

COST REDUCTION OF PULMONARY
DISEASE IN NEUROMUSCULARLY
IMPAIRED PEDIATRIC PATIENTS

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In 2002 we published our results concerning the clinical usefulness of the Advanced Respiratory vest therapy (VT) in preventing pneumonias in children with severe cerebral palsy. That original study summarized our results with 7 individuals.

Recently we have had the opportunity of adding 4 additional cases to our data base. The current results strongly reinforce and support the usefulness of VT in preventing pneumonias, preventing hospitalizations due to pneumonia, and improving other medical illnesses.

Plioplys, A.V., Lewis, S., Kasnicka, I. Pulmonary vest therapy in pediatric long-term care. Journal of the American Medical Directors Association, 3:318-321, 2002.

NEW AND UPDATED

Participant Characteristics

Characteristics	Place of Residence		P value
	Mark-lund (N=5)	Little Angels (N=6)	
Gender-- M/F, %	60.0/40.0	50.0/50.0	1.00*
Age	17.7 (9.44) Md=19.5 Range 1-28	14.6 (4.93) Md=16.0 Range 7-20	0.36**
Tracheostomy—No/Yes, %	0.0/100.0	33.3/66.7	0.46*
Epilepsy—No/Yes, %	40.0/60.0	33.3/66.7	1.0*
Pneumonias— Before/During	29 / 15	23 / 12	0.99***
Hospitalizations— Before/During	7 / 1	6 / 2	1.0*
Seizures—Before/During	167 / 56	257 / 79	0.67***
Effective Suctioning— Before/During	5,145 / 8,503	3,682 / 7,744	<0.0001 ***

*Fisher's Exact Test

**Mann-Whitney Test

***Chi-Square Test

RESULTS: PNEUMONIAS

Total number of pneumonias decreased:

from **36** / year prior to VT

to **18** / year during VT

NEW AND UPDATED:

RESULTS: PNEUMONIAS

Total number of pneumonias decreased:

from **52** / year prior to VT

to **27** / year during VT

RESULTS: HOSPITALIZATIONS

DUE TO PNEUMONIA

Number of hospitalizations
due to pneumonia decreased:

from **9** / year prior to VT

to **3** / year during VT

NEW AND UPDATED:

RESULTS: HOSPITALIZATIONS

DUE TO PNEUMONIA

Number of hospitalizations
due to pneumonia decreased:

from **13** / year prior to VT

to **3** / year during VT

RESULTS: EFFECTIVE SUCTIONINGS

Average number of effective suctionings / month:

Before VT	During VT
1	28
4	48
39	59
47	87
65	197
105	217
142	234

NEW ADDITIONAL:

RESULTS: EFFECTIVE SUCTIONINGS

15	52
143	199
175	233

RESULTS: EPILEPSY

3 cases with active epilepsy, during the year of VT,
the average seizure frequency decreased:

from **4** / month to **1** / month

from **9** / month to **2** / month

from **9** / month to **1** / month

NEW ADDITIONAL:

RESULTS: EPILEPSY

3 additional epilepsy cases, during the year of VT,
the average seizure frequency decreased:

from **3** / month to **2** / month

from **7** / month to **2** / month

No change in one case: **3** / month

NEW AND UPDATED

Clinical Outcomes of Vest Therapy (VT)

	Before Treatment	During Treatment	P value
Pneumonias, N	52	27	0.012*
Hospitalizations, N	13	3	0.031*
Seizures, N	424	135	0.026*
Effective Suctioning, N	8,827	16,247	0.001*

*Wilcoxon Signed Rank Test, one-tailed test