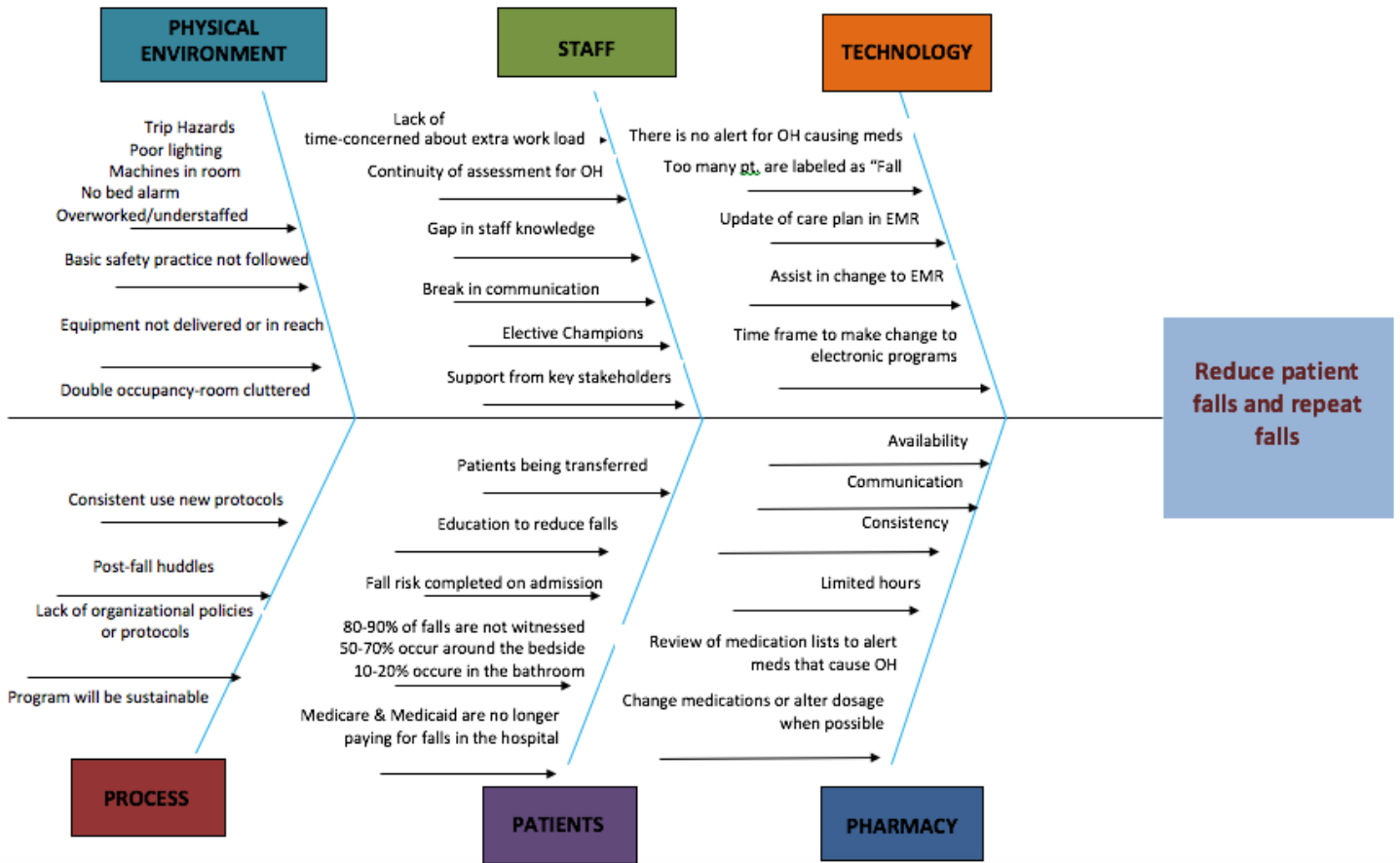


Backward motion of change

- Lack of administration support
- Lack of IT support
- Slow integration of process
- Lack of noticeable change in status
- Poor multidisciplinary participation
- Poor communication

