It has been emphasized that preterm infants should be managed without mechanical ventilation where possible. This is linked to studies showing that the early use of non-invasive ventilation in neonatology can lead to a reduced number of ventilator induced lung injuries (VILI) and aid prevention of adverse complications associated with prolonged hospital stays and intubation. Due to various outcome improvements and a reduced need of reintubation following extubation, continuous positive airway pressure (CPAP) is now recommended as the optimal first mode of respiratory support for preterm infants.
Help reduce morbidity of premature infants with innovative ventilation strategies

Still today, more than 60 % of extreme low birth weight (ELBW) infants develop Bronchopulmonary Dysplasia (BPD) with a need for supplemental oxygen which can last for a lifetime. And approximately 7 % of all infants are suffering from RDS and need surfactant treatment and respiratory support. Non-invasive ventilation has been proven to decrease adverse effects of mechanical ventilation, such as Ventilator Induced Lung Injury (VILI) and Bronchopulmonary Dysplasia (BPD). Consequently, the American Academy of Pediatrics has recently advised that preterm infants should be initially managed with CPAP, rather than intubation.

Non-invasive treatments can enhance developmental care practices as it may be less detrimental to normal neonatal neurological development as their application requires less sedation. Still today, more than 60 % of extreme low birth weight (ELBW) infants develop Bronchopulmonary Dysplasia (BPD) with a need for supplemental oxygen which can last for a lifetime. And approximately 7 % of all infants are suffering from RDS and need surfactant treatment and respiratory support. Non-invasive ventilation has been proven to decrease adverse effects of mechanical ventilation, such as Ventilator Induced Lung Injury (VILI) and Bronchopulmonary Dysplasia (BPD). Consequently, the American Academy of Pediatrics has recently advised that preterm infants should be initially managed with CPAP, rather than intubation.

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Efforts to optimize developmental care of preterm infants focus on:
- minimizing handling and stress for the infant,
- including parental engagement in care,
- reducing the number of painful procedures and
- finding at least invasive means of applying respiratory support.

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NIV AND DEVELOPMENTAL CARE ASPECTS

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Non-Invasive Ventilation (NIV)

**ONE DEVICE FOR INVASIVE AND NON-INVASIVE THERAPY**
This approach simplifies the implementation of an optimal ventilation strategy. Moreover, one device consumes less space, reduces accessory variety and may reduce human errors through one consistent operating philosophy. Advantages of NIV application with the Babylog series are:

- reliable pressure monitoring
- demand flow principle to correct for leakages (in slope operation), thus stable pressure even in presence of leakages
- ventilation with only one breathing circuit possible, that allows for kangaroo care.
- trend data over the whole ventilation therapy
- easy, guided switch between NIV, O2 therapy and invasive ventilation

**EASY WORKFLOW AND RELIABLE PRESSURE MONITORING**
When non-invasive ventilation is chosen, alarms that are not applicable will not be displayed. For improved patient safety, a clearly visible displayed message alerts the user to any deactivated alarms. When switching between therapy types for invasive, non-invasive ventilation and oxygen therapy a guided workflow accelerates and eases the change of therapy in a hectic situation. Airway pressure monitoring is in place to discover leakages between patient and interfaces.

**DEMAND FLOW PRINCIPLE TO ENSURE STABLE PRESSURES**
In NIV the caregiver faces variable leakages depending on the interfaces, the anatomy and respiratory drive of the patient. The leakages can quickly cause pressure drops in SPN-CPAP and PC-CMV. In slope operation mode the ventilator alters the flow to stabilize the pressure at the patient’s interface in each situation. Thereby, variations in blood gases can be decreased. The ventilator only applies the flow that is necessary to achieve the set values.

**GENTLE VENTILATION WITH BABYFLOW PLUS**
In combination with the Dräger Babylog, the BabyFlow plus respiratory support system enables a comprehensive selection of modalities for non-invasive respiratory support. The design of BabyFlow plus allows you to fit the prongs and masks properly on the patient, thus reducing leaks and providing more stable CPAP levels. More stable CPAP levels reduce noise levels, making BabyFlow plus a low noise level respiratory support system, therefore, supporting Developmental Care practices and offering the best possible therapy for tiny patients.

**CUSTOMER VOICES**

“**We know that ventilation can damage the lungs of premature babies. There has also been great progress in invasive ventilation. However, the best way to avoid ventilation is to avoid it - with non-invasive ventilation we can do just that.**”

“If we look at the advantages of non-invasive ventilation from the parents’ point of view, then it is always a great shock for parents to experience seeing their own child in the NICU. The more invasively the child is treated, the worse it is likely to be felt. Additionally, it is a little easier for the parents to make contact with their child when using non-invasive ventilation. [...] The background to all is the so-called developmental care for premature babies.”

Dr. Tobias Trips,
Traunstein Hospital, Germany

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Neonatal Non-Invasive Ventilation is available for the following Dräger ventilators

- Babylog VN800
- Babylog VN800
- Evita V800
- Evita V600

Learn more about neonatal non-invasive ventilation under www.draeger.com/neonatal-ventilation

Not all products or features are for sale in all countries or are only available as an option.

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