

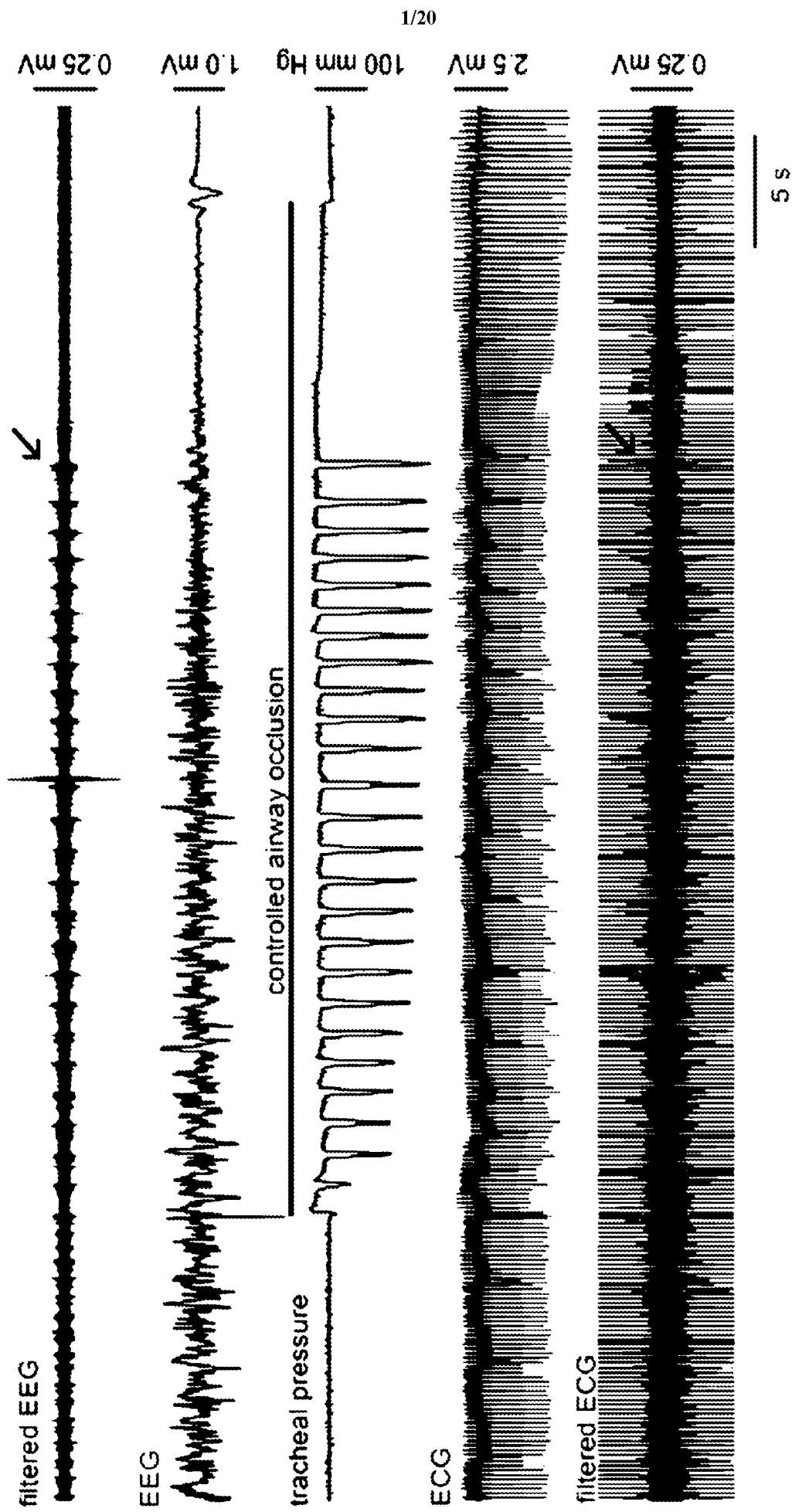


Fig. 1A

Changes in RR interval during occlusion

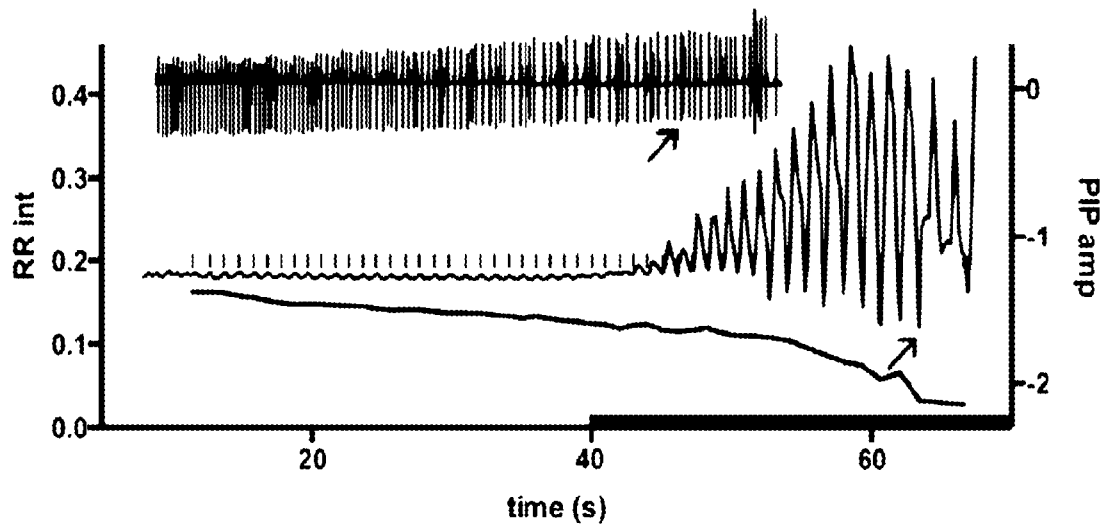


Fig. 1B

Correlation of PIP with artifact size

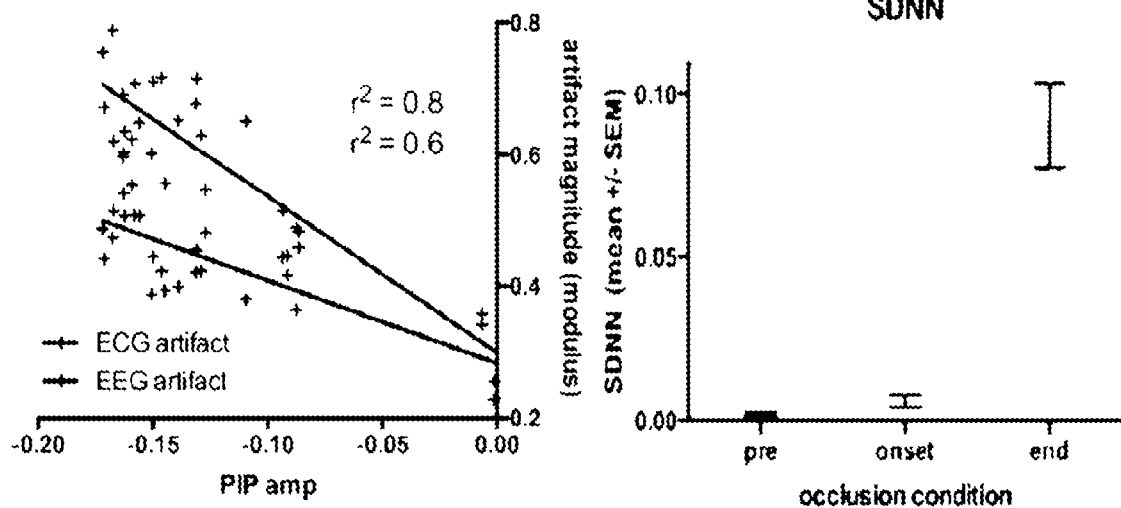


Fig. 1C

Fig. 1D

RR intervals in relation to PIP

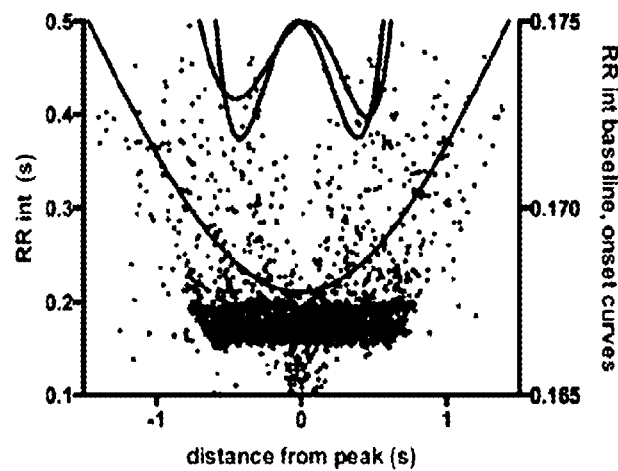


Fig. 1E

