

Curriculum Vitae del Dott. Riccardo Colombo

Il Dott. Riccardo Colombo è nato a Milano

Cittadinanza: Italiana

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Esperienze lavorative

Da Agosto 2025 ad oggi Dirigente Medico con incarico di Struttura Semplice "MAXI EMERGENZA E COORDINAMENTO LOCALE MEZZI DI SOCCORSO AVANZATO PER L'EMERGENZA SUL TERRITORIO" nell'ambito della SC Anestesia e Rianimazione ASST Fatebenefratelli Sacco, Ospedale Luigi Sacco (Ente pubblico) - Direttore Dott. Emanuele Catena.

Dal 2016 ad Luglio 2025: Dirigente Medico con incarico "Alta Specialità" (C2) in "Tecniche avanzate di ventilazione" nella disciplina di anestesia e rianimazione presso la SC di Anestesia e Rianimazione dell'ASST Fatebenefratelli Sacco, Ospedale Luigi Sacco (Ente pubblico) - *Direttore Dott. Emanuele Catena.*

Da Febbraio 2002 al 2016: Dirigente Medico nella disciplina di anestesia e rianimazione presso l'UOC di Anestesia e Rianimazione dell'ASST Fatebenefratelli Sacco, Ospedale Luigi Sacco (Ente pubblico) – *Direttore Dott. Ferdinando Raimondi.*

Da Giugno 2003 a Gennaio 2017: Servizio di Emergenza e Urgenza territoriale mezzo di soccorso avanzato MSA Alpha 8, AREU regione Lombardia (Ente pubblico).

Da Marzo 2001 a Febbraio 2002: Dirigente Medico a tempo determinato nella disciplina di Anestesia e Rianimazione presso il Secondo Centro di Rianimazione degli Spedali Civili di Brescia (Ente pubblico)- *Direttore Prof. Andrea Candiani.*

Da Marzo 1998 a Febbraio 1999: Carabiniere Ausiliario di Sanità presso il 1° Reggimento Carabinieri Paracadutisti "Tuscania", Livorno (Ente pubblico).

Titoli di studio conseguiti

6 Novembre 2001: Specializzazione in Anestesia e Rianimazione, Università degli Studi di Brescia, 50/50 cum Laude

25 Luglio 1996: Laurea in Medicina e Chirurgia, Università degli Studi di Milano, 110/110 cum Laude

Luglio 1990: Diploma di Maturità Classica presso il Liceo Classico "C. Beccaria", Milano.

Capacità generali

Il dottor Riccardo Colombo ha un'esperienza ventennale di lavoro in terapia intensiva e ha acquisito ampia esperienza nella gestione delle molteplici problematiche cliniche ed organizzative che richiede l'approccio integrato e multidisciplinare al paziente affetto da patologia critica.

Capacità organizzative

- Organizzazione dell'Emergenza Intraospedaliera, come previsto dal profilo della SC "MAXI EMERGENZA E COORDINAMENTO LOCALE MEZZI DI SOCCORSO AVANZATO PER L'EMERGENZA SUL TERRITORIO"
- Capacità di gestire e coordinare un team con approccio multidisciplinare al paziente critico;

