

**Reliability, Responsiveness and Validity of the Kansas University  
Standing Balance Scale**  
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**Kansas University Standing Balance Scale**

- 0** Patient performs 25% or less of standing activity. (Maximum assist).
- 1** Patient supports self with upper extremities but requires therapist assistance.  
Patient performs 25-50% of effort. (Moderate assist).
- 1+** Patient supports self with upper extremities but requires therapist assistance.  
Patient performs >50% of effort. (Minimal effort).
- 2** Patient supports self independently with **both upper extremities**. (i.e. walker, parallel bars, crutches).
- 2+** Patient supports self independently with 1 upper extremity. (i.e. cane, parallel bar, 1 crutch).
- 3** Patient stands independently without upper extremity support for up to 30 seconds.
- 3+** Patient stands independently without upper extremity support for up to 30 seconds or greater.
- 4** Patient independently moves and returns center of gravity 1-2 inches in one plane.
- 4+** Patient independently moves and returns center of gravity 1-2 inches in multiple planes.
- 5** Patient independently moves and returns center of gravity in all planes greater than 2 inches. e.g. able to grasp and move object, throw ball.

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**Kansas University Sitting Balance Scale**

- 0** Patient performs 25% or less of sitting activity. (Maximum assist).
- 1** Patient supports self with upper extremities but requires therapist assistance.  
Patient performs 25-50% of effort. (Moderate assist).
- 1+** Patient supports self with upper extremities but requires therapist assistance.  
Patient performs >50% of effort. (Minimal effort).
- 2** Patient supports self independently with **both upper extremities**.
- 2+** Patient supports self independently with 1 upper extremity.
- 3** Patient sits without upper extremity support for up to 30 seconds.
- 3+** Patient sits without upper extremity support for 30 seconds or greater.
- 4** Patient moves and returns trunkal midpoint 1-2 inches in one plane.
- 4+** Patient moves and returns trunkal midpoint 1-2 inches in multiple planes.
- 5** Patient moves and returns trunkal midpoint in all planes greater than 2 inches.  
e.g. able to grasp and move object, react to unanticipated challenges, such as external force, catching a ball or hitting a balloon.

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**Validity of Kansas University Hospital Physical Therapy Acute Care Functional Outcomes Tool**

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**Abstract**

It is important to demonstrate effectiveness and efficiency of health care expenditures for those individuals receiving services in the acute hospital setting. Some outcomes monitored are improved health, function and satisfaction with treatment. Many inpatient rehabilitation units use the Functional Independence Measure for outcome reporting. The only acute care tool is one developed by Johns Hopkins Hospital. This tool is more sensitive than the FIM but is challenging to use. The Kansas University Hospital Physical Therapy Acute Care Functional Outcomes tool (KUH outcomes) was developed to provide outcomes to physicians at interdisciplinary quality improvement team meetings. A retrospective study was designed to determine validity of the KUH outcomes tool. Charts of 50 patients admitted with medical diagnoses were reviewed. Change of scores from admission to discharge of both KUH outcomes and FIM were compared. The mean score improvement was 4.5 points with the KUH tool and 2.6 with the FIM. It was also noted that the patients discharged home had a higher change score in both scales than those discharged to another level of inpatient care. This tool can be used to show the effectiveness of physical therapy interventions, even for a few visits while in the acute hospital setting.

## **KUH Acute Care Functional Outcome**

### **1. Bed mobility**

- 7= Complete independence
- 6= Modified independence; safety considerations, use of assistive device as bed rail, head of bed elevated, use of overhead trapeze or takes longer to perform activity
- 5= Supervision; set-up or cuing needed
- 4= Minimal assistance; patient performs 75% of activity
- 3= Moderate assistance; patient performs 50-74% of activity
- 2= Maximum assistance; patient performs 25-49% of activity
- 1= Total assistance; patient performs less than 25% of activity
- 0= Cannot assess or activity not appropriate

### **2. Transfers; bed to chair**

- 7= Complete independence
- 6= Modified independence; safety considerations, use of assistive device or takes longer to perform activity
- 5= Supervision; set-up or cuing needed
- 4= Minimal assistance; patient performs 75% of activity
- 3= Moderate assistance; patient performs 50-74% of activity
- 2= Maximum assistance; patient performs 25-49% of activity
- 1= Total assistance; patient performs less than 25% of activity
- 0= Cannot assess or activity not appropriate

### **3. Gait; walking on level surfaces**

- 7= Complete independence
- 6= Modified independence; safety considerations, use of assistive device or takes longer to perform activity
- 5= Supervision; set-up or cuing needed
- 4= Minimal assistance; patient performs 75% of activity
- 3= Moderate assistance; patient performs 50-74% of activity
- 2= Maximum assistance; patient performs 25-49% of activity
- 1= Total assistance; patient performs less than 25% of activity
- 0= Cannot assess or activity not appropriate

### **4. Walking distances**

Scale for walking distances:

- 7= > 201 feet
- 6= 151-200 feet
- 5= 101-150 feet
- 4= 51-100 feet
- 3= 31-50 feet
- 2= 11-30 feet
- 1= 1-10 feet
- 0= Cannot assess or activity not appropriate

## Validity of KUH Physical Therapy Acute Care Functional Outcomes Tool

### Additional Data

KUH scale is 28-point scale: bed mobility is its own category and gait was divided into two categories; one with amount of assistance and one with distances.

Stairs was not included as a category as home situations vary:

- Number of steps
- Rail or no rail
- Curb or one step only
- Reciprocal or one step at a time technique
- Family/help available or lives alone
- Ramp
- Length of stay too short to work on stairs

#### Overall:

- 79% of patient with an improvement of 4 or less were discharged to SNF
- 89% of patient discharged home had 5 or better rating in bed mobility and transfers

#### Bed Mobility:

Discharged Home: 89% with 5 (SBA) or higher

Discharged SNF: 62% with 4 (min help) or lower

#### Transfers:

Discharged Home: 86% with 5 or higher

Discharged SNF: 57% with 4 or lower

#### Prior Function:

Discharged home had average 3.2 prior function; independent with no device in home or independent in community with device

Discharged SNF had average of 2.3 or some assistance with mobility at home or independent in home with a device

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Discharged home had average 3.2 prior function; independent with no device in home or independent in community with device

Discharged SNF had average of 2.3 or some assistance with mobility at home or independent in home with a device