



# *The Truth About Falls in Long-Term Care Facilities*

## *Executive Summary*

### **Purpose**

To assist Long-Term Care organizations with understanding the severity of falls in long-term care facilities and developing a fall reduction program in accordance with JCAHO's 2005 National Patient Safety Goal for Reducing Patient Harm From Falls.

### **Audience**

Administrators, Directors of Nursing, Rehabilitation, Risk Management, Restorative Nursing

### **Background**

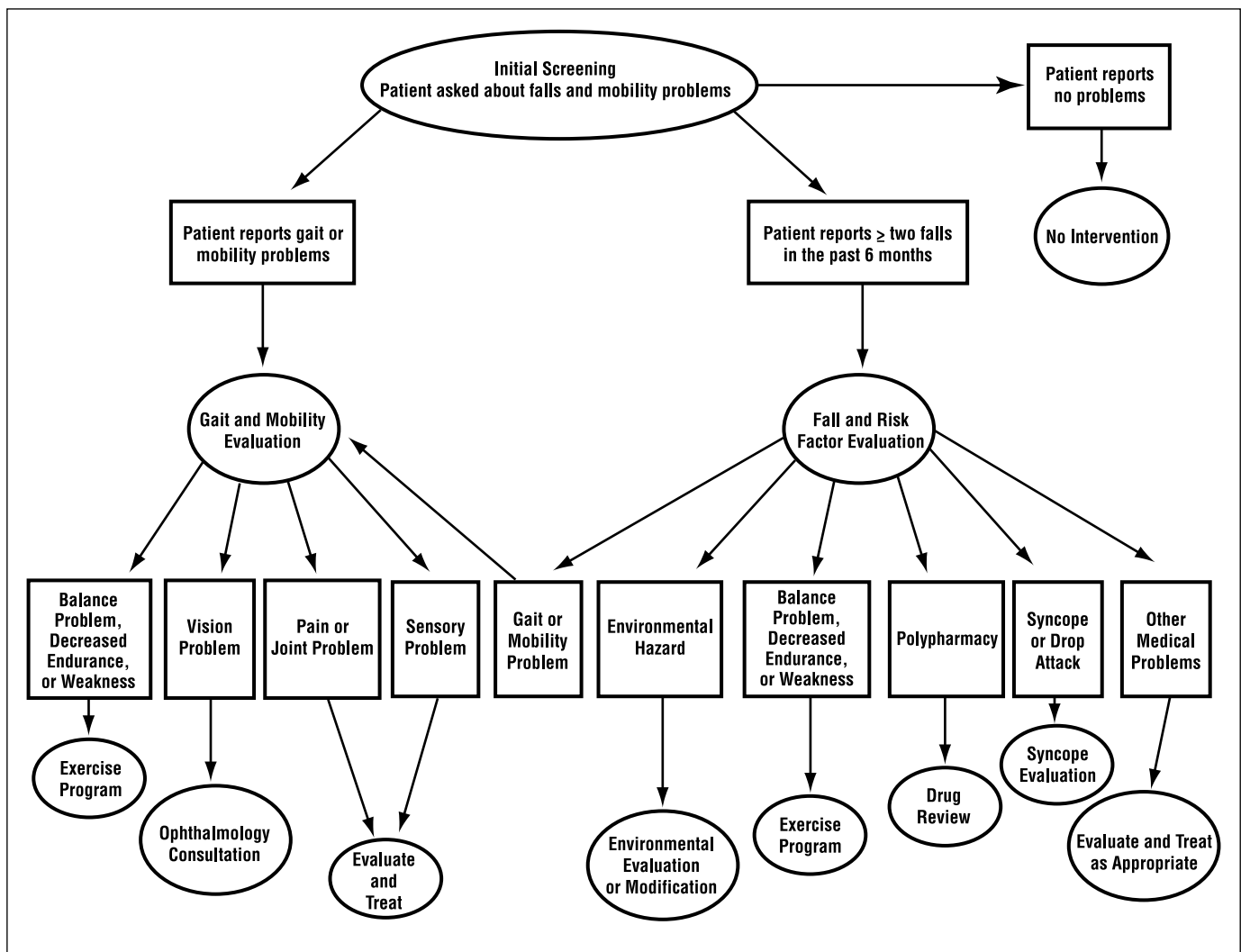
#### **The Severity of Falls Among the Elderly**

