

**Changing Trends in the Use of Post-Natal Steroids for  
The Treatment of Chronic Lung Disease**

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**Objective:** To analyze changing trends in the use of post-natal steroids for the treatment of chronic lung disease (CLD) in a national cohort of patients.

**Background:** In 1999 evidence began to appear in the literature that infants treated with dexamathasone for CLD had more cerebral palsy and more abnormal neurologic examination findings. Since the initial report, others have appeared to support the association of post-natal steroid use and poorer neurodevelopmental outcome. Concern has been raised about the continued use of steroids, the proper dosing regimen as well as which population of infants should be treated.

**Methods:** Retrospective data on patients was analyzed from the clinical database from January 2000 to September 2001. All patients were admitted to the NICU and case managed by Paidos Health Management Services in over two hundred hospitals across the United States. Those infants born at less than or equal to 32 weeks gestation formed the sub-population of infants used for this analysis.

**Results:** There were 1411 infants in 2000 and 1005 in 2001 born at less than or equal to 32 weeks gestation. The percentage of infants receiving steroids was 10.0% in 2000 and 10.6% 2001. The average number of days on steroids was 20.3 in 2000 and 18.3 in 2001 but this difference was not significant (TABLE I). The length of stay (LOS) for the steroid group in 2000 was 99.3 days vs. 105.5 days in 2001. By comparison the LOS in the non-steroid group was 40.5 vs. 41.4 in 2000 and 2001. Although not statistically significant, the average days of respiratory support increased from 63.3 days in 2000 to 67.5 in 2001. There were no significant differences in mean birthweights or gestational ages from 2000 to 2001. The most noticeable trend was the significant change in percentage of infants in each dosing group. (TABLE II)

TABLE I	2000	2001	
# of patients	135	102	p value
Avg Steroid Course (days)	20.3 ±18.7	18.3 ± 17.9	0.58 NS
Avg LOS (days)	99.3 ± 46.7	105.5 ± 55.3	0.35 NS
Avg Resp.Support (days)	63.3 ± 29.5	67.5 ± 30.0	0.41 NS
Avg GA (weeks)	26.1 ± 2.1	26.3 ± 2.4	0.71 NS
Avg BW (grams)	853 ± 278	870 ± 330	0.80 NS

TABLE II		
Course of steroid tx (days)	2000	2001
1-7	42.2%	31.8%
8-14	37.0%	28.0%
≥15	55.8%	42.2%
(Percentage of total patients treated) p=0.05		

**Conclusions:** Despite the concern appearing in the literature regarding outcome of infants treated with steroids for CLD, the percentage of infants treated has not changed. What has changed however is the average duration of therapy and a shift has occurred from longer courses of therapy to relatively shorter ones. The average number of days of respiratory support has increased which leads to longer duration of hospitalization and thus increased costs for inpatient care. This means a delay will occur in uniting infants with their families in the home unless more infants are discharged with oxygen therapy. It remains to be determined whether post-natal steroid for treatment of CLD will continue to be a viable option into the future.