

Preventing Patient Falls

SECOND EDITION

Janice M. Morse, PhD (Nurs), PhD (Anthro), FAAN, is a professor and the Barnes Presidential Endowed Chair at the College of Nursing, University of Utah. She was previously a professor, Faculty of Nursing, and the Founder, Director and Scientific Director of the International Institute for Qualitative Methodology at the University of Alberta, Canada, and professor at The Pennsylvania State University. With doctorates in both nursing and anthropology, Dr. Morse conducts research, funded by NIH and CIHR, into suffering and comforting, as well as developing qualitative research methods. She also serves as a consultant for Hill Rom Industries. She has published extensively in the area of falls, and is author of the *Morse Fall Scale* and serves as editor of *Qualitative Health Research* and was founding co-editor of *International Journal of Qualitative Methods*. She is the co-author of the *Morse Fall Scale*, and has authored, coauthored or edited 14 books including: *Preventing Patient Falls* (1997), and has many publications on identifying fall risk and protecting the fall-prone patient. Dr. Morse has honorary doctorates from the University of Newcastle, Australia and Athabasca University (Canada) for her contributions to nursing science.

Preventing Patient Falls

Establishing a Fall Intervention Program

SECOND EDITION

JANICE M. MORSE, PhD (Nurs), PhD (Anthro), FAAN

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*For my Mother
Avis Hazel Blake Lambourne
Who never falls—
but, as a physiotherapist, is
always concerned*

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Preface

In 1982, when I took my first position as a clinical nurse researcher at the University of Alberta Hospitals, I was asked to “look at” the problem of patient falls on the rheumatology unit, a 32-bed unit that was used as a demonstration unit for nursing research. A quick look at the fall rate in that unit showed that if I were to conduct a research project of patient falls in that unit, it would take me 32 years to collect enough data. This is an important fact for everyone planning to implement a fall intervention project—a patient fall is a relatively rare event, and if you consider the fall rate over a short period of time—perhaps 1 month—in a patient care unit, you find that the fall rate is unstable. That is, it goes up and down, and if you have one patient that falls repeatedly—three times in 24 hours, for instance—that patient’s fall incidents will really inflate your records. This does not mean that you should not watch your fall rate, only that you should not focus on the fall rate for a unit over a short period of time, letting the fall rate accrue over 12 monthly periods.

I accepted the challenge “to look at falls”, and this started a research program that still continues. First, we did as most researchers do: we conducted a chart review of all patient falls for 1 year. This provided us with an institutional profile of falls, a baseline fall rate, and enabled us to show the hospital that falls were indeed a serious problem. Next, we obtained funding to conduct a prospective study of falls—and we examined 100 patients who fell at the time of the fall, and 100 controls. From this study we developed the *Morse Fall Scale (MFS)*, and by examining the errors (the false positives and false negatives), we identified three types of falls—*anticipated physiological falls*, *unanticipated physiological falls*, and *accidental falls*—reclassifying the previous system of *intrinsic* and *extrinsic falls*, and

manipulated the data set on the computer to determine the reliability and validity of the *MFS*. Next, we were interested in the clinical feasibility of the *MFS*, and we conducted a prospective study in three clinical settings: a nursing home, a medical center, and a rehabilitation hospital. We prepared a video so that nurses could have standardized training in the use of the *Scale*, and we provided data collection sheets. Nurses in 6 patient care areas rated all patients daily. At this time, about 1985, there were very few fall intervention strategies. Nurses tried to watch patients carefully, and often patients were allowed to sit close to the nursing stations in the daytime, or nurses would bring patient beds out to these areas at night, or ask relatives to come and sit with the patients. Nurses restrained patients very frequently, with a waist restraint, and sometimes with wrist restraints as well; patients were secured in a gerichair with a locked tray, so they could not slide or get out; patients usually had a vest or waist restraint while in a wheelchair. Nurses caring for restless patients made an innovative bed alarm, by pinning the call bell to the patients night-shirt—a risky practice—so that when the patient climbed out of bed, the call bell would pull out of the wall and the emergency call bell systems would be activated.

The problem at the time was that the *MFS* was good at predicting who was likely to fall, but did not indicate what to do to protect the patient. I was very afraid that if we introduced the *Scale*—naively believing that it would be immediately adopted—that restraint use would dramatically increase.

Therefore, at that time, my research program shifted to fall interventions and how to determine if we could care for patients without restraints. A bioengineering team and I developed a bed alarm and obtained a patent for one made out of a blood pressure cuff. We placed the alarm on a bed with three-quarter length side rails, to let the patient have a safe route out of the bed, and inflated the cuff. When the patient moved out of the bed across the inflated cuff, an air pressure switch sounded an alarm. This primitive alarm was so successful that the nurses would not let us take the alarm away, so we improved it: prototype II had 2 metal plates and a spring, so that it would self inflate between uses.

With the bioengineers, I also developed the specs for a low bed, believing that injuries could be reduced if patients had less distance to fall; we also received a patent for that work. Meanwhile, we tested more comfortable wheelchairs, and the Ambularm[®]—a battery alarm with a mercury switch which was placed on the patient's thigh, so that when the patient stood, the alarm sounded.

