

Video 1



Video 1: Performing a Balance Assessment

The *Performing a Balance Assessment* video is designed to teach rehabilitation therapists about performing functional assessments relating to falls. Also included with the video is a handbook that provides more detailed explanations of each of the functional assessments. The therapists watching this video should have a copy of the balance assessment handbook and a pencil or pen to take notes.

IMPORTANT:

Only rehabilitation therapists should perform this assessment. This includes physical therapists, occupational therapists and kinesiotherapists.

Audience: Rehabilitation Therapists

Materials Needed: Balance Assessment Handbook (booklet following this page) and pencil or pen

Balance Assessment Handbook

A Component of the Falls Toolkit



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This handbook should be used in conjunction with the Balance Assessment Video. The video is available in the Falls Toolkit Media Box on VHS and VCD formats.

PREFACE

This guide provides the narrative discussion designed to accompany the educational video that will standardize the Functional Rehabilitation Falls Team Assessment. The accompanying video-cassette demonstrates this assessment on a Falls Clinic patient from the James A. Haley Tampa Veterans' Hospital. The discussion following the video assessment provides rehabilitation therapists with a detailed explanation of sub-test administration and scoring (when applicable). The complete Tampa VA Physical Therapy Assessment has been provided as an example as it has been successfully used on all falls clinic patients since September 2001 to assist with team-based differential diagnosis of various pathologies that affect gait and balance.

This is a MODEL that has been successful in ONE clinic. Developers of this tool recognize the need to tailor the rehabilitation therapist assessment to the specific needs and goals of your falls clinic. Modification of the evaluation will be dependent on falls clinic team members' specialties, clinic resources (including time), general patient population / presentation and the manner in which each specific clinic decides to delegate various assessment elements among all its clinicians.

Please send all feedback regarding successful modifications you have made to optimize this assessment and maximize its diagnostic abilities to Stephanie Hart-Hughes via Outlook. This information will be shared throughout the entire program to assist other therapists.

***The Evidence-Based Fall Prevention Program would again like to thank Dr. Debra Rose for her collaboration in developing this tool. Dr. Rose is the co-director of the Center for Successful Aging at California State University in Fullerton, California.

★ Please note that the 8-ft Up-and-Go Test, Chair Stand Test and Arm Curl Test are part of the Senior Fitness Test developed by Roberta E. Rikli and C. Jessie Jones.¹ **It is strongly recommended that this Senior Fitness Test manual be referred to for specific test administration instructions and norm-referenced data tables.** The manual can be purchased at <http://www.humankinetics.com>. The backward release maneuver is used with permission of Dr. Rose. ★

PART A: DESCRIPTION OF FUNCTIONAL ASSESSMENT SUB-TESTS

Section 1: Home Living Assessment

This information may be obtained from a patient questionnaire to optimize time. Quickly verify all reported environmental questionnaire data with the patient during the interview and any other data you feel pertinent to the assessment.

1. Home Living Environment:

a. Physical Layout

- | | | |
|--|--|--|
| ☐ Stairs inside home | ☐ Stairs to get into home | ☐ Clutter |
| ☐ Grab bars in bathroom | ☐ Throw rugs | ☐ Bright lighting |
| ☐ Bath chair or bench | ☐ Nonskid bath mats | ☐ Bathtub |
| ☐ Shower stall | ☐ Hand held showerhead | ☐ Nightlights |
| ☐ Raised toilet seat | ☐ Slick/slippery floors | ☐ Uneven ground |
| ☐ Electric cords on floor | ☐ Ramps | ☐ Hills around yard/grounds |
| ☐ Other: | | |

b. Current Social Supports/Activity Level:

c. ADL Independence:

Section 2: Observations/Deformities

This section may be used to chart any significant observations that may impact the patient's balance, gait and resulting function. Examples of information that may be included are posture, tremors, swelling, bruising, deformities or demonstration of pain behaviors.

2. Observation/Deformities:

Section 3: Shoe Assessment

Evaluate the patient's footwear for support, wearing of treads, etc. Be especially mindful of footwear in patients with diabetes (need for pressure-relieving insoles, presence of sharp edges and restrictive elastic). Request information on use of footwear in their home and provide education if this may be increasing their fall risk.

3. Shoe Assessment:

Section 4: Motor Assessment

Quick evaluation performed with note of any impairment in ROM and strength that may impact functional mobility. If any significant deficits are discovered, take the time to investigate further (e.g., manual muscle test if prominent ankle dorsiflexion weakness is noted).