Capacità tecniche e pratiche

- Capacità di gestione delle problematiche complesse del paziente critico;
- Capacità avanzate di emergenza intraospedaliera sia nel paziente adulto che pediatrico;
- Capacità avanzate di emergenza extraospedaliera sia nel paziente medico, traumatizzato, adulto e pediatrico;
- Capacità avanzate di trasporto intra- ed interospedaliero con paziente con grave disfunzione d'organo, compresi i pazienti in VA-ECMO, IMPELLA, contropulsatore aortico come supporti meccanici al circolo;
- Capacità di gestione dell'emergenza intraospedaliera nella continuità extra-intraospedaliera dei pazienti con patologia acuta grave o potenzialmente evolutiva;
- Conoscenza di grado avanzato delle tecniche di ventilazione invasiva e non invasiva;
- Conoscenza di grado avanzato delle tecniche di monitoraggio emodinamico; esperienza nel posizionamento di accessi vascolari (cateterismo venoso centrale, cateterismo per trattamento sostitutivo renale, catetere polmonare di Swan-Ganz, cateteri arteriosi per il monitoraggio emodinamico e della portata cardiaca sia con metodi calibrati [PICCO] che non calibrati [FloTrac,...]);
- Capacità avanzata delle metodiche di rimozione extracorporea di CO₂ (ECCO₂R);
- Esperienza nell'esecuzione di tracheostomia percutanea secondo diverse metodiche (Percutwist, Griggs, UltraPerc);
- Capacità nella gestione del paziente ad "alto biocontenimento" anche tramite l'utilizzo di DPI per pazienti con BSL4;
- Il Dott. Riccardo Colombo ha prestato servizio da Giugno 2003 a Gennaio 2017 nel Servizio di Emergenza e Urgenza territoriale mezzo di soccorso avanzato MSA Alpha 8, con sede presso l'ASST Fatebenefratelli Sacco, P.O. Sacco, AREU regione Lombardia (Ente pubblico), durante il quale ha gestito in prima persona numerosi scenari (medici e traumi) in ambito extraospedaliero, sia in pazienti adulti che pediatrici.
- Capacità di gestione di sistemi operativi aziendali e regionali, sia a scopo clinico che di formazione. con iscrizione all'albo dei formatori della ASST Fatebenefratelli Sacco;
- Capacità di simulazione di scenari clinici complessi come dimostrato dall'attività di formazione sia in ambito ospedaliero che accademico;

Docenze universitarie

CdL in Scienze Infermieristiche

- dal AA 2016/2017 ad oggi Docente a contratto nel Corso di Laurea in Infermieristica, "Infermieristica in area critica" (lezioni), Università degli Studi di Milano, Modulo: Anestesiologia (15 ore frontali/anno, 1CFU/anno)

CdL in Medicina e Chirurgia

- dal AA 2016/2017 ad oggi Docente a contratto nel Corso di Laurea in Medicina e Chirurgia, “Urgenze ed emergenze medico chirurgiche” - (lezioni), Università degli Studi di Milano, Modulo: Anestesiologia (4 ore frontali/anno)

Il Dott. Riccardo Colombo è tutor presso la scuola di specializzazione in Anestesia e Rianimazione dell'Università degli Studi di Milano dal AA 2019/2020 ad oggi.

Correlatore di 10 tesi di Laurea in Medicina e Chirurgia, e di 7 tesi di Specializzazione in Anestesia e Rianimazione.

Competenze scientifiche

- Idoneità alla docenza universitaria con Abilitazione Scientifica Nazionale di seconda fascia, settore concorsuale 06/L Anestesiologia valida fino al 18/12/2031
- Autore/coautore di 128 pubblicazioni internazionali editate a mezzo stampa su riviste peer-reviewed indicizzate. Il H-index è 33 (fonte: Scopus; author ID: 57209843176).

Altre competenze

- Conoscenze dei sistemi operativi Windows e Mac, conoscenza avanzata della suite informatica Microsoft Office
- Capacità di gestione dei database e configurazione di raccolte dati in piattaforma REDcap.
- Capacità avanzata di utilizzo dei software statistici (SPSS e GraphPad), intermedia del software R.

Competenze linguistiche

Inglese:

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B1	B2	A2	A2	B2

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).

