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Introduction: Patients under monitored anesthesia care (MAC) often receive intravenous sedation and supplemental O2 via nasal cannula. Over-sedation and/or airway obstruction may cause oxygen desaturation, especially in high-risk patients with multiple medical problems. In severe cases, the procedures may be interrupted in order to resuscitate the patient with face mask ventilation or endotracheal intubation (ETI). A simple nasal PAP mask assembly has been shown to maintain oxygenation by delivering nasal CPAP, BiPAP or PPV in patients with OSA during sedation, GA or awake/asleep ETI (1-5). We used this technique to maintain spontaneous respiration in a high-risk patient during GI endoscopy.

Case Description: A frail 56-year-old female with a past medical history including Stage IV cervical cancer, Stage IV vulvar cancer, HIV, previous cocaine use, abdominal pain and GI bleed for EGD/colonoscopy. This patient was receiving palliative care and had a DNR/DNI order. The patient had a BMI of 24.2 kg/m2 (165 cm, 66 kg), a small nose, poor dentition and a Class II airway. The DNR/DNI order was put on hold for the procedure. She was fitted with a modified pediatric mask (pediatric size #1) (Photo 1) with fully-inflated air cushion over her nose and breathed through it comfortably.

The patient gave her consent for the use of the modified nasal mask assembly and taking photography for educational purpose.

The nasal mask was secured over her nose with head-straps and connected to the anesthesia machine via a long breathing circuit (Photo 2). The APL valve was adjusted to deliver 3-5 cm H2O CPAP with 4 L O2/min. The patient received 100 mg of lidocaine and 50 mg of propofol bolus and propofol infusion of 125 mcg/kg/min. The patient maintained spontaneous ventilation, 100% SpO2 and stable hemodynamics throughout. She tolerated the procedure well. She was transported to the PACU on 4L O2/min via nasal cannula.

Discussion: This simple nasal PAP mask assembly was used to provide CPAP and continuous oxygenation in a DNR/DNI patient during an EGD and colonoscopy. It maintained spontaneous ventilation and throughout the procedure. It avoided the need for manipulating her airway or ETI. This simple technique may improve patient safety at a low cost.