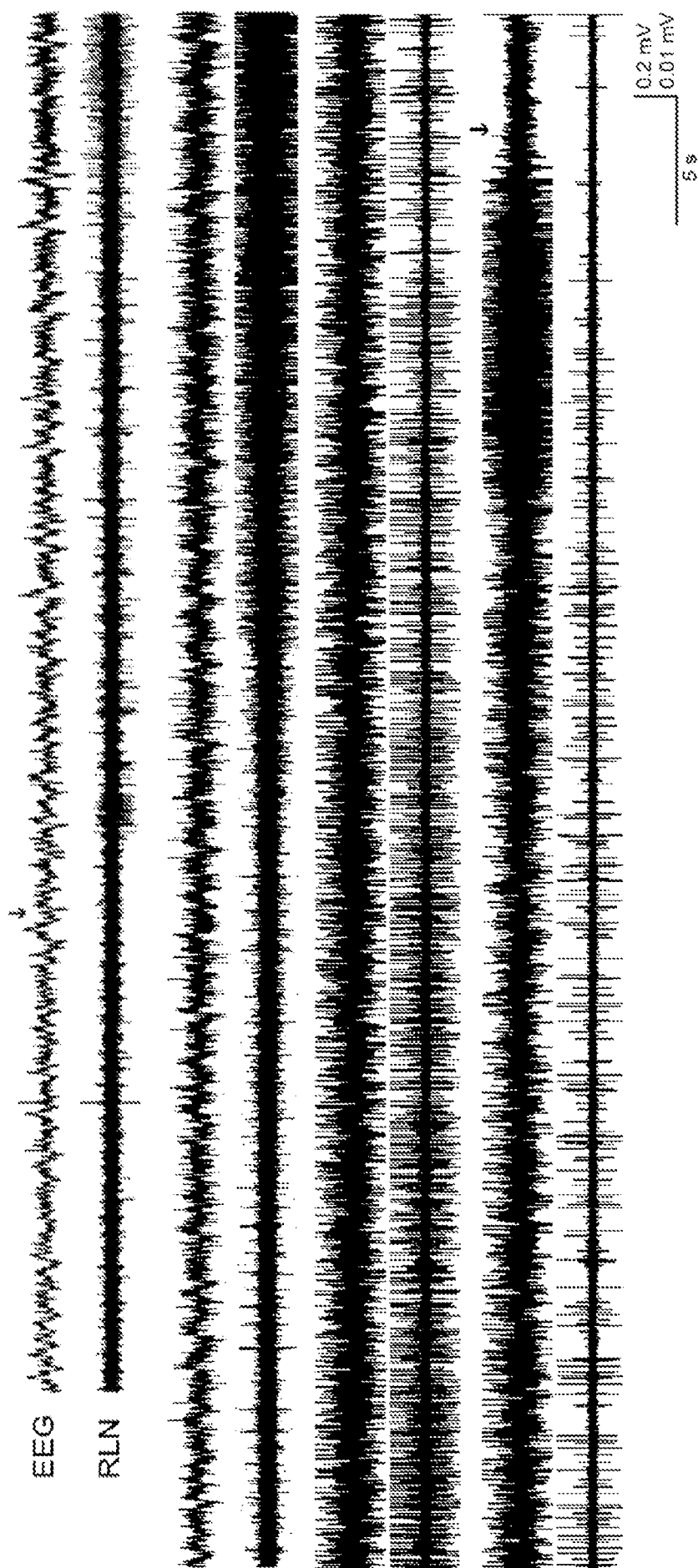
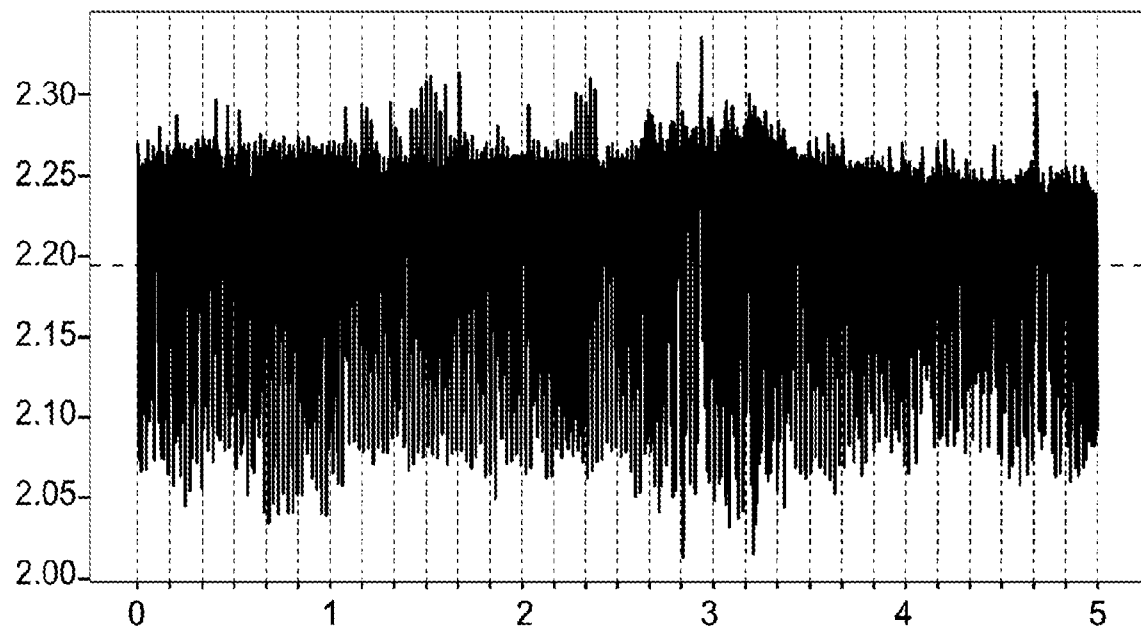
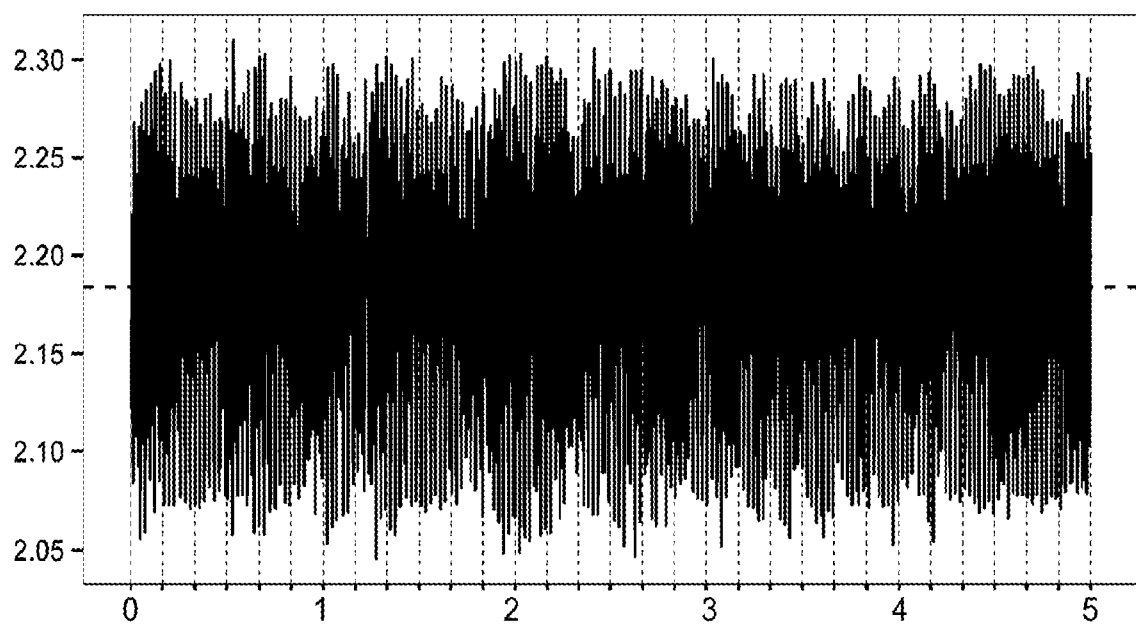


Fig. 2



Plethysmograph volume vs. Time (min)

A1. Non-intubated Baseline



Plethysmograph volume vs. Time (min)

B1. Intubated Baseline

Fig. 3-1

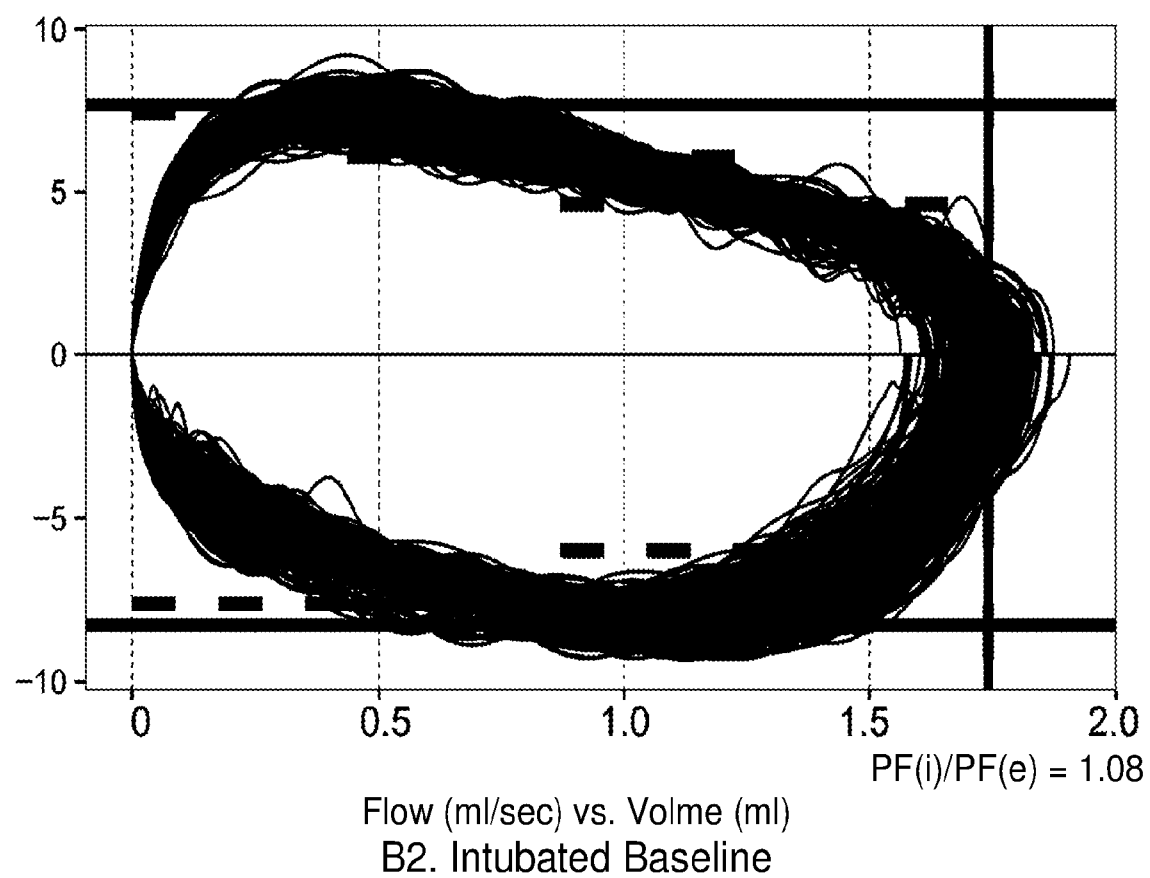
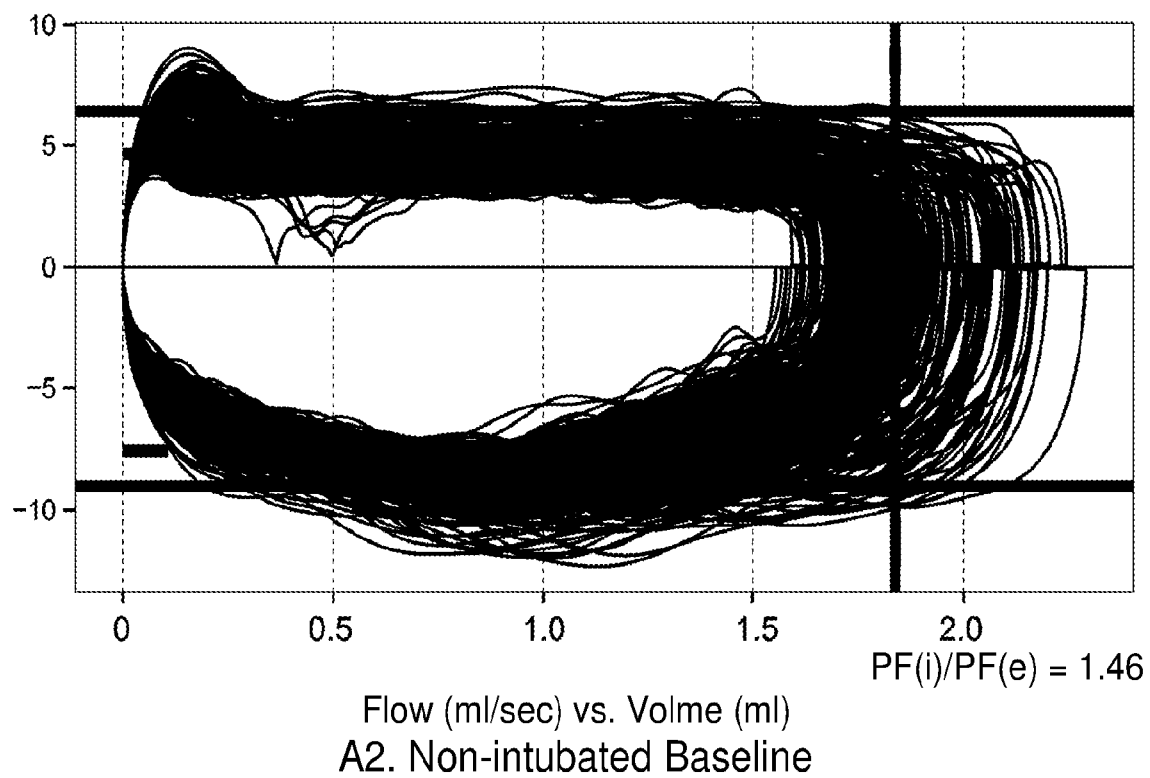


