Contents

0.1 Data Dictionary

0.1.1 breathD

Column name	Data Type	Content Explanation
VA	float64	*Alveolar volume:* $V_A = (V_T - V_D) * RR$
bd	float64	
$\mathbf{VCO_2}$	float64	$VCO_2 = V_t exp * FeCO_2)\breve{}(V_t insp * FiCO_2$, in ml/min[1]
EELV	float64	End Expiratory Lung Volume: $\frac{\Delta V_{N_2}}{\Delta F_{ETN_2}}$, according to the method described in R.H. [2014]
EE	float64	Energy Expenditure
$\mathbf{Vt}_{exp}$	float64	Expiratory tidal volume in mL
$\mathbf{VCO}_{2exp}$	float64	CO_2 in expired air, ml/min
$\mathbf{FetCO_2}$	float64	Fraction of end tidal CO_2
$\mathbf{FetCO_2}$Monitor	float64	
$\mathbf{FetO_2}$	float64	Fraction of end tidal O_2
$\mathbf{FiO_2}$	float64	Fraction of inspiratory O_2
$\mathbf{FiO_2}$Monitor	float64	
$\mathbf{FiO_2}$Raw	float64	
$\mathbf{V}_t$insp	float64	Inspiratory tidal volume in mL
$\mathbf{VCO_2}$insp	float64	Inspiratory CO_2 volume in mL
$\mathbf{VO_2}$insp	float64	Inspiratory O_2 volume in mL
$\mathbf{dV}_t$	float64	Rate of change in V_t
$\mathbf{V}_t$	float64	Tidal volume, volume of air moving into the lungs each breath, in mL
$\mathbf{VO_2}$	float64	Volume of O_2 uptake
RQ	float64	Respiratory quotient, defined as $RQ = \frac{VCO_2}{VO_2}$[2]
$\mathbf{dTCO_2}$	float64	Rate of change in CO_2
$\mathbf{dTO_2}$	float64	Rate of change in O_2
validBreath	float64	One-hot encoded marker for validity of breath: 1=yes, 0=no
validRQ	float64	1=yes, 0=no
validSync	float64	1=yes, 0=no
$\mathbf{validVCO_2}$	float64	1=yes, 0=no
validVol	float64	1=yes, 0=no
cummulValidRQ	float64	1=yes, 0=no
inspStart	float64	Start time of inspiration. Total time corresponds to trial time of patient.
expStart	float64	Start time for expiration.
remPoints	float64	
TrappingFraction	float64	
ShortBreath	float64	1=yes, 0=1
$\mathbf{FetCO_2}$StdDev2	float64	Standard deviation of $FetCO_2$
ExpVolStart	float64	
breathDuration	float64	Total duration of breathing cycle in seconds
$\mathbf{FetCO_2}$Raw	float64	
Rf	float64	Resiratory frequency, in breaths/min

Table 1: The data dictionary for breath-by-breath data

0.1.2 Peso

Column name	Data Type	Content Explanation
Time	float64	Time in seconds. Paw, Peso and flow measured at 100Hz.
flow	float64	airflow, calculated as average of 20breaths prior to- and after ventilator setting changes.
pao	float64	Airway pressure, calculated similar to flow
peso	float64	Esophageal pressure as a surrogate variable for intrapleural pressure
pgastric	float64	—Unknown—
vol	float64	—Unknown—
ptp	float64	Pressure time product. Calculated as area subtended by Pes and chest-wall static recoil pressure time.
ModifiedFlow	float64	Modified flow measurements. Calculations unknown.
ModifiedPao	float64	Modified airway pressure measurements. Calculations unknown.
ModifiedPeso	float64	Modified esophageal pressure measurements. Calculations unknown.
TimeMinRel	float64	Time in minutes, relative to start of data collection (i.e. total relative time for patient11 part 1 is 6mins
TimeMinAbs	float64	Absolute time in minutes since beginning of trial.
PL	float64	

Table 2: The data dictionary for Peso

0.1.3 Continous Variables

Column name	Data Type	Content Explanation
Flow	float64	Airflow
FCO_2	float64	Fraction of CO_2
FO_2	float64	Fraction of O_2
TimeMinRel	float64	Time in minutes, relative to start of data collection (i.e. total relative time for patient11 is 6mins
TimeMinAbs	float64	Absolute time in minutes since beginning of trial.
rawTime	float64	Time in seconds

Table 3: The data dictionary for the continous variables

1 | Bibliography

R.H., **2014**. Dean R.H. *Respiratory mechanics in mechanically ventilated patients*. 2014.