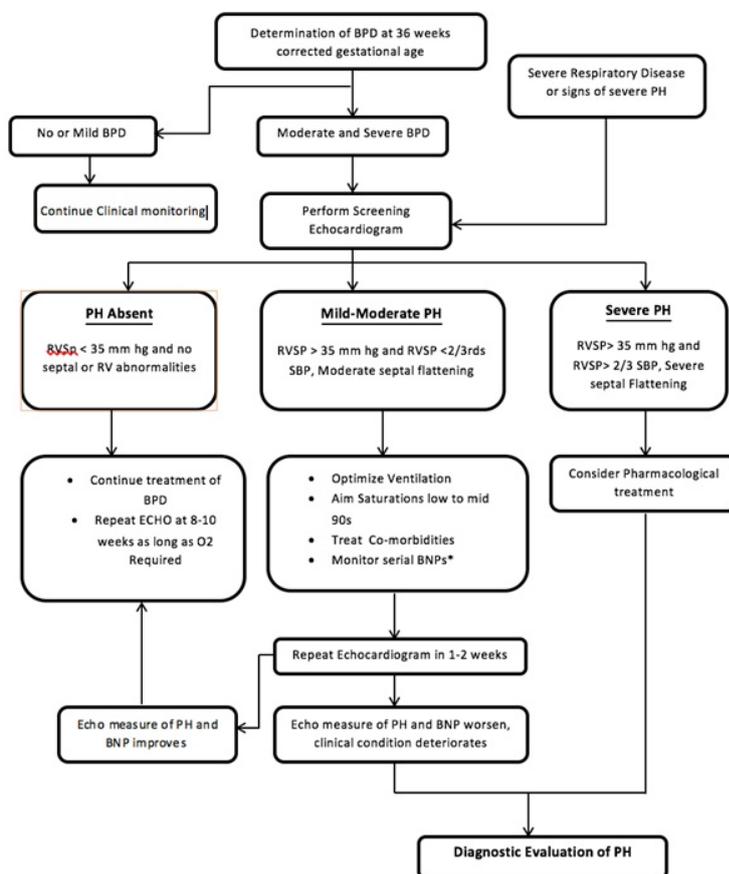


**Assessment of Pulmonary hypertension in infants with Bronchopulmonary dysplasia. A review of literature and developing screening protocol.**

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**Introduction:** Pulmonary hypertension (PH) is a known complication of bronchopulmonary dysplasia (BPD) with a prevalence range of 8-25%. Infants with BPD-associated PH have reported mortality rates ranging from 14–38%. BPD with concomitant PH has been reported to increase the risk of long-term pulmonary morbidity, as well as cognitive, behavioural and social problems. Given the short-term and possible long-term complications of PH, it may be important to identify such infants so that appropriate medical treatment and follow-up plans may be implemented. Increasingly it has been recognised in literature that evolving pulmonary venous anomalies in infants with BPD has further contributed to development of PH. Paediatric cardiologists are faced with increasing cases of this patient cohort. To the best of our knowledge, there is lack of a unified European guideline for regular assessment of this patient group. This study aims at reviewing available evidence and developing a protocol which will help in echocardiographic screening of preterm infants with BPD at risk of developing PH.

Flowchart for Management of Pulmonary hypertension (PH) in Broncho-Pulmonary Dysplasia (BPD)



Adapted from Mourao et al.

**Methods:** We conducted a review of the literature regarding use of echocardiographic techniques for evaluation of PH in infants with bronchopulmonary dysplasia. Results from 21 different papers were assessed and analysed for this study.

**Results:** We identified seven parameters which can be used for detection of PH non-invasively using echocardiography from fifteen studies. On the basis of the available evidence, we came up with a screening algorithm which will help screen infants with BPD who are at risk of developing PH. □

**Conclusions:** Paediatric PH has its own unique characteristics and its assessment cannot be extrapolated from adult studies. The clinical utility of echocardiography in predicting the presence and severity of pulmonary hypertension in patients with BPD has been well founded but larger studies are required to further evaluate these parameters for determining the severity of pulmonary hypertension at early stages of the disease.