**SUPPLEMENTAL DIGITAL CONTENT**

**SDC Figure 1.** Flow chart of the patients included.

**SDC Figure 2.** Distribution of ARDS development during ICU stay

**SDC Table 1.** Differences in outcomes between patients who developed ARDS and those who did not.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | |  | ARDS  in the first 28 days  (n=65) | No ARDS  in the first 28 days (n=1510) | *p* value |
| ICU mortality n(%)[95% CI] | |  | 38 (58.6)  [45.6-70.6] | 466 (30.9)  [28.6-33.3] | <0.001 |
| ICU LOS\*\* | |  |  |  |  |
|  | All | | 14 (9-24) | 8 (4-14) | <0.001 |
|  | Survivors | | 24 (14-31) | 9 (5-15) | <0.001 |
| Hospital mortality n(%)[95% CI]\* | |  | 36 (62.1)  [48.4-74.5] | 475 (35.9)  [33.3-38.5] | <0.001 |
| Hospital LOS\*\* | |  |  |  |  |
|  | All | | 22 (12-34) | 17 (8-30) | 0.056 |
|  | Survivors | | 39 (30-49) | 20 (12-34) | <0.001 |

\*Hospital mortality was only available in 1383 patients.

\*\* LOS data expressed as median (interquartile range).

**SDC Table 2.** Additional sensitivity analyses to assess the effect of driving pressure and ARDS development.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | Adjusted OR  at day 1 | p-value | Bootstrap | p-value | Adjusted OR  at day 2 | p-value |
| ARDS within the first 7 days\* | 1.13  (1.07 – 1.19) | <0.001 | 1.12  (1.08 – 1.17) | <0.001 | 1.11  (1.06 – 1.16) | <0.001 |
| ARDS\*\* | 1.12  (1.07 – 1.17) | <0.001 | 1.12  (1.07 – 1.16) | <0.001 | 1.11  (1.06 – 1.16) | <0.001 |

\*Adjusted by age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2, tidal volume and PEEP. \*\*Adjusted by age, COPD, pneumonia, sepsis, trauma, neurologic disease, postoperative, chronic heart failure, PaO2/FIO2, tidal volume and PEEP. ARDS: acute respiratory distress syndrome; OR: odds ratio; COPD: Chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure. OR and 95% CI are for each cm of water of driving pressure increase.

**SDC Table 3.** Sensitivity analyses to assess the effect of driving pressure and ARDS development in patients with pneumonia and patients with chronic heart failure or postoperative patients.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | |  | OR (95% CI)\* | p-value |
| Patients with pneumonia\*\* | | |  |  |
|  | ARDS | | 1.21 (1.07 – 1.37) | 0.002 |
|  | ICU mortality | | 1.08 (1.01 – 1.15) | 0.037 |
|  | Hospital mortality | | 1.06 (0.99 – 1.13) | 0.088 |
| Postoperative patients and patients with neurological disease\*\*\* | | |  |  |
|  | ARDS | | 1.09 (1.02 – 1.19) | 0.019 |
|  | ICU mortality | | 1.04 (1.01 – 1.08) | 0.021 |
|  | Hospital mortality | | 1.04 (1.00 – 1.08) | 0.043 |

**\***Odds ratio of the driving pressure. \*\*Adjusted by DP, Crs, age, PaO2/FIO2 and tidal volume and PEEP at day 1. COPD, sepsis, trauma, neurologic disease were omitted due to collinearity. \*\*\*Adjusted by DP, Crs, age, PaO2/FIO2 and tidal volume and PEEP at day 1. COPD, pneumonia, sepsis and trauma were omitted due to collinearity. ARDS: acute respiratory distress syndrome; ICU: Intensive Care Unit; OR: odds ratio; DP: Driving pressure; Crs Compliance of the respiratory system; COPD: Chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure. OR and 95% CI are for each cm of water of driving pressure increase.

**SDC Table 4.** Multivariate logistic regression analysis of the effect of static compliance mechanical power of the respiratory system.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | |  | Unadjusted OR of at day 1 | p-value | Adjusted OR at day 1\* | p-value |
| Compliance | | |  |  |  |  |
|  | ARDS | | 0.97 (0.96 – 0.99) | 0.001 | 0.97 (0.95 – 0.99) | 0.002 |
|  | ICU mortality | | 0.99 (0.99 – 0.99) | 0.041 | 0.99 (0.99 – 1.00) | 0.141 |
|  | Hospital mortality | | 0.99 (0.99 – 0.99) | 0.030 | 0.99 (0.99 – 1.00) | 0.127 |
| Mechanical power | | |  |  |  |  |
|  | ARDS | | 1.03 (1.01 – 1.06) | 0.013 | 1.02 (0.99 – 1.06) | 0.152 |
|  | ICU mortality | | 1.01 (0.99 – 1.03) | 0.140 | 1.01 (0.99 – 1.03) | 0.273 |
|  | Hospital mortality | | 1.01 (0.99 – 1.02) | 0.287 | 1.01 (0.99 – 1.02) | 0.432 |

**\*** Adjusted by age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2 tidal volume and PEEP at day 1. ARDS: acute respiratory distress syndrome; ICU: Intensive Care Unit; OR: odds ratio; COPD: Chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure. OR and 95% CI are for each cm of water of driving pressure increase.

**SDC Table 5.** Multivariate logistic regression analysis including DP and static compliance of the respiratory system.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | |  | OR (95% CI) | p-value |
| DP at day 1\* | | |  |  |
|  | ARDS | | 1.10 (1.02 – 1.20) | 0.017 |
|  | ICU mortality | | 1.05 (1.01 – 1.08) | 0.005 |
|  | Hospital mortality | | 1.05 (1.02 – 1.08) | 0.003 |
| Crs at day 1\* | | |  |  |
|  | ARDS | | 0.99 (0.97 – 1.02) | 0.807 |
|  | ICU mortality | | 1.00 (0.99 – 1.01) | 0.318 |
|  | Hospital mortality | | 1.00 (0.99 – 1.01) | 0.310 |

**\*** Adjusted by DP, Crs, age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2 and tidal volume and PEEP at day 1. ARDS: acute respiratory distress syndrome; ICU: Intensive Care Unit; OR: odds ratio; DP: Driving pressure; Crs Compliance of the respiratory system; COPD: Chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure. OR and 95% CI are for each cm of water of driving pressure increase.

**SDC Table 6.** Multivariate logistic regression analysis including DP and mechanical power of the respiratory system.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | |  | OR (95% CI) | p-value |
| DP at day 1\* | | |  |  |
|  | ARDS | | 1.12 (1.07 – 1.17) | <0.001 |
|  | ICU mortality | | 1.03 (1.01 – 1.06) | 0.007 |
|  | Hospital mortality | | 1.04 (1.01 – 1.06) | 0.003 |
| PowerRS at day 1\* | | |  |  |
|  | ARDS | | 1.00 (0.97 – 1.05) | 0.709 |
|  | ICU mortality | | 1.00 (0.99 – 1.02) | 0.704 |
|  | Hospital mortality | | 0.99 (0.98 – 1.02) | 0.956 |

**\*** Adjusted by DP, PowerRS, age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2, tidal volume and PEEP at day 1. ARDS: acute respiratory distress syndrome; ICU: Intensive Care Unit; OR: odds ratio; DP: Driving pressure; Crs Compliance of the respiratory system; COPD: Chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure. OR and 95% CI are for each cm of water of driving pressure increase.

