

## User Story

# Using a touch screen solution to monitor patient care and patient activity

## Strategies for Airway Management and Prevention - Endotracheal Cuff Intervention (STAMP-ETC)

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Mary Lou Sole, PhD, RN, CCNS, FAAN is conducting a study called Strategies for Airway Management and Prevention - Endotracheal Cuff Intervention (STAMP-ETC). Her goal is to improve airway management of critically ill patients who require a breathing tube (endotracheal tube; ETT) and mechanical ventilation.

### Purpose of the project:

The ETT has a balloon at the end that is inflated to create a seal in the trachea. The pressure in the balloon must be maintained within a narrow range to prevent complications.

Dr. Sole is monitoring the pressures in the balloon continuously on 32 subjects during two consecutive 12-hour day shifts to:

- 1.) Identify clinical factors that influence ETT cuff pressures
  - 2.) describe the natural history of ETT cuff pressures over time
  - 3.) test the effectiveness of an airway management intervention on the duration of time a patient's ETT cuff pressure is within normal range.
- She is using a cardiac monitor, pressure monitoring transducer, and laptop computer to collect the cuff pressure information.

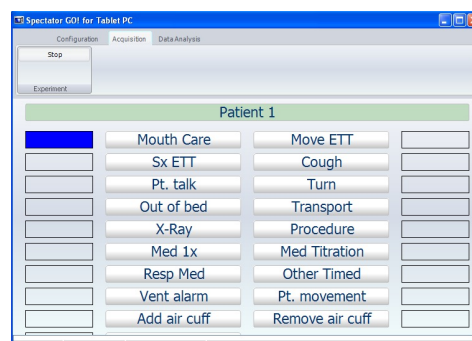
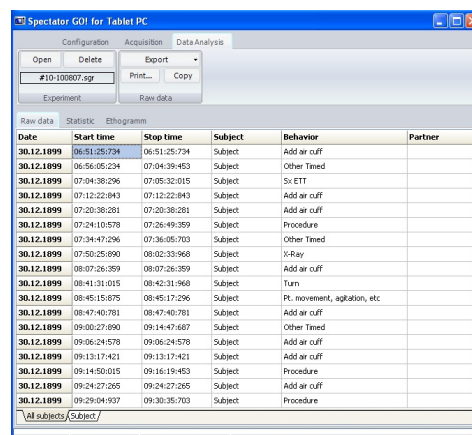
### Procedure:

Dr. Sole is documenting several patient activities to correlate with changes in the pressures in the balloon. Time synchronization of events is critical for this comparison. Dr. Sole is using the BIOBSERVE *Spectator GO!* software to collect these observational data. She has identified several behaviors for observation, such as patient coughing, secretion removal, painful procedures, etc. The *Spectator GO!* allows for time stamping of single events, such as administration of a pain medication. It also allows the duration of longer events, such as turning the patient, to be time stamped and captured.

### Equipment:

Dr. Sole previously used the PDA version of the software in a pilot study to develop the procedures for this study. For the current study, she is using a version of *Spectator GO!* developed for a small touch screen tablet PC. She is using a Samsung Q100 to collect other data on an hourly (and more frequent basis) and wanted to have one device to collect both observational and physiological data. The tablet PC version is working well and makes data collection much easier. The touch screen is easy to operate and the *Spectator GO!* software can be configured to individual needs to collect observational data or other events. Data of several different observations and patients can be summarized and the software offers statistics and time charts to visualize the data.

All data and graphs can be exported into various formats for further processing.

Date	Start time	Stop time	Subject	Behavior	Partner
30.12.1899	06:51:25:734	06:51:25:734	Subject	Add air cuff	
30.12.1899	06:56:05:234	07:04:39:453	Subject	Other Timed	
30.12.1899	07:04:38:296	07:05:32:015	Subject	Sx ETT	
30.12.1899	07:12:22:843	07:12:22:843	Subject	Add air cuff	
30.12.1899	07:20:38:281	07:20:38:281	Subject	Add air cuff	
30.12.1899	07:24:10:578	07:26:49:359	Subject	Procedure	
30.12.1899	07:34:47:296	07:36:05:703	Subject	Other Timed	
30.12.1899	07:50:25:890	08:02:33:968	Subject	X-Ray	
30.12.1899	08:07:26:359	08:07:26:359	Subject	Add air cuff	
30.12.1899	08:41:31:015	08:42:31:860	Subject	Turn	
30.12.1899	08:45:15:075	08:45:17:296	Subject	Pt. movement, agitation, etc	
30.12.1899	08:47:40:781	08:47:40:781	Subject	Add air cuff	
30.12.1899	09:00:27:890	09:14:47:687	Subject	Other Timed	
30.12.1899	09:06:24:578	09:06:24:578	Subject	Add air cuff	
30.12.1899	09:13:17:421	09:13:17:421	Subject	Add air cuff	
30.12.1899	09:14:50:015	09:16:19:453	Subject	Procedure	
30.12.1899	09:24:27:265	09:24:27:265	Subject	Add air cuff	
30.12.1899	09:29:04:937	09:30:35:703	Subject	Procedure	