4. Motor Status:

Section 5: Functional Strength Test

a. L/E: Chair Stand Test^{1,2}:

Equipment/set-up: Straight backed chair without arms (seat height approximately 17"). Chair is placed against wall or heavy object (plinth) to prevent it from moving during test. A stopwatch is also required.

Starting Position: Patient sitting in middle of chair with back straight and feet on floor. Arms are crossed over chest.

Test Protocol: The participant is instructed to rise to a full stand and return back to a fully seated position after the signal "go" is given. They are encouraged to complete as many full stands as possible within a 30-second time limit. The examiner demonstrates the test for the patient and allows a practice trial of 1 to 2 repetitions to ensure correct form. One 30-second trial is performed and recorded.

Scoring: The score is the total number of stands executed correctly within 30 seconds. If the patient is more than half way up at the end of 30 seconds it is counted as a full stand. Results obtained with this test may be compared to age-related normative values listed in the Senior Fitness Test manual.¹

Adaptations if Hand Use is Required: If the participant is unable to perform the task without use of hands during the practice trial, check "YES" for the "Use of hands required?" question on the assessment form. The test continues with the patient using the chair or their thighs to push off. If the participant uses their hands, their score **can not** be compared with age-related normative values published in the Senior Fitness Test manual.¹

5. Functional Strength Tests

a. L/E (Chair Stand Test):

- Use of hands required? __ YES __ NO
- Number of repetitions completed in 30 seconds:

Section 5a: Chair Stand Test (Number of Stands)								
Sex \ Age	60-64	65-69	70-74	75-79	80-84	85-89	90-94	
Normal Range of Scores for Men* ¹	14-19	12-18	12-17	11-17	10-15	8-14	7-12	
Normal Range of Scores for Women* ¹	12-17	11-16	10-15	10-15	9-14	8-13	4-11	
*Normal range of scores is defined as the middle 50 percent of each age group. Scores above the range would be considered "above average" for the age group and those below the range would be "below average." Scores reprinted with permission of the authors.								

b. U/E: Arm Curl Test¹:

Equipment/set-up: Straight backed chair without arms (seat height approximately 17"). Dumbbells: 8 lbs for men and 5 lbs for women. A stopwatch is also required.

Starting Position: Patient sitting in middle of chair with back straight and feet on floor. The weight is held in their dominant hand (use other side if dominant hand is impaired and unable to maintain grasp). The arm is positioned with the elbow in extension by the side of the patient's torso, perpendicular with the floor. The wrist is initially positioned in neutral.

Test Protocol: The participant is requested to turn palm upwards (supinate forearm) while curling the arm through full range of motion and then return to full extension. In the downward position, the hand should have returned to the original starting position (wrist in neutral). The participant is encouraged to perform as many curls as possible within 30 seconds. The examiner demonstrates the test for the patient and allows a practice trial for 1 to 2 repetitions to ensure correct form. A 30-second trial is performed and recorded. Examiner positioning can be adjusted if the participant is unable to maintain their upper arm still against their body during the trial. If patient form is problematic, the therapist may either kneel or sit next to the patient (the side which they are holding the weight) and place their fingers on the anterior aspect of the participant's upper arm to stabilize it from moving and ensure full range of motion is achieved (patient's forearm should squeeze examiner's fingers).

Scoring: The score is the total number of curls executed correctly within 30 seconds. If the arm is more than half way up at the end of 30 seconds, it is counted as a curl. Results obtained with this test may be compared to age-related normative values listed in the Senior Fitness Test manual.¹

Adaptations: If the patient is unable to hold the dumbbell due to a medical condition affecting the hand or wrist, a Velcro wrist weight may be used. If the patient is unable to perform one (1) repetition with the appropriate weight, a lighter one may be substituted (ensure you note the change on the assessment form). Remember, comparison with age-related normative values is only possible if the standard testing protocol is followed.

5. Functional Strength Tests**b. U/E (Arm Curl Test):**

- Arm used: ___ Left ___ Right
- Weight:
 - 5lbs (Female): ___
 - 8lbs (Male): ___
- Number of repetitions completed in 30 seconds:

Section 5b: Arm Curl Test (Number of Curls)

Sex \ Age	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Normal Range of Scores for Men* ¹	16-22	15-21	14-21	13-19	13-19	11-17	10-14
Normal Range of Scores for Women* ¹	13-19	12-18	12-17	11-17	10-16	10-15	8-13

*Normal range of scores is defined as the middle 50 percent of each age group. Scores above the range would be considered "above average" for the age group and those below the range would be "below average."
Scores reprinted with permission of the authors.