But the most important project I did in this period was to determine if patients could be cared for without restraints. I chose to do this work in a 24-bed psycho-geriatric unit, in which 22 of the 24 patients were restrained. I took the proposal over to the unit and began applications for funding. Unfortunately, the proposal was not funded on the first application. Much of my time was spent persuading the medical committee that collecting the data using videotape and using ethology as the method was not only the safest way to do this research, but the only way to answer the research questions. When I finally had received the funding, I went over to the unit to tell the nurses that the project would start, they said, "You know Jan, that was such a great idea that we have taken all of the restraints off!" I do believe this is an illustration of the fact that you do not have to do research to implement change—just to threaten to do it. Actually, the unit still had four patients in restraints, those considered incorrigible, and it was from these four that we selected two patients for our project. The project was a success, and it was conducted at the same time that the *Releasing Restraints* movement started, led by a Quaker group in Philadelphia.

These studies were published, the MFS studies published, and at the same time, a number of bed alarms and other fall intervention devices, such as bed mats, became available. I considered my work finished and moved on to other things.

But the fall research did not go away. Nurses trying to implement a fall intervention program kept calling with questions. My greatest concern was that the depth of research pertaining to falls was not being examined, and only the publications pertaining to the MFS were being used. By 1997, I had published *Preventing Patient Falls* (Sage), and the fall conferences (sponsored by the VISN 8 Safety Center) began, providing an important annual forum for the discussion of fall research.

Still, the questions kept coming, and it became clear that the *MFS* was often misapplied. Although I thought I had been clear that to use the *MFS*, one had to observe the patient at the time of scoring, to record gait, and to ask the patient questions in order to measure mental status, I kept learning of studies in which the *MFS* was evaluated by using chart data. I still do not know how it is possible to get a score from chart data! Also, nurses used the *Scale* as a category of 3 classes—high risk, medium risk and low risk, rather than using the score itself. Furthermore, even though I had produced a reliable and valid scale, research nurses in hospitals everywhere started producing their own “home made” scales (with no reliability or validity) and often with scores that were estimated using their best judgment, rather than scores derived from the research itself. This was such a puzzle to me. It was also disconcerting that the studies evaluating the *MFS* by scoring all patients in the unit and then recording who fell and who did not fall, forgot that if a patient was recorded as at risk of falling, fall intervention strategies to prevent the fall should be immediately implemented. What these studies are measuring is not the efficacy of the *MFS*, but the efficacy of the fall interventions!

How did nursing research get into such a mess? I have several ideas—nursing education had been fast and furiously teaching nurses to be researchers at the baccalaureate and masters level—teaching them some principles of research, enough for them to want to do research, but with not enough knowledge to do it well. In this situation, such research could place both the patient and the hospital in jeopardy!

So, this book is my second attempt to clear up all the grey areas in patient fall intervention programs. I hope I have done a better job this time. Please keep asking questions, for it helps me understand where I have not been clear, or where I have left a gap in my explanations.

Janice Morse
2008

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This book is dedicated to my mother, a physiotherapist of the old school, who believes in massage, heat, and exercise and that patient falls are preventable!

Preventing Patient Falls

PART
I

1

Creating a Fall Intervention Program: An Overview

Once considered an “accident,” an unavoidable problem of illness, disability, or the frailty of advancing age, patient falls were accepted as a normal consequence of illness or aging, and any injury resulting from the fall was accepted simply as “bad luck.” Over the past three decades, research has developed to the point where we are able to predict which patients are likely to fall from the frailty of illness and aging (called an *anticipated physiological fall*) and to implement strategies to prevent the fall (i.e., *preventative strategies*) or to protect the patient from injury (i.e., *protective strategies*) should a serious fall occur. As the majority of falls that occur within the hospital may be classified as *anticipated physiological falls*, this research is making an important contribution to the prevention of iatrogenic injuries or even death.

Does this mean that falls are never accidental? No—a person who has none of the characteristics that indicate fall-proneness may have a true accident—for instance, they may slip on spilled water or something greasy on the floor or trip on a step or on even their own footwear. But those who are rated as fall-prone **do not** have accidents, because we *expect* them to trip or slip. Because these patients have a poor gait, impaired balance, are cognitive impaired, and do not use their walking aids correctly, we expect them to trip or to slip, to lose

their balance, and to fall. In other words, they are an “accident about to happen,” and it is the responsibility of caregivers to ensure the safety of those who score as fall-prone on the fall screening tools.

On the other hand, accidental falls only “happen” to those who do not score at risk of falling. For this reason, the second type of fall, *accidental falls*, are relatively uncommon, typically comprising only of 14% of all falls in hospital.

The third type of fall that occurs in hospitals is the *unanticipated physiological fall*. This occurs when a person with none of the risk factors falls because of a seizure, because they suddenly feel faint, or because a knee “suddenly gave way.” The first fall of this type cannot be predicted, but our role is to provide protection from injury should the fall reoccur.

Falls in hospitals occur at amazingly similar rates among institutions. But this does not mean that an institution cannot improve its fall rate. This book presents two decades of research into patient falls in a form that is useful to hospital administrators, physicians, and nurses.

Standardized fall rates assist clinicians in evaluating a fall prevention program by comparing fall rates with other institutions.