**SDC 7.** Differences in baseline characteristics (within the first 24 hours of inclusion) according to the quartile of driving pressure

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | | | DP≤9cmH2O  (n=497) | DP>9-12 cmH2O  (n=385) | DP>12-15 cmH2O  (n=331) | DP>15 cmH2O  (n=362) | p-value |
| Age (yo) | | | 60 (18) | 61 (19) | 61 (18) | 60 (17) | 0.609 |
| Sex (male) | | | 333 (67.0%) | 261 (67.8%) | 208 (62.8%) | 218 (60.2%) | 0.092 |
| Reason for MV | | | | | |  |  |
|  | COPD | | 10 (2.0%) | 13 (3.4%) | 12 (3.6%) | 31 (8.6%) | <0.001 |
|  | Asthma | | 1 (0.2%) | 3 (0.8%) | 3 (0.9%) | 6 (1.7%) | 0.127 |
|  | Other CRD | | 5 (1.0%) | 2 (0.5%) | 3 (0.9%) | 11 (3.0%) | 0.027 |
|  | Postoperative | | 131 (26.4%) | 78 (20.3%) | 55 (16.6%) | 50 (13.8%) | <0.001 |
|  | Chronic heart failure | | 15 (3.0%) | 12 (3.1%) | 17 (5.1%) | 32 (8.8%) | <0.001 |
|  | Aspiration | | 9 (1.8%) | 5 (1.3%) | 6 (1.8%) | 10 (2.8%) | 0.550 |
|  | Pneumonia | | 38 (7.7%) | 38 (9.9%) | 27 (8.2%) | 44 (12.2%) | 0.124 |
|  | Sepsis | | 52 (10.5%) | 43 (11.2%) | 40 (12.1%) | 39 (10.8%) | 0.904 |
|  | Trauma | | 23 (4.6%) | 22 (5.7%) | 15 (4.5%) | 21 (5.8%) | 0.776 |
|  | Cardiac arrest | | 31 (6.2%) | 27 (7.0%) | 23 (7.0%) | 28 (7.7%) | 0.864 |
|  | Other ARF | | 18 (3.6%) | 22 (5.7%) | 14 (4.2%) | 11 (3.0%) | 0.276 |
|  | Neurologic disease | | 161 (32.4%) | 118 (30.7%) | 109 (32.9%) | 72 (19.9%) | <0.001 |
|  | Neuromuscular disease | | 3 (0.6%) | 2 (0.5%) | 7 (2.1%) | 7 (1.9%) | 0.074 |
| Body mass index | | | 30.0 (5.5) | 26.3 (5.5) | 27.0 (5.2) | 27.2 (6.4) | <0.01 |
| SAPS II | | | 47.0 (19.7) | 48.7 (19.4) | 50.0 (19.6) | 48.2 (18.8) | 0.170 |
| Fluid balance in the first 24 hours (mL) | | | 1006 (1772) | 1002 (1831) | 740 (1811) | 884 (1772) | 0.268 |
| Creatinine (mg/dl) | | | 1.69 (2.11) | 1.59 (1.99) | 1.62 (1.42) | 1.87 (2.77) | 0.329 |
| Bilirubin (mg/dl) | | | 1.29 (2.49) | 1.39 (2.64) | 1.38 (2.93) | 1.40 (1.74) | 0.936 |
| Platelets (x109/L) | | | 203 (113) | 208 (111) | 218 (132) | 209 (121) | 0.473 |
| Cardiovascular dysfunction (SOFA>2) | | | 254 (51.1%) | 200 (51.9%) | 168 (50.8%) | 189 (52.2%) | 0.724 |
| Respiratory variables | |  |  |  |  |  |  |
|  | Arterial pH | | 7.34 (0.12) | 7.35 (0.12) | 7.34 (0.12) | 7.32 (0.12) | 0.023 |
|  | PaCO2 (mmHg) | | 39 (11) | 39 (11) | 40 (12) | 44 (15) | <0.001 |
|  | PaO2/FIO2 (mmHg) | | 245 (102) | 244 (100) | 239 (102) | 217 (99) | <0.001 |
|  | RR (bpm) | | 17 (4) | 17 (4) | 17 (4) | 18 (4) | <0.01 |
|  | Tidal volume (ml/PBW) | | 7.8 (1.4) | 7.9 (1.3) | 8.0 (1.3) | 8.0 (1.5) | 0.079 |
|  | PEEP (cmH2O) | | 6.5 (2.1) | 6.3 (2.2) | 6.2 (2.3) | 6.1 (2.3) | 0.035 |
|  | Plateau pressure (cmH2O) | | 13 (2) | 17 (2) | 20 (2) | 26 (4) | <0.001 |
|  | Driving pressure (cmH2O) | | 7 (2) | 11 (1) | 14 (1) | 20 (4) | <0.001 |
|  | Compliance (ml/cmH2O) | | 85 (48) | 43 (8) | 35 (6) | 25 (6) | <0.001 |
|  | Mechanical power (J/min) | | 13.8 (6.3) | 15.3 (7.2) | 16.0 (7.0) | 18.5 (7.4) | <0.001 |

ARDS: acute respiratory distress syndrome; MV: mechanical ventilation; COPD: Chronic obstructive pulmonary disease; CRD: chronic respiratory disease; SAPS: Simplified Acute Physiology Score; SOFA: sequential organ failure assessment; RR respiratory rate: PEEP: positive end-expiratory pressure. Variables are expressed as mean (standard deviation) or frequency (percentage).

**SDC Table 8.** Outcomes according to the quartile of driving pressure.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | DP≤9cmH2O  (n=497) | DP>9-12 cmH2O  (n=385) | DP>12-15 cmH2O  (n=331) | DP>15 cmH2O  (n=362) | *p* value |
| ARDS n(%) [95% CI] | |  | 7 (1.41)  [0.57-2.88] | 11(2.86)  [1.43-5.05] | 15 (4.53)  [2.56-7.36] | 32 (8.84)  [6.13-12.25] | <0.001 |
| Duration of MV (days) | |  | 4 (2-9) | 4 (2-9) | 5 (3-10) | 6 (3-10) | 0.002 |
| ICU mortality n(%)[95% CI] | |  | 138 (27.8)  [23.9-31.9] | 125 (32.5)  [27.8-37.4] | 111 (33.5)  [28.5-38.9] | 130 (35.9)  [31.0-41.1] | 0.069 |
| ICU LOS (days)\*\* | |  |  |  |  |  |  |
|  | All | | 8 (4-14) | 7 (4-13) | 9 (4-16) | 9 (5-16) | 0.103 |
|  | Survivors | | 9 (5-14) | 8 (5-15) | 10 (5-16) | 11 (6-17) | 0.209 |
| Hospital mortality n(%)[95% CI]\* | |  | 140 (31.7)  [27.4-36.6] | 133 (38.8)  [33.6-44.2] | 113 (39.6)  [34.0-45.6] | 125 (39.8)  [34.3-45.5] | 0.052 |
| Hospital LOS (days)\*\* | |  |  |  |  |  |  |
|  | All | | 18 (9-29) | 16 (7-30) | 18 (8-34) | 17 (8-29) | 0.751 |
|  | Survivors | | 21 (12-33) | 19 (12-36) | 23 (12-35) | 20 (14-37) | 0.775 |

\*Hospital mortality was only available in 1383 patients and n value of different quartiles was 441, 343, 285 and 314, respectively.

\*\* LOS data expressed as median (interquartile range)

DP: Driving Pressure; ARDS: acute respiratory distress syndrome; MV: mechanical ventilation; ICU: Intensive Care Unit; LOS: Length of Stay.

**SDC Table 9.** Risk of ARDS between different quartiles of driving pressure taking as a reference the lowest quartile.

|  |  |  |
| --- | --- | --- |
|  | OR (95% CI) | P value |
| DP ≤9 | Reference | - |
| DP >9-12 | 1.80 (0.65-4.96) | 0.256 |
| DP >12-15 | 3.30 (1.27-8.56) | 0.014 |
| DP>15 | 6.72 (2.80-16.15) | <0.001 |

Adjusted by DP, age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2, tidal volume and PEEP at day 1. DP: driving pressure; OR: odds ratio, CI: confidence interval; ARDS: acute respiratory distress syndrome; COPD: chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure.

**SDC Table 10.** Risk of ICU mortality between different quartiles of driving pressure taking as a reference the lowest quartile.

|  |  |  |
| --- | --- | --- |
|  | OR (95% CI) | P value |
| DP ≤9 | Reference | - |
| DP >9-12 | 1.20 (0.86-1.65) | 0.281 |
| DP >12-15 | 1.20 (0.86-1.68) | 0.284 |
| DP>15 | 1.56 (1.11-2.18) | 0.010 |

Adjusted by DP, age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2, tidal volume and PEEP at day 1. DP: driving pressure; OR: odds ratio, CI: confidence interval; ARDS: acute respiratory distress syndrome; COPD: chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure.