Milano, 08/09/2025

Dott. Riccardo Colombo

International publications

1. Parrilla-Gómez, Francisco José; Castelli, Antonio; **Colombo, Riccardo**; do Vale-Fernandes, Antero; Nalesso, Federico; Pestaña-Lagunas, David; Suarez-Sipmann, Fernando; Terragni, Pierpaolo. The role of extracorporeal CO2 removal from pathophysiology to clinical applications with focus on potential combination with RRT: an expert opinion document. *Frontiers in medicine*. 2025 Sep 1; 12:1651213. doi: 10.3389/fmed.2025.1651213.
2. Grinberg N, Wu MA, Moyon Q, Merceron S, Fedun Y, Gousseff M, Sonnevile R, Lhote F, Azoulay E, Raphalen JH, Saadoun D, Benhamou Y, Mira JP, Dumas G, Bay P, Devaquet J, Argaud L, Lambert M, Aujayeb A, Henriot B, Bichon A, Bocar T, Harty J, Melchio R, Leibinger F, Calvet L, Urbina T, Bodson L, Tonnelier JM, Reuter D, Canet E, Blaison G, Maizel J, Sedillot N, Dangers L, Eble V, Verlicchi F, Faguer S, Montomoli J, Dingemans G, Mikulski M, Pochard J, Uhel F, Cohen-Aubart F, Luyt CE, Mathian A, Combes A, **Colombo R**, Amoura Z, Pineton de Chambrun M; EurêClark Study Group. Characteristics of SARS-CoV-2-associated severe episodes of monoclonal gammopathy-associated capillary leak syndrome (Clarkson disease). *Ann Intensive Care*. 2025 May 26;15(1):72. doi: 10.1186/s13613-025-01483-7. PMID: 40419837; PMCID: PMC12106253.
3. **Colombo R**, Montomoli J, Lanzi T, Tosoni A, Agabiti Rosei C, Visani G, Verlicchi F, Cogliati C, Nebuloni M, Wu MA. Clarkson disease in critically and non-critically ill patients: insights from the Italian IRIS-CLS registry. *Intern Emerg Med*. 2025 Mar 8. doi: 10.1007/s11739-025-03890-x. Epub ahead of print. PMID: 40057670.
4. WHO Rapid Evidence Appraisal for COVID-19 Therapies (REACT) Working Group; Vale CL, Godolphin PJ, Fisher DJ, Higgins JPT, McAleenan A, Spiga F, Tritschler T, de Barros E Silva PGM, Berg DD, Berger JS, Berry LR, Bikdeli B, Blondon M, Bohula EA, Cattaneo M, **Colombo R**, Coluccio V, DeSancho MT, Farkouh ME, Fuster V, Girardis M, Hochman JS, Jensen TP, Jha V, Jüni P, Kirtane AJ, Lawler P, Le Gal G, Lecumberri R, Lentz SR, Lopes RD, Lorenzi E, Marietta M, Miranda CH, Morici N, Morpeth SC, Morrow DA, McQuilten ZK, Muñoz-Rivas N, Neal MD, Pant S, Parikh SA, Perepu U, Sadeghipour P, Sethi S, Sholzberg M, Spyropoulos AC, Stone GW, Talasaz AH, Tong S, Totterdell J, Venkatesh B, Wu MA, Zarychanski R, Zuily S, Viry J, Rylance J, Adhikari NKJ, Diaz JV, Marshall JC, Sterne JAC, Murthy S. Anticoagulation Among Patients Hospitalized for COVID-19 : A Systematic Review and Prospective Meta-analysis. *Ann Intern Med*. 2025;178(1):59-69. doi: 10.7326/ANNALS-24-00800.
5. Casalini G, Giacomelli A, Galimberti L, **Colombo R**, Milazzo L, Cattaneo D, Castelli A, Antinori S. Navigating Uncertainty: Managing Influenza-Associated Invasive Pulmonary Aspergillosis in an Intensive Care Unit. *J Fungi (Basel)*. 2024 Sep 7;10(9):639. doi: 10.3390/jof10090639. PMID: 39330399; PMCID: PMC11433123.
6. Rezoagli E, Fornari C, Fumagalli R, Grasselli G, Volta CA, Navalesi P, Knafelj R, Brochard L, Pesenti A, Mauri T, Foti G; **Pleural Pressure Working Group (PLUG)**. Heterogeneous impact of Sighs on mortality in patients with acute hypoxemic respiratory failure: insights from the PROTECTION study. *Ann Intensive Care*. 2024 Oct 5;14(1):153. doi: 10.1186/s13613-024-01385-0. PMID: 39368033; PMCID: PMC11456003.
7. Catena E, Volontè A, Fossali T, Ballone E, Bergomi P, Locatelli M, Borghi B, Ottolina D, Rech R, Castelli A, **Colombo R**. Echocardiographic clues of the "atrial pump mechanism" during cardiopulmonary resuscitation. *Intern Emerg Med*. 2024 Sep 6. doi: 10.1007/s11739-024-03762-w. Online ahead of print.