The main purpose is to consolidate a research program into patient falls and make the research clinically applicable by presenting it in a form that is useful to hospital administrators and nurses.

However, the primary objective is to provide instruction on how to develop a program using the *Morse Fall Scale (MFS)*.

In Chapter 2, I discuss how to make your environment as safe as possible to minimize accidental falls. This should always be the first task undertaken before one begins a formal fall intervention program. Then, in Chapter 3 I discuss how to prepare your institution administratively for a fall intervention program. I will discuss how to collect baseline data, so that falls are monitored on an ongoing basis, and you will be able to evaluate the reduction of falls once your program is in place. I will show you how to use fall data proactively to identify “hot spots”—areas in which falls occur repeatedly—and to then rectify problems to reduce your fall rate even further.

Some patients fall repeatedly—*multiple fallers* or *repeat fallers*—and frequently the second fall occurs at the same time of day while the patient is doing the same activity. Prevention includes a “warning” system to alert the staff to his fall pattern, so that the second and subsequent fall can be intercepted.

Chapter 4 reviews how to identify the fall prone patient—those who are at risk of an *anticipated physiological fall* and how to score a patient for fall risk using the *MFS*. Chapter 5 focuses on fall *prevention* strategies—interventions that will prevent a fall from occurring—and fall *protective* strategies—intervention that will minimize patient injury should a fall occur. Fall *assessment* will be then discussed in Chapter 7; Chapter 8 reviews how to assess the effectiveness of your program.

These components, taken together, make your fall program solid. Initially, each step must be implemented sequentially, but once the program begins, you must attend to each area and keep each component intact. Throughout the book, I will address questions that have been asked about fall intervention programs and the use of the *Scale*.

The second section contains Appendices that present all of the research information on the *Scale*—how the instrument was developed, how to determine the level of risk, and what norms to expect, as well as foreign translations of the *Scale*.

Despite recent advances in our understanding of patient falls, they remain a major problem. Falls have been identified as the second leading cause of accidental death in the United States, and 75% of those falls occur in the elderly population. When hospitalized, patients are placed in double jeopardy. In addition to the hazards of everyday living and of aging, they are weakened from illness, surgery, and bed rest; they may feel unwell and unsteady as a result of receiving multiple medications; they may experience conditions that force them to rush to the bathroom, such as urinary frequency or urgency or diarrhea; they are placed in a strange environment where the furniture is arranged differently and is dis-

Six percent of patient falls result in serious injuries that further compromise health status or even result in death.

concertingly disproportionate; and, they must rely on asking strangers for assistance with intimate and embarrassing bodily functions.

However, it is not the fall rate of hospitalized patients that is important, but the injury rate. Six percent of patient falls in the hospital result in serious injuries that further compromise health status or even result in death, either from the fall or from secondary causes. Injuries from falls dramatically increase health care costs by an estimated billions of dollars annually (Jasson, Stenback, Leifman et al., 2004). Of greater concern, falls in the hospital may result in death from a fractured skull, or 6 weeks after a fall that results in a fractured hip as a result of a secondary cause, such as pneumonia.

THE PROBLEM OF PATIENT FALLS

What is a fall? One of the problems in conducting fall research is defining exactly what a fall is, so that clinicians know when and what to report as a fall, resulting in some consistency in fall rates and in fall research. Morris and Isaacs (1980) define a fall as “an untoward event in which the patient comes to rest unintentionally on the floor.” But this definition remains problematic for clinicians. Has the patient fallen *if* the patient is “caught” and lowered into a chair? Is it considered a fall if the patient grabs a handrail and does not land on the floor? And is it considered a fall if a nurse finds a patient on the floor, but the patient cannot tell the nurse what happened, and the event was not witnessed? My only advice is to use your best judgment. It seems to me that all the scenarios described above may be considered a fall, but not necessarily reported as such. Report the witnessed fall that was not witnessed, but the patient whose fall was intercepted by the nurse or the one who grabbed the handrail were “near misses.” Near misses must be recorded—for next time there may be a real fall—but are not reported as incidents and do not enter the fall database. The golden rule for determining what is a fall is based upon the fall screening tools which measure the likelihood of falling from a standing position while walking or getting out of bed to stand. If other miscellaneous incidents are entered into the fall database, then the lowering of your institution’s fall rate may be very frustrating.

However, the problem of what is and is not a reportable fall is compounded with the inclusion of toddlers, who fall in the normal developmental stages of learning to walk, or who may climb and fall from a height on to the floor. Neither of these instances is considered a reportable fall—so it makes no sense to score toddler or young children with a fall scale. The fall risk scales measure adult risk of falling while walking, and care must be taken to prevent these incidents. But those interventions to prevent toddlers from falling are different from the interventions that are developed for the adult fall scales. Using, for instance, the *MFS* with toddlers and young children is a waste of time. The *Scale* was not developed for such use, and the scores will be meaningless.

One last source of errors in the fall data includes patients who are dropped. A nurse told me that they were turning an unconscious patient, they forgot to put the side rail up and the patient “fell” on to the floor. This patient has not fallen, but has been dropped. This incident should not be in the fall database—hospitals must develop an “other” database for such instances. Dropped occurrences may also occur in pediatrics. Nurses have reported that sometimes a mother may fall asleep while holding her infant, and the infant may “fall” or slide on to the floor. Again, this infant has been dropped, and this incident should not be recorded as a fall. It is a reportable incident, but it is not a fall.