Fig. 3-2

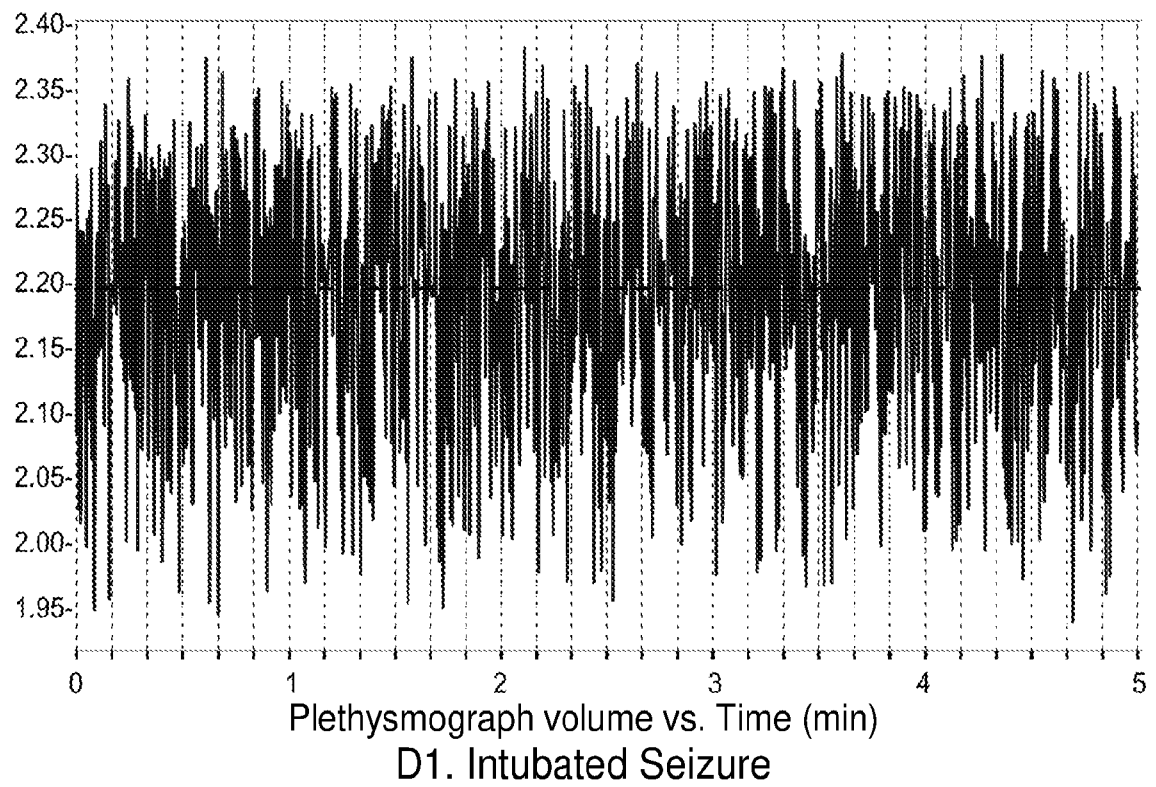
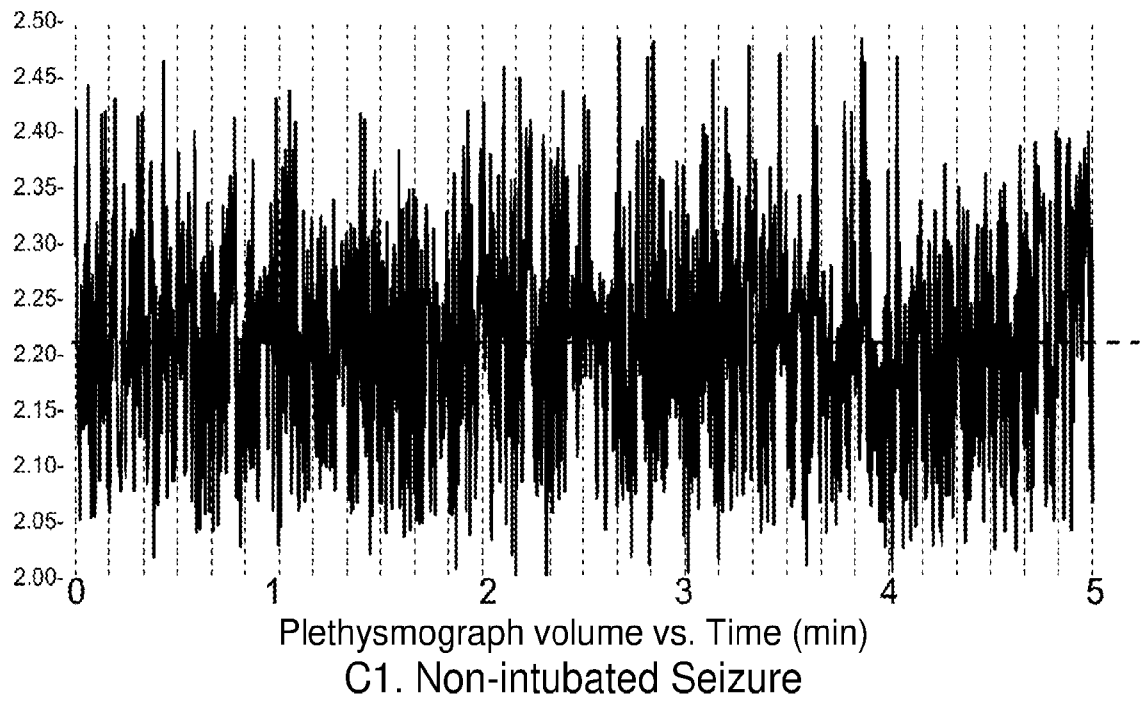
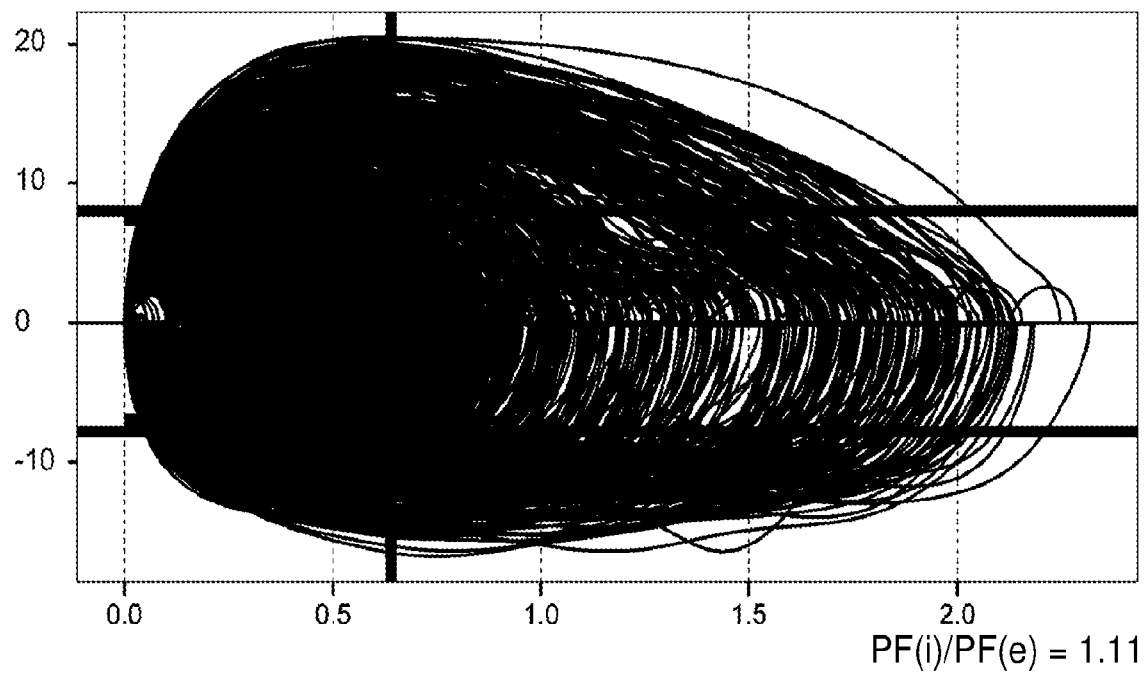
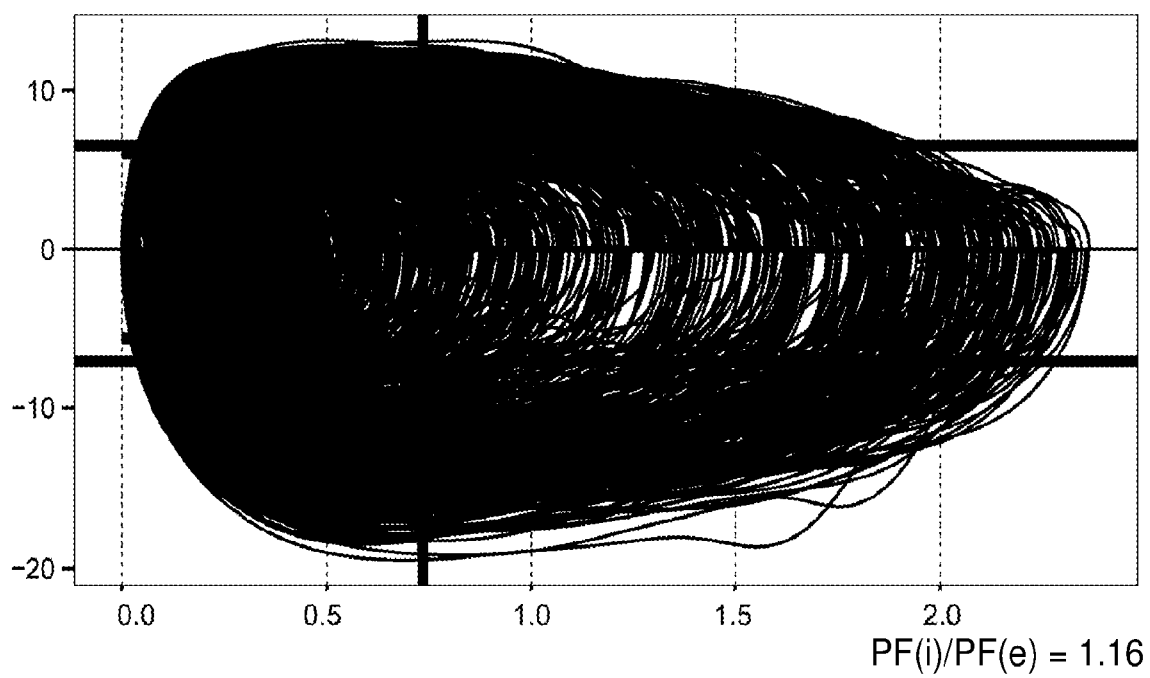