Section 6: Finger/Nose Test

Note movement quality, action tremors or targeting problems.

6. Finger/Nose Test: (IT = intact, IM = Impaired)

Right:

Left:

Section 7: mCTSIB: Modified Clinical Test of Sensory Integration^{3,4}

This test allows for preliminary assessment of how well a patient can integrate various senses with respect to balance and compensate when one or more of those senses are compromised.

Sensory system involvement is modulated within various conditions as follows:

- Condition 1: Three sensory systems available for balance (vision, vestibular, somatosensory).
- Condition 2: Vestibular and somatosensory available. Vision absent.
- Condition 3: Vestibular and vision available. Somatosensory compromised.
- Condition 4: Vestibular available. Vision absent, somatosensory compromised.

Equipment/set-up: Foam pad (dense enough to avoid bottoming out) and a stopwatch required.

Starting Position: Patient stands with feet shoulder width apart and arms crossed over chest.

Protocol: A 30-second trial is timed using a stopwatch. Time is stopped during a trial and recorded if: a) patient deviates from initial crossed arm position, b) patient opens eyes during an “eyes closed” trial condition, or c) patient moves feet (takes a step) or requires manual assistance to prevent loss of balance. A trial is successful if the patient is capable of maintaining the starting position independently for a period of 30 seconds.

A maximum of three (3) trials are performed for all conditions. Trials are performed until the patient either: a) successfully maintains the starting position for an entire 30-seconds, or b) completes three, 30-second trials to the best of their ability.

Scoring:

- Conditions 1 thru 4: Record the time (in seconds) the patient was able to maintain the starting position (maximum of 30 seconds). Remember to record the times for all trials.

- Total Score =

Average Time Cond 1 + Average time Cond 2 + Average Time Cond 3 + Average Time Cond 4
(if > 1 trial required) (if > 1 trial required) (if > 1 trial required) (if > 1 trial required)

7. Modified CTSIB

Proceed to next condition when one, 30-second trial is completed or all 3 trials are performed.

- Condition 1: Eyes open, firm surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score ____
- Condition 2: Eyes closed, firm surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score ____
- Condition 3: Eyes open, foam surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score ____
- Condition 4: Eyes closed, foam surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean Score ____

TOTAL SCORE: ____/120 sec (mean score used for each condition if > 1 trial is performed)

Section 8: Multi-Directional Reach Test (MDRT)^{5,6}

This test allows for analysis of the patient's voluntary postural control. It is used to evaluate how far patients are able and/or willing to lean away from a stable base of support in multiple directions.

Equipment/set-up: Yardstick

Starting Position: Position a yardstick at the level of the patient's acromion process. This may be achieved by affixing the yardstick to the wall. Placing the yardstick on a rolling IV pole with height adjustable clamp or a rolling mirror with Velcro is also an option that may facilitate test administration. Participant stands with feet shoulder width apart and arm raised to 90 degrees (parallel to floor, palm facing medially).

Protocol: The patient is instructed to reach as far forward as possible without letting their feet raise off the floor or their hand touch the yardstick. Location of the middle finger (in inches) is recorded. Trial distance (in inches) is obtained by subtracting the end number from the starting position number. Perform one (1) practice trial to ensure patient understanding of instructions followed by 1 trial that is recorded. Repeat similar protocol for reach backwards, left and right.

★ *NOTE: True standardized test involves performance of one (1) practice attempt and three (3) trials. The mean of the three trials is recorded as the "distance reached" and the movement strategy that the participant used for each attempt is noted. The Tampa Falls Clinic has decided to perform only one practice and one trial due to time constraints and patient fatigability.* ★

8. Multi-Directional Reach Test (MDRT)

- Forward Reach:
- Backward Reach:
- Lateral Reach Right:
- Lateral Reach Left:

Section 9: Backwards Release³

This maneuver enables the therapist to obtain preliminary information on the client's automatic postural control (involuntary).

Equipment/set-up: No specific equipment required.

Starting Position: Patient is asked to stand with feet shoulder width apart.

Protocol: Clinician places their hand between the patient's scapulae. Client is asked to "lean back against my hand." Once the patient is leaning backwards into the therapist's hand, the therapist unexpectedly removes the support. The amount of force created by the patient's lean should be sufficient to invoke a loss of balance that requires a change in the base of support (i.e., at least one backward step).

