

Blood Gas Analysis Algorithm

Step 1 Oxygenation

PaO₂

Normal Range
(10-13.3kPa)

PaO₂ < 10kPa

Consider commencing or increasing oxygen therapy to aim **PaO₂ 10-13kPa**

*Risk of hypercapnic respiratory failure

Aim:
PaO₂ > 8-10kPa
until further analysis

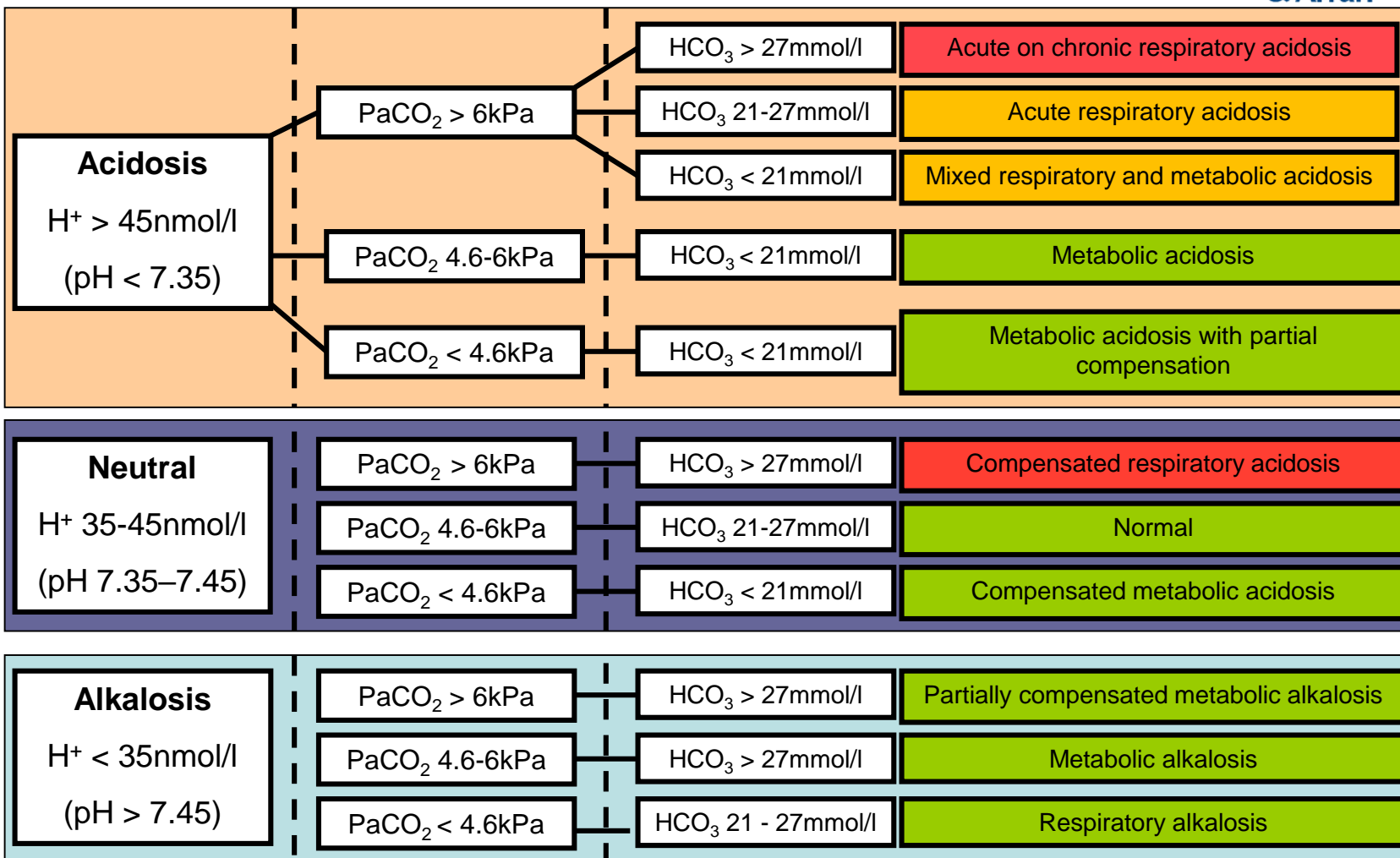
*Risk factors for hypercapnic respiratory failure

- morbid obesity
- cystic fibrosis
- chest wall deformities
- neuromuscular disorders
- fixed airflow obstruction

Step 2 Acid-Base

Step 3 PaCO₂

Step 4 Bicarbonate



Aim saturations 88-92% and PaO₂ 8-10kPa

Repeat ABG at 1hr

Risk factors for chronic hypercapnic respiratory failure* aim 88-92% PaO₂ 8-10kPa

No risk factors: SpO₂ 94-98% PaO₂ > 10kPa

Repeat ABG at 1hr

Aim saturations 94-98% and PaO₂ > 10kPa