Fig. 3-3



Flow (ml/sec) vs. Volume (ml)
C2. Non-intubated Seizure



Flow (ml/sec) vs. Volume (ml)
D2. Intubated Seizure

Fig. 3-4

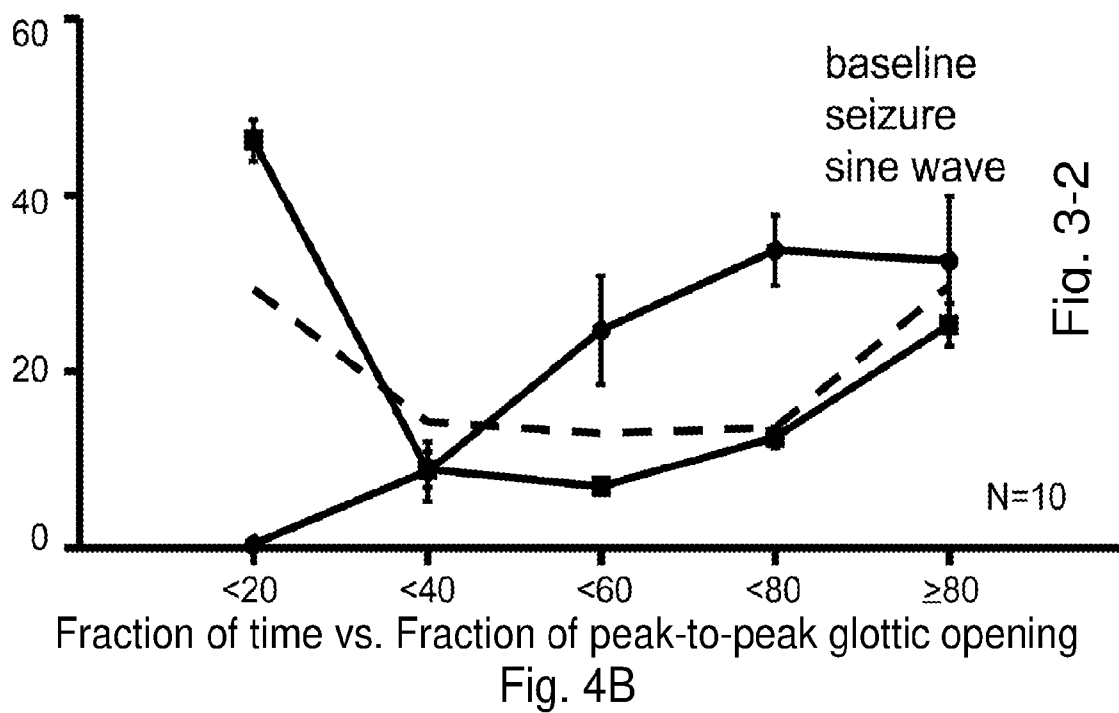
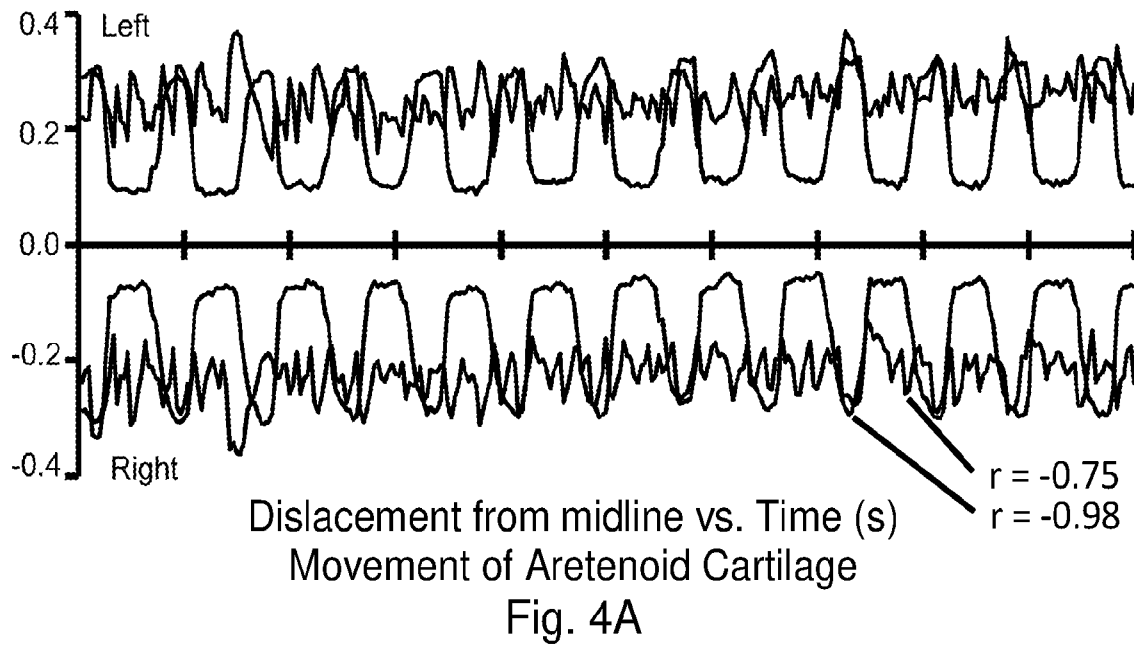


Fig. 3-2

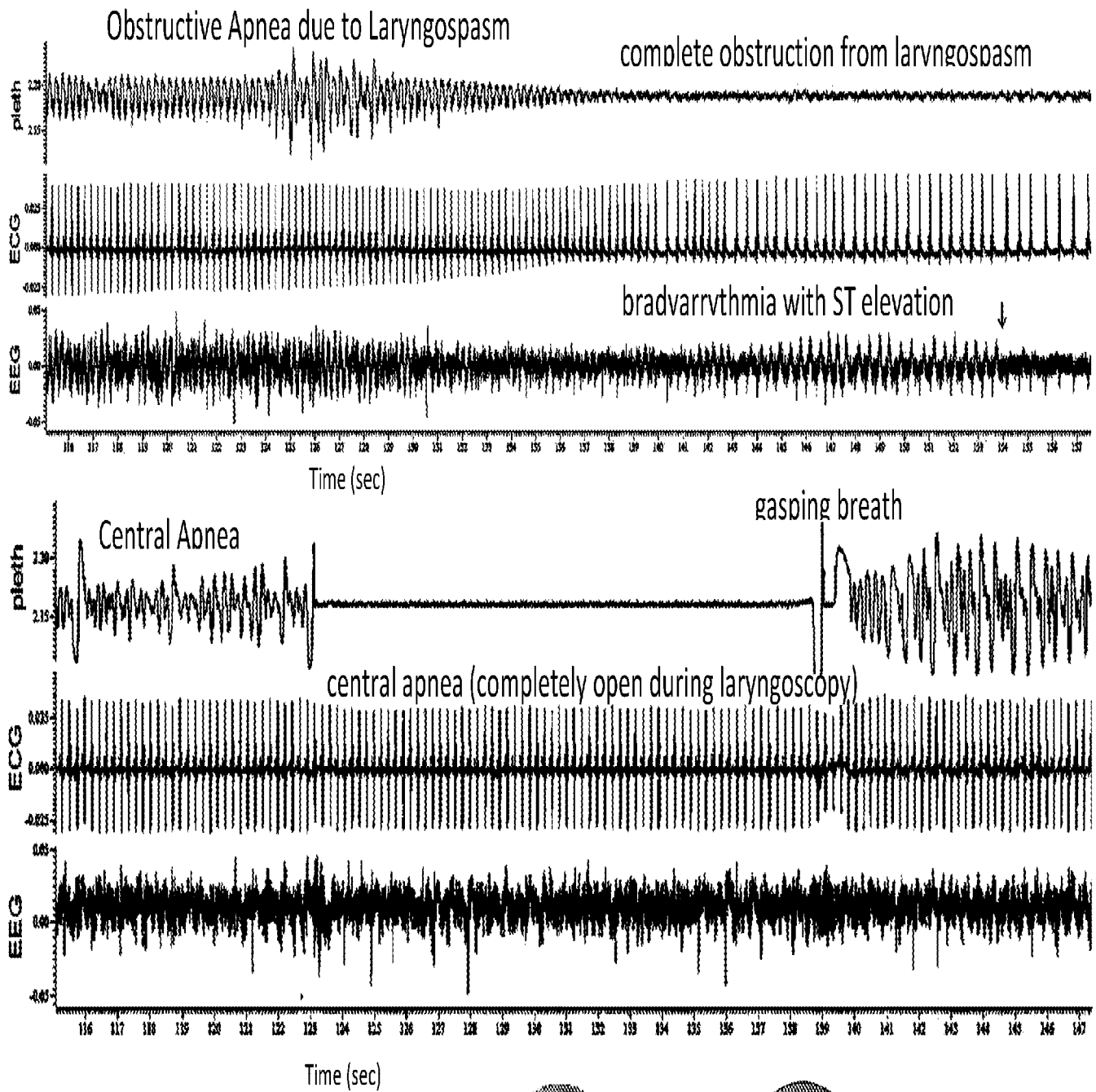
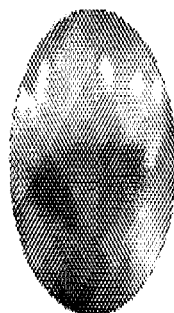
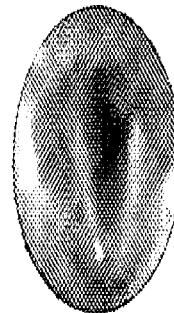