Scoring: Check on appropriate line if the patient is able to regain balance independently or requires physical assistance to do so. Note the number of steps taken by the patient if they are able to self-correct for imbalance created. "Unable to perform" option is available if the therapist feels that the maneuver is inappropriate (e.g., extreme anxiety) or unsafe (e.g., obesity) to be performed on a specific patient.

9. Backwards release:

- ___: Steadies self independently
 - Number of steps taken:
- ___: Requires physical assistance not to fall
- ___: Unable to perform

WARNING!

This test is dangerous. Do not perform this test if you will be unable to catch the patient or if the test is inappropriate in any way.

Section 10: 8 ft Up and Go Test^{1,7}

Equipment/set-up: Place a chair (approximately 17 inches in height) against a wall or firm object for safety to prevent it from sliding backwards. Place a cone on the floor exactly 8 ft away (distance measured is from the front edge of the chair to the back edge of the cone). Ensure a minimum of 4 ft of clearance beyond the cone to allow for turning room. A stopwatch is also required.

Starting Position: Patient is seated in the chair with hands on thighs and feet flat on the floor.

Protocol: Patient is instructed that on the signal “go,” they are to rise from the chair (pushing off of thighs or chair is permitted), walk “as quickly as possible” around the cone and return to a seated position in the chair. The participant is told that they will be timed and should therefore walk as quickly as possible but not to run. Following a demonstration, the patient is allowed one practice trial followed by two test trials.

Scoring: The clinician begins the timer when the “go” signal is given (even if the patient has not begun to move) and stops the time at the exact instant that the participant’s buttocks contacts the chair following the walk segment. Note the scores of both test trials to the 1/10th second yet the faster of the two times is recorded on the assessment form for evaluation purposes. Results obtained with this test may be compared to age-related normative values listed in the Senior Fitness Test manual.¹

Adaptation: Use of an assistive device is permitted if required (remember to mark what type of device the patient used on the evaluation form) yet does not allow for comparison with age related, normative values from the Senior Fitness Test. Be sure to retest the patient using the same device on following visits. Additional trials can be administered without a device or a different type of device if appropriate.

★ Score > 8.5 seconds is associated with high fall-risk in community-dwelling older adults. ★

10. 8 Feet Up & Go:

Section 10: 8 Feet Up & Go (in Seconds)								
Sex \ Age	60-64	65-69	70-74	75-79	80-84	85-89	90-94	
Normal Range of Scores for Men* ¹	5.6 - 3.8	5.9 - 4.3	6.2 - 4.4	7.2 - 4.6	7.6 - 5.2	8.9 - 5.5	10.0 - 6.2	
Normal Range of Scores for Women* ¹	6.0 - 4.4	6.4 - 4.8	7.1 - 4.9	7.4 - 5.2	8.7 - 5.7	9.6 - 6.2	11.5 - 7.3	
*Normal range of scores is defined as the middle 50 percent of each age group. Scores above the range would be considered “above average” for the age group and those below the range would be “below average.” Scores reprinted with permission of the authors.								

Section 11: Gait Speed Test⁸

Equipment/Set-up: Mark off a 15 ft (4.57m), unobstructed course on the ground with the use of black carpenter's tape. An additional 2 ft is marked at either end of the course to allow for subject acceleration/deceleration. A stopwatch is also required.

Starting Position: Patient is set-up in a standing position at the beginning of the course.

Protocol: Patients are asked to walk across the course at their "usual, comfortable speed." Time is started when the subject's foot crosses the black tape line indicating the end of the course. One practice trial is performed prior to testing to ensure patient understanding of the task. Two timed walks are performed with the fastest of both trials recorded on the sheet.

Scoring: The fastest of both trials is recorded on the score sheet. Gait speed may be calculated by dividing the patient's timed score in seconds by 4.57. Van Swearingen and Branch⁹ noted 72% sensitivity and 74% specificity of gait speed for recognizing the risk of recurrent falls in frail older adults, including a cutoff score of 0.56 m/s for risk of recurrent falls.

Adaptation: Use of the patient's habitual assistive device is permitted.

11. Gait speed (time in seconds over 15 foot distance):

Section 12: Observational Gait

Gait Deviations:

Use the check-off list to record any gait deviations observed. Deviations not listed may be entered in the "other" section.

Current use of Assistive Devices:

This information may be obtained from the Patient Questionnaire to optimize time. Quickly verify all reported questionnaire data with patient during interview and record use of devices in check boxes provided.

