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THE ASSOCIATION BETWEEN BATHING AND WEANING TRIAL DURATION

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Abstract

OBJECTIVE—To describe patterns of bath care for patients who are weaning from prolonged mechanical ventilation (PMV) and to explore the association between bathing and weaning trial duration.

METHODS—Descriptive correlational study. Clinical records from 439 weaning trial days for 30 patients who required PMV were abstracted for bathing occurrences during weaning trials, within 1-hour before a trial, and nocturnally.

RESULTS—Most baths occurred during weaning trials (30.8%) or at night (35.3%), and less frequently (16%) within 1-hour before a trial. No significant effects were found on trial duration for nocturnal bathing or bathing within 1-hour before a trial. Using random coefficient modeling, weaning duration was shown to be longer when bathing occurred during a weaning trial ($p < .05$), even when controlling for age, severity of illness, and days on bedrest.

CONCLUSION—Bathing occurred during nearly one-third of PMV weaning trials. Baths during PMV weaning trials were associated with longer weaning trial duration.

Keywords

baths; prolonged mechanical ventilation; chronic critical illness; critical care; energy conservation; ventilator weaning; mixed methods

Bathing is a fundamental and socially significant nursing care activity. ^{1, 2} Nurses are responsible for planning and implementing daily care activities for patients who are weaning from prolonged mechanical ventilation (PMV); however there is little research describing best practices for bathing in relation to ventilator weaning trials. Oxygen consumption and

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energy expenditure during bathing may affect the success or duration a ventilator weaning trial. Bathing may be delayed to conserve energy for weaning trials or, conversely, as a ritualized care practice, bathing may be a relatively fixed activity. This aspect of critical care clinical practice requires systematic investigation to make nursing care of patients who are weaning from PMV more visible and to provide evidence regarding the effect of bathing on PMV weaning trial duration.

Background

Our preceding qualitative investigation of bathing practices during weaning from PMV confirmed the importance of the bath as a fundamental nursing intervention that is highly valued by critical care nurses and family members [reference QUAL paper]^{1, 2}. The qualitative findings showed a general lack of consensus among ICU clinicians about the preferred timing or impact of baths during weaning trials. Observations of the weaning process did not show that bathing activity had an obvious positive or negative impact on the duration of PMV weaning trials; nor could we determine how prevalent the practice of bathing patients during PMV weaning trials actually was. Other qualitative reports show that nurse dependency, minimizing breathlessness, pacing or curtailing body care activities are critical strategies used by nurses and hospitalized patients with severe respiratory disease during bathing and personal body care^{3, 4}. Both patients and nurses endorse the importance of reducing or balancing energy demands during weaning from mechanical ventilation⁵⁻⁷. Nurses interviewed in Jenny and Logan's⁵ classic study reported using knowledge of the patient to tailor their interventions to manage each patient's energy resources, including reducing energy demands during weaning and coordinating the patients' activities. Although descriptive studies of mechanical ventilator weaning emphasize balancing work and rest, bathing during ventilator weaning trials or timing of bathing activities for patients who are weaning have not been specifically addressed.

Balancing work and rest may require nurses to control the timing of bathing activities in relation to the ventilator weaning trial. Tamburri and colleagues⁸ observed that a high proportion (62%) of routine daily baths were performed between 9:00 PM and 6:00 AM in intensive care units (ICUs). Their finding that more than one-third (56/147; 38%) of daily baths occurred between 2:00 AM and 5:00 AM suggests that patient sleep is frequently disrupted for the performance of hygiene care. There are no studies in the literature that specifically address the outcome of various bathing times (before ventilator weaning trial, during weaning trial, or nighttime bathing) or the impact of bathing on duration of mechanical ventilation (MV) weaning trials.