Fig. 5

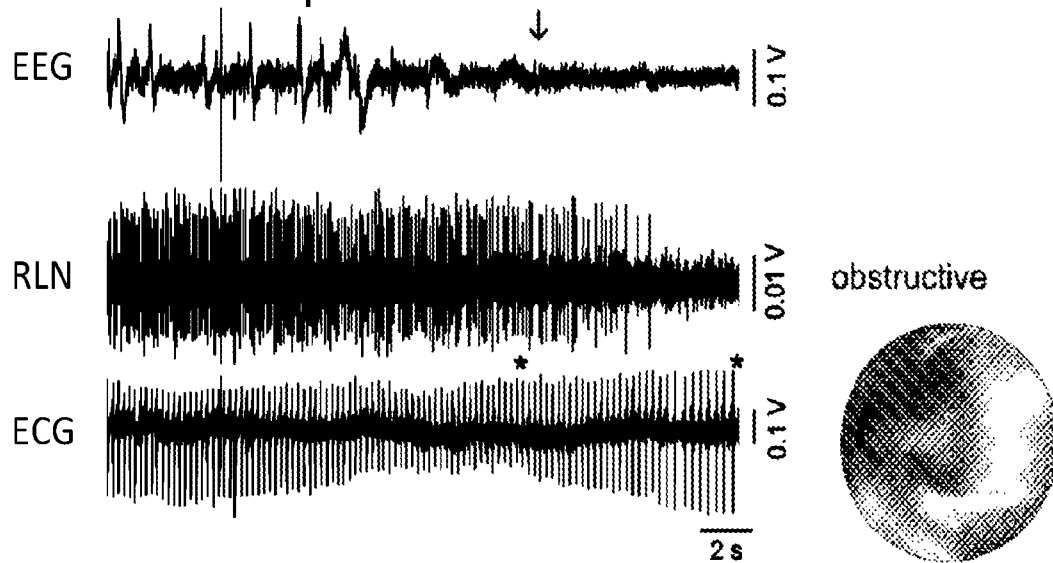


Obstructive



Central

Obstructive Apnea



Central Apnea

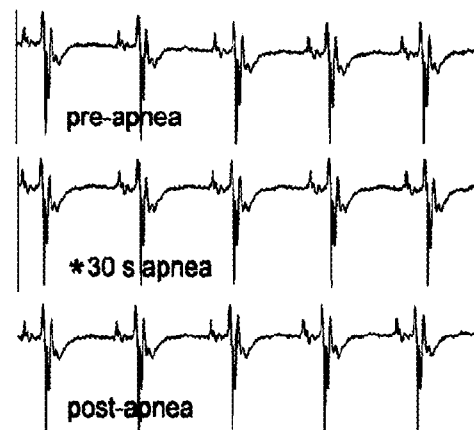
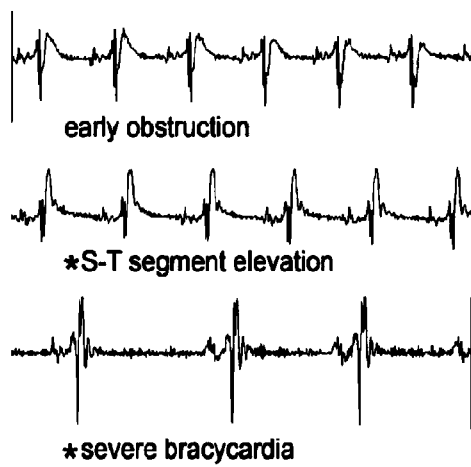
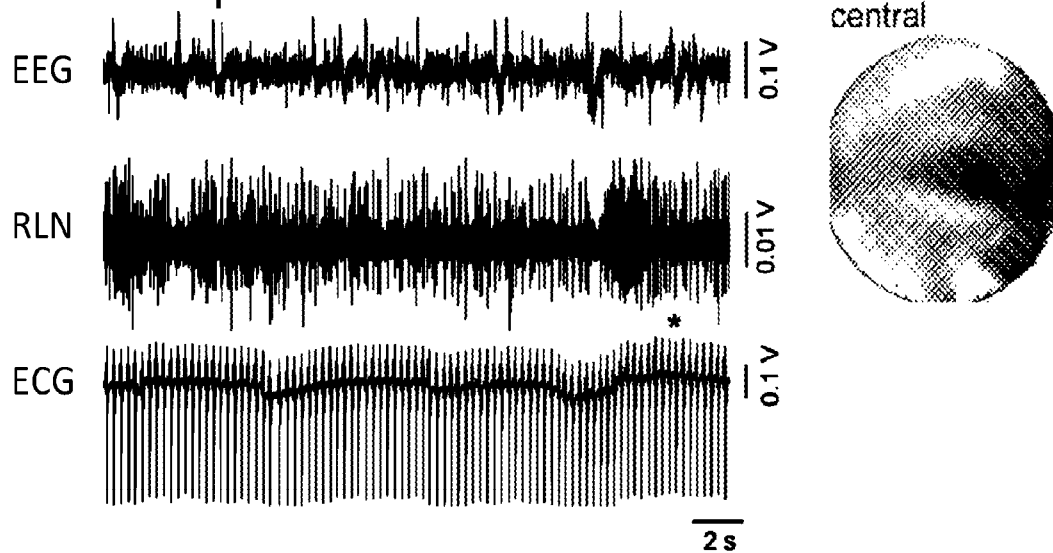