12. Observational gait:

• Deviations observed

- () No significant deviations observed
- () Trunk lateral lean
- () Forward trunk flexion
- () Hip hiking
- () Hip circumduction
- () Scissoring
- () Trendelenburg R ____ L ____
- () Knee hyperextension R ____ L ____
- () Foot drop R ____ L ____
- () Ataxic gait pattern
- () Antalgic gait pattern
- () Festinating
- () Shuffling
- () Decreased gait speed
- () Widened base of support
- () OTHER:

• Current use of assistive device(s):

	INDOORS	OUTDOORS	ON BUS	SHOPPING
____ Orthotics/Shoes				
____ Cane				
____ Walker-Wheels				
____ Brace				
____ W/C				
____ Elec W/C-Scooter				
____ Prosthesis				
____ “Cruise Furniture”				

Section 13: Clinical Impression

Allows for narrative to hypothesize on etiology of falls according to physical evaluation performed.

13. Clinical Impression:

Section 14: Physical Therapy Recommendations

List any recommendations that arise from your evaluation (exercise program, equipment, etc.).

14. Physical Therapy Recommendations:

Part B: The Assessment Form

Part B: Assessment Form

Physical Therapy Assessment

1. Home Living Environment:

a. Physical Layout

- | | | |
|--|--|--|
| ☐ Stairs inside home | ☐ Stairs to get into home | ☐ Clutter |
| ☐ Grab bars in bathroom | ☐ Throw rugs | ☐ Bright lighting |
| ☐ Bath chair or bench | ☐ Non-skid bath mats | ☐ Bathtub |
| ☐ Shower stall | ☐ Hand held showerhead | ☐ Nightlights |
| ☐ Raised toilet seat | ☐ Slick/slippery floors | ☐ Uneven ground |
| ☐ Electric cords on floor | ☐ Ramps | ☐ Hills around yard/grounds |
| ☐ Other: | | |

b. Current Social Supports/Activity Level:

c. ADL Independence:

2. Observation/Deformities:

3. Shoe Assessment:

4. Motor Status:

5. Functional Strength Tests:

a. L/E (Chair Stand Test):

- Use of hands required? ☐ YES ☐ NO
- Number of repetitions completed in 30 seconds:

b. U/E (Arm Curl Test):

- Arm used: ☐ Left ☐ Right
- Weight:
5lbs (Female):
8lbs (Male):
- Number of repetitions completed in 30 seconds:

6. Finger/Nose: (IT = intact, IM = Impaired)

Right:

Left:

7. Modified CTSIB: proceed to next condition when one, 30-second trial is completed or all three trials are performed.

- Condition 1: Eyes open, firm surface
- Total time: /30 sec

- Total time: ____/30 sec
- Total time: ____/30 sec Mean score _____
- Condition 2: Eyes closed, firm surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score _____
- Condition 3: Eyes open, foam surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score _____
- Condition 4: Eyes closed, foam surface
 - Total time: ____/30 sec
 - Total time: ____/30 sec
 - Total time: ____/30 sec Mean score _____

TOTAL SCORE: ____/120sec (mean score used for each condition if > 1 trial is performed)

8. Reach in 4 directions test.

- Forward Reach:
- Backward Reach:
- Lateral Reach Right:
- Lateral Reach Left:

9. Backwards release:

___: Steadies self independently

- Number of steps taken:

___: Requires physical assistance not to fall

___: Unable to perform

10. 8 feet Up & Go:

11. Gait speed: (time in seconds over 15 foot distance)

12. Observational gait:

- Deviations observed
 - () No significant deviations observed
 - () Trunk lateral lean
 - () Forward trunk flexion
 - () Hip hiking

- () Hip circumduction
- () Scissoring
- () Trendelenburg R ____ L ____
- () Knee hyperextension R ____ L ____
- () Foot drop R ____ L ____
- () Ataxic gait pattern
- () Antalgic gait pattern
- () Festinating
- () Shuffling
- () Decreased gait speed
- () Widened base of support
- () OTHER:

- Current use of assistive device(s):

	INDOORS	OUTDOORS	ON BUS	SHOPPING
____ Orthotics/Shoes				
____ Cane				
____ Walker-Wheels				
____ Brace				
____ W/C				
____ Elec W/C-Scooter				
____ Prosthesis				
____ “Cruise Furniture”				

13. Clinical Impression:

14. Physical Therapy Recommendations:

REFERENCES

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Video 2



Video 2: Hip Protectors in an Inpatient Setting

The video *Hip Protectors in an Inpatient Setting* is designed for nursing staff to raise awareness about hip protectors and their place in a falls prevention program. Nursing staff will learn about what is included in a falls prevention program, how to choose hip protectors for patients, how to size patients for hip protectors and instructions on how to wash hip protectors.

