Modifying the Fall TIPS Fall Prevention Toolkit for Psychiatric Inpatient Settings

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Background

- The consequences of inpatient falls can range from delayed course of treatment to serious injury and escalated hospital costs.
- Our team has developed and tested the Fall TIPS (Tailoring Interventions for Patient Safety) Toolkit (FTTK) at Brigham and Women's Hospital and Partners HealthCare.
- Using the FTTK requires completing the three-step fall prevention process, which entails

1. Completing the fall risk assessment using a validated tool at the bedside, with the patient
2. Tailoring the plan to each patient-specific area of risk in partnership with the patient
3. Consistently implementing the plan across the care team, which includes engaging the patient and family members

EPIDEMIOLOGY OF FALLS IN PSYCHIATRIC PATIENTS

- Fall Injury rates [1]
  - 45% in mental health units
  - 37% in community hospitals
  - 33.4% in acute hospitals
- Medication related falls [2]
  - 70% behavioral health hospitals
  - 58% nonbehavioral health hospitals
- Average age of the falling patient [2]
  - 45 years old at behavioral health hospital
  - 65 years old at nonbehavioral health hospital
- Some falls on behavioral health units are intentional
  - Differentiation and reporting can be a challenge
  - Tendency to underreport falls
  - NDNQI definition: "a sudden, unintentional descent . . . That results in the patient coming to rest on the floor, on or against some other surface (eg, a counter), on another person, or on an object (eg, a trash can)"

Figure 1: Fall TIPS Toolkit (FTTK)

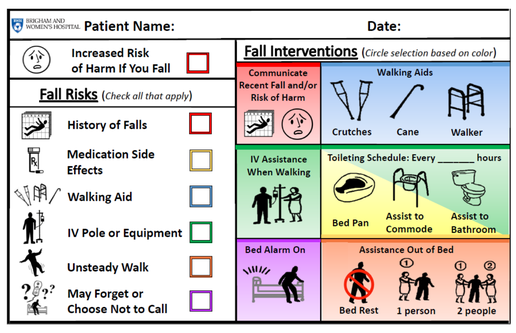

Table 1: Fall and Fall with Injury Rates are Higher in Psychiatric Patient Populations

Setting	Fall Rate
General Hospital	3.1 – 3.7 per 1000 occupied bed days
Psychiatric Unit	4.1 – 6.4 per 1000 occupied bed days
Geropsychiatric Unit	9.0 – 17.1 per 1000 occupied bed days

Aim

To refine the FTTK for use in psychiatry using recommendations from stakeholders and the literature.

Methods

- Systematic literature review in PubMed and CINAHL using MeSH terms
- 374 abstracts reviewed to identify fall prevention evidence in psychiatric settings

Figure 2: PRISMA Flow Diagram

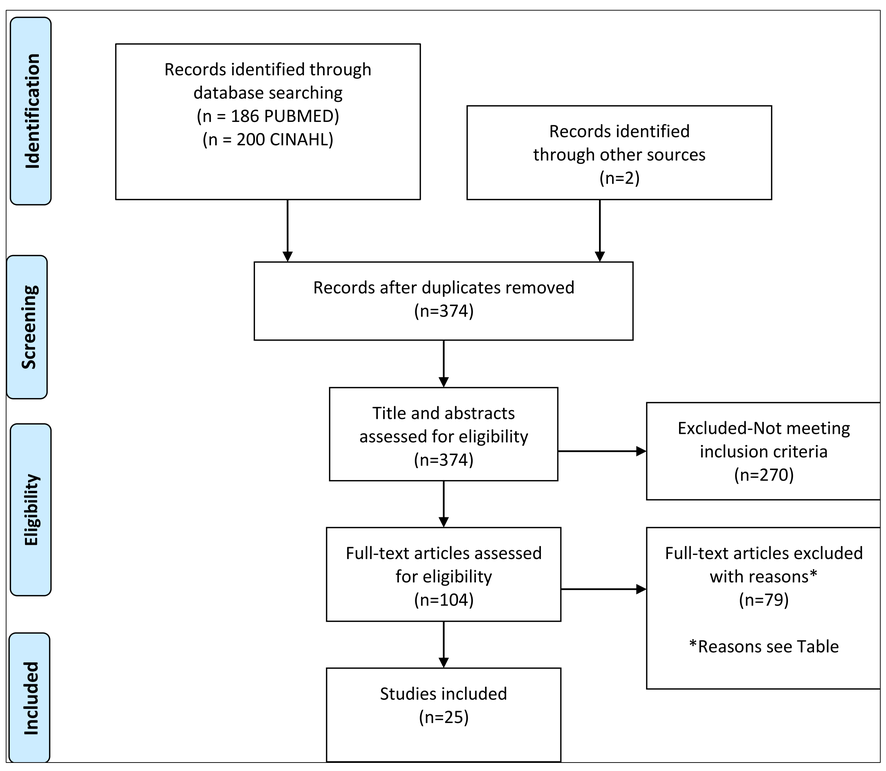

Table 2: Full Text Articles Excluded with Reasons

Exclusion Criteria	#
Not specific to psychiatric patients	32
Not specific to fall prevention	28
Outpatient settings	11
Lack of details about fall risk assessment	5
Not available	3
Total	**79**