Falls among the elderly have been a serious health problem across the country for many years. It is still a problem in spite of our best efforts. The Center for Disease Control reports that falls are the most common cause of injury among people aged 65 and older<sup>1</sup>. Each year we as a country treat more and more seniors for fractures and head trauma resulting from a fall. In 2001, 1.6 million elderly patients were treated in emergency rooms after experiencing a fall, of those people treated 388,000 were hospitalized and 11,600 died<sup>2</sup>. Not all of the falls that were treated took place in a long-term care facility, however the population living in such places is two to three times more likely to experience a fall<sup>3</sup>. As the population of the United States ages, the number of incidences rises, making the issue incrementally more serious each year.

The amount of falls and the resulting injuries are not the only issues of importance; falls are extremely expensive. Falls are the leading cause of lawsuits in nursing homes<sup>4</sup> and a major cause of injury deaths among older adults<sup>5</sup>. In a published study the average cost for the medical treatment of an injury from a single fall was \$19,440<sup>6</sup>. In 1994 alone the total direct cost of fall related injuries among people 65 and older was \$27.3 billion, and it is expected to grow to \$43.8 billion by the year 2020<sup>7</sup>. One of the most common injuries incurred by an elderly person during a fall is a hip fracture. In 1991 Medicare paid \$4.7 billion dollars for the treatment of hip fractures<sup>8</sup>. Often the cost of the injury is not considered in the cost of prevention, yet the facilities involved continue to pay increased insurance rates to help cover the ever-increasing cost of medical care. These costs figures do not account for the legal fees or personal degradation experienced by the patient, their family, or the facility.

The second piece of JCAHO's requirements addresses the need for increased fall reduction protocols among their accredited facilities. Because of the number of falls that occur each year it is important to not only acknowledge the residents who exhibit increased risk for falls, but to also introduce or strengthen efforts to prevent the falls among that population. Studies have shown that the greater the number of risk factors a resident exhibits the more likely their chance of falling. Someone exhibiting 3 or more risk factors (i.e. history of falls, gait or balance problems, multiple medications, muscle weakness, etc) is 65% - 100% more likely to experience a fall<sup>11</sup>. One of the ways to decrease their chances of falling is by reducing the number of factors that weigh against them. For example, if a resident exhibits signs of gait or balance problems, implement a physical therapy program that specifically addresses that person's weaknesses. Fall Reduction efforts are all encompassing and require all hands on deck in order to be most effective.

## Example of Fall Screening for assessing ways to intervene with residents' care<sup>12</sup>:





## Resident Monitoring

- Do you regularly assess your residents for Fall Risk?**
  - Have you implemented Resident Monitoring Systems according to their level of risk?
  - Do you regularly check on the residents to make sure they are not in need of assistance?
  - Have you installed the color-coded Pals on the doors to identify the residents' risk levels?
- Environment**
  - Are all rooms, closets and bathrooms properly lighted?
  - Are all floor coverings in good shape and level?
  - Are all hallways and pathways free from clutter, electrical cords, etc?
- Education**
  - Have you trained all staff (nurses, aids, housekeeping, etc) on fall reduction?
  - Have you included family members in the fall reduction program?
  - Do you remind the residents to ask for assistance from the staff?
  - Do you frequently remind the resident to use the Nurse Call button?
- Furniture**
  - Have you confirmed that all wheel locks and handrails are functional and stable?
  - Have you checked that all bolts on walkers, wheelchairs and tables are tight and in good condition?
  - Are there rubber feet in place on all furniture without wheels (i.e. nightstands, chairs)?
- Personal Items**
  - Are the resident's shoes appropriate - non-skid soles and adequate support?
  - Are frequently used items (glasses, books, tissues, etc) within reach?
- Medication**
  - Is the resident on any conflicting medications that would make them dizzy, weak, or confused?
  - Are the medications the resident is on appropriate for their current conditions?
  - Are there any other medications that might be more appropriate given their condition?