Audience: Nursing staff, including RNs, LPNs and NAs

Materials Needed: Hip protector information package (see following pages) and a pencil or pen

Hip Protector Information Package

Introduction:

This handout accompanies a video providing you with information about hip protectors so that, if decided, you can implement their usage at your VA medical center. This handout contains factual information as it is presented in the video, but is not a direct outline of the video. Use this handout as a supplement while watching the video or during follow-up discussions.

At the end of this handout is a section entitled Success Factors, which contains comments and opinions of teams who trialed different types of hip protectors on select patient units during an NCPS initiative called the Hip Protector Quality Improvement Project. This information does not appear in the video.

Implementing hip protectors can be challenging. Keep in mind that many VA medical centers currently use hip protectors and are eager to share their success factors.

General Information about Falls, Fractures, and Prevention:

- Hip fractures result from lateral falls with greater impact on trochanter or proximal femur.
- 3-5% of falls in older adults result in fractures and this percentage increases for inpatients due to prevalence of osteoporosis.
- Fractures lead to patient decline in functional ability and independence.
- About ½ patients who fall don't return to their previous level of functioning and 20-30% die within one year.
- Restraints are not effective fall prevention measures. They drain nursing resources, cause patients to lose muscle strength, and can potentially cause entrapment.
- VA wants veterans to be as mobile as possible and this means they may fall more often.
- Hip protectors reduce risk of serious injury from these falls.

Hip Protectors:

Hip protectors are designed to prevent trochanter fractures during patient falls.

Research studies show that hip protectors can significantly reduce patient injuries. Six studies found a lower risk of fracture in the patient group wearing hip protectors. Three of these studies reported no hip fractures while patients were wearing hip protectors.

Two manufacturers of hip protectors are **HipSaver™** and **Posey™**.

There are several different models available by these manufacturers. These models are designed to meet the varying needs of different patients.

HipSaver™ Models

- *SlimFit™* – designed mostly for outpatients. The material is stretchy and form fitting. This model is also available with a male fly front.
- *Nursing Home* – designed for nursing home patients. The material is less stretchy than the SlimFit model. It has larger leg openings so that it is easier for patients with less mobility. This model is also available with a male fly front.
- *QuickChange™* – designed for incontinent patients or for self-toileting patients who have difficulty moving the hip protector up or down. This model has two snaps in the front of the garment. This model is good for patients who are able to stand while they are being changed.
- *Wrap&Snap™* – designed for patients who are unable to stand while they are being changed, because the garment can be laid flat underneath them and snapped around them. Some self-toileting patients may also like this model.
- *Open-Bottom™* – designed for self-toileting patients who are not able to pull the hip protectors up and down. The model is available with or without Velcro. The Velcro model can be wrapped around a patient, while the non-Velcro model is pulled up.

Posey™ Models

- *Hipster™ III (#6016)* – The standard model for continent patients.
- *Hipster™ Incontinent (#6017)* – This model features a snap front for easy application while the patient is lying in bed.
- *Hipster™ Fly Front (#6018)* – This model features a fly front and is white rather than the usual beige color.
- *EZ On (#6019)* – This model is mesh and has a Velcro closure around the waist and each leg. It is designed for patients who may be at risk for falling while toileting or while in the shower.

Choosing the Right Models for Patients:

After determining which patients need hip protectors using fall risk assessments (such as the Morse or Hendricks fall risk assessments or another method), find the appropriate hip protector model for the patient. Patient characteristics that will influence hip protector model choice include: patient continence level, weak grip strength, or cognitive impairment.

HipSaver™ Quick Checklist (table below)

✓ = Model designed with this particular patient type in mind

x = Model also works with this patient type

	Patient Characteristics						
Models	Outpatient	Self Toileting	Incontinent	Limited Mobility	Weak Grip	Dementia / Cognitive Impairment	Rehab Patients
SlimFit™	✓	✓					
Nursing Home	x	✓		✓			
QuickChange™	x	x	✓	✓	x	x	x
Wrap&Snap™	x	x	✓	✓		x	
OpenBottom™	x	✓		✓	✓	x	x

Posey™ Quick Checklist (table below)

✓ = Model was designed with the particular patient type in mind

x = Model is also useful with this patient type

	Patient Characteristics						
Models	Outpatient	Self Toileting	Incontinent	Limited Mobility	Weak Grip	Dementia/ Cognitive Impairment	Rehab Patients
Hipster™ III	✓	✓					
Incontinent	x	x	✓	x		x	
Fly Front	x	✓					
Easy-On	x	✓	x	x	✓	x	x