Results (continued)

- Limited evidence related to the 3-step fall prevention process was found.
- No evidence-based interventions were identified.
- Three fall risk assessments were identified, all with limitations in validation process
  1. **Edmonson Psychiatric Fall Risk Assessment Tool (EPFRAT) – Figure 4**
     - Developed through literature review and chart review
     - Content overlap and includes non-modifiable risk factors
     - Limitations include retrospective chart review and cumbersome scoring
  2. **Wilson-Sims Fall Risk Assessment Tool (WSFRAT) – Figure 4**
     - Same development and limitations as EPFRAT (listed above)
     - Content was developed through content validity index testing and comprehensive medication assessment
  3. **Baptist Health High-Risk Falls Assessment (BHHRFA) – Figure 5**
     - Developed through patient interviews and literature review
     - Content includes clinical judgement
     - Limitations include non-modifiable risk factors and unclear rationale for weighing (ex: medications)

Conclusions

- Based on our literature review, there is a gap in fall prevention evidence specific to psychiatric inpatients.
- Two of the three identified fall risk assessments addressed the risk factors common predictors of psychiatric inpatient falls as identified by Oliver et al [7], such as **impaired judgement** or **polypharmacy**. The one tool that included all predictors is too lengthy to implement and thus poses workflow issues.

Table 3: Six Common Predictors of Inpatient Falls Addressed in Six Fall Risk Assessment Tools

*assessed as part of multiple co-morbid diagnoses and IV/heplock

Six Common Predictors of Inpatient Falls (Oliver, 2004)	Previous fall history	Gait instability	Lower limb weakness	Urinary incontinence, frequency, and/or need for toileting	Agitation, confusion or impaired judgment	Medications especially sedative hypnotics
EPFRAT	x	x		x	x	x
WSFRAT	x	x	x	x	x	x
BHHRFA	x	x		x	x	x
MFS	x	x	x*	x*	x	x*
Hendrich II				x	x	x
Schmid	x	x		x	x	x

Next Steps

- Collaborate with stakeholders to modify FTTK for use in psychiatric settings.
- Reframe fall risk factors to suit the needs of this patient population.
- Refine fall risk interventions to suit the needs of this patient population and psychiatric inpatient milieu.

Table 4: Tailored Intervention Suggestions from Literature and Stakeholders to Tailor Fall TIPS to Psychiatric Patients

Significant Predictors of Falls	Tailored Interventions
Previous fall history	• Document circumstances of previous fall and implement tailored interventions to prevent a similar fall
Gait instability Lower limb weakness	• Non-skid footwear • Assistive devices • Physical therapy
Urinary incontinence, frequency, and/or the need for toileting	• Hourly rounding • Toileting schedule • Briefs
Agitation, confusion or impaired judgment	• Assess for ETOH or drug withdrawal/place on appropriate protocol • Activity schedule • Continuous Virtual Monitoring • Bed/chair alarms • Floor mats to reduce trauma from bed-related falls • Hip protectors
Medications, especially sedative hypnotics	• Medication consult • Assess for/treat orthostatic hypotension (adequate fluid intake, slow position changes, compression stockings) • Assess for medication side-effects and develop management plan (i.e., sedation, dizziness, light-headedness, increased thirst)

References

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[4] Edmonson, D., S. Robinson, et al. (2011). "Development of the Edmonson Psychiatric Fall Risk Assessment Tool." Journal of Psychosocial Nursing and Mental Health Services 49(2): 29.
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[6] Corley, D., D. Brockopp, et al. (2014). "The Baptist Health High Risk Falls Assessment: a methodological study." The Journal of nursing administration 44(5): 263-269.
[7] Oliver, D., F. Daly, et al. (2004). "Risk factors and risk assessment tools for falls in hospital in-patients: a systematic review." Age and ageing 33(2): 122-130.

