

Hypoventilation DelqH Round 1

| Question / Answer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Total | Rank |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------|------|
| 1 Clinical Findings Concerning for Hypoventilation | | | | | | | | | | | | | | | | | |
| Morning headaches | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 86.7 | 1 |
| Daytime somnolence | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 46.0 | 6 |
| Increased fatigue | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 95.7 | 2 |
| Recurrent respiratory infections | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 60.0 | 3 |
| Pooling of secretions | 1 | | | | | | | | | | | | | | | 6.7 | |
| Increased GERD dx | 1 | | | | | | | | | | | | | | | 6.7 | |
| Weak cough | 1 | | | | | | | | | | | | | | | 6.7 | |
| Weight loss / FTT | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 53.3 | 4 |
| Restless sleep / Frequent awakenings / Poor sleep quality | 1 | 1 | | | | | | | | | | 1 | 1 | 1 | 1 | 46.7 | 5 |
| Dysphagia | 1 | | | | | | | | | | | | | | | 6.7 | |
| Need for hospitalization during an acute illness | | | | 1 | | | | | | | | | | | | 6.7 | |
| Diaphragm dysfunction | | | | 1 | | | | | | | | | | | | 6.7 | |
| Poor aeration | | | | | 1 | | | | | | | | | | 1 | 13.3 | |
| Decline in School performance / ADHD | | | | | 1 | | | 1 | 1 | | | | | | 1 | 26.7 | 7 |
| Witnessed apneas | | | | | | | | | | | | | | 1 | 1 | 13.3 | |
| Daytime tachypnea | | | | | | | 1 | | | 1 | | | | 1 | | 20.0 | 9 |
| Decreased Cw / Chest Wall deformity | | | | | | | 1 | 1 | 1 | 1 | | | | | | 26.7 | 7 |
| On steroids and obese over 12 yo | | | | | | | 1 | | | | | | | | | 6.7 | |
| Snoring | | | | | | | | | 1 | | | | | | 1 | 13.3 | |
| Difficulty concentrating | | | | | | | | | | 1 | | | | | | 6.7 | |
| Behavioral changes | | | | | | | | | | | | | | | 1 | 13.3 | |
| Late day dyspnea | | | | | | | | | | | | 1 | | | | 6.7 | |
| TAA with reduced thoracic excursion | | | | | | | | | | | | 1 | 1 | | | 13.3 | |
| Flattening or atrophy of upper pectorals | | | | | | | | | | | | | | 1 | | 6.7 | |
| Low lung volumes by percussion or imaging | | | | | | | | | | | | | | 1 | | 6.7 | |
| 2 Objective Measures | | | | | | | | | | | | | | | | | |
| FVC < 90% | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 40.0 | 1 |
| FVC < 60% | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 40.0 | 1 |
| FVC < 30% | | | | | | | | | | | | 1 | | | | 6.7 | |
| FVC < 80% | | | | | | | | | | | | | | 1 | | 6.7 | |
| FVC < 15% over 12 months | 1 | | | | | | | | 1 | | | 1 | 1 | 1 | 1 | 33.3 | 3 |
| MIPMEP < 60 | 1 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 33.3 | 3 |
| MIP < 40 | 1 | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 13.3 | |
| Awake SpO2 < 95% | 1 | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 26.7 | 5 |
| Pulmonary hypertension / cardiomyopathy | 1 | | | | | | | | | | | | | | | 6.7 | |
| Significant scoliosis | 1 | | | | | | | | | | | | | | | 6.7 | |
| HCO3- > 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 26.7 | 5 |
| Decline in FVC, MIP, MEP or CPF | 1 | 1 | | 1 | 1 | | | | | | | | | | | 13.3 | |
| Decline in FVC prone to supine | | | | 1 | 1 | | | | | | | | | | | 13.3 | |
| Tachypnea and normal CO2 | | | | | | | 1 | | | 1 | 1 | | | | | 20.0 | 8 |
| Decline in FVC upright to supine | | | | | | | | | | | | | | 1 | | 13.3 | |
| LVEF < 30 | | | | | | | 1 | | | | | | | | | 6.7 | |
| TcCO2 > 45 during day | | | | | | | 1 | 1 | | | | | 1 | 1 | 1 | 26.7 | 5 |
| PvCO2 > 50 | | | | | | | | | | 1 | | | | | | 6.7 | |
| HCO3- > 30 | | | | | | | | | | 1 | | | | | | 6.7 | |
| BMI < 3% | | | | | | | | | | | | | | | | 6.7 | |
| Weak cough | | | | | | | | | | | | | | 1 | | 6.7 | |
| 3 Criteria for Hypoventilation | | | | | | | | | | | | | | | | | |
| TcCO2 > 50 mmHg for >2% sleep or 5 min continuously | 2 | 2 | 5 | 1 | 3 | 4 | 1 | 5 | 2 | 1 | 2 | 1 | 1 | 3 | 1 | 2.27 | |
| TcCO2 increase 10 mmHg above baseline for 2% of sleep | 3 | 3 | 5 | 2 | 1 | 2 | 3 | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 3 | 2.33 | |