## References

1. CDC. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. National Center for Injury Prevention and Control, Centers for Disease control and Prevention. Available: [www.cdc.gov/ncipc/wisqars](http://www.cdc.gov/ncipc/wisqars). 2004.
2. CDC. "Falls and Hip Fractures Among Older Adults." National Center for Injury Prevention and Control, Centers for Disease control and Prevention. Available: [www.cdc.gov/ncipc](http://www.cdc.gov/ncipc). 2004.
3. Rubenstein LZ, Powers CM, MacLean CH. "Quality Indicators for the Management and Prevention of Falls and Mobility Problems in Vulnerable Elders." *Annals of Internal Medicine*. 2001; 135:686-693.
4. Rubenstein LZ. "Preventing Falls in the Nursing Home." *Journal of American Medical Association*. 1997; 278(7):595-596.
5. Kannus P, Parkkari J, Koskinen S, Niemi S, Palvanen M, Jarvinen M, Vuori I. "Fall-Induced Injuries and Deaths Among Older Adults." *Journal of American Medical Association*. 1999; 281(20):1895-1899.
6. Rizzo JA, Friedkin R, Williams CS, Nabors J, Acampora D, Tinetti ME. "Healthcare Utilization and Costs in a Medicare Population by Fall Status." *Medical Care*. 1998; 36(8):1174-1188.
7. Englander F, Hodson TJ, Terregrossa RA. "Economic Dimensions of Slip and Fall Injuries." *Journal of Forensic Science*. 1996; 41(5):733-746.
8. CDC. "Incidence and Costs to Medicare of Fractures Among Medicare Beneficiaries Aged > 65 years -United States, July 1991- June 1992." *MMWR* 1996; 45(41):877-883.
9. "2005 National Patient Safety Goals". [www.jcaho.org](http://www.jcaho.org).
10. Code of Federal Regulations: 42 C.F.R. § 483.20 (b) (2), (i), (ii); (c). 2003.
11. Rubenstein LZ, Powers CM, MacLean CH. "Quality Indicators for the Management and Prevention of Falls and Mobility Problems in Vulnerable Elders." *Annals of Internal Medicine*. 2001; 135:686-693.
12. Rubenstein LZ, Powers CM, MacLean CH. "Quality Indicators for the Management and Prevention of Falls and Mobility Problems in Vulnerable Elders." *Annals of Internal Medicine*. 2001; 135:686-693.

*This product is not intended as a substitute for appropriate periodic visual patient/resident monitoring techniques. This product is only intended to supplement standard patient/resident monitoring techniques currently in use.*


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## *Executive Summary*



### **The History of Resident Monitoring Systems**

In 1987 with the passing of the Omnibus Reconciliation Act (OBRA) the government acknowledged the inhumanity of the widespread use of restraints. Laws were put into effect making the use of restraints a prescribed procedure with mandatory, regular observation. The legal reduction of permitted uses of restraints forced healthcare officials to seek an alternative means of keeping their patients and residents safe from falls. Following the introduction of the new laws clinical acceptance and use of Monitoring Systems (patient alarms) as a means of monitoring patient and resident activity increased. The alarms notify caregivers of potential bed and chair exit maneuvers providing the staff an opportunity to assist the patient or resident before a problem occurs. In facilities across the United States patient alarm systems help caregivers keep their patients and residents safe. Alarms do not guarantee complete prevention of falls, however they in combination with continuous care provide an increased level of protection and also make up a large piece of the “fall reduction” puzzle.