Past research suggests that most critically ill patients recover fairly quickly from the physiological effects of bathing and that the energy expenditure during bathing is not excessive. Bed baths and turning result in a transient decrease in mixed venous oxygen saturation (SvO₂) and variable effects on blood pressure in critically ill patients⁹⁻¹³. Studies of activity in critically ill patients demonstrate relatively low levels of energy expenditure during a bed bath^{14, 15}. Decreases in SvO₂ of 9 to 13% can be expected after bathing and/or turning with less of a decrease during the bathing phase^{9, 16}. The greatest decrease in SvO₂ was associated with bed baths in mechanically ventilated patients on high inspired oxygen concentrations (FiO₂) and positive end-expiratory pressure (PEEP) settings¹⁰. Physiological recovery from bathing and turning is usually relatively rapid, ranging from 3 to 16 minutes^{9-11, 13, 17}. No benefit was gained from the addition of a 10-minute rest period between bathing and turning phases of a bed bath in hemodynamically stable coronary artery bypass graft patients⁹. Unfortunately, physiological studies of bathing have not been conducted during ventilator weaning trials or with patients who have experienced prolonged (> 4 days) critical illness and mechanical ventilation.

A previous literature review, suggested that age, severity of illness, and prolonged time on bed rest may be important factors influencing patient response to bathing and position changes during acute and critical illness¹⁸. We were unable to identify any studies that attempted to determine the impact of the bath on duration of weaning trials in patients who required PMV.

There has been increasing attention to mobility interventions to improve outcomes in patients on PMV with evidence that activity and exercise can be feasible, safe, and effective in improving short term functional outcomes and in achieving earlier discharge for patients experiencing PMV 19–24. Early activity studies and exercise protocols do include parameters regarding exercise during spontaneous breathing trials (e.g., not until patients have achieved 4 hours of spontaneous breathing) and/or guidelines to increase FiO₂ concentrations during these activities^{21, 25}. Yet, the research literature provides no such guidance for “activities of daily living,” such as bathing.

In summary, qualitative studies identify significant concern about bathing and other energy expending activities in relation to balancing work and rest during weaning from mechanical ventilation. However, prior physiological studies suggest that critically ill patients recover fairly quickly from the physiological effects of bathing and that energy expenditure during bathing is not excessive. Daily timing of baths during critical illness are variable with nighttime bathing a frequent practice pattern. Patient demographic and clinical characteristics (e.g., age, duration of critical illness, severity of illness) may influence whether nurses bathe patients during the weaning trial.

In follow-up to our qualitative study of bathing practices and beliefs during weaning from PMV, available clinical record data were quantitatively examined to determine how often nurses bathed patients *during* PMV weaning trials and whether bathing patients before, during the weaning trial, or at night influenced the duration of weaning trials.

The specific aims of this quantitative secondary analysis were to (1) examine the bathing care patterns in patients weaning from PMV; (2) determine whether the bathing practice [during a weaning trial; within one hour before the weaning trial; and nocturnal (2:00 AM–5:00 AM)] is associated with the duration of the weaning trial; and (3) investigate the association between patient demographic and clinical characteristics for the initiation of bathing patients during a weaning trial. With respect to the third aim, we hypothesized that older, more seriously ill, and/or patients with longer periods of bed rest before weaning trials commenced, would be less likely to receive a bath during weaning trials early in their ventilator weaning period.

Methods

Design

This is a descriptive correlational study performed as a secondary analysis of quantitative data from a larger ethnography of the process of weaning patients from prolonged mechanical ventilation (PMV) 26. PMV was defined as ≥ 4 days on full mechanical ventilation support with at least 2 unsuccessful weaning attempts. Weaning attempts were unsuccessful if the patient was returned to full ventilatory support. Description of the design and findings of the parent study have been reported elsewhere 27–30. Consistent with an exploratory sequential mixed methods approach, the results of the first, qualitative study describing the practices and beliefs about bathing patients during PMV weaning were used to inform and shape this follow-up, quantitative study which measured prevalence of a phenomenon (bathing patterns) described in the qualitative phase 31.

Setting

The study was conducted in the medical intensive care unit (MICU) of an urban, tertiary care medical center from November, 2001 to July, 2003. The MICU was a 20 bed unit with an adjacent eight bed step-down unit where most of the weaning trials for PMV patients occurred. During a 28-month period coinciding with our study period, 70.5% (371/526) of patients admitted to the step-down unit required mechanical ventilation and 65.0% (241/371) of those required multiple ventilator weaning trials³². Patients were weaned by reducing continuous positive airway pressure (CPAP) to <12cm H₂O) and/or by spontaneous breathing trials using a tracheostomy mask or T-piece; Synchronous intermittent mandatory ventilation was rarely used in this setting. There were no ambulation or exercise protocols. Patients received range of motion exercises from physical therapy on an individualized basis. Enteral nutrition therapy was evaluated and monitored by a nutritionist. There was no sedation or sedation interruption protocol at the time of this study.