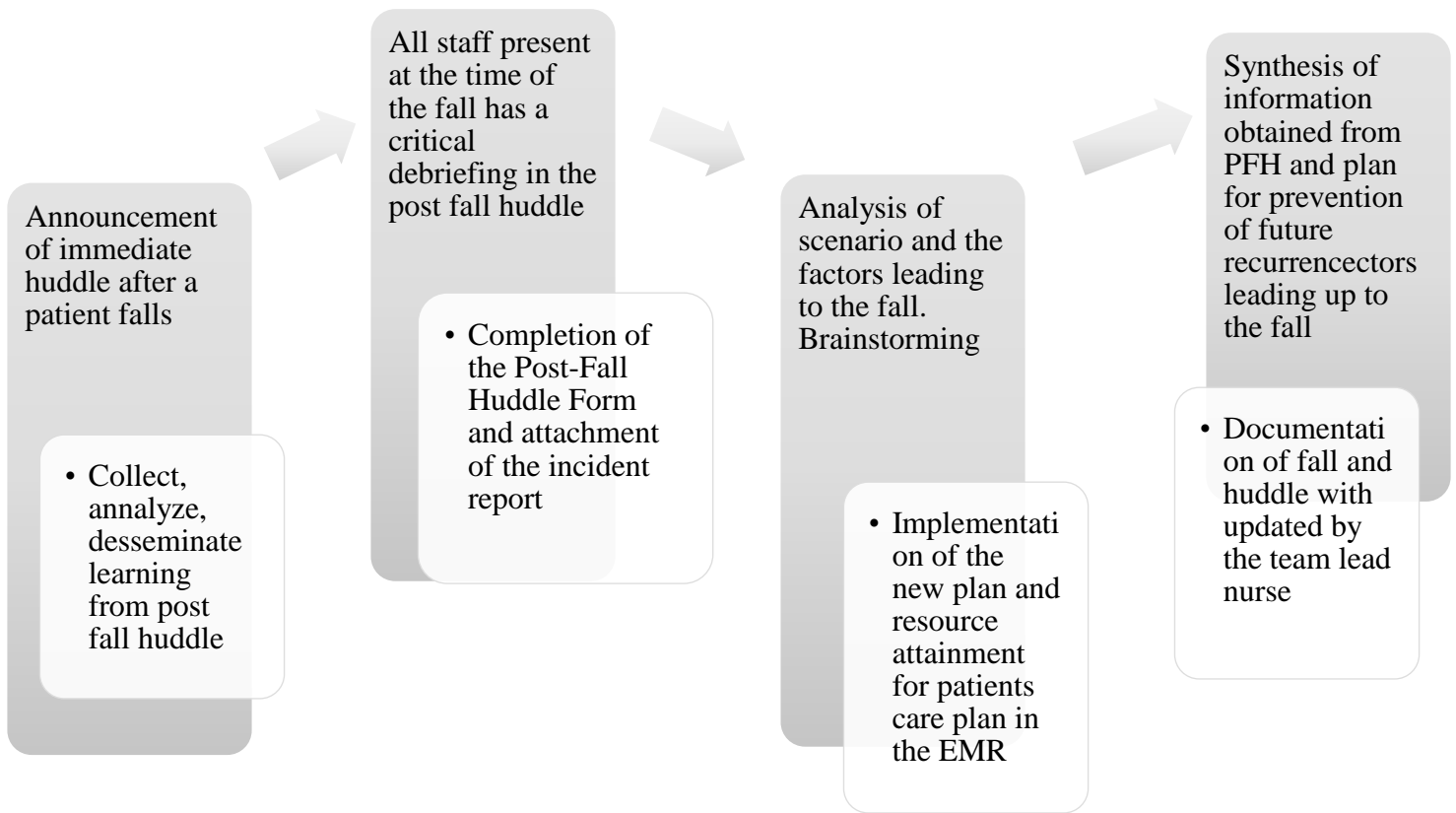


Appendix 7





Appendix 8 Steps For Post-Fall Huddle

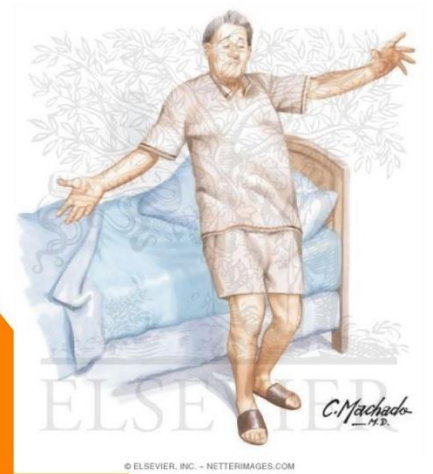


Appendix 9

(outside brochure)

## WHAT IS ORTHOSTATIC HYPOTENSION?

Orthostatic hypotension is a name given to a common condition where, upon getting up too quickly, you get that lightheaded, fuzzy or dizzy feeling. Orthostatic refers to your body in an upright position. Hypotension refers to low blood pressure.