**SDC Table 11.** Risk of hospital mortality between different quartiles of driving pressure taking as a reference the lowest quartile.

|  |  |  |
| --- | --- | --- |
|  | OR (95% CI) | P value |
| DP ≤9 | Reference | - |
| DP >9-12 | 1.28 (0.92-1.79) | 0.143 |
| DP >12-15 | 1.25 (0.88-1.78) | 0.209 |
| DP>15 | 1.54 (1.08-2.18) | 0.016 |

Adjusted by DP, age, COPD, pneumonia, sepsis, trauma, neurologic disease, PaO2/FIO2, tidal volume and PEEP at day 1. DP: driving pressure; OR: odds ratio, CI: confidence interval; ARDS: acute respiratory distress syndrome; COPD: chronic obstructive pulmonary disease; PEEP: positive end-expiratory pressure.

Also, in some place of manuscript must be included the list with all the investigators participating in the ISMV included in the analysis:

**Investigators in the Fourth International Study on Mechanical Ventilation (2016)**

**Argentina:** Coordinator: Fernando Rios (Hospital Nacional Profesor Alejandro Posadas, Haedo & Sanatorio Las Lomas, San Isidro, Buenos Aires)

Antonio Conforti (Hospital Fiorito, Avellaneda); Ariel Chena, Carlos Pellegrini (Hospital Lagomaggiore, Mendoza); Gustavo Plotnikow (Sanatorio Anchorena, Buenos Aires); Janina Lebus (Clinica La Sagrada Familia Neurological, CABA, Buenos Aires), Javier Osatnik (Hospital Alemán, Buenos Aires); Judith Sagardia (Hospital Nacional Profesor Alejandro Posadas, Haedo); Lisandro Bettini (Hospital Provincial del Centenario, Rosario); Marcela María Ducrey, Nicolás Iezzi (Hospital Italiano, Buenos Aires); Marco Bezzi (Hospital General de Agudos Donación Francisco Santojanni, Buenos Aires); Mónica Edith Emmerich (Sanatorio Güemes, Luján); Nicolás Zuljevic (Hospital San Martin, Buenos Aires); Pablo Edgardo Gómez (Sanatorio Juncal, Buenos Aires); Raúl Alejandro Gómez (Sanatorio Los Arcos, Buenos Aires); Rubén O. Fernández (Hospital Español, Mendoza); Santiago Ilutovich, Sebastián Fredes (Sanatorio Trinidad Mitre, Buenos Aires); Sebastián Mare (Hospital Zonal, Esquel)

**Australia:** Coordinators: Andrew Bersten; Elisha Matheson (Flinders Medical Centre, Bedford Park)

Helen Rodgers, Frank van Haren, Josie Russell-Brown, Mary Nourse, Katie Jefferson, Sarah Mckew (Canberra Hospital); Helen Wong (Concord Repatriation General Hospital, New South Wales); Kate Schwartz (Flinders Medical Centre, Bedford Park); Sandra Coutts (Ballarat Hospital)

**Belgium:** Coordinator: Greet Hermans (UZ Leuven)

Marc Bourgeois, Joke Denolf (AZ Sint Jan Brugge, Oostende); Helga Ceunen (UZ Leuven).

**Brazil:** Coordinator: Bruno Valle-Pinheiro (Hospital Universitário da Universidade Federal de Juiz de Fora, Juiz de Fora).

Gustavo Silva, Cristina Prata (Hospital Pio XII, Barretos); Ana Lúcia Gut (Hospital das Clínicas da Faculdade de Medicina de Botucatu, Botucatu); Arthur Oswaldo Abreu (Clínica São Vicente, Rio de Janeiro), Bruno Bonaccorsi (Hospital Octaviano Neves, Belo Horizonte); Cassiano Teixeira (Hospital Moinhos de Vento, Porto Alegre); Cintia Magalhães (Hospital Evangélico de Londrina, Londrina); Cristiane Andrade (Hospital Júlia Kubitschek, Belo Horizonte); David José Ibrahim Zeghzeghi (Santa Casa de Misericórdia de Belo Horizonte, Belo Horizonte); Fabio Ferreira (Hospital Santa Luzia, Brasília); Edimar Pedrosa (Hospital Doutor João Penido, Juiz de Fora); Fernando Fonseca (Hospital São João Batista, Viçosa); Flávio Luiz de Aguiar (Hospital João XXIII, Belo Horizonte); Frederico Costa (Hospital da Polícia Militar de Belo Horizonte, Belo Horizonte); Hélady Sanders-Pinheiro (Hospital Albert Sabin, Juiz de Fora); Carina Oliveira Freire (Hospital Unimed, Belo Horizonte); Hugo Urbano (Hospital Vila da Serra, Belo Horizonte); Jorge Luiz Rocha (Santa Casa de Misericórdia de São João del Rei, São João del Rei); José Carlos Fernandez Versiani (Hospital Madre Teresa, Belo Horizonte); Juliana Carvalho (Hospital das Clínicas da Universidade de São Paulo); Maria Carmen Mendes (Hospital de Pronto Socorro Risoleta Tolentino Neves, Belo Horizonte); Maria Aparecida Braga (Hospital Dia e Maternidade Unimed, Belo Horizonte); Maycon Moura (Hospital Monte Sinai, Juiz de Fora); Milton Rodrigues Júnior (Hospital São Paulo, São Paulo); Neymar Elias de Oliveira (Hospital de Base de São José do Rio Preto, São José do Rio Preto); Nivaldo Santos (Hospital de Cataguases, Cataguases); Amaury César Jorge (Hospital do Câncer, Uopeccan); Péricles Almeida Delfino (Hospital Universitário do Oeste do Paraná, Cascavel); Rovilson Lara (Hospital Arnaldo Gavazza Filho, Ponte Nova); Rubens Altair Amaral de Pádua (Hospital Vaz Monteiro, Lavras); Sergio Teixeira Sant’Anna (Hospital Norte D’Or, Rio de Janeiro); Thatiane Olivier Ticom (Hospital Márcio Cunha, Ipatinga); Wilson de Oliveira (Hospital Pronto Socorro 28 de Agosto, Manaus).

**Canada:** Coordinator**:** Lorenzo del Sorbo (University Health Network, Interdepartmental Division of Critical Care Medicine, University of Toronto).

Tommaso Pettenuzzo, Eddy Fan, Niall D. Ferguson (University Health Network, Interdepartmental Division of Critical Care Medicine, University of Toronto).