Choosing the Right Model for Patients Con't:

HipSaver™ vs. Posey™ Checklists (table below)

✓ = Model was designed with the particular patient type in mind

× = Model is also useful with this patient type

● = Option available on model considers this patient type

	Patient Characteristics								
Models	Outpatient	Self Toileting	Incontinent	Limited Mobility	Weak Grip	Dementia/ Cognitive Impairment	Rehab Patients	6 feet tall or more	Male Patient
HipSaver™ Models									
SlimFit™	✓	✓						●	●
Nursing Home	×	✓		✓				●	●
QuickChange™	×	×	✓	✓	×	×	×	●	×
Wrap&Snap™	×	×	✓	✓		×		●	×
Open Bottom™	×	✓		✓	✓	×	×	●	×
Posey™ Models									
Hipster™ III	✓	✓							
Incontinent	×	×	✓	×	×	×			
Fly Front	✓	✓							✓
EZ On		✓		✓	✓	×	×		×

Sizing Hip Protectors:

HipSaver™ Determining Correct Size Hip Protector for a Patient

Measure patient around the hip. If patient uses incontinent products, measure the patient's hip while he or she is wearing that product.

Sizing Chart			
Hip Measurement		Hip Protector Size	
Inches	Approx. Centimeters		
28" - 31"	71.1 cm - 78.7 cm	XS	Extra Small
32" - 35"	81.3 cm - 88.9 cm	S	Small
36" - 39"	91.4 cm - 99.1 cm	M	Medium
40" - 44"	101.6 cm - 111.8 cm	L	Large
45" - 50"	114.3 cm - 127 cm	XL	Extra Large
51" - 57"	129.5 cm - 144.8 cm	XXL	Extra Extra Large

Sizing Hip Protectors Con't:

Posey™ Determining Correct Size Hip Protector for a Patient

Posey Hipsters™ are sized differently from HipSavers™. A measurement is taken from around the waist and around the hips.

Posey™ Sizing Chart					
Waist Measurement		Hip Measurement		Hip Protector Size	
Inches	Approx. cm	Inches	Approx. cm		
28" - 30"	71.1 cm - 76.2 cm	35" - 37"	88.9 cm - 94 cm	S	Small
32" - 34"	81.3 cm - 86.4 cm	39" - 41"	99.1 cm - 101.4 cm	M	Medium
36" - 38"	91.4 cm - 96.5 cm	43" - 45"	109.2 cm - 114.3 cm	L	Large
40" - 42"	101.6 cm - 106.8 cm	47" - 49"	119.4 cm - 124.5 cm	XL	Extra Large
44" - 48"	111.8 cm - 121.9 cm	51" - 53"	129.5 cm - 134.6 cm	XXL	Extra Extra Large

Sizing Comparison Between HipSaver™ and Posey™

Size Comparison						
Posey™ Waist Measurement		Posey™ Hip Measurement		Size	HipSaver™ Hip Measurement	
Inches	Approx. Centimeters	Inches	Approx. Centimeters		Inches	Approx. Centimeters
N/A	N/A	N/A	N/A	XS	28" - 31"	71.1 cm - 78.7 cm
28" - 30"	71.1 cm - 76.2 cm	35" - 37"	88.9 cm - 94 cm	S	32" - 35"	81.3 cm - 88.9 cm
32" - 34"	81.3 cm - 86.4 cm	39" - 41"	99.1 cm - 101.4 cm	M	36" - 39"	91.4 cm - 99.1 cm
36" - 38"	91.4 cm - 96.5 cm	43" - 45"	109.2 cm - 114.3 cm	L	40" - 44"	101.6 cm - 111.8 cm
40" - 42"	101.6 cm - 106.8 cm	47" - 49"	119.4 cm - 124.5 cm	XL	45" - 50"	114.3 cm - 127 cm
44" - 48"	111.8 cm - 121.9 cm	51" - 53"	129.5 cm - 134.6 cm	XXL	51" - 57"	129.5 cm - 144.8 cm

Monitoring Patients Wearing Hip Protectors:

- Look for skin irritation, changes in patient continence, or signs of patient discomfort.
- Adjust hip protector models and usage accordingly.

Laundering Hip Protectors:

The following laundry instructions may prevent the spread of hospital infections.