Orthostatic hypotension has many causes. Sometimes medicines such as a diuretic (water pill) or antihistamines (products to stop runny noses and watery eyes) may make you dizzy. Blood pressure medications may also cause this condition. Water loss due to vomiting or diarrhea, excessive sweating or poorly managed diabetes may also increase dizziness upon standing. This condition is not a disease but a temporary decrease in blood supply to the upper part of your body. In some cases it results in fainting.

# Falling Could it be low blood pressure

Created by:  
Sherry Ballard MSN, RN

Appendix 9 cont.

(inside brochure)

## THE RISKS FOR FALLING

Rising too quickly to answer the telephone or a knock at the door may cause you to see stars, lose your balance or fall. Talk to your doctor about your symptoms because they could be related to an underlying medical condition or medication you are taking.

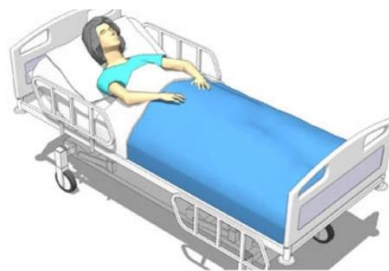
If you take warfarin, (brand name Coumadin®) and suffer a fall, you are at increased risk for a potentially dangerous bleeding event and not even know it. A bruise, particularly to your head is considered a medical emergency.

If you or someone you know is experiencing these symptoms, see you doctor. immediately



## SYMPTOMS OF ORTHOSTATIC HYPOTENSION

Your medication could be causing the dizziness



## SAFETY TIPS TO REDUCE DIZZINESS & FALLS

When you need to stand, rise slowly. Use a handrail, chair, walker or table and count to 10 before you walk. This will allow your body to regulate your blood pressure and reduce dizziness helping you to prevent a fall. Let the phone ring. The knock at your door can wait until your head is clear and you can move about safely.

## Appendix 10

### **Assessment Guidelines for Orthostatic Hypotension: Orthostatic Vital Sign Measurement**

1. Orthostatic vital signs may be indicated to evaluate patients who are at risk for hypovolemia (vomiting, diarrhea, bleeding), have had syncope or near syncope (dizziness, fainting), or are at risk for falls. A significant change in vital signs with a change in position also signals increased risk for falls.

Orthostatic vital signs are not indicated in patients who:

- a. Have supine hypotension.
- b. Have a sitting blood pressure  $\leq 90/60$ ?
- c. Have acute deep vein thrombosis.
- d. Exhibit the clinical syndrome of shock.
- e. Have severely altered mental status.
- f. Have possible spinal injuries.
- g. Have lower extremity or pelvic fractures.
- h. Are not mobile enough to get out of bed.

Orthostatic vital signs (blood pressure, pulse, and symptoms) will be obtained and recorded while the patient is in the

- supine position
- standing position.
  - Immediately
  - Again @ 3 minutes
- If the patient is unable to stand, orthostatics may be taken while the patient is sitting with feet dangling.

Equipment

- Noninvasive blood pressure measurement device.
- Blood pressure cuff of correct size for the patient.

Procedure

1. Instruct the patient on the process of orthostatic blood pressure measurement and its rationale.
2. Assess by verbal report and observation the patient's ability to stand.
3. Have patient lie in bed with the head flat for a minimum of 3 minutes, and preferably 5 minutes.
4. Measure the blood pressure and the pulse while the patient is supine.
5. Instruct patient to sit for 1 minute.

Appendix 10 Cont.

- a. Ask patient about dizziness, weakness, or visual changes associated with position change. Note diaphoresis or pallor.
  - b. Check sitting blood pressure and pulse.
  - c. If the patient has symptoms associated with position change or sitting blood pressure  $\leq 90/60$ , put patient back to bed.
6. Instruct patient to stand.
- a. Ask patient about dizziness, weakness, or visual changes associated with position change. Note diaphoresis or pallor.
  - b. If patient is unable to stand, sit patient upright with legs dangling over the edge of the bed.
  - c. The patient should be permitted to resume a supine position immediately if syncope or near syncope develops.
7. Measure the blood pressure and pulse immediately after patient has stood up, and then repeat the measurements 3 minutes after patient stands. Support the forearm at heart level when taking the blood pressures to prevent inaccurate measurement.
8. Assist patient back to bed in a position of comfort.
9. Document vital signs and other pertinent observations on the nursing flowsheet or in the medical record. Note all measurements taken and the position of the patient during each reading.