Sample

Thirty adult patients, who were weaning from PMV, were purposively selected for variation in age, gender, race, neurocognitive status (Glasgow Coma Score), severity of illness, and primary diagnosis. The sample was obtained in conjunction with and as representative of a larger study of prolonged mechanical ventilation conducted in the same setting³². Patients were included who: (1) were over 18 years of age; (2) understood English; (3) were ventilated a minimum of 4 days, (4) had failed 2 weaning trials, and (5) an active process of weaning was initiated.

Measurement

The key variables of interest in the study were operationalized as follows:

Weaning trial duration is the time recorded in hours that the patient tolerated a period of less than full ventilatory support during a 24 hour period when mechanical ventilatory support was required. Weaning trials included attempts by respiratory therapy and nursing staff to test the patient's ability to breathe independent of the mechanical ventilator. The times were extracted from the respiratory therapy log in the computerized clinical record and entered into a spreadsheet database organized by ventilator day for each subject.

Bathing refers to complete or partial bed baths supervised or performed by the nurse. Baths were either prepared in a basin with water or using bath-in-a-bag products. Type of bed bath was not differentiated in the data available. Data were obtained from nursing documentation in the computerized clinical records of the time baths were performed and the respiratory therapy documentation of weaning trial start and end times. Bathing times were collected by trained data collectors for all days in which ventilator weaning trials occurred and then categorized as follows: (1) Within 1-hr prior to ventilator weaning trial; (2) Anytime during the ventilator weaning trial; (3) Nocturnal bathing (anytime between 2 A.M. and 5 A.M.). Baths in each pattern were tallied by subject and for the sample.

Days in the hospital before weaning trials was selected as a proxy measure for prolonged bed rest, an indicator of deconditioning cited by Doering¹⁸ to influence physiological response to bathing and other activities during critical illness. Because the number of hospital days before weaning trials began were nearly identical to the number of ICU days before weaning trials began in this sample, we chose to use the more comprehensive count of days of hospitalization.

Severity of illness refers to the acuity of critical illness measured by the Acute Physiology and Chronic Health Evaluation (APACHE) III scores obtained on the first day of weaning

trials. 33 The APACHE III is a well-established ICU severity of illness measure in critical care populations with scores ranging from 0–299; higher admission APACHE III scores predict greater risk of in-hospital mortality³³. Reliability reports for the Acute Physiology Score component of the APACHE II tool are reported at intraclass correlation coefficient = 0.86 – 0.90 and 0.90 for the total APACHE II score³⁴. The reported predictive validity (mortality risk prediction) for the APACHE III is high ($r^2 = 0.90$, $p < 0.0001$)³³. While the score is used primarily to predict mortality, it is also commonly used to gauge illness severity either daily or at milestones during critical illness. In the current study, data collectors maintained inter-rater agreement at $>.90$ for all components of the APACHE III tool.

Age was calculated in years by recorded birthdate in the clinical record to admission.

Procedures

Patient demographic characteristics (age, gender, diagnoses) and clinical data (e.g., severity of illness score, days on MV before weaning trials began, days in hospital before weaning trials began, duration of daily weaning trials (hours), presence or absence of bath during weaning, nocturnal bath, and bath within one hour prior to weaning) were extracted from the medical record by retrospective review performed by trained research assistants. The accuracy of data extraction was checked by dual coding of all data elements and data collector agreement was maintained above 95%. Clinical data for each weaning day were recorded on Excel, version 10 (Microsoft Corp., 2002) spreadsheets. These data were recorded for the period of care during which consistent weaning attempts were implemented. In this study, the “weaning period” ended at 48 hours off full ventilatory support without relapse, upon discharge from the step-down ICU, or death, whichever came first.

Data Analysis

Data analysis was performed using SPSS (version 15.0, SPSS, Inc., Chicago, IL) and SAS (version 9.1.3, SAS Institute, Inc., Cary, NC). Exploratory data analysis was performed for all variables to compute descriptive statistics and to identify data anomalies. Descriptive statistics, including frequency distributions and summary statistics (i.e., measures of central tendency and dispersion), were computed for all time-invariant (fixed) variables. Graphic representations and group comparative analyses (e.g., scatter plots with correlations, cross-tabulations with chi-square analyses of independence, analysis of variance or Kruskal-Wallis procedure) were conducted to identify potential covariates to be considered for statistical adjustment.