Washing Hip Protectors on the Unit	Washing Hip Protectors in Hospital Laundry
Wash with regular detergent and a small amount of bleach. Note: Dissolve bleach in water prior to putting hip protectors in the machine. Or, wash with detergent supplied by the laundry service for washing clothes on the unit. Dry at 160° Fahrenheit	Wash and dry in clothing/pajama's cycle. Use heavy soil cycle <i>only</i> as necessary

If using the hospital laundry, consider purchasing mesh laundry bags to ensure that the hip protectors stay together and are returned to the correct unit or facility. Mesh bags are also useful if laundry gets sent to another facility. Consider using special bins for the hip protectors so that they are always together. If you do this, make sure that the facility management and laundry people know what the bins are for and that they need to pick them up daily to ensure the hip protectors get washed in timely fashion.

HipSaver™ Laundry Notes

Choosing the right hip protectors is important for both the patients and the staff. Consider your laundry facilities prior to purchasing hip protectors. HipSaver™ hip protectors can be washed in hospital laundry facilities. Additionally, using small amounts of bleach does not degrade the products quickly. Drying temperatures should be low. The hip protectors should be removed promptly from the dryer, especially if using the hospital or a commercial/industrial laundry.

Posey™ Laundry Notes

As a general rule, Posey™ hip protectors should not be washed in the hospital laundry. They degrade more quickly and pads may crack or dissolve. Bleach appears to accelerate this degrading process. However, if necessary, small amounts of bleach

should be used. Hip protectors should be dried in low heat and removed promptly from the dryer.

If the hip protectors come with removable pads, then remove pads and wipe them clean using a mild, liquid disinfectant. The pads may be removable because they do not tolerate washing conditions well and may disintegrate.

Contact Manufacturers:

HipSaver™ Contact Information

Ed Goodwin	Helen Brogna	Phone: 1-800-358-4477
President	Vice President	E-mail: hipsavers@msn.com
HipSaver™ Inc.	HipSaver™ Inc.	Web site: www.hipsaver.com

Posey™ Contact Information

Gary Platzman	Phone: 1-800-447-6739 extension 193
Vice President, Sales	E-mail: gplatzman@posey.com
Posey™ Company	Web site: www.posey.com

Success Factors:

Facilities participating in the Hip Protector Quality Improvement Project identified factors that lead to successful implementation of hip protectors. The following success factors apply specifically to the choice of hip protector models:

- *Start with a small number of a variety of hip protectors and allow the staff to use them in the care setting. Use recommendations from staff and patients to make a final decision on the models of hip protectors purchased.*
- *Allowing nursing staff and patients to have more input on implementation process increases the likelihood that they will comply with hip protector use.*
- *Ensure that there are at least two different models available, for example having both an incontinent and continent version available for patients to choose. This allows both patients and caregivers to have a choice in the models that they use, increasing the likelihood that they will use hip protectors.*
- *Allow patients to switch between the models available. This allows patients to choose the hip protector model that works best for them.*
- *One facility found that patients who were continent would start off wearing the incontinent brief, switch to the continent brief then switch back again when they found that it was easier to use the incontinent brief.*
- *When telling patients about the different models available, refer to the models in non-stigmatizing language, such as brief with snaps versus the brief without snaps. This reduces the stigma associated with incontinence, allowing patients to use the hip protector that best meets their need.*

Facilities identified some success factors directly related to the logistics of implementing hip protectors:

- *Implement hip protectors using a team that includes laundry/facility management staff and acquisitions staff.*
- *Include nursing assistants on the implementation team. This increases the involvement and ownership among nursing assistants, who are the staff that will utilize the hip protectors the most.*
- *Provide management with regular updates on the program and the reduction of fall injury rates. This increases the likelihood that they will provide the support needed for hip protectors.*
- *Providing updates to VA Directors meetings increases the likelihood that management will support the project.*

Video 3



Video 3: Protecting Your Hips with Hip Protectors

The video *Protecting Your Hips with Hip Protectors* is designed to inform patients about hip protectors and to help caregivers convince patients to wear the hip protectors. A copy of the video should be given to patients who are provided with hip protectors or to patients whom caregivers believe should be wearing hip protectors. The video can also help educate families about the importance of hip protectors. This video can be used as part of an information package for caregivers including pamphlets and flyers.

Audience: Outpatients who are starting to use hip protectors or who caregivers think should wear hip protectors, and families of patients who are or should be wearing hip protectors.

Materials Needed: **Hip Protectors** brochure (found in the front of this binder)

Supplemental Materials: **Fall Prevention at Home** brochure (found in the front of this binder)