Transport of nasal high flow patients in the NICU

The use of nasal high flow (nHF) via nasal cannulae in the neonatal intensive care population has been steadily growing for a number of years. While improving outcome for many patients, nHF is not without limitations. One such drawback is the inability to transport nHF patients for even simple procedures, such as a CT scan, without first moving them to CPAP (continuous positive airway pressure). When a neonatal patient is on nHF, switching them to CPAP usually causes physical stress (due to an increase in systolic blood pressure and intracranial pressure). What is the value in transferring a stable patient on nHF to CPAP, and then performing a diagnostic procedure on an unstable patient?

There is a solution to this problem, using mostly readily available equipment alongside a Neo-Pod T device (FIGURE 1). The Neo-Pod T warms and humidifies any inspiratory gas source, be it from a ventilator, a CPAP device or, as in this case, a high flow of gas through a nasal cannula.

Cool and dry gas enters the lavabed – a series of coiled heater wires wrapped in a gauze-like cloth (FIGURE 2). The lavabed is filled with 20mL sterile water, which is soaked up into the cloth (ensuring there is no water ‘sloshing’ around during transport). This provides the heat and humidity so that gas leaving the lavabed and going to the patient is warm and humid, with no risk of water entering the breathing circuit.

The lavabed is powered by a controller, which in turn receives it power from a DC source (options are the transport incubator DC supply, an external battery or an AC plug). The controller incorporates both audible and visual alarms, helping healthcare professionals to ensure the infant is receiving inspired gas of 100% relative humidity, warmed to the same temperature as the incubator.

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Looking for products and services for your NICU? Check out the Infant Supplier Guide at www.infantgrapevine.co.uk