**Chile:**  Luis Soto-Germani. (Hospital San Pablo, Coquimbo)

**China:** Coordinator**:** Bin Du (Peking Union Medical College Hospital, Beijing).

Yu Chen, Chenming Dong (Lanzhou University 2nd Hospital); Chengzhi Ding, Cheng Nie, Qiang Shao, Yan Zhang (Nanchang University 1st Hospital); Qian Chen (Southwest Medical University Affiliated Hospital); Lei Xu (Tianjin 3rd Central Hospital); Wei Jiang (Peking Union Medical College Hospital, Beijing); Yu Ma (Chongqing Emergency Service Center); Feng Shen (Guizhou Medical University Affiliated Hospital); Feng Sui, Jiahui Miao, Wenxiong Li, Wenliang Ma, Yijia Jiang, Yue Zheng, Qiuchen Zhang (Beijing Chaoyang Hospital); Ying Gao (Tianjin Medical University General Hospital); Jingli Gao (Kailuan General Hospital); Xiaohui Gong (Chifeng Medical College Hospital); Liqing Guo (Shihezi University 1st Hospital); Haibo Qiu (Zhongda Hospital, Southeast University); Jinhai Han (Qinghai Provincial People's Hospital); Hongcheng Tian (China Rehabilitation Center); Hongsheng Zhao (Nantong University Affiliated Hospital); Ming Hou (Qinghai University Affiliated Hospital); Huaicong Long (Sichuan Provincial People's Hospital); Chulin Huang (Cancer Hospital, Chinese Academy of Medical Sciences); Huiqing Ge (Sir Run Run Shaw Hospital, Zhejiang University Medical School); Jian Zhang (Baoding 1st Central Hospital, East Campus); Jian Zhou, Xuefei Yang, Yaoli Wang (Daping Hospital, Research Institute of Surgery, Third Military Medical University); Rui Li (Henan Provincial People's Hospital); Ning Li (Hebei University Hospital); Li Yu, Xiaoling Wu (Wuhan Central Hospital); Liwei Pan (Wenzhou Medical University 2nd Hospital); Deyong Li (Jurong People's Hospital); Lijuan Zhang, Meng Wu (Chengdu 5th People's Hospital); Lina Guan (Yantai Yuhuangding Hospital); Liping He (Inner Mongolia Medical University Hospital); Liquan Huang (Zhejiang Provincial TCM Hospital); ; Lei Liu (PLA Shenyang General Hospital); Mili Liu (Xinjiang People's Hospital); Shuangqing Liu (PLA General Hospital 1st Affiliated Hospital); Jingfeng Liu, Zhide Yuan (Beijing Friendship Hospital, Capital Medical University); Xiujuan Liu, Zhigang Zuo (Qinhuangdao 1st Hospital); Pan Han (Zhejiang University Medical School 2nd Hospital); Jing Pang (Guangxi Provincial People's Hospital); Peijun Li (Tianjin Chest Hospital); Xuehua Pu (Taizhou People's Hospital); Qinggang Ge (Peking University 3rd Hospital); Qiuhui Wang (Wuxi People's Hospital); Ruilan Wang, Yun Xie; (Shanghai 1st People's Hospital); Ruiqiang Zheng (Yangzhou Subei People's Hospital); Wenjuan Shen; Shenzhen Baoan (Nanhua Unviersity 2nd Hospital); Shengyuan Su (Shenzhen Baoan District People's Hospital); Weizheng Shuai (PLA Navy General Hospital); Shuangping Zhao (Xiangya Hospital, Zhongnan University); Yingying Su, Linlin Fan (Xuanwu Hospital, Capital Medical University); Jiajun Sun (Liaocheng 2nd People's Hospital); Yun Sun (Anhui Medical University 2nd Hospital); Tongwen Sun (Zhengzhou University 1st Hospital); Xiaozhi Wang (Binzhou Medical College Affiliated Hospital); Xue Wang (Xi'an Jiaotong University 1st Hospital); Xianyao Wan (Dalian Medical University 1st Hospital); Xiaobo Huang, Xiaohong Zhang (Sichuan Provincial People's Hospital); Xiaomao Xu (Beijing Hospital); Xiaomei Chen (Shandong University Qilu Hospital); Haifeng Xu (Changzhou Wujin Hospital); Yongfang Zhou (West China Hospital, Sichuan University); Yuan Yuan (Gansu Provincial People's Hospital); Yuetian Yu (Renji Hospital, West Campus, Shanghai Jiaotong University Medical School); Yujie Li (Renji Hospital, East Campus, Shanghai Jiaotong University Medical School); Dehou Zhang (Jiangsu University Jiangbin Hospital); Kun Zhang (Hebei Medical University 4th Hospital); Minwei Zhang (Xiamen University 1st Hospital); Qiguang Du (Zhenjiang 1st People's Hospital); Zhenglong Ye (Nanjing Jiangbei People's Hospital); Zhenyi Rao (Kunming Medical University 5th Hospital); Zhiyong Peng (Zhongnan Hospital, Wuhan University); Fachun Zhou (Chongqing Medical University 1st Hospital); Jianxin Zhou (Tiantan Hospital); Yibing Zhu (Shandong Qianfoshan Hospital); Zhang Jun (Suzhou Municipal Hospital, East Campus); Huang Min Qiang (University of Hong Kong Hospital); An Lili (Yingkou Development Zone Central Hospital).

**Colombia:** Coordinator: Marco González (Clínica Medellín & Universidad Pontificia Bolivariana, Medellín, Medellín).

Adriana Paola Franco, Gineth Viviana Lozano, Daniel Rojas, Carolina Chingate, Leidys Vidales, Mauricio Muñoz, Diana Romero, Bibiana Telag, Taylor Burbano (Clínica Meta, Villavicencio); Angélica María Luna Diana, Angélica Carrillo, Harvey Moncayo, Juan Pablo Ospina (Clínica Medilaser, Neiva), Bladimir Alejandro Gil (Clínica Las Américas, Medellín); Carlos Hurtado (Centro Policlínico & Clinica Los Nogales, Bogotá); Cesar Enciso (Hospital Infantil San José, Bogotá); Carlos Mauro Arias (Clínica Antioquia, Medellín); David Yepes (Clínica CES, Medellín); Federico Andrés Benítez (Clínica La Estancia, Popayán); Francisco Molina (Clínica CUB, Medellín); Mario Gómez, Giovanni Libreros (Clínica Colsubsidio, Bogotá); Gloria Cepeda (Clínica SOMA, Medellín); Guillermo Ortiz (Clínica de Santa Clara, Bogotá); Mario Gómez Duque (Hospital San José, Bogotá); Felipe Álvarez (Hospital San Rafael de Itagui, Medellín); José Fidel Jaraba (Clínica General Del Norte, Barranquilla); Juan Luis Echeverri (Clínica Medellín, Medellín); Lina María Saucedo, (Clínica Shaio, Bogotá); María Elena Ochoa, Marcela Granados (Clínica Fundación Valle de Lili, Cali); Norton Pérez Gutiérrez (Hospital Departamental, Villavicencio); Rafael Thomen (Clínica la Asunción, Barranquilla); Rigoberto Espinosa (Clínica del Prado, Medellín); Ronald Antonio Medina (Umas Móvil Ips, Bogotá); Victoria Eugenia Ángel Mejía, (Hospital Manuel Uribe Ángel, Medellín); Yenny Rocío Cárdenas, Leopoldo Ferrer (Hospital Universitario Fundación Santafé, Bogotá); Rigoberto Espinosa (Clínica del Prado, Medellín)

**Ecuador:** Coordinator:Manuel Jibaja (Hospital de Especialidades Eugenio Espejo & Escuela de Medicina de la Universidad Internacional del Ecuador, Quito).

Fernanda García, Vanesa Ramírez (Hospital de Especialidades Eugenio Espejo, Quito); Jorge Hurtado (Hospital Carlos Andrade Marín, Quito); Gustavo del Pozo (Hospital General Fuerzas Armadas, Quito); Estuardo Salgado (Clínica la Merced, Quito); Victor Manuel Figueroa (Hospital de SOLCA, Quito) Marcelo Ochoa, Priscilla Reinoso (Hospital José Carrasco Arteaga, Cuenca); Francisco Rivadeneira, Mario Acosta (Hospital San Vicente de Paúl Ibarra).

**El Salvador:** Manuel Bello (Hospital Nacional San Rafael, Hospital Nacional Zacamil, Hospital Militar, San Salvador).

**France**: Coordinator: Arnaud W. Thille (Centre Hospitalier Universitaire de Poitiers)

Nadia Anguel, Alexandra Beurton (Centre Hospitalier Universitaire du Kremlin-Bicêtre); Gaëtan Béduneau, Christophe Girault (Centre Hospitalier Universitaire Charles Nicolle, Rouen), Pascal Beuret, Simon Devillez (Centre Hospitalier de Roanne); Florence Boissier (Centre Hospitalier Universitaire de Poitiers); Anne Bretagnol, Armelle Mathonnet (Centre Hospitalier d’Orléans); Audrey de Jong, Samir Jaber (Centre Hospitalier Universitaire Saint Eloi, Montpellier); Jean Dellamonica (Centre Hospitalier Universitaire d’Archet, Nice); Elisabeth Gratia, Nicolas Terzi (Centre Hospitalier Universitaire Grenoble Alpes); Claude Guérin, Sophie Perinel (Hôpital de La Croix Rousse, Lyon); Emmanuel Guérot, Alexandra Monnier (Hôpital Européen Georges Pompidou); Matthieu Le Meur, Damien Roux (Hôpital Louis Mourier, Colombes); Erwan L’Her (Centre Hospitalier Universitaire de Brest); Saad Nseir, Anahita Rouzé (Centre Hospitalier Universitaire de Lille); Thierry Soupison (Centre Hospitalier Universitaire d’Amiens).