It is incredibly important to **report all falls**. The reason is that once the patient has fallen, s/he is particularly likely to fall a second time. Furthermore, the odds are that the patient will fall a second time doing the same thing. Thus, while the most important aspect of prevention is to predict the fall before it occurs, it is also important to examine and record the circumstances surrounding each fall, so that reoccurrence may be prevented.

Examine and record the circumstances surrounding the fall, so that a reoccurrence may be prevented.

Falls occur in all types of health care institutions, to all patient populations *except* patients who are unconscious and infants who cannot stand. Table 1.1 shows fall rates for some types of patient populations. Notice that the rates vary according to the patient care setting. They

Table 1.1

COMPARISON OF PATIENT FALL RATES¹ AND INJURY RATES FOR VARIOUS PATIENT POPULATIONS

AUTHOR (DATE)	SETTING	FALL RATE (# FALLS/# PATIENT BED DAYS) × 1,000	INJURY RATE	COMMENTS
Barnett (2002)	General hospital	9.6	22%	England
Healey et al. (2004)	Geriatric	17.99	4.42/ 1000 pt bed days	England
Hitcho et al. (2004)	Medical Neurology	6.12 6.12	8%	USA
Schwendiman (2008)	Geriatrics Internal medicine Surgery	10.7 9.6 3.2	30.1% minor 5.1% major	Switzerland
von Rentein- Kruse et al. (2007)	General	10.0	26.9%	Germany

¹Unless otherwise stated, patient fall rate = (# falls/# patient bed days) × 1,000

are lowest in the general, acute care hospitals and highest in the nursing homes, with the rates in the rehabilitation hospital falling somewhere in between. Within the hospital, there is variation among units, with the lowest rate in obstetrics and higher fall rates in gerontology, psychiatry, and rehabilitation units. These rates are important because they give the clinician some basis for comparison as the rates in one's own institution are recorded and better understood. In reality, however, a fall is a fairly uncommon event. This means that the statistics can be easily inflated if a fall rate is estimated for a small group (such as a unit) for a short period of time. As I mentioned previously, several falls (or one patient falling repeatedly) could inflate the fall rate, and we see this phenomena in some of the statistics below (see Kilpack et

al., 1991). When the patient population is increased (as with reporting on the entire hospital, especially over the period of a year or more), then the fall rate becomes more stable. Another important point is that when a program is first initiated, the fall rates *escalate* because of enthusiastic reporting by staff members.

When a fall prevention program is first initiated, fall rates *escalate* because of increased reporting.

For this reason it is also important to record *injury rates*. While an injury is a much rarer event, a fall that results in an injury is always reported. Thus injury rates tend to be more reliable and, therefore, more stable than fall rates. This aspect of recording will be discussed later.

IDENTIFYING TYPES OF FALLS

Patients fall for a variety of reasons, and if falls are to be prevented, it is critical to understand the etiology of a fall.¹ Analysis of circumstances surrounding 100 patients who fell and 100 randomly selected patients who had not fallen (Morse, Tylko, & Dixon, 1987) revealed that three types of patient falls occurred in hospitals and long-term care institutions.

Because falls have different causes, the strategies for preventing patient falls are different for each type of fall. A fall may be classified as *accidental* or *physiological*, with the physiological falls further classified as predictable—that is, an *anticipated physiological fall* (i.e. the patient exhibits signs that indicates the likelihood of falling and scores at risk on the *MFS*) or as unpredictable—that is, an *unanticipated physiological fall*.

Identifying falls as *anticipated physiological falls*, *unanticipated physiological falls*, or *accidental falls* is important, because methods for prediction and prevention differ for each type of fall.

¹ Authors previously sorted falls into two categories: *intrinsic* and *extrinsic* causes (Morris and Isaacs, 1980). *Intrinsic* factors are those caused by the patient's illness or condition, such as a stroke or an amputation. *Extrinsic* factors are those caused by the environment, such as factors causing the patient to slip or to trip.

Accidental Falls

Fourteen percent of all falls are considered accidental, caused by the patient slipping, tripping, or having some other mishap. These falls are often caused by environmental factors, such as spilled water or urine on the floor. A patient may fall when using an IV stand for support if the wheels stick suddenly, or they may fall when the top of the IV pole catches on an overhead curtain railing or doorway. Alternatively, the patient may fall when climbing out of bed, if the bed is in an unexpectedly high position. Accidental falls may also be caused by the patient making errors of judgment, such as leaning against a curtain, thinking it was a supportive wall; misjudging the width of a doorway and not realizing that the doorways in institutions are wider than those in the home; or leaning on a bedside locker when the locker suddenly rolls away. Accidental falls may also occur if the patient loses balance when ambulating. For instance, the patient may be rising from a chair and reaching for a walker, leaning from the bed and reaching for an object, using poor technique when transferring, or forgetting to lift the foot pedal of the wheelchair before standing. It

Fourteen percent of all falls are considered *accidental*, caused by the patient slipping, tripping, or having some other mishap.

is important to note that the patient who experiences an accidental fall may not have been identified as being at risk of falling on the *MFS*.