### **JCAHO'S Position**

On July 20, 2004 the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) released their 2005 National Patient Safety Goals effective January 1, 2005. The 2005 Goals address, for the first time, the need for every facility to “reduce the risk of resident harm resulting from falls.” In order to meet JCAHO's requirements and be considered compliant all facilities must:

- Assess and periodically reassess each resident's risk for falling, including the potential risk associated with the resident's medication regimen, and take action to address any identified risks.
- Implement a fall reduction program, including a transfer protocol and evaluate the effectiveness of the program<sup>9</sup>.

JCAHO's first requirement of assessing and reassessing a resident's risk for falls is a direct reiteration of Federal regulations<sup>10</sup>, which mandate the resident assessment in long-term care facilities. The complete assessment of a resident's “functional capacity” is to be documented: within the first 14 days after admission, within the first 14 days after a significant physical or mental change, and at least every 12 months of residency in the facility. The assessment includes, but is not limited to, vision, physical functioning and structural problems, continence, disease and health conditions, and medications. All of these factors play heavily into a residents risk for falls, and any of them could change without notice. Keeping resident records up to date and the staff apprised of their condition is a key part of keeping them safe within the facility.

*Advanced Resident Monitoring Systems from Medline presents*

## **P.A.L.**

### **What is the Personal Assessment Log (P.A.L.)?**

The P.A.L. is a tool that helps you classify your residents and their level of Fall Risk. Using the findings of published studies about falls among the elderly, we developed a set of criteria that help you rate each resident's likelihood of experiencing a fall. The Personal Assessment Log allows you to easily check (Yes/No) if the condition applies, and once all conditions have been addressed the program generates a Fall Risk rating for each resident. You can very easily reassess each resident if their condition changes or if it's time for their regular reassessment.

### **The P.A.L. and Your Fall Reduction Program**

As regulatory agencies put more emphasis on reducing falls in Nursing Homes, the importance of having a Fall Reduction Program in place increases. Fall Reduction relates to many different aspects of care within a facility, and it is necessary to take each area into account when creating your facility's Fall Reduction Program. The P.A.L. is one of many important steps to take. Knowing your residents condition is just the first step.

To complement the P.A.L. we developed a corresponding guide for determining the best Monitoring System for each resident while they are in the bed or wheelchair. While there is no alternative for regular care from the staff, Resident Monitoring Systems give the staff additional assistance in keeping track of the residents and making sure they are as safe as possible. Because a nurse cannot be with each resident every moment of the day, Medline offers a complete line of Resident Monitoring Systems. For easy identification of Fall Risk level of technology, the P.A.L. and our Monitoring Systems are color-coded. The greater the risk for falls, the more important it is to keep them safe. Our program is designed to help you determine the best system for the level of risk assessed for each individual.

Using the P.A.L. in conjunction with a Monitoring System provides two major pillars for your Fall Reduction program. For the most complete and successful approach to Fall Reduction it is equally important to be forward-thinking and take action to treat and prevent the factors that make an individual at risk and/or put them at risk. We encourage you to expand on your Fall Reduction Program by considering and addressing the additional factors laid out in the Executive Summary.

*Caring for residents at risk for falling involves acting in the present while thinking about the future.*