**Germany:** Coordinator**:** Konstantinos Raymondos (Medizinische Hochschule Hannover).

Johannes Bickenbach, Jessica Pezechk (Universitaetsklinikum, Aachen); Cezar Mihailescu, Thomas Moellhoff  (Katholische Stiftung Marienhospital, Aachen); Roland Schneider, Ronald Matties (Klinikum Bad Salzungen gGmbH, Bad Salzungen); Hansjörg Haas (Ermstalklinik Bad Urach - Kreiskliniken Reutlingen GmbH, Bad Urach); Stefan Seyboth, Volker Schoeffel (Klinikum Mittelbaden Baden-Baden Balg, Baden-Baden); Jorg Reutershan (Klinikum Bayreuth GmbH, Bayreuth); Stefan Weber-Carstens (Charité Universitaetsklinikum, Berlin); Jorg Brederlau (HELIOS Klinikum Berlin Buch, Berlin); Michael Kraemer (Deutsches Herzzentrum, Berlin) Christian Putensen (Universitaetsklinikum, Bonn); Jorg Ahrens (Zentralkrankenhaus Links der Weser, Bremen); Kirsten Terhorst, Alexander Buchmann (KRH Klinikum Großburgwedel, Burgwedel); Ralph Sander (Allgemeines Krankenhaus, Celle); Bodo Albrecht (Zeisigwaldkliniken Bethanien, Chemnitz); Matthias Rabba, Christian Weilbach (St. Josefs-Stift, Cloppenburg); Jens Buettner (Evangelisches Krankenhaus Elisabethenstift gGmbH, Darmstadt); Linda Reisbach, Alin Ulbricht (Universitaetsklinikum Carl Gustav Carus, Dresden); Christian Jung, Ernan Zhu (Universitaetsklinikum, Dusseldorf); Maren Schmidt, Dirk Weiland (Klinikum Barnim GmbH, Werner Forßmann Krankenhaus, Eberswalde); Frank Herbstreit, Jurgen Peters (Universitaetsklinikum, Essen) Jürgen Ernst, Christoph Wiesenack (Evangelisches Diakoniekrankenhaus Freiburg im Breisgau, Freiburg); June Tomelden (ASKLEPIOS Fachkliniken Muenchen-Gauting, Gauting); Stefan Rauch, Matthias Fischer (Klinik am Eichert, Goeppingen); Andrea Kenchen (Universitaetsklinikum der Georg-August-Universitaet, Goettingen); Maja Iversen (Bundeswehrkrankenhaus, Hamburg) Yones Salameh, Wolfgang Seitz (Kreiskrankenhaus, Hameln); Martin Wagner, Mathias Gnielinski (DRK-Krankenhaus Clementinenhaus, Hannover); André Gottschalk, Frauke Honig (DIAKOVERE Friederikenstift, Hannover); Christine Fegbeutel, Wolfgang Knitsch, Mathias Wilhelmi, Heiner Ruschulte, Sebastian Panke (Medizinische Hochschule Hannover, Hannover); Martin Schott, Bernard Tautz (Klinikum Hannover Nordstadt, Hannover); Matthias David, Karin Kobusch (KRH Klinikum Siloah-Oststadt-Heidehaus, Hannover); Hongting Hensel, Jorg Scharnofske (DIAKOVERE Henriettenstift, Hannover); Emanuel Chorianopoulos, Michael Preusch (Universitaetsklinikum der Ruprecht-Karls-Universitaet, Heidelberg); Marion Hoffmann (Thoraxklinik Heidelberg - Universitaetsklinikum der Ruprecht-Karls-Universitaet, Heidelberg); George von Knobelsdorff (St. Bernward Krankenhaus GmbH, Hildesheim); Beate Wedel (Städtisches Klinikum Karlsruhe gGmbH, Karlsruhe); Andreas Hohn, Jochen Hinkelbein, Joanna Plessow, Caroline Rolfes (Universitaetsklinikum, Koeln); Joachim Lindner (KRH Klinikum, Lehrte); Hermann Wrigge (Universitaetsklinikum der Universitaet, Leipzig); Hans F. Ginz (Kreiskrankenhaus, Lörrach); Detlef Goerdes, Christian Frenkel (Städtisches Klinikum, Lueneburg); Caren Tietz (Otto-von-Guericke Universität Universitaetsklinikum, Magdeburg); Walter Pohl (Kliniken Hochfranken, Muenchberg); Christian Siebers, Jochen Henkel, Ludwig Ney, Lorenz Frey (Universitaetsklinikum der Ludwig-Maximilians-Universitaet, München); Chritian Rabe (Klinikum rechts der Isar der TU Muenchen, Abteilung fuer klinische Toxikologie, München); Frank Brettner (Krankenhaus der Barmherzigen Brueder, München); Vanessa Rembold, Joachim Meyer (Staedtisches Krankenhaus Muenchen-Harlaching, München); Michael Ziegler, Karl Schulze (KRH Klinikum, Neustadt am Ruebenberge); Thomas Bein (Universitaetsklinikum, Regensburg); Dirk Holten, Markus Schappacher (Klinikum Sindelfingen-Boeblingen, Sindelfingen); Sebastian Allgaeuer (Robert-Bosch-Krankenhaus, Stuttgart); Tom Phillip Zucker, Martin Glaser (Klinikum Traunstein, Traunstein); Markus Schmola (Kreiskrankenhaus, Woerth an der Donau); Marcus Kredel (Universitaetsklinikum, Wuerzburg); Jean Soukup (Carl-Thiem-Klinikum, Cottbus)

**Greece:** Coordinator**:** Dimitrios Matamis (Papageorgiou Hospital, Thessaloniki)

Aikaterini Flevari (Attikon University Hospital, Athens); Christofis Christos (University Hospital, Alexandroupolis); Efstratios Manoulakas (University Hospital, Larissa): Eleni Mouloudi, Eleni Massa (Ippokration Hospital, Thessaloniki); Maria Papaioannou (Papanikolaou Hospital Medical, Thessaloniki); Tasioudis Polychronis (Gennimata Hospital, Thessaloniki); Georgia Vasileiadou, Eleni Synnefaki  (Papageorgiou Hospital, Thessaloniki)

**Guatemala:** Jorge Luis Ranero, Luis Estuardo Ávila, José Armando Muñoz, Ana Silvia Bonilla, Erick Méndez, Juan José Deyet, Gary Abraham Reyes (Hospital General de Enfermedades, IGSS, Ciudad de Guatemala).

**Ireland**: Coordinator**:** Ignacio Martin-Loeches (St James’s University Hospital, Dublin)

David Honan (Wexford General Hospital); Gabor Zilahi (St James’s Hospital, Dublin); Gerry Fitzpatrick (Tallaght Hospital Dublin).