Results: Three Fall Risk Assessments were identified in the literature for use in psychiatric patients, all with limitations

Figure 3: Edmonson Psychiatric Fall Risk Assessment Tool [4]

EDMONSON PSYCHIATRIC FALL RISK ASSESSMENT TOOL

Complete daily and at admission *More than one item may be marked in each category if appropriate for the patient.		Date and Initials
Age		
8	Less than 50	
10	50 to 79	
26	80 and over	
Mental Status		
–4	Fully alert/oriented at all times	
13	Agitation/anxiety	
13	Intermittently confused	
14	Confusion/disorientation	
Elimination		
8	Independent with control of bowel/bladder	
12	Catheter/ostomy	
10	Elimination with assistance	
12	Altered elimination (incontinence, nocturia, frequency)	
12	Incontinent but ambulates independently	
Medications		
10	No medications	
10	Cardiac medications	
8	Psychotropic medications (including benzodiazepines and antidepressants)	
	OR	
12	Increase in these medications and/or p.r.n. (psychotropic, pain) medication in past 24 hours	
Diagnosis		
10	Bipolar/schizoaffective disorder	
8	Substance abuse/alcohol abuse	
10	Major depressive disorder	
12	Dementia/delirium	
Ambulation/Balance		
7	Independent/steady gait/immobile	
8	Proper use of assistive devices (e.g., cane, walker, crutches, wheelchair)	
10	Vertigo/orthostatic hypotension/weakness	
8	Unsteady/requires assistance and aware of abilities	
15	Unsteady but forgets limitations	
Nutrition		
12	Has had very little food or fluids in past 24 hours	
0	No apparent abnormalities with appetite	
Sleep Disturbance		
8	No sleep disturbance	
12	Report of sleep disturbance by patient, family, or staff	
History of Falls		
8	No history of falls	
14	History of falls in the past 3 months	
TOTAL: Add values in all nine sections.		

FALL RISK = SCORE OF 90 OR GREATER

Figure 4: Wilson-Sims Fall Risk Assessment Tool [5]

Age	○ 0 = 18-59 ○ 1 = 60-70 ○ 2 = 71 >
Gender	○ 0 = Male ○ 1 = Female
Mental Status:	○ 0 = Oriented and Cooperative ○ 1 = Oriented and Uncooperative ○ 2 = Confused, Memory Loss, Forgets Limitations, Intoxicated
Physical Status:	○ 0 = Healthy ○ 1 = Generalized Muscle Weakness ○ 2 = Dizzy, vertigo, syncope, orthostatic hypotension ○ 3 = Cachexia and Wasting
Elimination:	○ 0 = Independent and Continent ○ 1 = Catheter, Ostomy ○ 2 = Elimination with Assistance, Diarrhea or Incontinence ○ 3 = Independent and Incontinent, Urgency, or Frequency
Impairments:	○ 0 = None ○ 1 = Uncorrected visual, hearing, language, speech ○ 2 = Limb amputation ○ 3 = Neurological paralysis, paresthesia
Gait or Balance:	○ 0 = Able to walk/stand unassisted or fully ambulatory. ○ 1 = Physically unable to walk/stand (but may attempt) ○ 2 = Walks with cane ○ 3 = Unsteady walking, standing, walker, crutches, furniture
History of falls in past 6 months:	○ 0 = No History ○ 1 = Near falls or fear of falling ○ 2 = Has fallen 1-2 times ○ 3 = Multiple falls, more than 2 times
MEDICATIONS	
Mood Stabilizer Medications:	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
Benzodiazepines:	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
Diuretics:	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
Narcotics:	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
Sedatives/Hypnotics:	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
Atypical Anti Psychotics	○ 0 = Not taking prior to admission ○ 1 = Taking prior to admission ○ 2 = Newly ordered
DETOX PROTOCOL	
7 points if on Detox Protocol	○ 0 = Not on Detox Protocol ○ 7 = On Detox Protocol

Figure 5: Baptist Health High-Risk Falls Assessment [6]

Date: ___/___/___

Place Sticker Here

_____ Unit

Room #: _____

Baptist Health High Risk Falls Assessment

	Points
Fallen in past 6 months	5
Age	
< 60	0
60 - 69	1
≥ 70	2
Mental Status	
Confused	1
Elimination	
Frequent toileting	2
Urgency	2
Mobility	
New mobility issue	2
Requires assistance – transfer, walker, etc.	2
Medications	
Narcotics	1
Sedatives	1
Diuretics	5
Laxatives	1
Hypnotics	1
Insulin/Oral hypoglycemic	1
Assessment Score Total →	

Nurses' Clinical Judgment

Low Risk 0 1 2 3 4 5 6 7 8 9 10 High Risk — Judgment Score →

(Assessment Score + Judgment Score) = **TOTAL FALL RISK SCORE**

Total Score 13 or above = *HIGH RISK

Patient Fell ☐

Time _____

_____

Nurse Signature 7A ☐ 7P ☐

Figure 1. The BHHRFA. Reprinted with permission.