

# Morse Fall Scale (MFS) Score Most Predictive of High Fall Risk: A Retrospective Review

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## Introduction

The Morse Fall Scale (MFS) is a validated risk assessment tool to assess fall risk in patients and is the chosen fall risk assessment tool used within the inpatient units at NGMC, with a score of 45 or > being considered a high fall risk.

A high percentage of this patient population score a 45 or >, making identification of those patients at highest risk for falling a challenge. Through a retrospective review of fall data from FY21 at all NGMC locations, the MFS score associated with each fall was collected to identify the most predictive MFS score and characteristics associated with patients who fell.

## Study Purpose and Design

There are currently varying recommendations that exist to suggest which MFS score threshold indicates high fall risk. By better identifying those at highest risk for falling, interventions for fall prevention can be prioritized to improve patient safety. This descriptive retrospective study aimed to identify:

Which MFS score was most predictive in identifying high fall risk patients?

What patient characteristics were most associated with patient falls? (i.e., gender and age)

## Study Population

Adult (18 years of age and older) inpatients who had a physiological fall within an NGMC location during FY21

## Descriptive Statistics

### Participant Characteristics (n=410)

Variable	n	%	Mean (SD)	Range
MFS Score	410		70.41 (21.46)	20-115
Age	410		67.52 (14.41)	18-95
Male	240	58.50%		
Female	170	41.45%		

MFS = Morse Fall Scale  
 SD = Standard Deviation

## Data Analysis Methodology

Spearman's Rank Order calculation was used to assess the relationships between MFS score, age, and gender.

### Relationships Between Morse Fall Scale (MFS) Score, Age, and Gender (n=410)

Variable	Spearman's Rho ( $r_s$ )	p value
MFS Score & Age	.178**	.01
MFS Score & Gender	.052	.293

\*\* Higher age was significantly associated with higher MFS score.

No relationship was found between gender and MFS score.

## Study Outcomes

### Outcomes Related to Age

1. Approximately 80% of the patients who fell were over the age of 55.
2. Of those patients, 75% were over the age of 65.

### Outcomes Related to MFS Score

1. Approximately 82% of the patients who fell had a MFS score of at least 45 or greater.
2. Of those patients, 75% had a MFS score of 65 or greater.

## Practice Implications

Based on the data analysis, there was not a specific MFS score threshold that was most predictive of high fall risk. However, it was found that age, in conjunction with the MFS score, is highly predictive of high risk for falls. For next steps, a tiered approach considering age and MFS score to identify fall risk levels is recommended for a future study in this same setting.

## Future Significance

This research study is foundational to future studies related to fall risk identification and prevention. A pilot utilizing tiered fall risk levels for implementation of fall risk interventions is suggested based on the outcome data of this research study.

### Recommended Tiered Fall Risk Levels:

MFS score < 45 AND age < 55  
 = Low Risk

MFS score 45 or > OR age 55 or >  
 = Moderate Risk

MFS score 65 or > AND age 65 or >  
 = High Risk

## References

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