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**Association of Acute Respiratory Distress Syndrome (ARDS) with AKI among  
Critically-Ill Patients**

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Online only appendix

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### **Changes in ARDS and AKI rates over the study period**

In way to assess changes in ARDS and AKI rate during the study a post-hoc analysis was performed. This analysis was performed to evaluate rate of AKI and ARDS before and after 2001.

During the first period (1997-2001): 1757 patients were included, including 490 patients with ARDS (247 AKI -50.4%) and 1267 patients without ARDS (428 AKI – 33.8%;  $P<0.001$ ).

During the second period (2002-2009): 6272 patients were included, including 1389 with ARDS (585 AKI - 42.1%) and 4883 patients without ARDS (1255 patients with AKI- 25.78%;  $P<0.001$ ).

### **Sensitivity analysis: Influence of ARDS and Mechanical Ventilation (MV) duration on AKI incidence**

In way to assess influence of longer exposure to ARDS or mechanical ventilation on AKI incidence, a post-hoc sensitivity analysis was performed. This analysis was performed according to duration of both ARDS –median 2 days- and to MV–median 4 days.

Before adjustment, AKI incidence was higher in patients with longer duration of ARDS (37.8% and 48.8% respectively in patients with ARDS duration  $\leq 2$  days and  $>2$  days;  $P<0.001$ ). Similarly, AKI incidence was higher in patients with longer duration of mechanical ventilation (MV) (33.3% and 50.8% respectively in patients with MV duration  $\leq 4$  days and  $>4$  days;  $P<0.001$ ).

After adjustment for confounders (see table 3), both shorter and longer duration of ARDS were associated with AKI (OR 1.82; 95%CI 1.14-2.90; and OR 2.85; 95%CI 1.80-4.50; respectively).

Conversely, after adjustment for confounders, only longer duration of mechanical ventilation remained associated with outcome (OR 0.92-95%CI 0.81-1.05- and OR 2.90 -95%CI 2.50-3.36- for shorter and longer duration of MV respectively).