| TcCO2 > 45 mmHg for 25% sleep | 1 | 1 | 1 | 3 | 4 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 2 | 2.00 | |
| TcCO2 > 50 mmHg for 25% sleep | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4.83 | |
| TcCO2 increase 5 mmHg NREM to REM | 4 | 5 | 5 | 4 | 2 | 3 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5.13 | |
| TcCO2 > 10 mmHg increase from sleep onset to awakening | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00 | |
| TcCO2 > 40-42 mmHg with tachypnea (RR > 25% normal) | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00 | |
| 4 Criteria for Hypoxemia | | | | | | | | | | | | | | | | | |
| SpO2 < 90% for > 2% sleep | 1 | 2 | 4 | 1 | 1 | 3 | 3 | 4 | 2 | 2 | 1 | 3 | 3 | 3 | 2 | 2.33 | |
| SpO2 < 90% for > 5 min continuously | 2 | 3 | 4 | 2 | 3 | 2 | 2 | 1 | 4 | 3 | 2 | 2 | 1 | 4 | 3 | 2.53 | |
| Mean SpO2 < 94% | 3 | 1 | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 2 | 3 | 1.79 | |
| Desaturation index > 5/hr | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4.00 | |
| Mean asleep SpO2 < 95% and more than 2-3% below awake | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 3.80 | |
| 4% Desaturation index > 2.0/hr | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 3.80 | |
| 5 Non-gas exchange parameters in PSG | | | | | | | | | | | | | | | | | |
| Increased hypoxnea, including those scored as central events | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 86.7 | 1 |
| Increased RR in REM relative to NREM | 1 | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 73.3 | 3 |
| Tachypnea relative to age | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 80.0 | 2 |
| Increased Obstructive AHI | 1 | 1 | | | | | | | | | | | | | | 13.3 | |
| Increased Central AHI | 1 | 1 | | | | | | | | | | | | | | 13.3 | |
| Arousal index | 1 | | | | | | | | | | | | | | 1 | 13.3 | |
| Tachycardia | 1 | | | | | | | | | | | | | | | 6.7 | |
| Paradoxical breathing and increased WOB on video | 1 | | | | | | | | | | | | | | 1 | 13.3 | |
| Accessory muscle EMG | 1 | | | | | | | | | | | | | | | 6.7 | |
| Increased RR in the morning, at the end of the night | | | | 1 | 1 | 1 | | | | | 1 | 1 | 1 | | | 40.0 | 4 |
| Tachypnea relative to age with paradoxical breathing | | | | | | | | 1 | | | | | | | | 6.7 | |
| Overall number of desaturations | | | | | | | | | | | | | | | 1 | 6.7 | |
| O2 nadir (anything < 80% is worrisome) | | | | | | | | | | | | | | | 1 | 6.7 | |
| 6 Pre-respiratory failure | | | | | | | | | | | | | | | | | |
| Apneahypopnea index > 5hr | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 53.3 | 2 |
| Apneahypopnea index > 2hr | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20.0 | 5 |
| Central AHI > 5hr | 1 | | | | | | | | | | | | | | | 6.7 | |
| Tachypnea and normal CO2 | 1 | 1 | 1 | | | | 1 | 1 | 1 | | | | 1 | | | 33.3 | 4 |
| CO2 > 45 mmHg for 1-24% of night | 1 | | | | | | | | | | | | | | | 13.3 | |
| Paradoxical breathing and increased WOB and normal gas | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 60.0 | 1 |
| Desaturation index > 5/hr | 1 | | | | | | | | | | | | | | | 6.7 | |
| Accessory muscle EMG activation with normal gas exchange | 1 | | | | | | | | | | | | | | | 6.7 | |
| Worsening in REM sleep | 1 | | | | | | | | | | | | | | 1 | 13.3 | |
| Decrease in flow and RRP signals | | | | 1 | | | | | | | | | | | 1 | 13.3 | |
| Tachypnea > 25% above baseline from sleep onset | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 40.0 | 3 |
| Sleep fragmentation, delayed sleep onset, frequent awakenings | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20.0 | 5 |
| Frequent limb movements | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 6.7 | |
| Non-specific hypoxnea | | | | | | | | | | | | | | | | 6.7 | |
| Tachypnea relative to age | | | | | | | | | | | 1 | | | | | 6.7 | |
| Low normal SpO2 in the absence of parenchymal lung disease | | | | | | | | | | | | 1 | | | | 6.7 | |