Anticipated physiological falls (78% of falls) occur when residents who score “at risk of falling” on the *MFS* subsequently fall.

Because accidental falls are not due to physical factors but are rather caused by environmental hazards or errors of judgment, prevention strategies are designed to ensure that the environment is free from hazards, that the patient is oriented to the environment, and has received instruction on how to use walkers, and so forth. This includes instruction on the correct method of transferring from a wheelchair.

Anticipated Physiological Falls

These are falls that occur with the patients identified as fall-prone by scoring “at risk of falling” on the *MFS*. The items on the *MFS* are based on research findings and represent six factors that contribute significantly to the patient’s likelihood of falling (Morse, Morse, & Tylko, 1989). These factors include more than one diagnosis (and thus is in the index for polypharmacy), a previous fall, a weak or impaired gait, the lack of a realistic assessment of his or her own abilities to go to the bathroom unassisted, an IV or saline lock, and an ambulatory aid. Anticipated physiological falls constitute 78% of all falls.

UNANTICIPATED PHYSIOLOGICAL FALLS

These are falls that may be attributed to physiological causes, but are created by conditions that **cannot be predicted** before the first occurrence. They constitute approximately 8% of all falls. Examples of physiological conditions that result in unanticipated physiological falls include seizures, “drop attacks,” fainting, or a pathological fracture of the hip. Depending on the cause, when this type of fall occurs—and there is a likelihood that the underlying condition may recur—nursing attention is targeted toward either preventing a second fall or preventing injury when the patient falls again. For example, nurses may teach a patient with orthostatic hypotension how to recognize the dizziness on rising, and how to get up slowly, thereby reducing the risk of falling.

Unanticipated physiological falls may be attributed to physiological causes that **cannot be predicted** before the first fall.

Summary

Differentiating falls into anticipated and unanticipated physiological falls and accidental falls is important because methods for prediction and prevention differ for each type of fall. The *MFS* predicts *physiological anticipated falls*. Prevention strategies include developing an

individualized fall prevention program that will lower the patient's risk score and prevent the fall. *Accidental falls* cannot be predicted using the *Scale*. They are prevented by making the environment as safe as possible.

Unanticipated physiological falls cannot be predicted using the *Scale* nor can they be prevented from occurring the first time. Prevention is targeted toward strategies for protecting the patient from a second fall. The notion of *protection* is important, because sometimes

The *MFS* predicts *physiological anticipated falls*.

the fall cannot be prevented. Rather, protection strategies are taken to ensure the patient does not injury him/herself in the fall. For example, a patient with epilepsy may fall in

the process of having a seizure, and this cannot be predicted or changed. But the protective strategy would be to teach that patient how to protect his head or to ensure that the patient wears a helmet to prevent head injury should a seizure occur. Many patients such as those with Parkinson's disease, can be taught *how* to fall.

COLLECTING BASELINE DATA

The first step, before making the decision to initiate a fall prevention program, is to ascertain how serious the problem of patient falls is in your institution. If falling is a problem, estimate how serious is the problem of *injuries from falls*. The fastest way to evaluate these problems is to analyze the institution's incident report forms used for reporting a fall. Tabulate all falls and injuries that have resulted from a fall over a 12-month period. Calculate the fall rate and the injury rate for your institution using the formula for *fall rate* and *injury rate* presented in Appendix C. If incident report forms are not available for analysis, then it will be necessary to collect fall statistics for a predetermined length of time, preferably for at least 3 months.

Warning: When reviewing the literature containing fall statistics and causes of falls, it is tempting to ignore or "improve" the available screening tools by creating your own fall scale. Sometimes, one chooses items from several scales or one can even select your own

items to include in a scale. Such efforts, however, will probably have no reliability or validity and will not be predictive of falling. Save your time and energy by selecting a scale that was developed statistically, preferably using prospective data and NOT chart data. Choose one with reported reliability and validity—one that meets the needs of your institution. You also need to consider its intended use. Altering scale items or altering scale scores will interfere with the scale's reliability and validity. Scales are not created arbitrarily and *must not* be altered.

PLANNING A FALL INTERVENTION PROGRAM

As there are three types of patient falls (an accidental fall, a physiological anticipated fall, and an unanticipated physiological fall), approaches and methods of fall prevention differ with each type of fall. The comprehensive fall prevention program is, therefore, sorted into three components, each targeted to prevent a fall or to protect the patient who is likely to fall.

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Preventing Accidental Falls

The first type of fall, the accidental fall, is prevented by ensuring a safe environment. This means that the causes of an accidental fall are removed; the process and procedures for checking the environment are described in Chapter 2. While accidental falls may occur in patients with a normal gait, they are more likely to occur in patients who have an abnormal gait. For instance, patients with an impaired gait who shuffle and cannot lift their feet are more likely to trip. Before commencing a fall intervention program, the environmental hazards must be corrected. This includes doing a walk-through with engineering

The accidental fall is prevented by ensuring a safe environment.

and housekeeping staffs and correcting problems. A safety check must be conducted on all wheelchairs, beds (including brakes and side rails), and walking aides. If it is considered necessary, additional handrails must be installed on the walls. Anything that obstructs the patients' use of these rails (such as trays for charting, glove boxes and hand sanitizers) must be relocated.