**Evaluation**

1. Subtract values 3 minutes after standing (or if patient cannot stand, then sitting) from lying values.

A decline of  $\geq 20$ mm Hg in systolic or  $\geq 10$  mm Hg in diastolic blood pressure after 3 minutes of standing = orthostatic hypotension.

A heart rate increase of at least 30 beats per minute after 3 minutes of standing may suggest hypovolemia, independent of whether the patient meets criteria for orthostatic hypotension.

A blood pressure drop immediately after standing that resolves at 3 minutes does not indicate orthostatic hypotension. However, this finding may be useful to confirm a patient's complaint of feeling dizzy upon standing and may lead to patient education about using caution when arising from a lying or sitting position.

Report all findings to the treating medical provider, including all sets of blood pressure and pulse results, and whether the patient experienced pallor, diaphoresis, or faintness when upright.

Item	Appendix 11	Item Score	Patient Score
1. History of falling (immediate or previous)		No 0	_____
		Yes 25	
2. Secondary diagnosis (≥ 2 medical diagnoses in chart)		No 0	_____
		Yes 15	
3. Ambulatory aid			_____
None/bedrest/nurse assist		0	
Crutches/cane/walker		15	
Furniture		30	
4. Intravenous therapy/heparin lock		No 0	_____
		Yes 20	
5. Gait			_____
Normal/bedrest/wheelchair		0	
Weak*		10	
Impaired†		20	
6. Mental status			_____
Oriented to own ability		0	
Overestimates/forgets limitations		15	
Total Score‡: Tally the patient score and record. 0: No risk for falls <25: Low risk 25-45: Moderate risk >45: High risk			_____

Appendix 12

**Injurious Fall Prevention Organizational Self-Assessment**

Fall Injury Prevention Program Attributes	No Activity	Discussed, not Implemented	Partially Implemented	Fully Implemented
<b>SECTION 1. Organizational Level</b>				
<b>A. Leadership</b>				
1. Executive "walk-arounds" with targeted question about fall injury prevention	0	1	2	3
2. Senior management and clinical representatives facilitate periodic, announced, focus groups (unit briefings) of front line practitioners to learn about perceived problems with fall-related injuries.	0	1	2	3
3. Employees are provided with timely and routine feedback on fall injury data, improvement results, significant events and near misses*	0	1	2	3
4. Fall-Injury Prevention strategies target the organizational and unit system, patient populations.*	0	1	2	3
5. Fall-related injuries are discussed openly without fear of reprisal or undue embarrassment.*	0	1	2	3
6. All fall-related injuries are discussed with patients and families regardless of injury severity.*	0	1	2	3
7. One or more specifically trained practitioners are identified to oversee the analysis of fall-related injuries, their causes and coordinate fall injury prevention activities.*	0	1	2	3
8. Employees voluntarily report fall injury hazards*	0	1	2	3
9. A non-blaming immediate post fall assessment (Safety Huddle) of every patient fall is conducted.*	0	1	2	3
10. After immediate assessment and reporting, how the fall might have been prevented is communicated to all staff*	0	1	2	3
11. Inter-rater reliability tests for fall risk assessment and injury risk assessment	0	1	2	3
12. Staff Participation in Technology Selection	0	1	2	3
13. Communication / Hand-off Procedure includes risk for injurious fall	0	1	2	3
14. Fall injury prevention and intervention protocols are included in hospital or nursing orientation (e.g. hip protectors, mats, low beds)	0	1	2	3
15. Staff participates in professional or clinical training programs that include skills training to prevent injuries for falls (i.e. VISN 8 Falls Conference)	0	1	2	3
<b>B. Data and Injury Program Evaluation</b>				
16. Fall Rates by Type of Fall (Accidental, Anticipated Physiological, Unanticipated Physiological)	0	1	2	3
17. Fall-related Injury Rates by Severity of Injury	0	1	2	3
18. Fall injury rate reported per unit and hospital- wide by severity level and type of fall	0	1	2	3
19. Analysis of Repeat Fallers	0	1	2	3
20. Analysis by Age Groups (<55, 55-65, >65-75, >75)	0	1	2	3



