

OPERATIONAL DEFINITION

MEASUREMENT: UNPLANNED EXTUBATIONS (UE)

I. Description and Rationale

This measure answers the question how often is a patient harmed due to unplanned extubation which is defined as:

An unplanned extubation is any dislodgement of an endotracheal tube from the trachea that is not intentional.

II. Population Definition

The patient population includes all patients who have an endotracheal tube.

Inclusion criteria

Any patient with an endotracheal tube, including emergency department, operative/procedural suites, radiology and inpatient units.

Exclusion criteria

Patients with tracheostomy tubes; patients with events occurring outside the hospital during transport.

III. Data Source(s)

Each hospital will report data using their own collection methods until specific detection methods are prescribed by the network. Redundant identification and reporting methods, are strongly recommended (e.g. EMR, incident reporting, RT reporting).

IV. Sampling and Data Collection Plan

Unplanned extubation injury events are assigned the month the event occurred and is attributed to the physical location of care.

V. Calculation

NUMERATOR:

By Unit: NICU UE, PICU UE, CICU UE, Other UE (numerator only)

By Severity: Unplanned with no reintubation within one hour, Unplanned with reintubation within one hour, Unplanned with reintubation and cardiovascular collapse requiring CPR and/or bolus epinephrine within one hour.

Record an event only once using the most severe category.

Exclusions: Mechanical failure related to endotracheal tube; endotracheal tube obstruction; tracheostomy decannulations

DENOMINATOR:

Total number of ventilator days overall and per unit. Excludes tracheostomy days.

EQUATIONS:

$$\text{NICU UE Rate} / \text{per 100 vent days} = \frac{\# \text{ NICU UEs}}{\text{NICU vent days}} * 100$$

$$\text{PICU UE Rate} / \text{per 100 vent days} = \frac{\# \text{ PICU UEs}}{\text{PICU vent days}} * 100$$

$$\text{CICU UE Rate} / \text{per 100 vent days} = \frac{\# \text{ CICU UEs}}{\text{CICU vent days}} * 100$$

$$\text{Hospital UE Rate} / \text{per 100 vent days} = \frac{\sum(\# \text{ ICU UEs}) + \# \text{ Other UEs}}{\sum(\text{ICU vent days})} * 100$$

VI. Data Quality Audit Procedures

Hospitals should develop their own procedures for auditing data quality until quality auditing procedures are suggested by the network.

VII. Notes

N/A

VIII. Experts/Resources

N/A

IX. Attachments

N/A

X. Revision History

Version	Primary Author(s)	Description of Version	Date Completed
Version a	Contributing Attendees	New HAC definition	Oct. 16, 2015
Version b	D. Klugman, N. Maynard, K Melton	Severity clarification from Measurement Team Feedback; added a hospital rate as the sum of ICUs	Nov. 20, 2015
Version c	D. Klugman, N. Maynard, K Melton	Removed "not assisted by a healthcare provider" from the definition	Dec 15, 2015
Version d	D. Klugman, N. Maynard, K Melton; input from Measurement Team	Removed section II, Inclusion criteria: under pediatric care – to ensure all patients; Severity: clarified that unplanned with no reintubation occurs within one hour; The severity is tabulated by the most severe category; added the formal equations	Dec 21, 2015

Contributing Attendees

<i>First Name</i>	<i>Last Name</i>	<i>Hospital</i>	<i>Creds</i>	<i>Discipline</i>
Lora	Elliot	Vanderbilt	RT	Critical care
Stacia	Ghafoori	Children's Hospital at Dartmouth	RN	Critical care
Darren	Klugman	Children's National Health System	MD	Intensivist
Anthony	Lee	Nationwide Children's Hospital	MD	Intensivist
Neal	Maynord	Monroe Carell Jr Children's Hospital at Vanderbilt	MD	Intensivist
Kristin	Melton	Cincinnati Children's Hospital	MD	Neonatologist
Kathy	Mills	Children's National Medical Center	RT	Neonatologist
Vicki	Montgomery	Kosair Children's Hospital	MD	Intensivist
Mary	Nock	Rainbow Babies and Children's Hospital	MD	Neonatologist
Sheri	Rosato	Children's Hospital of Pittsburgh of UPMC	RN	Neonatologist