Preventing Anticipated Physiological Falls

Anticipated physiological falls are prevented by first identifying who is likely to fall by administering the *MFS*.

Those patients who score at high or medium risk of falling are then assessed to see if the possible cause of the fall may be corrected or

Anticipated physiological falls are prevented by first identifying who is likely to fall using the *MFS*.

lowered. Examples may include altering medications to reduce confusion, using physiotherapy to increase muscle strength and improve gait, or providing correct instructions for the use of a walker, and so forth. Another approach may be to

identify a nursing care plan to reduce fall risk, such as waking the patient at night for toileting or increasing surveillance. Alternatively, use bed alarms to assist with patient monitoring should the patient get out of bed without using the call light.

Preventing Unanticipated Physiological Falls

The first *unanticipated physiological fall* cannot be predicted and, therefore, cannot be prevented, because the staff and the patient may not realize that the patient has the condition that precipitates the unexpected fall. That is, the staff may not realize that the patient is seizure-prone until the first seizure occurs. Thus, the intervention is to *protect the patient by preventing injury* should a second fall occur. For exam-

The first *unanticipated patient fall* cannot be prevented—*protect the patient* by preventing injury should a second fall occur.

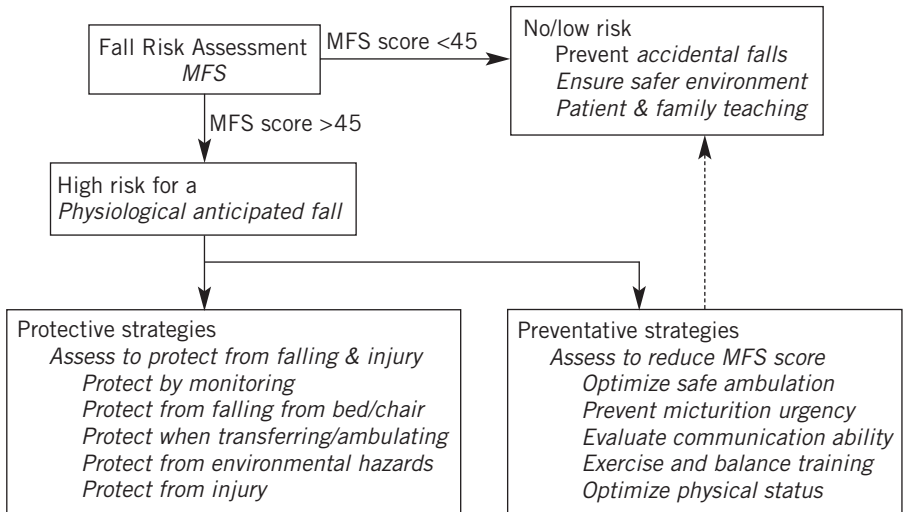


Figure 1.1 Process of Fall Intervention

ple, the patient can be required to wear a helmet to protect against a head injury or hip pads to prevent a fractured hip. A patient with orthostatic hypotension can be taught how to rise from a chair slowly. Each of these approaches is highlighted in Figure 1.1 with references made to the sections that detail each approach.

INSTITUTIONAL COORDINATION FOR FALL PREVENTION

Preventing patient falls requires a planned and coordinated effort. In an institution, this means involving all staff, from the highest level of administration to housekeeping. It includes all health professions, but especially nursing, medicine, pharmacy, and physiotherapy. It includes the records department, risk management, and quality assurance. It includes maintenance workers, such as carpenters and electricians, and it includes administrative staff, such as the Vice President for nursing and area supervisors. Unfortunately, it may even involve the legal department.

The concern of patients who fall is not confined to nursing, and nurses at the bedside must not and cannot solely bear the brunt of

responsibility—and the guilt—when patients fall. However, preventing patient falls is a concern that may be spearheaded and coordinated by nursing, and it is an area where leadership in prevention may fall on nursing's shoulders. Most hospitals have a fall program spearheaded by a fall committee, consisting of the head nurses of the units in which falls mainly occur, a quality assurance representative, and sometimes a representative from medicine and pharmacy. While this committee may oversee fall policy and procedures, it is ill equipped to manage the day-to-day nuances of a fall intervention program. ***Every hospital must appoint a clinical nurse specialist*** to oversee the implementation of the programs. This includes:

- Setting up reporting structures should a fall occur
- Purchasing and allocating fall protection equipment
- Educating staff (and providing ongoing training of newly hired staff) regarding the use of the *MFS* and ongoing monitoring of the program
- Assessing patients who score as high risk or who have fallen for identification of appropriate fall interventions
- Conducting fall assessment and multidisciplinary intervention meetings
- Communicating with housekeeping and engineering
- Communicating with purchasing for fall intervention equipment
- Acting as an intermediary between the fall committee and the staff
- Ongoing monitoring of the fall program, including preparing reports and providing feedback to the committee and staff

There are six basic sequential steps in the establishment of a fall prevention program, and the program should not be implemented until all steps are in place. If one of the steps fails to materialize, then the program should not proceed to implementation. The six steps are illustrated as a flowchart in Figure 1.2.