Appendix 12 Continued

21. Falls with injury trend data are compared with staffing	0	1	2	3
22. Amount of Annual Staff Education on Fall Prevention?	0	1	2	3
23. The entire fall prevention program is analyzed at least annually and evaluated for potential risk factors and opportunities for improvement	0	1	2	3
24. Trended injurious falls data are reported to the Board of Directors/Senior Leaders	0	1	2	3
25. Falls with injury prevalence (NQF) Quarterly, Unit and Hospital is reported to team or unit	0	1	2	3
26. Falls with injury prevalence (NQF) Quarterly, Unit and Hospital is reported to Extranet measures	0	1	2	3
27. Data analysis at Organizational and Unit Levels	0	1	2	3
SECTION 2. Unit Level				
A. Fall Injury Risk Assessment Methodology				
28. Fall Injury Risk Assessment is conducted on every patient on admission, transfer, and change in patient status and after a fall*	0	1	2	3
29. History of repeat falls*	0	1	2	3
30. History of fall injury risks (osteoporosis, anticoagulants, or other condition that might predispose to injury)*	0	1	2	3
31. History of fall-related injury, esp. fracture*	0	1	2	3
32. Signage if patient at risk for injury	0	1	2	3
33. Patient specific injury prevention plan of care reliably implemented	0	1	2	3
B. Screening for Likelihood of Falling				
34. History of Falls*	0	1	2	3
35. History of Repeat Falls*	0	1	2	3
36. Altered mental status (confused, disoriented, depressed, restless)*	0	1	2	3
37. Altered elimination (incontinence, diarrhea, nocturia, frequency, urgency or requirement to help toilet)*	0	1	2	3
38. Review of medications that increase risk for falls* (could include meds that are triggers for injury risk, e.g. steroids, resorptive agents)	0	1	2	3
39. Altered mobility (unsteady gait, uses assistive devices, impaired balance)*	0	1	2	3
40. Orthostatic hypotension*	0	1	2	3
C. Environmental Safety to Reduce Severity of Injury				
41. Hip Protectors	0	1	2	3
42. Floor Mats	0	1	2	3
43. Non-slip flooring	0	1	2	3
44. Height-adjustable bed (in low position, except during transfers)	0	1	2	3
45. Bed-rail alternatives (body pillows, assist rails)	0	1	2	3
46. Raised toilet seats	0	1	2	3
47. Elimination of sharp edges	0	1	2	3
48. Use of safe exit side from bed (pt transfer to	0	1	2	3