*For an example of a P.A.L. (Personal Assessment Log) see opposite side.*

Resident's Name	History of Falls*	Balance or Gait Problems*	4 or More Medications*	Nervous System Disorders*	Muscle Weakness*	Newly Admitted*	Contenance Problems*	Visual Impairment*	Low Blood Pressure	Arthritis	Age 80 or older	Dehydration	Depression	No Indications	Number of Fall Risk Factors	Assessment Status	Risk Color
Richie Valens	Yes													No Indications	0	Assessment Complete	No Indications
Peggy Sue	Yes													No Indications	1	Assessment Complete	High
Elvis Presley						Yes								No Indications	2	Assessment Complete	Moderate
Lena Horn				Yes		Yes								No Indications	2	Assessment Complete	High
Patsy Cline						Yes	Yes	Yes				Yes		No Indications	3	Assessment Complete	High
Johnny Cash														No Indications	1	Assessment Complete	Slight
Buddy Holly														No Indications	0	Need to Complete Assessment	
James Dean														No Indications	0	Assessment Complete	No Indications
Ricky Nelson						Yes								No Indications	1	Assessment Complete	Moderate
Bing Crosby											Yes			No Indications	1	Assessment Complete	Slight
														No Indications	0	Need to Complete Assessment	
														No Indications	0	Need to Complete Assessment	

**EASY TO USE DROP-DOWN MENUS**

**REMINDER OF THOSE RESIDENTS NOT YET ASSESSED**

**COLOR-CODED FOR EASY IDENTIFICATION OF RISK LEVEL**

## \* Fall Risk Explanations

**History of Falls** – Resident has fallen at least one time in the past 12 months (or other facility specified time frame).

**Balance or Gait Problems** – Resident has problems walking or standing without assistance from a walker or staff member.

**4 or More Medications** – Multiple medications can inhibit a person's motor skills and/or personal awareness.

**Nervous System Disorders** – Diseases like Parkinson's, Alzheimer's, and Dementia all impact the Central Nervous System. Disorders of this type can affect a person's motor skills and ability to walk without assistance.

**Muscle Weakness** – Muscle weakness, especially lower body weakness, can inhibit a person's ability to walk, to maintain their balance, and to carry the weight of their own body.

**Newly Admitted** – Any resident who is newly admitted to a facility should be watched thoroughly until their condition is fully assessed.

**Contenance Problems** – Residents who have bowel or bladder problems will be more inclined to get up without assistance to use the restroom.



# Resident Monitoring Systems Grouped by Risk Classification



Falls among the elderly have been a serious health problem for years. As we learn about the reasons for the falls, we learn more about how to reduce the instances of them. While nothing can replace the care and regular attention of a healthcare professional, there are many products and methods available that can help keep residents safe.

At Medline we recognize your need for programs and products that will help you increase your level of care and resident safety. For this reason we developed the Personal Assessment Log (P.A.L.), part of our Resident Monitoring System. This program gives you the tools to evaluate and rate your residents, implement a Fall Reduction program, and monitor your fall risk residents.

To get your copy of our Resident Monitoring System, please contact your Medline Sales Representative or call 1-800-MEDLINE.

## Red Level (Advanced)

The Red Level offers the highest, most accurate level of monitoring. Red level systems can be used in multiple settings and offer the most technologically advanced coverage. We define residents requiring the Red Level monitoring as any resident who exhibits one or more of the following risk factors: Newly admitted to the facility • History of falls in the past year • Impaired balance or gait • Four or more medications • Central Nervous System disorders ( Alzheimer's, Parkinson's, Dementia, etc.) • Muscle weakness.

### The Advantage Sensor System

- Decrease false alarms and increase response time with more accurate proximity sensing
- Proximity sensor mats are more durable — they can withstand creases and bends, even cuts!
- Auto-start safety feature on monitor means staff does not have to remember to activate the alarm
- Pressure mats can be used with virtually any monitor
- One mobile monitor for bed and chair use

MDT8010KIT



### Quick-Alert Ultra Alarm

- The New Generation Quick-Alert
- Auto-start safety feature — monitor starts automatically when resident is sensed by the sensor mat
- Silicone cover protects monitor from unintentional damage
- Fluid resistant, breathable mats help maintain healthy skin conditions