**Italy**: Coordinator**:** Salvatore Maurizio Maggiore (Università degli Studi G. d'Annunzio Chieti e Pescara, Italy).

Agostino Roasio (Presidi Ospedalieri Cardinal Massaia e Vallebelbo, Asti); Alice Sacco (Ospedale Torrette, Ancona); Andrea Bottazzi (Ospedale San Matteo, Pavia); Andrea Neville Cracchiolo (Ospedale Civico, Palermo); Antonella Cotoia (Ospedali Riuniti, Foggia); Camilla Micalizzi (Ospedale Policlinico, Genoa); Federico Longhini (Ospedale Sant'Andrea, Vercelli); Francesca Tardini (Ospedale Niguarda, General ICU, Milano); Francesco Curto (Ospedale Niguarda, Neurosurgical ICU, Milano); Jessica Maugeri (Ospedale ARNAS Garibaldi Centro, Catania); Luca Maria Montini (Policlinico Agostino Gemelli , Università Cattolica Del Sacro Cuore, Roma); Lucia Mirabella (Ospedali Riuniti, Foggia); Marco Pozzi (Ospedale San Matteo, Pavia); Maria Elena (Ospedale San Giovanni Bosco, Torino); Maurizio Bottiroli (Ospedale Niguarda, Cardiosurgical ICU, Milano); Monica Rocco (Policlinico Sant'Andrea, Roma); Nicola Logrieco (Policlinico Federico II, Napoles); Patrizia Murino (Ospedali dei Colli-Monaldi, Napoles); Salvatore Grasso (Ospedale Policlinico, Università Di Bari, Bari); Savino Spadaro (Ospedale Sant'Anna, Ferrara); Sergio Livigni (Ospedale San Giovanni Bosco, Torino); Stefano Romagnoli (Ospedale Careggi, Florence); Tullio Spina (Ospedale Santo Spirito, Pescara).

**India:** Coordinator**:** Pravin Amin (Bombay Hospital Institute Of Medical Sciences MS).

Ashwin Kumar Mani (Apollo First Med Hospital, Chennai); Banambar Ray (Apollo Hospitals, Bhubaneswar); Dedeepiya Devaprasad (Apollo Cancer Speciality Hospital, Chennai); Devachandran Jayakumar (Apollo Speciality Hospital OMR, Chennai); Harjit Dumra (Sterling Hospital, Memnagar); Karthiraj Natarajan (Apollo First Med Hospital, Chennai); Leenapatil (Ganpati Hospital); Mehul Shah (Sir. H. N. Reliance Foundation Hospital, Prarthna Samaj); Nagarajan Ramakrishnan (Apollo Hospitals, Critical Care Services, Chennai); R. Ebenezer (Apollo Speciality Hospitals, Chennai); Rajesh Chawla (Indraprastha Apollo Hospitals Sarita Vihar); Samir Sahu (AMRI Hospitals, Bhubaneswar); Suresh Ramasubban (Apollo Gleneagles Hospital, Kolkata).

**Korea:** Coordinator: Gee Young Suh (Intensive Care and Director of Center for Clinical Epidemiology of Samsung Medical Center, Seoul)

Eumi Jang (Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul); Heung Bum Lee (Chonbuk National University Medical School and Hospital); Hong Jiyoung (Chuncheon Sacred Heart Hospital, Hallym University Medical Center); Hyung Koo Kang (Ilsan Paik Hospital, Inje University College of Medicine); Jeong Eunsuk (Pusan National University School of Medicine); Ji Young Hong (Chuncheon Sacred Heart Hospital, Hallym University Medical Center); Jin Hwa Lee (Ewha Womans University School of Medicine); Jinhee Jeon (Dongsan Hospital, Keimyung University School of Medicine); Ju Hee Park (Seoul Metropolitan Government Seoul National University Boramae Medical Center); Kim Kyung Chan (Catholic University of Daegu Hospital); Sang-Min Lee (Seoul National University Hospital, Seoul National University College of Medicine); So Young Park (Kyung Hee University Medical Center Seoul); Sunghoon Park (Hallym University Sacred Heart Hospital, Hallym University College of Medicine); Won-Yeon Lee (Yonsei University Wonju Severance Christian Hospital, Yonsei University Wonju College of Medicine); Wonil Choi (Dongsan Hospital, Keimyung University School of Medicine); Yeon Joo Lee (Seoul National University Bundang Hospital); Yun Su Sim (Hallym University Kangnam Sacred Heart Hospital); Chae Man Lim (Asan Medical Center, College of Medicine, University of Ulsan).

**Mexico**: Coordinator:Maria del Carmen Marin **(**Hospital Regional 1° de Octubre, Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE), México DF)

Abad Q. Ortega Pérez (Centro Médico Lic. Adolfo López Mateos, Toluca); Alfonso Chávez, Ángel Augusto Pérez-Calatayud (Hospital General de México “Dr. Eduardo Liceaga”, México DF); Alfonso García-Luna (Hospital Ángeles, León); Andrea Rugerio (Hospital ABC Santa Fe, México); Alfredo Arellano (Hospital Regional de Alta Especialidad, Ixtapaluca); Arturo Velasco (Hospital La Victoria, Cancún); Asunción José Longino (Hospital Ángeles, Chihuahua); Antonio Tamariz, Christus Muguerza  (Hospital Betania, Puebla); Claudia Ivette Reynoso (Hospital Civil de Guadalajara); Dulce D’ector-Lira (Centro Médico Dalinde, México DF); Damián Gutiérrez-Zarate (Hospital Español, México DF); Dulce Pérez (Hospital Central Universitario, Chihuahua); Eduardo Daniel Anica Malagón (Hospital General de México “Dr. Eduardo Liceaga”, México DF); Enrique Monares (Hospital San Angel Inn Universidad, México DF); Ernesto Deloya (Hospital de Alta Especialidad San Juan del Rio, Querétaro); Ervin Manzo (Hospital Ángeles Metropolitano, México DF); Felipe De Jesús Montelongo (Hospital General Ecatepec “Las Américas”, México DF); Francisco Javier Flores, Mavy Ramírez (Hospital General de Zona No. 1 IMSS, Tepic Nayarit); Gilberto Camarena (Hospital ABC Santa Fe, México DF); Gilberto Felipe Vázquez (Centro Médico Nacional Siglo XXI. Unidad de Trasplante, México DF); Héctor Vázquez (Hospital General de Zona No. 1 del IMSS, La Paz); Gustavo Morales (Hospital Regional de Alta Especialidad de la Mujer, Villahermosa); Sergio Edgar Zamora (Hospital Juárez de México, México DF); Georgina Magaña (Instituto Nacional de Neurología y Neurocirugía MVS. Secretaria de Salud. México DF); Jesús Isidro Sánchez-González (Unidad Médica Alta Especialidad UMAE 34 IMSS, Monterrey); Jorge Rosendo Sánchez-Medina (Hospital Regional de Ciudad Madero Pemex, Tamaulipas); José J Zaragoza (Hospital Ángeles Acoxpa); Juan Antonio Buensuseso (Hospital Costamed Playa del Carmen, Quintana Roo); Juan Carlos Dávila (Hospital General Zona No.1, IMSS. Oaxaca); Julio C Mijangos-Méndez (Hospital Civil de Guadalajara); Manuel Martínez-Medina (Hospital General de Zona No. 5 IMSS, Nogales); María Chacón (INR-CENIAQ. México DF); María Verónica Calyeca (Centro de Especialidades Médicas, Veracruz); José  Jorge Martínez -Soria (Hospital General Irapuato, Irapuato); Raquel Méndez (Hospital Regional 1º de Octubre ISSSTE, México DF); Roberto de Jesús García-Graullera (Hospital Galenia, Cancún); Roberto Rosas (Pemex, Villahermosa); Saira Sanjuana (Hospital Rubén Leñero, México); Sergio Reyes (Hospital General de Cholula, Puebla & UMAE Hospital de Traumatología y Ortopedia, Puebla); Silvio A. Ñamendys-Silva (Instituto Nacional de Cancerología, México DF & Fundación Clínica Médica Sur, México DF); Alfonso Estrada Gutiérrez (Hospital General de la Mujer SSM, Michoacán); Zalatiel Maycotte (Hospital de Texcoco); Villegas Castellanos, Lilian Lizette (Hospital General Ajusco Medio, México DF), Luis Alejandro Sánchez- Hurtado (Hospital de Especialidades “ Dr. Antonio Fraga Mouret” Centro Médico Nacional La Raza. México D.F); Carlos Larios (Hospital de Especialidades del CMN “Manuel Ávila Camacho” del IMSS, Puebla).