Frequency counts and percentages were computed to describe the distribution of particular bath patterns (Aim 1). Since all but one patient received at least one bath during a weaning trial, time to first bath during a weaning trial was calculated to provide a consistent milestone measurement.

The associations between each of the bathing patterns and the duration of daily weaning trials (Aim 2) were investigated using random coefficient modeling (i.e., hierarchical linear modeling, multilevel modeling) at a priori significance level of .05. This analytic approach was used to account for non-independence of weaning trials measured over time within a participant, to allow for the variable durations of daily monitoring, and to accommodate both time-varying and time-invariant predictor variables such as the time-varying patient factor of bathing pattern assessed daily and the time-invariant covariates of age and illness severity and prolonged bed rest prior to the start of weaning trials. Crude and adjusted estimated regression coefficients, b , their standard errors (SE), t -values and p -values. Least squares means were also estimated for each bathing pattern.

Because the time to first bath during a weaning trial may be censored, event history analysis methods were used (Aim 3). Kaplan-Meier estimation was used to compute the mean time to first bath during a weaning trial, yielding a point estimate with 95% confidence interval. Cox proportional hazards regression was used to explore the bivariate and multivariate associations between the identified patient factors of age, severity of illness immediately prior to the start of weaning trials, and prolonged bed rest and the time to the initiation of bathing during weaning trials at a priori significance level of .05. Additionally, the proportion of days with weaning trials where baths occurred during the weaning trials was analyzed using linear regression considering the patient factors of interest.

Results

Patient characteristics are displayed on Table 1. Participants were thirty critically ill patients receiving PMV, 25 to 87 years of age (Mean= 59.5, SD=17.6 years). Most (87%) were Caucasian and about half were women.

A total of 655 ICU days were reviewed for the 30 study patients. Because weaning trials did not occur every day for all patients, 439 days of weaning trial “events” were recorded in the final dataset for this study. There were 306 bathing events recorded during the time periods of interest [< 1 hour before the weaning trial, during the weaning trial, and nocturnal (2am–5am)] (Table 2).

Bathing Care Patterns (Aim #1)

As reported in Table 2, most study patients ($n=29$; 96.7%) were bathed at least once during a weaning trial during the observation period. Baths were performed during 30.8% ($n=135$) of all days with weaning trials. Ten patients (33.3%) received at least one bath within 1-hour before a weaning trial for a total of only 16 bathing occurrences. Twenty-four patients (80.0%) had at least one nocturnal (2:00 AM – 5:00 AM) bath. More than half of the bathing events ($n=155$; 50.7%) were nocturnal.

Association Between Bathing and Daily Weaning Duration (Aim #2)

Bathing During Weaning Trials—The average ($\pm$ SE) duration of daily weaning trials was significantly greater when patients were being bathed during the weaning trial compared to when no bathing occurred (11.14 ± 0.82 hours vs. 8.40 ± 0.77 hours, respectively; $b=2.74$, $SE=0.47$, $t=5.78$, $p<.0001$). This positive association was maintained after adjusting for the key covariates of age, severity of illness (APACHE III), and days in the hospital before the first weaning trial (11.50 ± 0.89 hours vs. 8.81 ± 0.86 hours, respectively; $b=2.69$, $SE=0.47$, $t=5.70$, $p<.0001$). Of the covariates considered only severity of illness was associated with duration of daily weaning trials, where longer durations were associated with lower levels of illness severity ($b=-0.07$, $SE=0.03$, $t=-2.50$, $p=.0197$).

Other Bathing Patterns—A bath within 1-hour before the weaning trial was not a significant predictor of the duration of daily weaning trials even after the statistical adjustment of covariates ($b=0.46$, $SE=1.21$, $t=0.38$, $p=.7064$). Similarly, nocturnal bathing was not a significant predictor of daily weaning times even following the adjustment of covariates ($b=0.35$, $SE=0.49$, $t=0.71$, $p=.4805$).