Fig. 6

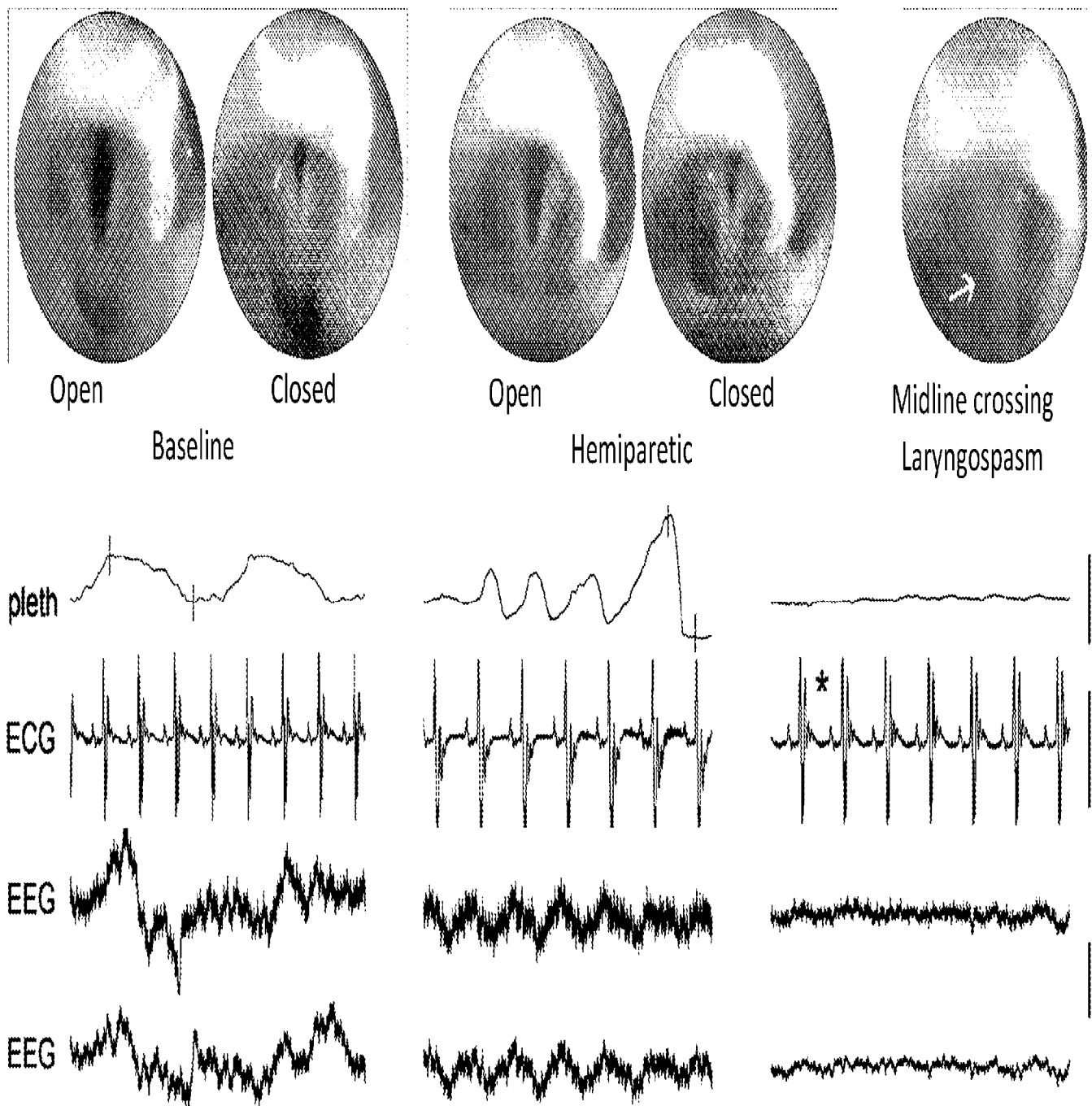


Fig. 7

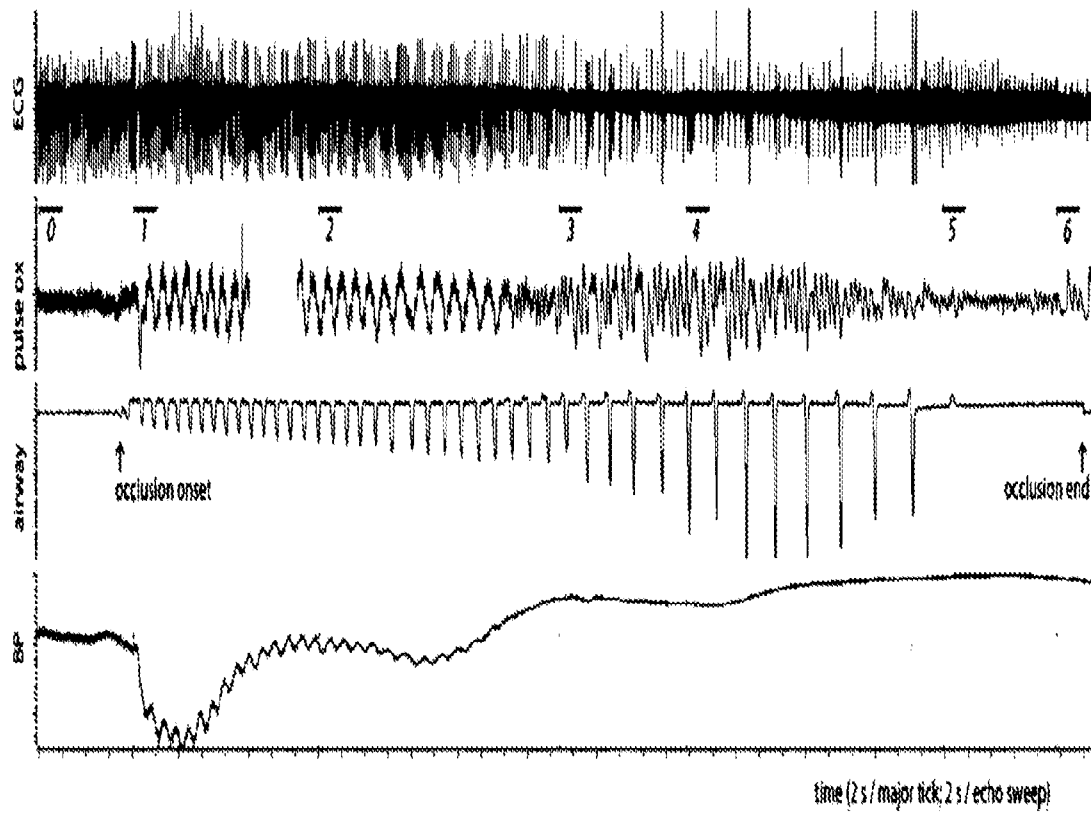


Fig. 8

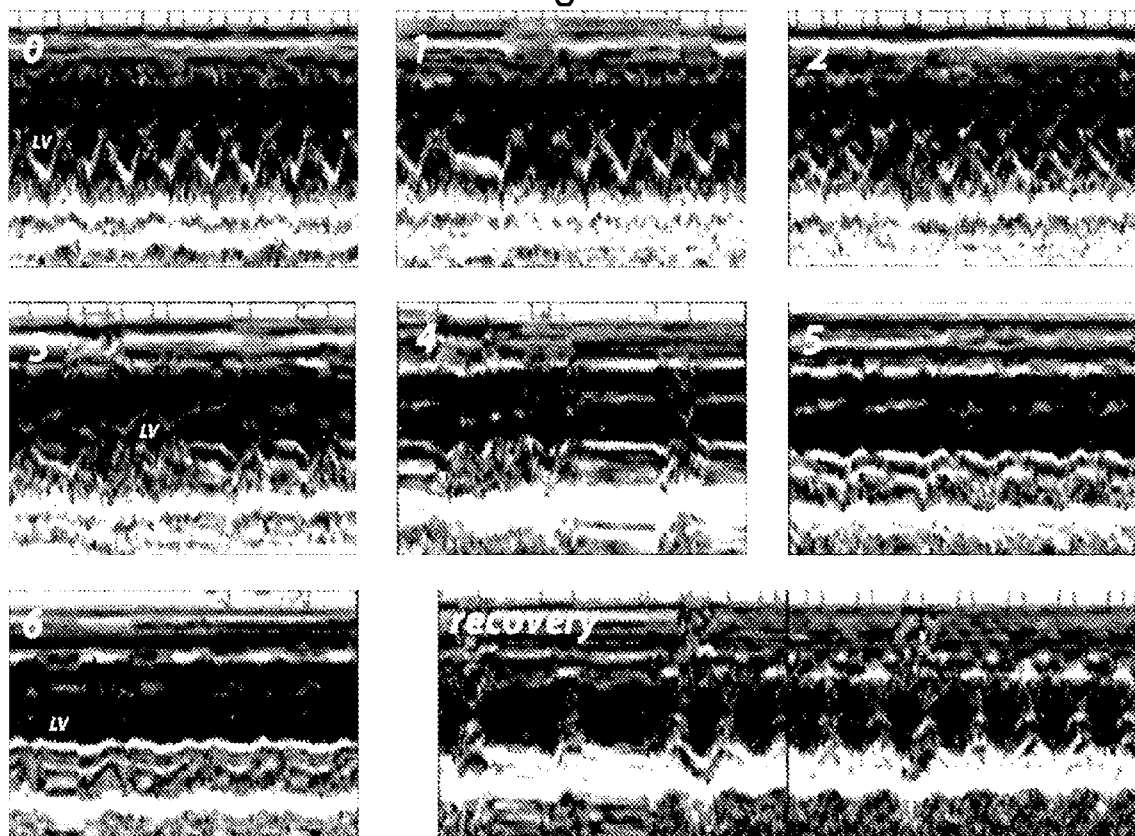


Fig. 9

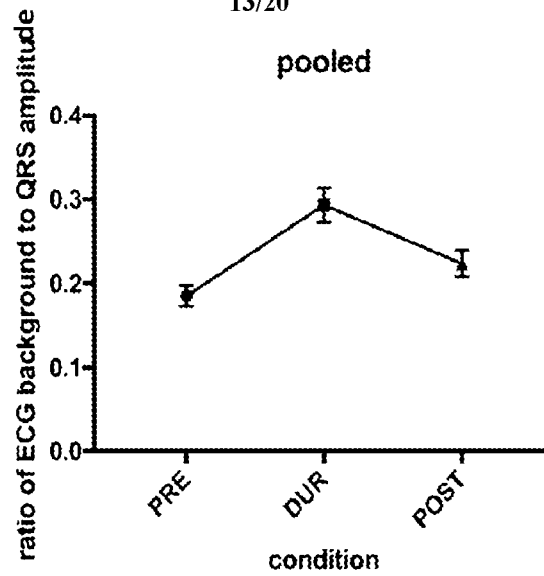


Fig. 10

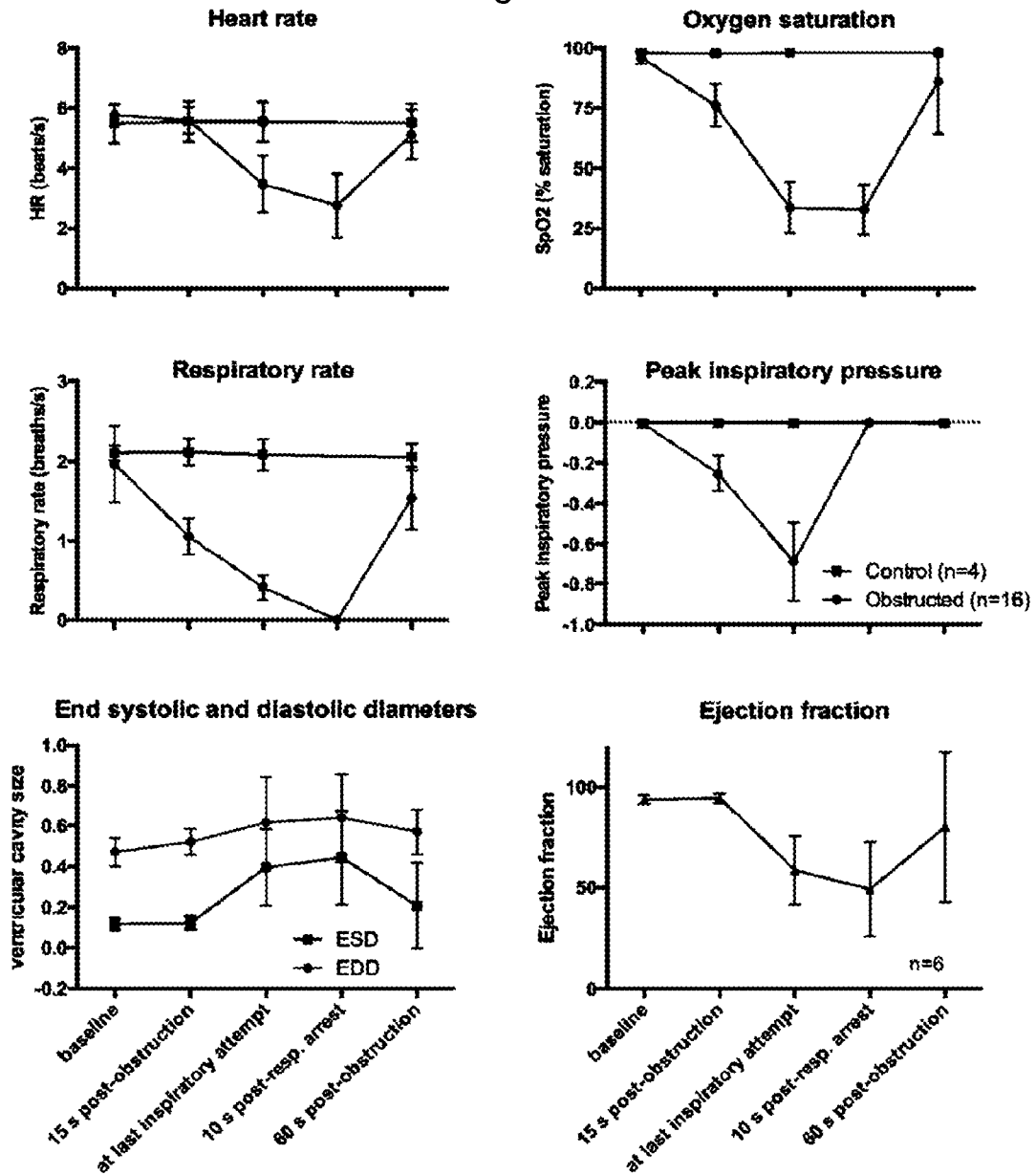


Fig. 11

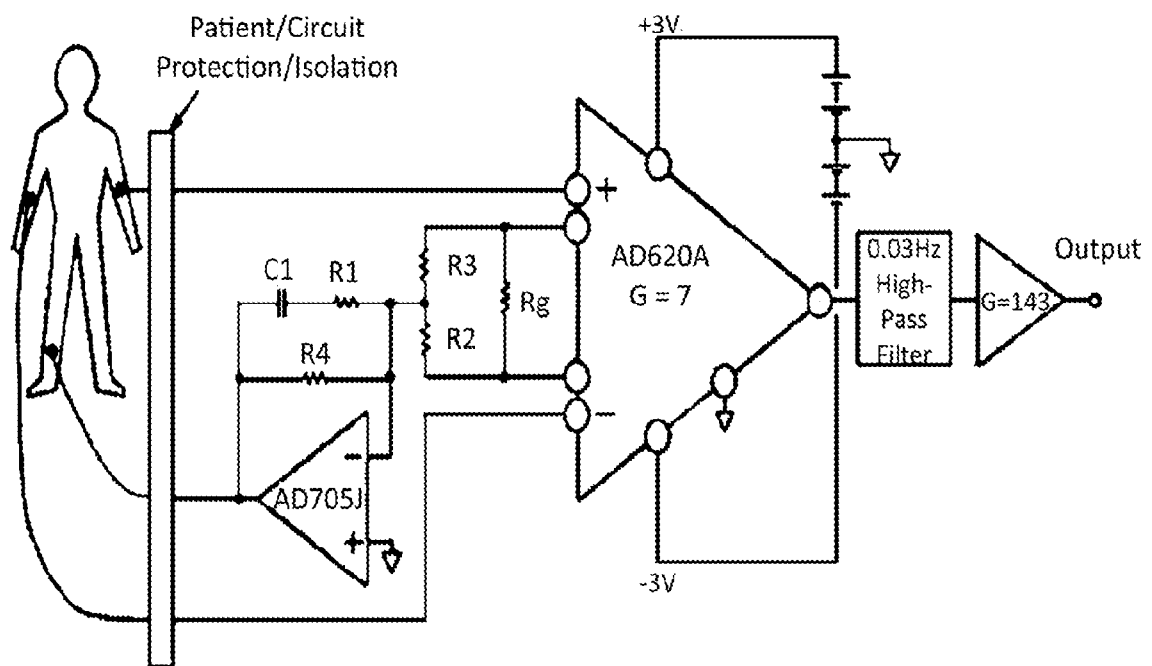


Fig. 12 Prior Art

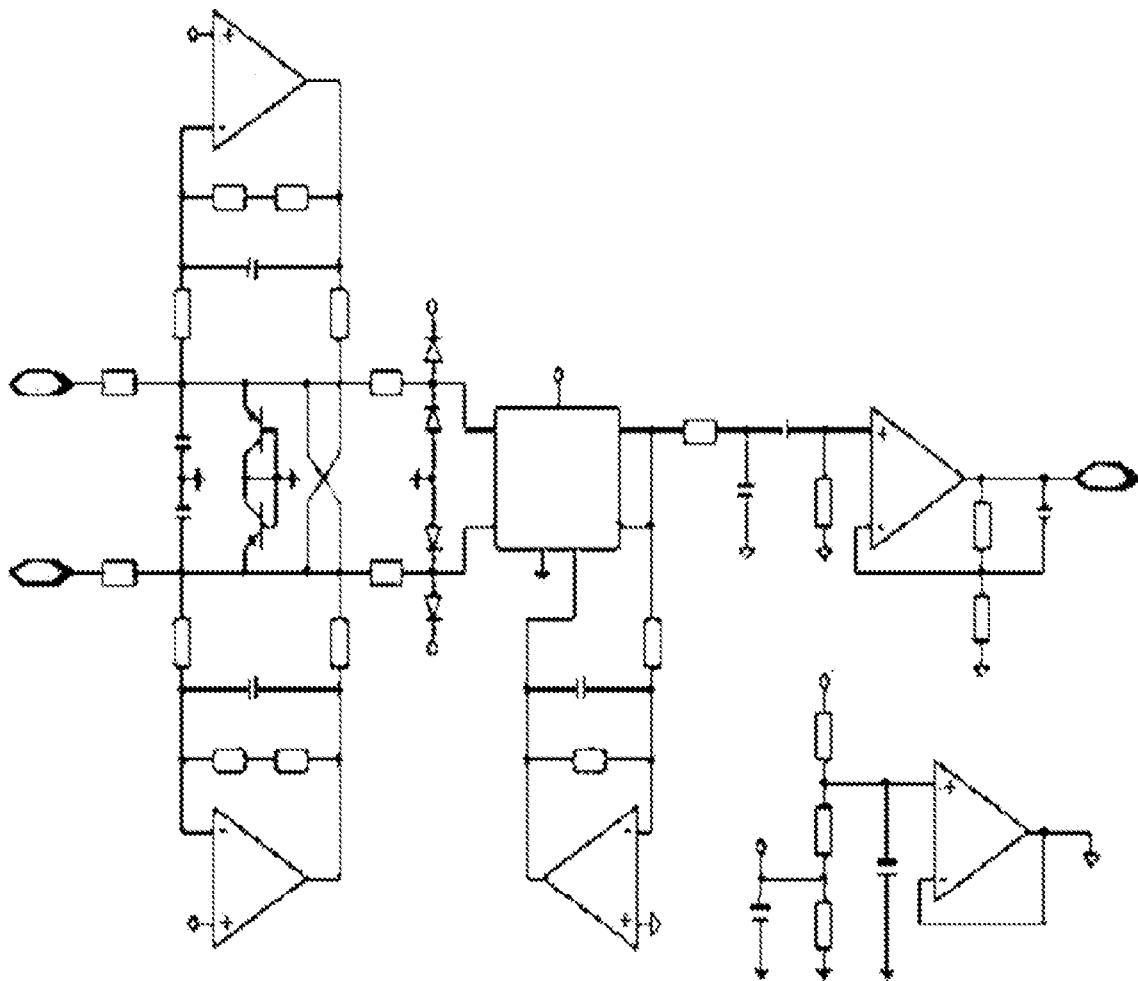


Fig. 13 Prior Art

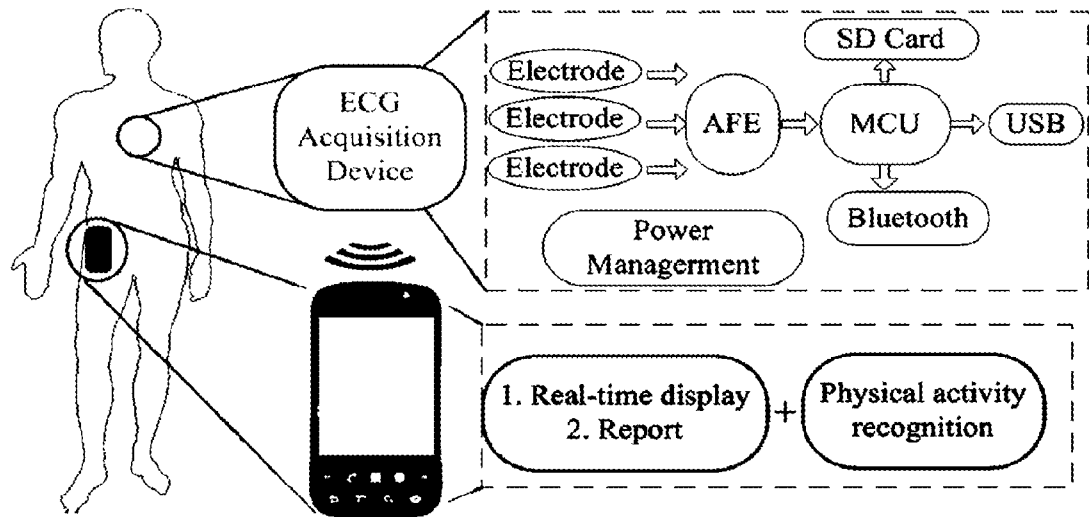


Fig. 14 Prior Art

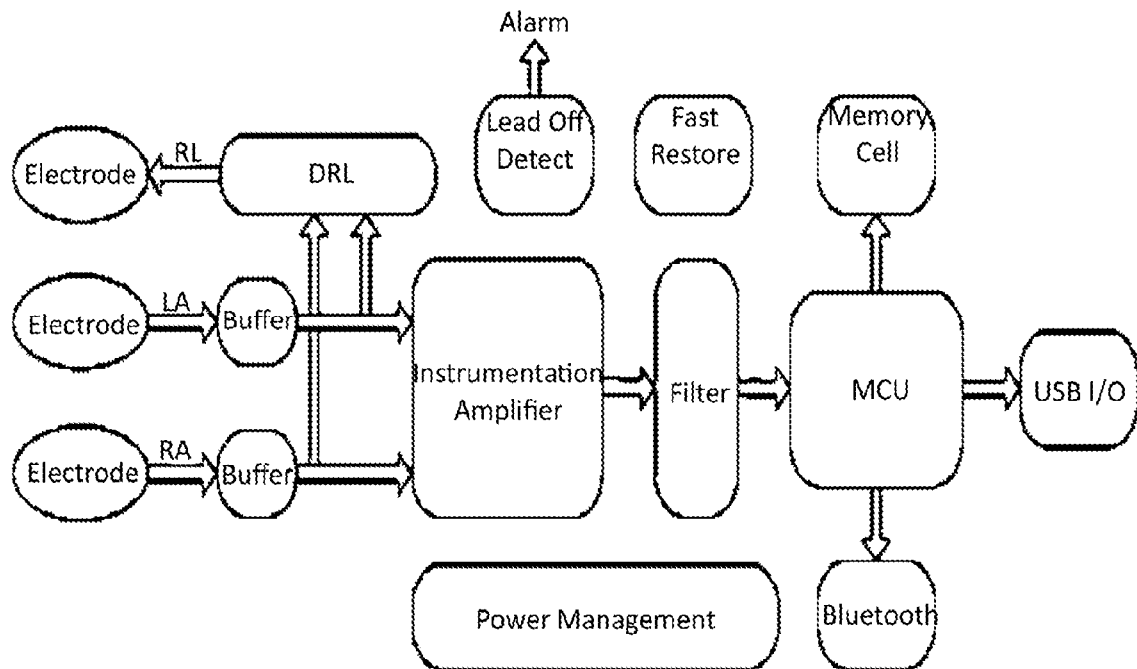


Fig. 15 Prior Art

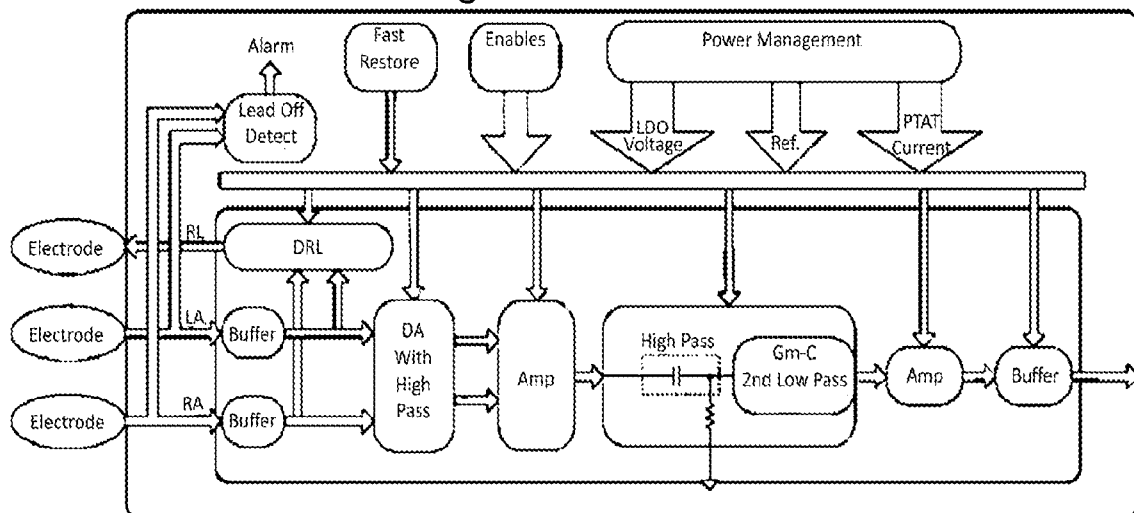


Fig. 16 Prior Art

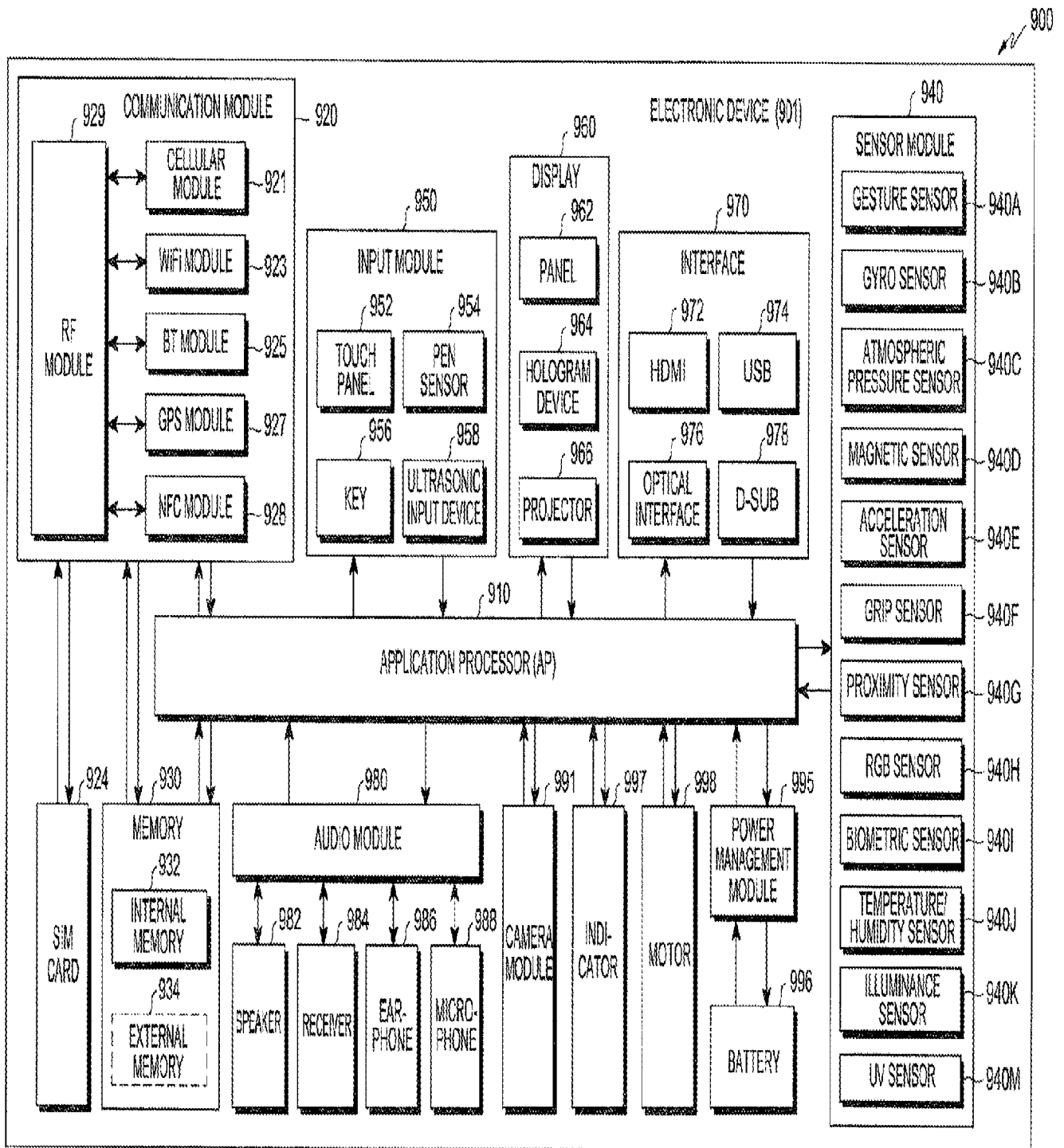


Fig. 17 Prior Art

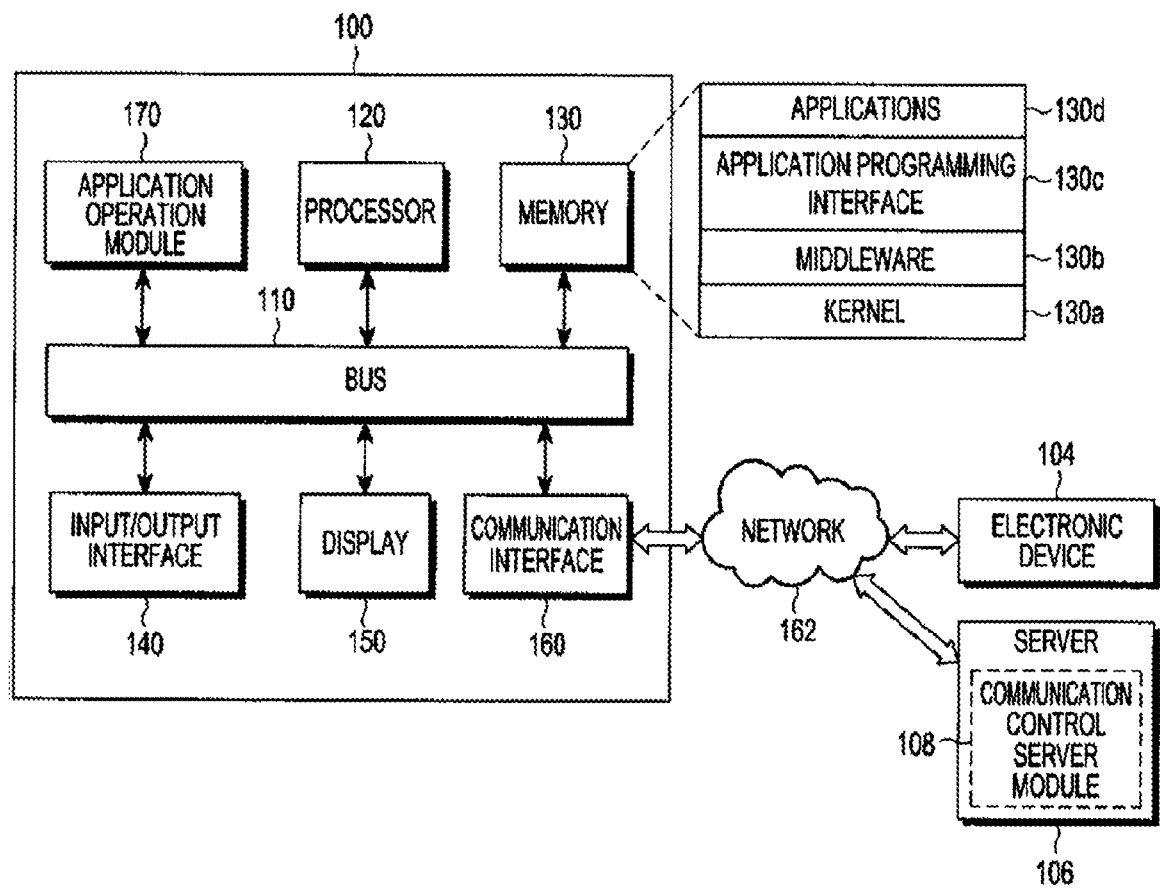


Fig. 18 Prior Art

Table 1
Upper-Airway Obstruction During Seizures

Respiratory Parameter	Difference Score (Seizure Minus Pre-Seizure)		
	Non-Intubated (N = 11)	Intubated (N = 5)	p-Value
Respiratory Rate (min ⁻¹)	286 ± 56	196 ± 37	0.017
Tidal Volume (ml)	-1.05 ± 0.37	-0.51 ± 0.50	0.12
Minute Ventilation (ml·min ⁻¹)	-24 ± 40	-2 ± 40	0.65
Peak-Inspiratory-Flow to Peak-Expiratory-Flow Ratio	-0.51 ± 0.31	0.54 ± 0.41	0.002

Table 2						
COMPARISON OF CONSEQUENCES OF OBSTRUCTIVE AND CENTRAL APNEA						
	obstructive apnea		p	central apnea		p (df, t)
	non-intubated	intubated		non-intubated	intubated	
rats with apneic periods ≥ 1 s (total N)	7 (11)	0 (5)	0.034	6 (11)	5 (5)	NS
number of apneic periods	7			31	18	
duration	103.3 ± 42.2			7.3 ± 5.7	7.4 ± 10.6	NS
rats with apneic periods > 5 s	7	0		5	1	NS
number of apneic periods	7			15	5	
duration	103.3 ± 42.2			12.1 ± 4.4	21.0 ± 12.5	NS
maximum duration	162			23	33	
mean HR (pre-apnea) bps	3.8 ± 0.4			4.1 ± 0.5 (pooled)		NS
