

# HVNI vs. HFNC compared to nCPAP and NiPPV

## NICU Studies Matrix

### POST-EXTUBATION

Randomized Controlled Trials

## HVNI

**Collins 2013**  
 n = 132, < 32 weeks GA  
 HVNI failure - 22%  
 CPAP failure - 34%

## HFNC

**Manley 2013**  
 n = 303, < 32 weeks GA, 1100gms  
 HFNC failure - 34%  
 CPAP failure - 26%

### PRIMARY RESPIRATORY SUPPORT

Randomized Controlled Trials

**Kugelman 2014**  
 n = 76, < 35 weeks GA, > 1000gms  
 HVNI failure - 29%  
 NiPPV failure - 34%

**Roberts 2016; (HIPSTER)**  
 n = 564, ≥ 28 weeks GA  
 HFNC failure - 25.5%  
 nCPAP failure - 13.3%

**Lavizzari 2016**  
 n = 316, 29-36 weeks GA  
 HVNI failure - 10.8%  
 nCPAP failure - 9.5%

**Manley 2019; (HUNTER)**  
 n = 754, ≥ 31 weeks GA, ≥ 1200gms  
 HFNC failure - 20.5%  
 nCPAP failure - 10.2%

### PRIMARY RESPIRATORY SUPPORT

Retrospective Analysis  
 (HVNI used exclusively without CPAP)

**Zivanovic 2019**  
 n = 381, 28-36 weeks GA  
 Intub. rate - 12.8%  
 Similar to comparable trials