**Morocco:** Coordinator: Amine Ali Zeggwagh (Centre Hospitaler Universitarie Ibn Sina - Mohammed V University, Rabat, Morocco)

Elmostafa Akkaoui (Hôpital Mohamed V, Meknes); Mourad Amor, Hicham Belkhi (Centre Hospitaler Universitarie Ibn Sina, Université Mohamed V, Rabat); Charki Haimeur (Hôpital Militaire d'Instruction Mohamed V, Centre Hospitaler Universitarie Ibn Sina, Rabat); Hanane Ezzouine (Hôpital Ibn Rochd. Casablanca); Mina Elkhayari (Hôpital Ibn Tofail, Centre Hospitalier Universitarie Mohamed V, Marrakech); Tarek Dendane (Hôpital Ibn Sina, Centre Hospitalier Universitarie Ibn Sina, Université Mohamed V, Rabat)

**Netherlands**: Michael Kuiper & Matty Koopmans (Medical Center Leeuwarden).

**New Zealand:**  Coordinator:Rachael Parke (Auckland City Hospital, Cardiothoracic and Vascular Intensive Care Unit).

Dawn France (Dunedin Hospital); Jennifer Goodson (Tauranga Hospital, Tauranga); Raulle Sol Cruz (Wellington Regional Hospital ICU).

**Nicaragua**: Becket Arguello (Hospital Central Managua)

**Peru:** Coordinator: Fernando Rafael Gutierrez-Muñoz (Clínica El Golf, Lima)

Monica Giuliana Meza (Hospital Cayetano Heredia, Lima); José Manuel Cruz (Hospital G. Almenara I,Lima); José Wilber Portugal (Hospital E.Rebagliati M7B, Lima); Manuel Contardo (Clínica San Felipe, Lima); Manuel Laca (Hospital Naval, Lima); Luis Castillo (Instituto de Enfermedades Neoplásicas, Lima); Aland Bisso (Hospital Central de Policía Local, Lima); Rocio Quispe (Clínica Delgado, Lima); Indira Oyanguren (Clínica Angloamericana, Lima).

**Portugal:** Sofia Dias (Hospital de S. José, Centro Hospitalar de Lisboa) Central, E.P.E; Teresa Honrado (Hospital de S. João, Porto).

**Puerto Rico:** Gloria Rodríguez, Wilma González-Barreto, Brígida Colón-Barreto, Christian Rosado-Paso, Yara Delgado (HIMA San Pablo Caguas, Puerto Rico).

**Spain**: Coordinator: Óscar Peñuelas (Hospital Universitario de Getafe, Madrid).

Aaron Blandino, Raúl de Pablo (Medical ICU Hospital Universitario Ramón y Cajal, Madrid); Luis Gajate (Surgical ICU Hospital Universitario Ramón y Cajal, Madrid); Alberto Belenguer (Hospital General de Castellón); Alberto Levy (Hospital Comarcal de Melilla); Alejandro Moneo, Beatriz Busto, Francisco Ortuño (Hospital Clínico San Carlos, Madrid); Alfonso Ortega, Javier Veganzones (Hospital Universitario Puerta de Hierro, Majadahonda); Amparo Cabanillas (Hospital General de Soria); Manuel Cruz, Ana María de Pablo, Susana Zubillaga (Hospital del Sureste, Arganda); Ana Martín-Pellicer (Hospital Rey Juan Carlos, Móstoles); Ana Villagrá (Hospital Txagorritxu, Vitoria); Ángela Algaba, Elena González-González (Hospital de Torrejón); Ángela Alonso-Ovies (Hospital de Fuenlabrada); Antonia Vázquez-Sánchez, Irene Dot, Joan Ramón Masclans (Hospital del Mar, Parc de Salut Mar, Barcelona); Antonio García- Jiménez (Hospital Arquitecto Marcide, Ferrol); Antonio Viñuales (Hospital Lluis Alcanyis, Xativa); Anxela María (Fundación Jiménez Díaz, Madrid); Beatriz Abad, Enrique Cereijo (Hospital Universitario La Princesa, Madrid); Candelaria de Haro (Consorci Hospitalari del Parc Taulí, Sabadell); Caridad Martin- López (Hospital Provincial de Santiago); Carles Subira (Hospital Sant Joan de Déu, Fundació Althaia, Manresa); Carlos Vicent (Hospital Universitario La Fé, Valencia); Carolina García-Martin, Samantha Huidobro (Hospital Universitario de Canarias, La Laguna); Catalina Forteza, Gemma Rialp (Hospital Son Llatzer, Palma de Mallorca); César Laborda, Jordi Riera, Judit Sacanell, Oriol Roca (Hospital Vall d’Hebrón, Barcelona); Concepción Martínez-Fidalgo (Hospital Universitario Infanta Cristina, Parla); David Arizo (Hospital de Sagunt); David Granado (Hospital de Mérida); Pedro J. Domínguez-García (Hospital Juan Ramón Jiménez, Huelva); Cecilia Hermosa (Hospital del Henares, Coslada); Eduardo Morales (Cardiovascular ICU Hospital Clínico San Carlos, Madrid); Eduardo Palencia (Hospital Infanta Leonor, Madrid); Elena Abril, Rebeca Padilla, Fernando Hidalgo (Hospital Universitario de Getafe); Alfonso Estrella (Hospital Universitario de Guadalajara); Eugenio Luis Palazón (Hospital Universitario Reina Sofía, Murcia); Federico Minaya (Hospital San Pedro Alcántara, Cáceres); Félix Martín-González (Hospital Clínico de Salamanca); Fernando Callejo-Torre (Complejo Hospitalario de Burgos); Fernando Iglesias, Manuel Valledor, Marta Martín-Cuadrado (Hospital San Agustín, Avilés); Ferrán Roche-Campo (Hospital de Tortosa); Joan María Raurich, Mireia Ferreruela, María Teresa Millán (Hospital Universitari Son Espases, Palma de Mallorca); Francisco Lucena, Helena Sancho (Hospital de Valme, Sevilla); Germán Escudero (Hospital General Universitario Santa María del Rosell, Cartagena); Gonzalo Hernández (Complejo Hospitalario de Toledo); Francisco Guerrero-López (Complejo Hospitalario Universitario de Granada); Héctor Hernández-Garcés (Hospital de Lliria, Valencia); Hernán Aguirre-Bermeo, María Torrens, Nuria Rodríguez (Hospital de la Santa Creu i Sant Pau, Barcelona); Ignacio Sáez, Susana Temprano, Renata García Gigorro (Medical-Surgical ICU Hospital Universitario Doce de Octubre, Madrid); Isidro Prieto (Trauma ICU Hospital Universitario Doce de Octubre, Madrid); Immaculada Vallverdú (Hospital Universitario Sant Joan de Reus); Iván Astola, Raquel Yano (Hospital Central de Asturias, Oviedo); Jesús Blanco (Hospital Río Hortega, Valladolid); José María Quiroga (Hospital de Cabueñes, Gijón); José Antonio Fernández-Ratero (Neurologic ICU Complejo Hospitalario de Burgos); Miguel Martínez-Barrios (Surgical ICU Complejo Hospitalario de Burgos); José Luis Flordelis, Miguel Ángel Blasco-Navalpotro, Ricardo Díaz-Abad (Hospital Severo Ochoa, Leganés); José María Montón (Hospital Obispo Polanco, Teruel); María Carmen Espinoza (Hospital General Universitario de Ciudad Real); María Elena Plumed, María José Tolon (Hospital Quirón Zaragoza); María Teresa Jurado (Hospital CST Terrasa); María del Carmen Fernández-González (Hospital de Móstoles); María del Rosario Truchero (Hospital Provincial de Ávila); María Elena Pérez-Losada (Hospital Clínico de Salamanca); María Isabel Rubio (Medical-Surgical ICU Hospital Marqués de Valdecilla , Santander); Marta López-Sánchez (Neurologic ICU Hospital Marqués de Valdecilla , Santander); María Isabel Ruiz-García (Complejo Hospitalario de Jaén); María Consuelo Pintado, María Trascasa Muñoz (Hospital Príncipe de Asturias, Alcalá de Henares); Marta Ugalde, Pablo Serna (Hospital de Cruces, Barakaldo); Oscar Martínez-González (Hospital del Tajo, Aranjuez); Miguel León (Hospital Arnau de Vilanova, Lleida); Miquel Ferrer (Respiratory ICU Hospital Clinic, Barcelona); Mònica Magret (Hospital Universitari Joan XXIII, Tarragona); Alfonso Muñoz-López, Roser Tomas, Salvador Fernández (Hospital Carlos Haya, Málaga); Nieves Franco (Hospital de Conxo/Complejo Hospitalario de Santiago de Compostela); Patricia Salgado, Alejandro Suárez-de la Rica (Hospital Universitario La Paz; Madrid); Rafael Sánchez- Iniesta (Complejo Hospitalario Universitario de Albacete); Raquel Montiel (Hospital de la Candelaria, Tenerife); Raquel Montoiro, Carmen Velilla (Hospital Clínico Lozano Blesa, Zaragoza); Raúl Ismael González-Luengo (Complejo Hospitalario de León); Rita Galeiras (Complexo Hospitalario Universitario A Coruña); Rocío Almaraz (Hospital Don Benito-Villanueva de la Serena, Badajoz); Rosa María Álvaro (Hospital de la Plana, Castellón); Roser Tomas (Hospital General de Catalunya, Sant Cugat del Vallès); Sara Cabañes (Hospital Santiago Apóstol, Vitoria); Juan Pedro Tirapu, Manuel García-Montesinos, Adriana García-Herrera, Laura Esther de la Cruz (Complejo Hospitalario Navarra, Pamplona)