mean HR (apnea @ 5-15 s) bps	3.1 ± 0.6 (p=0.036; df=6; t=2.7)			3.8 ± 0.7 (NS)		0.025 (14, 2.5)
minimum HR (apnea @ 5-15 s) bps	2.6 ± 0.5 (p=0.005; df=6; t=4.4)			3.6 ± 0.7 (p=0.023; df=8; t=2.8)		0.002 (14, 3.9)
ST changes within 15 s?	yes			no		
max % change (mean +/- SEM)	-31.4 ± 17.3, n=7			-13.9 ± 9.7, n=9		0.019 (14, 2.6)

Table 3

	kainic acid only lesion, then kainic acid								bilateral SLN				intubated, then kainic acid					group by group seizure		
	baseline lesion	seizure	b:s	baseline lesion	seizure	b:l	SLN	baseline	intubated	seizure	b:l	is	baseline	intubated	seizure	b:l	is			
number of animals in the group	5			6					5									IntSLN	IntKA	KA:SLN
average number respiratory cycles per rat per group	439.8	1244.8		402.0	402.0	1418.6			426.4	452.0	1100.6									
respiratory rate (breaths/min)	89.0	370.9	0*	81.8	80.8	370.7	NS	0	100.2	98.3	294.8	NS	0	NS	NS	NS	NS	NS	NS	NS
average tidal volume (ml)	1.24	0.46	0.008	1.77	1.72	0.46	NS	0	1.25	1.04	0.53	NS	NS	NS	NS	NS	NS	NS	NS	NS
minute ventilation (ml/min)	108.0	94.4	NS	144.6	138.8	106.1	NS	0	124.2	95.3	93.3	NS	NS	NS	NS	NS	NS	NS	NS	NS
peak inspiratory flow / peak expiratory flow	0.95	0.60	NS	1.18	1.11	0.46	NS	0.001	1.13	1.02	1.56	NS	0.011	0	0	NS	NS	NS	NS	NS
peak inspiratory flow (ml/s)	-6.82	-5.34	NS	-8.62	-8.64	-6.02	NS	0.002	-6.83	-5.79	-5.43	NS	NS	NS	NS	NS	NS	NS	NS	NS
peak expiratory flow (ml/s)	7.56	5.24	NS	7.75	8.12	5.65	NS	NS	6.03	6.00	4.81	NS	NS	NS	NS	NS	NS	NS	NS	NS
duration of inspiration (s)	0.36	0.11	0.001	0.35	0.37	0.10	NS	0	0.27	0.32	0.12	NS	0.003	NS	NS	NS	NS	NS	NS	NS
duration of expiration (s)	0.33	0.13	0	0.39	0.38	0.12	NS	0	0.34	0.31	0.16	NS	0	0.046	NS	NS	NS	NS	NS	NS
inspiratory tidal volume (ml)	-1.24	-0.46	0.008	-1.77	-1.72	-0.46	NS	0	-1.26	-1.04	-0.53	NS	NS	NS	NS	NS	NS	NS	NS	NS
