

## Appendix

### Questionnaire (translated)

Modified and comprehensive version of previously used questionnaires [18, 19]

Q-1 In which hospital do you work?

- Academic Medical Center
- Leiden University Medical Center
- Onze Lieve Vrouwe Gasthuis

Q-2 What is your function in the hospital?

- Intensivist
- ICU fellow
- Resident
- ICU nurse
- ICU nurse in training
- Other (please specify)

Q-3 What is your age?

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Q-4 Is oxygen induced lung injury a concern when placing a patient on mechanical ventilation?

- YES, a major concern due to the *high incidence* of injury
- YES, a major concern due to the *severity* of injury
- YES, a major concern due to the *high incidence and severity* of injury
- YES, but not a *major* concern
- NO, it is not a concern

Q-5 In your opinion, which one of the following two situations poses a greater threat of lung injury for mechanically ventilated patients?

- High  $\text{FiO}_2$
- High tidal volumes and high ventilator pressures
- Don't know

Q-6 In situations when maximal  $\text{SaO}_2$  achievable is low, say 85%, or when  $\text{FiO}_2$  requirements are high, do you assess indices of *tissue* oxygenation?

- NO
- YES, lactate
- YES, microcirculation with OPS/SDF imaging
- YES, but a different index or a combination (see other)
- YES, other (please specify)

Q-7 to Q-11 pertain to young and middle-aged ARDS patients in the ICU requiring mechanical ventilation. Please assume that all ventilator settings (PEEP, airway pressure, I:E ratio, flow rates, with minimal auto-PEEP) are optimized with respect to the  $\text{PaO}_2/\text{FiO}_2$  ratio and hemodynamic indices. Lung injury due to high  $\text{FiO}_2$  and/or ventilator settings is minimized. There is no evidence to indicate end-organ ischemia, and hemodynamics are stable

Q-7 Independent of  $\text{FiO}_2$ , what is the minimum level of arterial oxygen saturation ( $\text{SaO}_2$ ) allowable for a duration under 15 minutes?

- 95-100%
- 90-95%
- 85-90%
- 80-85%
- 75-80%

Q-8 Independent of  $FiO_2$ , what is the minimum level of arterial oxygen tension ( $PaO_2$ ) allowable for a duration under 15 minutes?

- 4-7 kPa
- 7-10 kPa
- 10-13 kPa
- 13-16 kPa

Q-9 Independent of  $FiO_2$ , what is the minimum level of arterial oxygen saturation ( $SaO_2$ ) allowable when the duration is between 24-48 hours?

- 95-100%
- 90-95%
- 85-90%
- 80-85%
- 75-80%

Q-10 Independent of  $FiO_2$ , what is the minimum level of arterial oxygen tension ( $PaO_2$ ) allowable when the duration is between 24-48 hours?

- 4-7 kPa
- 7-10 kPa
- 10-13 kPa
- 13-16 kPa

Q-11 Independent of  $FiO_2$ , after what duration would a stable  $SaO_2$  of 85% begin to raise concerns?

- < 2 hours
- 2 – 24 hours
- 24 – 48 hours
- 48 – 72 hours
- > 72 hours

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Q-12 to Q-31 pertain to a situation when a patient must be placed on mechanical ventilation for at least 5 days, and  $FiO_2 = 50\%$  please indicate whether you would increase, decrease or not change the level of  $FiO_2$  for each corresponding level of arterial saturation or arterial oxygen tension.

Q-12 Patient admitted to the ICU with pneumonia and ARDS.

- a.  $SaO_2 = 80-85\%$       b. 6 kPa

- |            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-13 Patient admitted to the ICU with pneumonia and ARDS.

- a.  $SaO_2 = 85-90\%$       b. 9 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-14 Patient admitted to the ICU with pneumonia and ARDS.  
a.  $\text{SaO}_2 = 90\text{-}95\%$       b. 12 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-15 Patient admitted to the ICU with pneumonia and ARDS.  
a.  $\text{SaO}_2 = 95\text{-}100\%$       b. 16 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-16 Patient admitted to the ICU with signs of cardiac ischemia (ST-depressions in the anterior leads [max 3mm]) and pneumonia.  
a.  $\text{SaO}_2 = 80\text{-}85\%$       b. 6 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-17 Patient admitted to the ICU with signs of cardiac ischemia (ST-depressions in the anterior leads [max 3mm]) and pneumonia.  
a.  $\text{SaO}_2 = 85\text{-}90\%$       b. 9 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-18 Patient admitted to the ICU with signs of cardiac ischemia (ST-depressions in the anterior leads [max 3mm]) and pneumonia.  
a.  $\text{SaO}_2 = 90\text{-}95\%$       b. 12 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-19 Patient admitted to the ICU with signs of cardiac ischemia (ST-depressions in the anterior leads [max 3mm]) and pneumonia.  
b.  $\text{SaO}_2 = 95\text{-}100\%$       b. 16 kPa

Increase  
Decrease  
Not change

Increase  
Decrease  
Not change

Q-20 Patient admitted to the ICU with recent cerebral ischemia and one-sided hemiplegia.

a.  $\text{SaO}_2 = 80-85\%$       b.      6 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-21 Patient admitted to the ICU with recent cerebral ischemia and one-sided hemiplegia.

a.  $\text{SaO}_2 = 85-90\%$       b.      9 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-22 Patient admitted to the ICU with recent cerebral ischemia and one-sided hemiplegia.

a.  $\text{SaO}_2 = 90-95\%$       b.      12 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-23 Patient admitted to the ICU with recent cerebral ischemia and one-sided hemiplegia.

c.  $\text{SaO}_2 = 95-100\%$       b.      16 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-24 Patient admitted to the ICU with liver abscess and sepsis.

a.  $\text{SaO}_2 = 80-85\%$       b.      6 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-25 Patient admitted to the ICU with liver abscess and sepsis.

a.  $\text{SaO}_2 = 85-90\%$       b.      9 kPa

|            |            |
|------------|------------|
| Increase   | Increase   |
| Decrease   | Decrease   |
| Not change | Not change |

Q-26 Patient admitted to the ICU with liver abscess and sepsis.

b.  $\text{SaO}_2 = 90-95\%$       b.      12 kPa

|          |          |
|----------|----------|
| Increase | Increase |
| Decrease | Decrease |