MDT8000 MDT8150



### Ordering Information

Item	Description	Case Pkg.
MDT8000	Advantage Monitor	1 ea
MDT8010*	Proximity Sensing Mats	1 ea, 10/case
MDT8010CABLE	Proximity Connecting Cable	1 ea
MDT8010KIT	Proximity System Kit	1 ea
MDT8005†	Pressure Sensing Mats	1 ea, 5/case
MDT8005CABLE	Pressure Connecting Cable	1 ea
MDT8000NURSE	Nurse Call Cable	1 ea
*Add a Z for 1 ea or an R for 10/case. †Add a Z for 1 ea or leave blank for 5/case		
MDT8100	Quick-Alert Ultra Monitor	1 ea
MDT8150	Quick-Alert Ultra Monitor w/Nurse Call	1 ea
MDT8190C*	90-Day Chair Pressure Sensing Mats	1 ea, 5/case
MDT8190B*	90-Day Bed Pressure Sensing Mats	1 ea, 5/case
MDT8130C*	30-Day Chair Pressure Sensing Mats	1 ea, 5/case
MDT8130B*	30-Day Bed Pressure Sensing Mats	1 ea, 5/case
MDT8150NURSE	Nurse Call Cable	1 ea
*Add a 1 for 1 ea or a 5 for 5/case		

## Orange Level (Intermediate)

Orange Level monitoring systems provide a moderate level of coverage. These systems are intended for residents who are more aware of their surroundings but still need assistance with using the bathroom and transfers. These residents may not have a history of falls but are of concern to the staff.

### Velcro® Seatbelt Alarm

- Alarmed seatbelt notifies caregivers when resident tries to get out of the wheelchair unassisted
- Resident-release design means this is not a restraint
- Available in two sizes
- Uses 9v battery (included)

MDT5500



MDTIRM1



### Infrared Alarm

- Invisible infrared beam detects motion — when the beam is broken the alarm sounds
- Position monitor at the bedside or headboard
- 2 alarm tones help you differentiate residents, rooms, or wings
- Compatible with nurse call system
- No wires required
- Uses 9v battery (included)

### Ordering Information

Item	Description	Case Pkg.
MDT5500	Velcro Seatbelt Alarm, 36" - 46"	1 ea
MDT5500L	Velcro Seatbelt Alarm, 46" - 58"	1 ea
MDTIRM1	Infrared Alarm	1 ea
MDTIRM1BRKT	Infrared Alarm Bed Bracket	1 ea

## Yellow Level (Basic)

For patients who are of minimal risk, we offer the Yellow Level of monitoring systems. The alarms in this bracket are useful for residents who do not call caregivers for help when getting up, but could benefit from the assistance of the staff. Residents monitored by these systems do not have a history of falling, but should have a caregiver help them when moving about.

MDT8299410/Z



MDT829900-1-6



MDT8299400/Z



Item	PIN	Magnetic	On/Off	Volume Control	Test Button	Multiple Alarm Tones	Bed or Chair Use	Mounting Accessories	Low Battery Indicator	Batteries Included
MDT8299400/Z	✓		✓	✓			✓	✓		
MDT8299410/Z		✓	✓	✓	✓		✓	✓	✓	✓
MDT829900-1-6	✓		✓	✓	✓	✓	✓	✓	✓	✓

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MDT8000 MDT8150



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<b>Advantage System</b>		
MDT8000	Advantage Monitor	1 ea
MDT8010*	Proximity Sensing Mats	1 ea, 10/case
MDT8010CABLE	Proximity Connecting Cable	1 ea
MDT8010KIT	Proximity System Kit	1 ea
MDT8005†	Pressure Sensing Mats	1 ea, 5/case
MDT8005CABLE	Pressure Connecting Cable	1 ea
MDT8000NURSE	Nurse Call Cable	1 ea

\*Add a Z for 1 ea or an R for 10/case

†Add a Z for 1 ea or leave blank for 5/case

Item	Description	Case Pkg.
<b>Quick-Alert Ultra System</b>		
MDT8100	Quick-Alert Ultra Monitor	1 ea
MDT8150	Quick-Alert Ultra Monitor w/Nurse Call	1 ea
MDT8190C*	90-Day Chair Pressure Sensing Mats	1 ea, 5/case
MDT8190B*	90-Day Bed Pressure Sensing Mats	1 ea, 5/case
MDT8130C*	30-Day Chair Pressure Sensing Mats	1 ea, 5/case
MDT8130B*	30-Day Bed Pressure Sensing Mats	1 ea, 5/case
MDT8150NURSE	Nurse Call Cable	1 ea