expiratory tidal volume (ml)	1.24	0.46	0.008	1.77	1.72	0.46	NS	0	1.25	1.04	0.53	NS	NS	NS	NS	NS	NS	NS	NS	NS
time when 25% of tidal volume has been inspired (s)	0.17	0.04	0.035	0.13	0.15	0.03	NS	0.004	0.09	0.15	0.04	NS	0.041	NS	NS	NS	NS	NS	NS	NS
time when 50% of tidal volume has been inspired (s)	0.22	0.06	0.011	0.19	0.21	0.05	NS	0.001	0.14	0.20	0.07	NS	0.016	NS	NS	NS	NS	NS	NS	NS
time when 75% of tidal volume has been inspired (s)	0.27	0.08	0.003	0.25	0.27	0.07	NS	0	0.19	0.24	0.09	NS	0.007	NS	NS	NS	NS	NS	NS	NS
time when 25% of tidal volume has been expired (s)	0.07	0.03	0.012	0.09	0.09	0.03	NS	0	0.07	0.07	0.04	NS	0	NS	NS	NS	NS	NS	NS	NS

time when 50% of tidal volume has been expired (s)	0.12	0.05	0.014	0.16	0.16	0.05	NS	0	0.13	0.11	0.06	NS	0	0.046	NS	NS
time when 75% of tidal volume has been expired (s)	0.18	0.07	0.016	0.25	0.24	0.07	NS	0	0.20	0.17	0.09	NS	0	0.041	NS	NS
flow when 25% of tidal volume has been inspired (ml/s)	-6.04	-4.46	NS	-6.93	-6.74	-5.02	NS	NS	-6.09	-4.68	-4.48	NS	NS	NS	NS	NS
flow when 50% of tidal volume has been inspired (ml/s)	-6.09	-5.12	NS	-7.90	-7.99	-5.77	NS	0.009	-6.40	-5.43	-5.22	NS	NS	NS	NS	NS
flow when 75% of tidal volume has been inspired (ml/s)	-5.31	-4.76	NS	-7.03	-6.88	-5.21	NS	0.007	-5.69	-4.94	-4.91	NS	NS	NS	NS	NS
flow when 25% of tidal volume has been expired (ml/s)	7.38	4.95	NS	6.70	6.60	5.21	NS	NS	5.84	5.77	4.58	NS	NS	NS	NS	NS
flow when 50% of tidal volume has been expired (ml/s)	6.47	4.92	NS	6.61	6.30	5.36	NS	NS	5.11	5.27	4.43	NS	NS	NS	NS	NS
flow when 75% of tidal volume has been expired (ml/s)	4.65	3.65	NS	4.91	4.94	4.15	NS	NS	3.90	3.67	3.32	NS	NS	NS	NS	NS

* a "0" indicates p<0.0001