**United States of America**: Coordinator**:** Antonio Anzueto (University of Texas, Medicine San Antonio, University Hospital San Antonio, San Antonio, Texas);

Alexander G Duarte, Shawn Nishi, Shawn  Goodlett, Paula Skinkis, Roxana Hirst (University of Texas Medical Branch, Galveston, Texas); Caryn O. Pope (Baylor College of Medicine - Ben Taub General Hospital, Houston, Texas); Gregory A. Schmidt, Julie A. Amendola (University of Iowa, Iowa City, Iowa); Mayur B. Patel, Morgan A. Hosay, James W. Stewart (Vanderbilt University Medical Center, Nashville, Tennessee); Nikhil Meena (University of Arkansas for Medical Sciences, Little Rock, Arkansas); Abhijit Duggal, Eduardo Mireles-Cabodevila, Gurpreet Kaur, Andrei Hastings, Michelle Ferrari (Cleveland Clinic Foundation and Lerner College of Medicine of Case Western Reserve University, Cleveland, Ohio); Ginger Rivera-Arzon, Felicita Aruz, Yomayra Otero-Dominguez, William Rodriguez-Cintron (San Juan VA Medical Center, San Juan, Puerto Rico); Sheila Habib, Rodolfo Estrada, Hebatallah Assal (University of Texas, Medicine San Antonio, University Hospital San Antonio, San Antonio, Texas)

**Thailand:** Coordinator**:** Yuda Sutherasan (Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok).

Napplika Kongpolprom (Faculty of Medicine, King Chulalongkorn Memorial Hospital Chulalongkorn University, Thai Red Cross, Bangkok); Nuttapol Rittayamai Phunsup (Wongsurakiat, Siriraj Hospital Respiratory Care Unit, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok); Preecha Thomrongpairoj (Siriraj Hospital Medical ICU, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok); Pongdhep Theerawit (Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok).

**Tunisia:** Coordinator: Fekri Abroug (Hospital Fattouma Bourguina, Monastir)

Amira Jamoussi (Centre Hopitalier Universitaire Abderrahmane Mami, Ariana); Cherif Mohamed Ali (Centre Hopitalier Universitaire Habib Thameur, Tunis); Ferjani Mustapha (Hôpital Principal d’Instruction Militaire, Tunis); Tayeb Guizani (Centre Hopitalier Universitaire Sahloul, Sousse); Tilouch Nejla (Centre Hopitalier Universitaire Tahar Sfar Mahdia, **Mahdia)**; Zeineb Hammouda Abed (Centre Hopitalier Universitaire Fatouma Bourguiba, Monastir); Zouheir Jerbi (Centre Hopitalier Universitaire Habib Thameur, Tunis).

**Turkey:** Coordinator: Nahit Cakar (Mehmet Ali Aydınlar Acıbadem Medical Faculty Anesthesiology & Intensive Care, Istanbul)

Başar Erdivanl (Recep Tayyip Erdoğan University Medical Faculty, Anesthesiology & Reanimation, Surgical ICU, Rize); Ahmet Dilek (19 Mayıs University Medical Faculty Mikail Yüksel); Aliye Esmaoglu (Erciyes University Medical Faculty Anesthesiology & Reanimation, Kayseri); Asu Ozgültekin (Haydarpasa Numune Teaching & Research Hospital, Istanbul); Betul Sen (Istanbul Medeniyet University Anesthesiology & Reanimation); Bulent Gucyetmez ( Acibadem International General ICU Istanbul); Cem Erdogan (Medipol University Medical Faculty Anesthesiology & Reanimation Unit Postoperative ICU, Istanbul); Demet Tok (Celal Bayar University Anesthesiology & Reanimation, Reanimation Unit, Manisa); Dilek Surav (Ankara Medicana Hospital, Medical-Surgical ICU, Ankara); Erdogan Ozturk, Hayrettin Daskaya (Bezmialem Vakif University Medical Faculty Anesthesiology & Reanimation General ICU, Istanbul); Evren Senturk (Koç University Medical Faculty, Istanbul); Eyyup Sabri Ozden (Ankara Memorial Hospital, Medical ICU, Ankara); Figen Esen (Istanbul University Istanbul Medical Faculty Emergency Surgical ICU); Lale Karabıyık (Gazi University Medical Faculty Anesthesiology & Reanimation, Ankara); Guldem Turan (Fatih Sultan Mehmet Research & Training Hospital, Istanbul); Hilal Ayoğlu (Bülent Ecevit University Medical Faculty, Zonguldak); Hulya Sungurtekin (Pamukkale University Medical Faculty, Denizli); Hulya Ulusoy (KTU Medical Faculty, Reanimation Unit, Trabzon); Ibrahim Ozkan Akinci (Istanbul University Medical Faculty Neurological ICU); Mehtap Selçuk (Acibadem Kadiköy General ICU Istanbul); Nur Baykara (Kocaeli University Medical Faculty Anesthesiology and Intensive Care, Kocaeli); Perihan Ergin Ozcan (Istanbul University Medical Faculty Medical-Surgical ICU); Ramazan Coskun (Erciyes University Medical Faculty Medical-Surgical ICU, Kayseri); Sedef Tavukçu Özkan (Istanbul Memorial Hizmet Hospital, General ICU); Selcuk Dascı (Acibadem Atakent General ICU, Istanbul); Sema Turan (Ankara Yuksek Ihtisas Research and Training Hospital, General ICU); Serhat Konar (Acibadem Maslak General ICU, Istanbul); Taner Ljama (Acibadem Taksim Hospital General ICU, Istanbul); Umut Acar (Istanbul Florence Nightingale Hospital Surgical ICU); Yavuz Orak (Sivas Numune Public Hospital, Reanimation Unit, Sivas); Yuksel Ela (Afyon Kocatepe University Anesthesiology & Reanimation).

**Uruguay:** Coordinators: Nicolás Nin¸ Alberto Deicas, Carolina Serra (CASMU Montevideo)

Edgardo Nuñez, Patricia Pereira (Hospital Público Elbio Rivero, Maldonado); Lucia Illardi (Sanatorio Mautone, Maldonado); Julio Cabrera, Gastón Burghi, Ignacio Aramendi (Cenaque, Montevideo); Miguel Alfonso, Ariel Bango (Asociación Médica de San José); Arturo Briva, Cristina Santos (Hospital de Clínicas, Montevideo); Elizabeth Montoya (Casa de Galicia, Montevideo); Alvaro Giordano (Hospital de Florida); Richard Pais, Nicolas Nin, Javier Hurtado (Hospital Español), Lucía López, Diego Mendez, Carlos Nuñez (AESM, Montevideo); Gustavo Pittini (CAAMEPA, Pando, Sauce).