\*Add a 1 for 1 ea or a 5 for 5/case

MDT8190B\*



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- Decrease false alarms and increase response time with more accurate proximity sensing
- Proximity sensor mats are more durable — they can withstand creases and bends, even cuts!
- Auto-start safety feature on monitor means staff does not have to remember to activate the alarm
- Pressure mats can be used with virtually any monitor
- One monitor for bed and chair use
- Uses 2 AA batteries (included)

MDT8000



### Accessories

MDT8010



MDT8010CABLE



### Proximity Mats

- Durable mats withstand creases and tears
- No weight restrictions
- Impermeable to fluids and incontinence
- Requires cable shown above
- 6-month usage warranty

MDT8010KIT



### Proximity Kit

- Includes monitor, proximity mat and cable

MDT8005CABLE



MDT8005



### Pressure Mats

- Compatible with virtually any monitor
- Senses even your lightest patients
- Use for either bed or chair
- Requires cable shown above
- 90-day usage warranty

See opposite side for ordering information.

## Orange Level (Intermediate)

Orange Level monitoring systems provide a moderate level of coverage. These systems are intended for residents who are more aware of their surroundings but still need assistance with using the restroom and transfers. These residents may not have a history of falls but are of concern to the staff. Indications may include continence problems, arthritis, or visual impairment.

### Velcro® Seatbelt Alarm

- Alarmed seatbelt notifies caregivers when resident tries to get out of the wheelchair unassisted
- Resident-release design means this is not a restraint
- Available in two sizes
- Uses 9v battery (included)

MDT5500



### Infrared Alarm

- Invisible infrared beam detects motion — when the beam is broken the alarm sounds
- Position monitor at the bedside or headboard
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MDTIRM1



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MDT5500L	Velcro Seatbelt Alarm, 46" - 58"	1 ea
MDTIRM1	Infrared Alarm	1 ea
MDTIRM1BRKT	Infrared Alarm Bed Bracket	1 ea

## *Yellow Level (Basic)*

For residents who are of minimal risk, we offer the Yellow Level of monitoring systems. The alarms in this bracket are useful for residents who do not call caregivers for help when getting up, but could benefit from the assistance of the staff. Residents monitored by these systems do not have a history of falling, but should have a caregiver help them when moving about.

### Magnetic Personal Safety Alarm

- Easy to use
- Magnet releases from all directions reducing the chance of product failure and clothing tears
- Test button for verifying battery functionality
- For bed or chair use (includes multiple options for mounting the alarm)
- Uses 2 AAA batteries (included)

MDT8299410/Z



### Elite Personal Safety Alarm

- Easy to use design
- Multiple alarm tones for resident/wing differentiation
- Test button for verifying product/battery functionality
- For bed or chair use (includes multiple options for mounting the alarm)
- Great for dealers . . . comes in retail packaging
- Uses 4 AA batteries (included)

MDT829900-1/-6



## Classic Personal Safety Alarm

- Easy to use design
- Pin-type design
- High/Low volume adjustment
- For bed or chair use (includes multiple options for mounting the alarm)
- Uses 9v battery

MDT8299400/Z



## Ordering Information

Item	Description	Case Pkg.
MDT8299400*	Classic Personal Safety Alarm	1 ea, 5/case
MDT8299410*	Magnetic Personal Safety Alarm	1 ea, 5/case
MDT829900-†	Elite Personal Safety Alarm	1 ea, 6/case

\*Add a Z for 1 ea or leave blank for 5/case

†Add a 1 for 1 ea or a 6 for 6/case