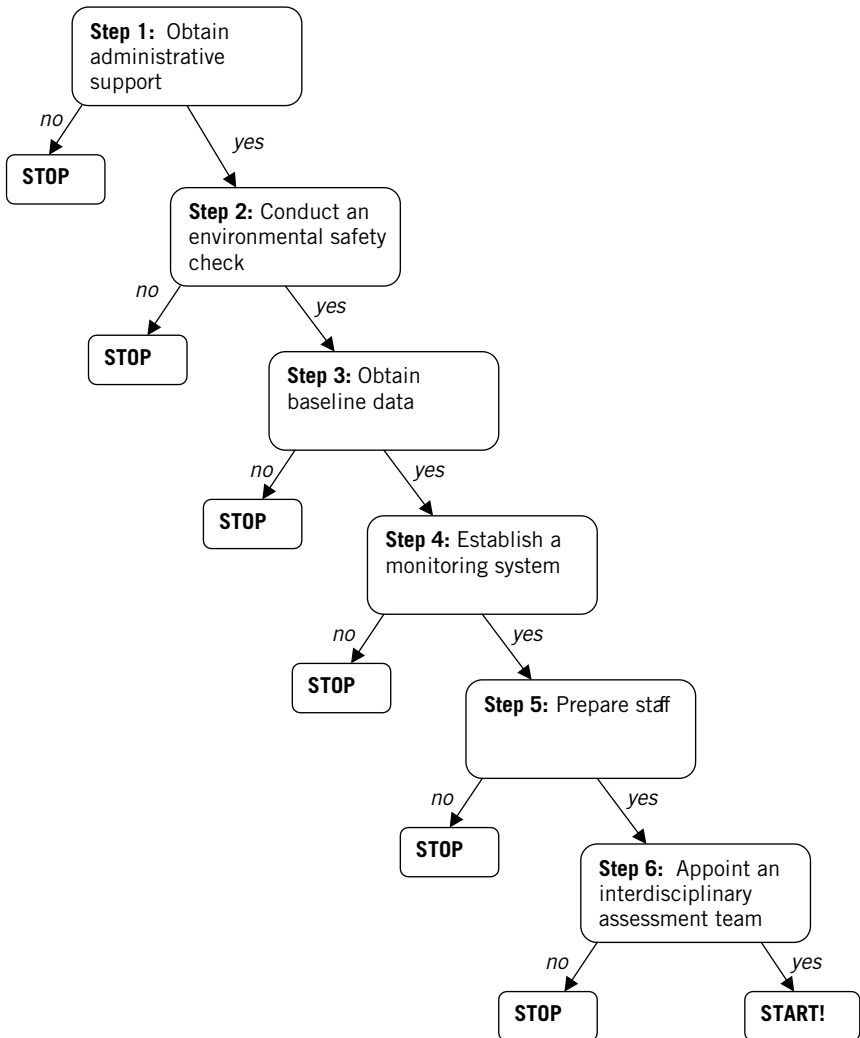


Figure 1.2 Basic administrative steps essential for the successful establishment of a fall intervention program.

Step 1: Obtain Administrative Support

The first task is to develop a plan for implementing the program. This plan should be presented to the administration to obtain commitment and support, including funding, for the program. Briefly, the program will ensure that the environment is optimally safe for patients, as outlined in Chapter 2. Most of the equipment that staff will be suggesting, such as comfortable and safe chairs, should already be available. Funding may be required for the following:

- the position of the Fall Clinical Specialist
- the modification of flooring or the addition of handrails
- the modification of charting systems
- fall intervention equipment
- possibly, the replacement of unsafe beds and mattresses.

From the above list, it is clear that the real cost may be in staffing. It is essential that a clinical nurse specialist be appointed to oversee the program (in a parallel role to the “infection control nurse”), and this may mean creating a new position. The second major and ongoing cost will be providing extra staff to assist on floors once the program

Nurses cannot reduce fall rates without funding and support.

is established. When regular staff members are too busy to monitor a patient closely, extra staff may be needed to protect a patient from falling. Many hospitals use “sitters,” and the annual cost for sitters may

exceed \$1,000,000 in a large medical center. The immediate costs are in purchasing safety equipment, such as handrails, bed alarms, or hip protectors. However, these requests are neither exorbitant nor extraordinary: If hospitals are to be accountable for patients’ care, then having a safe wheelchair, a bed alarm, and a comfortable seat should not be considered extraordinary.

It is a serious mistake to implement the use of the fall risk assessment without budgeting for the costs associated with fall intervention. In fact, doing so may place your institution at increased risk for patient falls than not implementing an interventions care plan. There-

fore, if Nursing Administration or the Vice President for nursing does not support the program, **DO NOT CONTINUE**. In addition, beginning a program without providing safe interventions places nurses in a helpless position. They will then know that a patient most probably will fall, yet do not have the supports needed to prevent the fall. The only alternative—which is unacceptable—is to restrain the patient—a procedure that will cause harm, further deterioration of the patient’s condition, and may be dangerous.

Step 2: Conduct an Environmental Safety Check

Once administration has agreed to support the program, the next step is to conduct a check of each unit to ensure that the environment is safe. This action is also listed previously for the prevention of *accidental falls*. As patients will find it easier to ambulate—and ambulate with more confidence, then they will become stronger (and less likely to experience a physiological fall). Because patients will be able to more safely ambulate without nursing assistance, there will be some savings in staff time.

