

AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

**2021 ANNUAL CONFERENCE ORIGINAL RESEARCH (BASIC SCIENCE or CLINICAL)
ABSTRACT SUBMISSION FORM**

Presenting Author: _____ Pamela Griffiths _____ Title (MD, DO, NP, other): MD

Institution Phoenix Children's Hospital

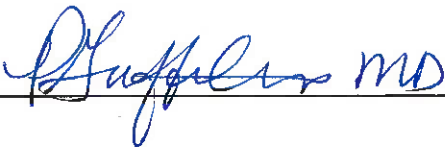
Street Address 1765 W Aspen Ave Gilbert, AZ 85233

Telephone: (602)694-6655 E-Mail: pgriffiths@phoenixchildrens.com

Trainee? Yes No

If yes, type and year of training _____

FOR PUBLICATION OF THE CONFERENCE PROCEEDINGS, I HEREBY GIVE PERMISSION TO REPRODUCE MY PRESENTATION, WITHOUT FURTHER CONSENT.

Signature:  MD Date: 2/13/21

Please paste abstract to the second page of this document, using the template provided. **Please do not exceed one page using font size of at least 10.**

This completed form and your basic science or clinical research abstract should be returned via e-mail attachment to: aklodha@ucalgary.ca attention to Abhay K. Lodha, MD

DEADLINE FOR RECEIPT OF ABSTRACT IS FEBRUARY 19, 2021. Submissions will be accepted for either poster or oral presentation. Authors will be notified of acceptance and format for presentation (poster or poster symposium) by **March 12, 2021.**

Title: Early Referral to a Bronchopulmonary Dysplasia (BPD) Center is Associated with Less Adverse Outcomes in Infants with Severe BPD

Authors: Pamela Griffiths¹, Matthew Kielt², Milenka Cuevas³, Jonathan Levin⁴, Steve Abman⁵, Leif Nelin²

Institution: Phoenix Children's Hospital¹, Nationwide Children's Hospital², Texas Children's Hospital³, Boston Children's Hospital⁴, Children's Hospital Colorado⁵

Background: In order to address the unique needs of former preterm infants with established severe BPD (sBPD) who require ongoing intensive care, some institutions have developed interdisciplinary BPD programs. Past studies suggest that management of sBPD with an interdisciplinary team strategy improves survival and related outcomes, however, the optimal timing of transfer to a center with an established BPD program remains unknown. The objective of this study was to determine whether in-hospital outcomes for patients with sBPD differ based on the timing of referral to a center with an established interdisciplinary program for the care of sBPD.

Methods: A retrospective review of the BPD Collaborative database for all infants with sBPD from 2015-2020 was performed. Infants were stratified into early referral (<36 weeks PMA) vs late referral (≥36 weeks PMA.) Comparative statistics for baseline variables, individual and composite outcomes were performed. Multivariable logistic regression was used to determine the association between referral timing and the composite outcome death/tracheostomy adjusting for gestational age, sex, small for gestational age (SGA) status, and type 2 sBPD (defined by receipt of invasive mechanical ventilation at 36 weeks PMA.)

Results: Of 403 infants included, 281 (70%) were in the early and 122 (30%) in the late referral cohorts. Most baseline variables were similar except that more infants in the late referral group were SGA ($p=0.02$), received incomplete antenatal steroids ($p=0.01$), and had a higher GA at birth ($p=0.04$) (Table 1). Those in the late referral group were more likely to undergo tracheostomy placement (34% $p<0.0001$) and spend more days on MV ($p=0.0002$) (Table 2). A higher proportion of late referrals experienced the composite outcomes of death/tracheostomy ($p<0.0001$) and death/LOS ≥75th percentile for cohort ($p=0.002$) (Table 2) when compared to early referrals. Multivariate logistic regression analysis showed patients with Type 2 sBPD and SGA status had higher risk for the composite outcome of death/tracheostomy (OR 22.1 [95% CI 9.9-49] and 2.5 [95% CI 1.1-5.7], respectively, while early referral conferred a lower risk (OR 0.2 [95% CI 0.09-0.5], Figure 1).

Conclusion: Our study suggests that referral to a center with an established interdisciplinary BPD program prior to 36 weeks PMA is associated with a decreased risk for adverse in-hospital outcomes when compared to later referral.