Patient Factors Influencing Bathing during a Weaning Trial (Aim #3)

Eight patients (26.7%) were bathed during their first weaning trial. Using Kaplan-Meier estimation, the first bath during a weaning trial occurred on average 5.5 days [$SE = 1.33$; 95%CI=(2.89, 8.11)] into the weaning trajectory. None of the patient factors thought to

predict initiation of bathing during weaning trials--patient age, severity of illness (APACHE III on the first day of weaning trials), days in the hospital before the first weaning trial--were significantly associated with the time to the first occurrence of bath during a weaning trial. After adjusting for the number of days observed, severity of illness (APACHE III) scores on the first day of weaning trials were not related to the proportion of days where baths occurred during the weaning trial.

Discussion

The major finding of this study was that performing baths during the weaning trial did not negatively impact the length of the weaning trial for patients on PMV. Contrary to expectations and conventional clinical wisdom, daily weaning trials were, on average, almost three hours longer when patients were bathed during the weaning trial (11.14 ± 0.82 hours vs. 8.40 ± 0.77 hours, respectively). There are several explanations for these findings. First, clinicians may have accurately assessed and predicted individual patients' abilities to tolerate baths during weaning trials. Thus, patients weaned longer on those days when baths occurred because those days represented truly "good days." Second, this finding may reflect a positive effect of nurse presence, attention, distraction, and touch during bathing activities that outweighed potentially negative effects of bathing activity and energy expenditure during weaning trials³⁵. Finally, consistent with the literature on energy expenditure during bathing and physiologic recovery after bathing, the bathing activity may simply not produce enough physiologic change to negatively impact the work of weaning^{9-11, 13, 17}. Evidence from a qualitative study of bathing and personal body care among hospitalized patients with severe pulmonary disease suggests that bed baths may be preferred by patients who experience breathlessness, not all patients with pulmonary disease experience breathlessness with bathing, and that pacing or curtailing the activity may be necessary to promote comfort for patients who experience difficulty breathing^{3, 4}.

Baths during weaning and nocturnal bathing were the dominant bathing patterns identified in our study. Our data are consistent with Tamburri et al's⁸ observation that more than one-third (38%) of routine daily baths were performed between 2:00 AM and 5:00 AM. Although seemingly disruptive to sleep, this practice alone did not predict shorter (or longer) daily wean times in our sample. Nevertheless, critically ill patients may experience other adverse effects of sleep disruption, such as daytime sleepiness, fatigue, and delirium, not evaluated in this study.³⁶ Dracup and Bryan-Brown³⁷ recommend clustering nursing care activities for ICU patients to avoid interruption of restorative nighttime sleep.

Our analysis did not confirm that baths were often performed just prior to weaning trials. This bathing pattern, within one-hour before the weaning trial, was in fact an infrequent occurrence as it was represented in only 3.6% of weaning days ($n=16$). Weaning trials may, however, have been delayed for more than one-hour when nurses initiated baths at times conflicting with respiratory therapists' intention to initiate a weaning trial.

For the PMV patients in this study, the first bath during a weaning trial occurred, on average, 5 days from the start of weaning trials. This may reflect a period of clinical evaluation and progressive activity tolerance; however, there were no predictive variables such as age, severity of illness, or prolonged bed rest associated with the timing of first bath. In fact, 8 patients (26.7%) were bathed during the first weaning trial. The average length of bed rest before weaning trials began (10-11 days) in this sample would likely produce deconditioning effects¹⁸. Future studies of bathing and/or activity tolerance during weaning from PMV should include objective clinical tests of muscle strength and function to measure deconditioning^{38, 39}.

This quantitative study provides an opportunity to integrate qualitative and quantitative findings in a single, two-phase mixed methods research project. Our previous qualitative conclusion regarding the lack of consistent indicators to guide bathing during a PMV weaning trial was confirmed by findings of this quantitative follow-up study which identified no patient characteristics that predicted who would receive baths during weaning trials, when patients would be bathed during weaning trials, or how often patients would be bathed during weaning trials. Severity of illness (APACHE III score on the first day of weaning trials) was not related to the proportion of days where baths occurred during the weaning trial. Moreover, 8 patients, more than one-quarter of the study sample, were bathed during the first weaning trial. All but one subject received at least one bath during a weaning trial during the observation period and this individual appeared to have no distinguishing characteristics that might have led to this outcome. It therefore appears that nurses and respiratory therapists use other, unarticulated, clinical or workload factors on which to base their decisions about bathing patients during weaning or make them randomly. Regardless, there is no evidence in this sample that decisions to bathe patients during a weaning trial had adverse effects. Rather the effect seemed to be positive in terms of promoting a longer duration of weaning. This study presents preliminary evidence of the feasibility of and patient tolerance for conducting baths during PMV weaning trials, findings consistent with recent studies of activity and exercise in this patient population [15-20-25].