The newly appointed clinical nurse specialist should, at this time, systematically work through each unit, reviewing with staff which equipment should go for repair, where railings should be installed, and what other furniture or equipment should be purchased or replaced. But until these modifications and repairs have been completed, the program must not commence.

Step 3: Obtain Baseline Data

The third step is to collect statistics on the number of patient falls, specifying the number of falls with injuries, in the institution before the fall prevention program begins. This step may be conducted concurrently with the second step of conducting an environmental safety check. These preintervention statistics are important, for they tell you (1) how serious the problem of patients falls is (and therefore can help you justify the cost of a prevention program); and (2) let you know how effective the program has been for *reducing* falls. That is, to assess the efficacy of the program, “pretest” data must be available for compar-

ison. Available statistics must be checked and compiled in a form that allows for ready comparison.

Step 4: Establish a Monitoring System

Often when a fall prevention program begins, the sudden focus on falls changes nurses' reporting habits. They no longer perceive it as a "punishment" to have to report a fall. Suddenly, "Why did *I* let this patient fall?" becomes, "Why didn't this intervention work?" The removal of blame from the nurse and the change in attitude results in a change of reporting norms. Nurses suddenly report **all** falls, so that

Preventing patient injury is the ultimate goal of the program.

the fall rate unexpectedly and, dramatically, increases. Thus, a useful check is to also prepare comparison statistics on the *injury rate* for all injuries that will have been reported.

Although *injuries* form a less likely occurrence—and therefore longer periods have to be compared (such as year by year)—they form a more reliable indicator of the value of the program. In addition, it is *prevention of injury* that is the ultimate goal of the program.

A system for recording the patient's fall score in the patient's chart needs to be developed. In addition, because the patient who falls is extremely likely to fall again during the same period and under the same circumstances, a system for recording the details of each fall must be developed. This record should be kept in a visible place on the unit or should "pop up" on the patient's computer chart. A system of recording and compiling hospital-wide statistics must be developed, so that there is an ongoing check of the fall-prone patients and the high-risk fall areas.

Finally, in conjunction with quality assurance, nursing administration, and the fall committee, decisions need to be made about how and when to score each patient, and how these scores will be recorded. Most importantly, each area needs to determine what score will result in the patient being labeled "at risk of falling" and when fall prevention strategies will be implemented. It is important to note that

with the *MFS*, the score may be 25 for moderate risk and 45 for high risk. The methods for making these decisions are presented in Chapter 4. However, it is important that the patient's actual score be listed on the patient's chart and that this score be used when discussing the patient's fall risk.

Step 5: Prepare Staff

By this time, the word should have reached the unit level about the program, and staff training sessions may begin. Staff in-services should be conducted in small groups and consist of:

- 1 Identify the fall prone patient. Staff training for using the *MFS* is available online from Hill-Rom: http://www.hill-rom.com/usa/Safety_PatientFalls.htm. A CD-Rom is also available—it has better graphics, a more interactive format, and a facilitator's guide for learning verification and certification. The cost is \$25USD, order number vt 171ra. Pocket cards of the scale for staff reference are available from Hill-Rom, order number CTG581. Alternatively, small, plastic-covered pocket cards of the *MFS* may be prepared and distributed to staff.
- 2 Develop a means for identifying fall prevention strategies (see Chapter 5) and the appropriate use of the bed alarms (see Chapter 2).
- 3 Develop a system for recording the patient's fall score.
- 4 Develop a system for reporting falls.
- 5 Develop a protocol for consulting with the “Fall-Nurse” and the fall consultation team.

When holding in-service sessions for staff, present the main methods of preventing falls, the institutional protocol for recording and reporting patient falls, and the protocols for consulting with the fall clinical nurse specialist. A smart idea is to give the unit 2 weeks of “practice” using the *MFS* and recording the scores. In our experience, this allows the staff to become familiar with the *MFS* and become experts at fall assessment before the program formally begins.

Step 6: Appoint an Interdisciplinary Assessment Team

The final step before commencing the program is the appointment of an interdisciplinary team. The role of the team is to combine expertise and consult about “problem” patients who fall repeatedly or are at exceptionally high risk of falling. The team should also periodically review all fall reports and focus especially on institutional patterns. For example, the team may observe that many falls occur in a particular place, and should be able to identify a handrail or some other structural modification that will increase the safety of the area. The team should be chaired by the fall prevention clinical nurse specialist and be composed of a geriatrician, a physical therapist, a pharmacist, and an occupational therapist. Ad hoc members may be added for review of a particular “problem” patient who falls repeatedly. These members may include the patient (if oriented and well enough to attend) or the patient’s next of kin, the patient’s physician, and the patient’s primary nurse.

At the unit level, high-risk cases may be reviewed by nursing staff, with the fall clinical nurse specialist serving as a consultant. Note that the goal of the consultation is to develop a plan to reduce the patient’s fall risk score and to develop strategies to prevent a fall. If a fall has occurred, however, focus should be to develop unique and individualized strategies to prevent a reoccurrence.

Only once all of these things are in place, the program can begin.

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