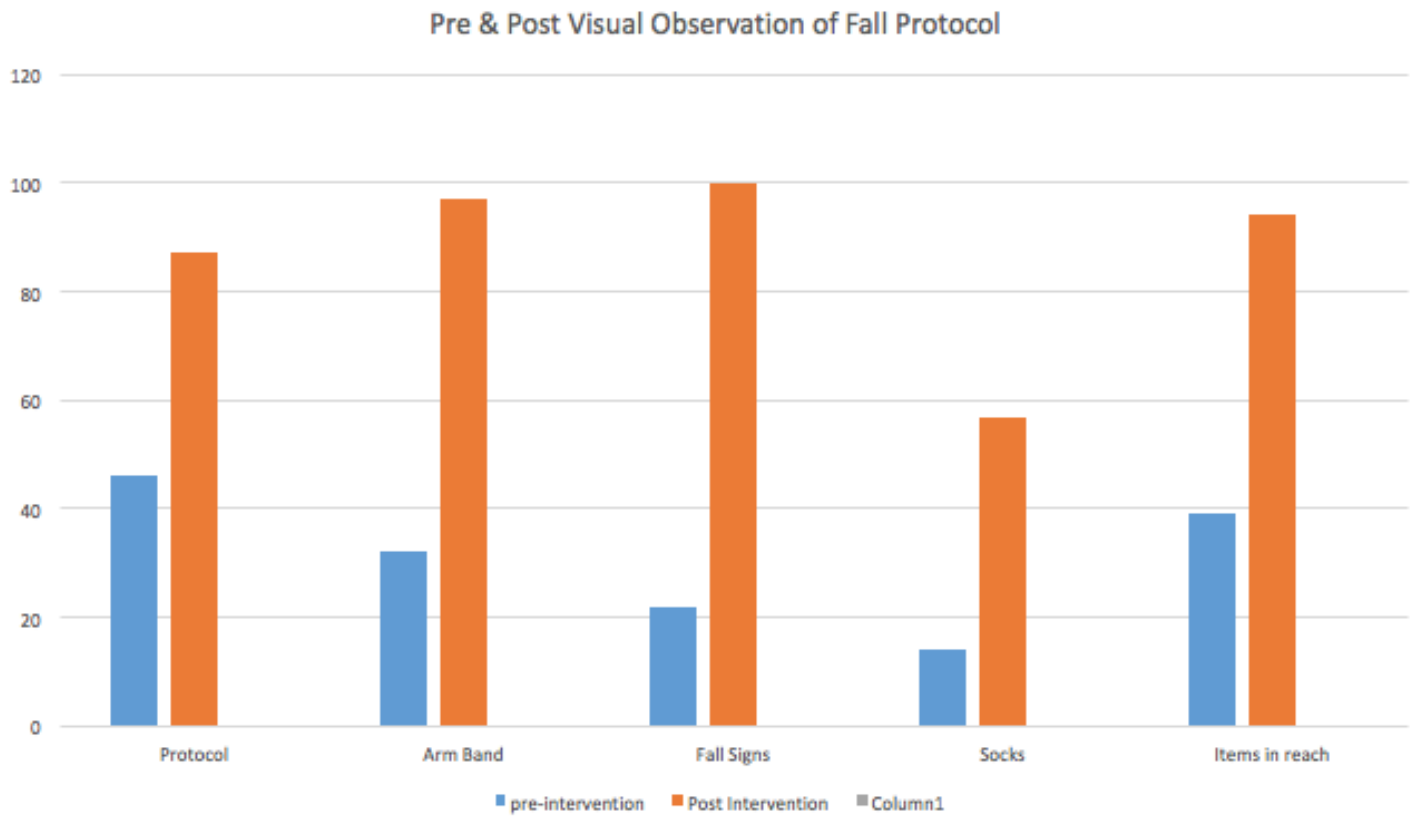


unaffected side)				
49. Use of alarms (bed, w/c)	0	1	2	3
50. Pt access to mobility aides (walkers, canes) as appropriate	0	1	2	3
D. Additional Fall Risk Assessment if Positive Screen At Risk for Falls				
51. Formal tests of mobility, gait (list tools in comment section: 8 ft. Up and Go, Berg Balance Test)	0	1	2	3
52. Medications reviewed for contributing causes	0	1	2	3
E. Post-fall injury assessment includes:				
53. Neurological Assessment if impact to head suspected*	0	1	2	3
54. Change in Range of Motion post fall*	0	1	2	3
55. Orthostatic vital signs if condition permit*	0	1	2	3
56. Documentation of injury by severity level	0	1	2	3
57. Changed plan of care after the Safety Huddle to prevent repeat fall/injury.	0	1	2	3
F. Discharge Patient/Family Education				
58. If on anticoagulation, anticoagulation therapy reviewed prior to Discharge	0	1	2	3
59. If on anticoagulation, provided patient education on What to do if you fall and are on anticoagulation (pt education brochure)	0	1	2	3
60. If osteoporotic, need for osteoporosis therapy reviewed prior to discharge	0	1	2	3
61. If osteoporotic, patient (and family) educated about osteoporosis (Video, Pt Education Brochure)	0	1	2	3
62. If known faller, provided patient education on What to do if you fall and can not get up (pt. education brochure)	0	1	2	3
63. Environmental / Home Assessment	0	1	2	3
64. Assess for Orthostatic Hypotension				

Appendix 12 Continued

**TOTAL SCORE** (63 items: Score Range 0-189)

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# What we know about falls

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Fall Prevention Program

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Pt that have fallen are at a higher risk to fall again?



True

False

Do you feel that standard fall precautions are being utilized on the unit? Example: fall signs, wrist bands, non-slip socks



Yes

No

Maybe

Appendix 14 Continued

**Assessing patients for orthostatic hypotension is part of the normal protocol for fall evaluation**

Yes

No



**Do you believe the fall prevention program is effective?**

Yes

No

**What do you feel is missing from the fall prevention program?**

Long answer text

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**Would you be willing to put 100% effort and energy into a fall program that could reduce or eliminate falls on your unit?**

Yes

No

Appendix 15

**SWOT ANALYSIS**