Limitations

The study was conducted in a medical ICU located in a tertiary care institution and involved a relatively small sample of subjects. Findings may not generalize to other types of patients or institutions. The sample was restricted to patients on PMV who, by nature of their illness trajectory, may have been better able to tolerate bathing before or during a weaning trial. This study is primarily limited by the retrospective design and lack of physiological measures during bathing. The exclusion of other measures of physical activity, such as chair sitting or physical therapy, or activity tolerance is an additional limitation. Study data were obtained by retrospective clinical record review and are therefore limited by the accuracy of documentation of bathing times and weaning trial duration. However, clinicians on this unit appeared on observation to be conscientious about this documentation as evidenced by daily (or more frequent) documentation with time notations as hour and minute. Findings may have differed if the study included additional variables not available in the clinical record, e.g., energy expenditure, physiological responses to bathing, duration of bath, type of bath (warm towels or basin). Autonomic reactivity can be an important factor influencing patient response to bathing and position changes¹⁸; however, we were not able to retrospectively include an appropriate physiological measure of this construct other than severity of illness (APACHE III). Because the study did not involve random assignment, it is possible that unrecognized factors related to recovery influenced patient response and masked adverse effects of bathing on the duration of weaning trials. Finally, we were unable to differentiate nocturnal bathing that may have been an appropriate nursing response to an episode of incontinence from a deliberate waking of a sleeping patient to complete a routine care activity.

Conclusion

In conclusion, bathing during weaning trials may have a positive effect for selected PMV patients. Further research is needed to more comprehensively investigate the physiological and psychological effects of bathing activity for patients who are weaning from PMV, to understand the relationship between bathing and weaning trial duration, and to determine evidence-based guidelines (e.g., increase in FiO₂ support, progressive tolerance, etc.) for this activity during weaning from PMV.

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Table 1

Patient Characteristics

	Mean + SD	Trimmed Mean + SD	Median	Range
Age (years)	59.5 + 17.64		59.5	25 – 87
APACHE III *	58.5 + 19.58		54.0	19–106
Hospital LOS (days)	76.5 + 163.0	38.2 + 24.1 ^a	32.0	7 – 876
ICU LOS (days)	47.5 + 63.0	34.0 + 21.8 ^a	30.0	7 – 350
Duration of MV (days)	67.8 + 164.6	28.9 + 21.2 ^a	28.0	5 – 875
Bedrest:				
Duration of Hospital Stay Prior to First Weaning Trial (days) [#]	36.1 + 135.9	11.4 + 12.4 ^b	5.0	0 – 753
	n (%)			
Female Gender:	16 (53)			
Ethnicity:				
African-American	4 (13)			
Caucasian	26 (87)			
Oral Endotracheal Tube	11 (37)			
Tracheostomy	19 (63)			
Primary Medical Diagnosis:				
Cardio-pulmonary	17 (57)			
Surgical complication	5 (17)			
Cancer	3 (10)			
Neuromuscular	5 (17)			
Neurocognitive Status (Glasgow Coma Score): **				
Severe (≤8)	4 (13)			
Moderate (9–12)	9 (30)			
High (13–15)	17 (57)			

* APACHE III scores were measured on first day of weaning trajectory.

** Glasgow Coma Score measured on first day in step-down ICU.

^aTwo outliers were excluded from the computation of the trimmed mean and standard deviation.

^bOne outlier was omitted from the computation of the trimmed mean and standard deviation.

[#]Weaning trials occurred on the first day of mechanical ventilation/hospitalization for three patients.

LOS = Length of Stay, LTC = long term care, LTAC= long term acute care, rehab = rehabilitation hospital

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Table 2

Frequency of Bathing Pattern (n=306 baths recorded)

Bathing Pattern	Patients Observed (n=30) n (%)	Total Number of Baths (n=306) n (%)
During Wean Trial	29 (96.7)	135 (44.1)
< 1-hour Before Trial	10 (33.3)	16 (5.3)
Nocturnal (2AM–5AM)	24 (80.0)	155 (50.7)