

## Acute hypoxaemic respiratory failure<sup>#</sup>

Criteria for immediate or imminent intubation are present  
(i.e. impaired consciousness and/or persistent shock<sup>¶</sup>)

No

Yes

### NHF initiation

$F_{iO_2}$  100%, flow rate 60 L·min<sup>-1</sup>  
Temperature 37°C

### Intubation and invasive MV

NHF for improving pre-oxygenation  
and peri-laryngoscopy oxygenation  
 $F_{iO_2}$  100%, flow rate 60 L·min<sup>-1</sup>

Within  
1–2 h

### Monitoring

Presence of one of the following: respiratory rate >35 breaths·min<sup>-1</sup>,  $S_{pO_2}$  <88–90%, thoraco-abdominal asynchrony and/or persistent auxiliary muscle use, respiratory acidosis ( $P_{aCO_2}$  >45 mmHg with pH <7.35)

No

Yes

### Titration\*

$F_{iO_2}$  based on target  $S_{pO_2}$  (>88–90%)  
Flow rate based on <25–30 breaths·min<sup>-1</sup>  
and patient comfort  
Temperature based on patient comfort

### Noninvasive MV

Short trial (1–2 h)

### Monitoring

Presence of one of the following within hours (maximum 48 h), besides optimum NHF titration: respiratory rate >35 breaths·min<sup>-1</sup>,  $S_{pO_2}$  <88–90%, thoraco-abdominal asynchrony and/or persistent auxiliary muscle use, respiratory acidosis ( $P_{aCO_2}$  >45 mmHg with pH <7.35), haemodynamic instability<sup>§</sup>

No

Yes

### Weaning from NHF

Firstly decrease  $F_{iO_2}$   
When  $F_{iO_2}$  <0.4% decrease flow rate by 5 L·min<sup>-1</sup>  
When flow rate <15 L·min<sup>-1</sup> stop NHF and initiate SOT

### Intubation and invasive MV

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 $F_{iO_2}$  100%, flow rate 60 L·min<sup>-1</sup>