8. Wu MA, Cogliati C, Catena E, **Colombo R**. Role of NO pathway in the clinical picture of idiopathic systemic capillary leak syndrome. *J Intern Med*. 2024 Aug 29. doi: 10.1111/joim.20005. Online ahead of print.
9. Martelloni G, Turchi A, Fallerini C, Degl'Innocenti A, Baldassarri M, Olmi S, Furini S, Renieri A; **GEN-COVID Multicenter study - collaborator**. Host genetics and COVID-19 severity: increasing the accuracy of latest severity scores by Boolean quantum features. *Front Genet*. 2024 May 22;15:1362469. doi: 10.3389/fgene.2024.1362469. eCollection 2024.
10. Catena E, Rizzuto C, Borghi B, Bergomi P, Guglielmetti L, Gambarini G, Paratico C, Volontè A, Gavanna G, Fossali T, **Colombo R**. The usefulness of trans-splenic retrocardiac imaging in prone positioned critically ill patients. *J Clin Ultrasound*. 2024;1-3. doi:10.1002/jcu.23714
11. Francesca Gelpi, Maddalena Alessandra Wu, Vlasta Bari, Beatrice Cairo, Beatrice De Maria, Tommaso Fossali, **Riccardo Colombo**, Alberto Porta. Autonomic Function and Baroreflex Control in COVID-19 Patients Admitted to the Intensive Care Unit. *J Clin Med*. 2024. 13(8), 2228. <https://doi.org/10.3390/jcm13082228>
12. Tommaso Fossali, Martina Locatelli, **Riccardo Colombo**, Alice Veronese, Beatrice Borghi, Elisabetta Ballone, Antonio Castelli, Roberto Rech, Emanuele Catena, Davide Ottolina. Awake pronation with helmet CPAP in early COVID-19 ARDS patients: effects on respiratory effort and distribution of ventilation assessed by EIT. *Intern Emerg Med*. 2024 Mar 26. doi: 10.1007/s11739-024-03572-0.
13. Wu MA, Taino A, Facchinetti P, Rossi V, Ruggiero D, Berra S, Blanda G, Flor N, Cogliati C, **Colombo R**. Venous Thromboembolism Management throughout the COVID-19 Era: Addressing Acute and Long-Term Challenges. *J Clin Med*. 2024, 13, 1825. <https://doi.org/10.3390/jcm13061825>
14. Noto A, Chalkias A, Madotto F, Ball L, Bignami EG, Cecconi M, Guarracino F, Messina A, Morelli A, Princi P, Sanfilippo F, Scolletta S, Tritapepe L, Cortegiani A; **SIAARTI Study Group - collaborator**. Continuous vs intermittent Non-Invasive blood pressure MONitoring in preventing postoperative organ failure (niMON): study protocol for an open-label, multicenter randomized trial. *J Anesth Analg Crit Care*. 2024 Feb 6;4(1):7. doi: 10.1186/s44158-024-00142-w.
15. Francesca Minnai, Filippo Biscarini, Martina Esposito, Tommaso A Dragani Luis Bujanda, Souad Rahmouni, Marta E Alarcón-Riquelme, David Bernardo, Elena Carnero-Montoro, Maria Buti, Hugo Zeberg, Rosanna Asselta, Manuel Romero-Gómez; **GEN-COVID Multicenter Study - collaborator**; Israel Fernandez-Cadenas, Chiara Fallerini, Kristina Zguro, Susanna Croci, Margherita Baldassarri, Mirella Bruttini, Simone Furini, Alessandra Renieri, Francesca Colombo. A genome-wide association study for survival from a multi-centre European study identified variants associated with COVID-19 risk of death. *Sci Rep*. 2024 Feb 6;14(1):3000. doi: 10.1038/s41598-024-53310-x.
16. Maddalena Alessandra Wu, Laura Locatelli, Chiara Cogliati, **Riccardo Colombo**, Jeanette A. Maier. Unlocking endothelial barrier restoration: FX06 in systemic capillary leak syndrome and beyond. *Biomed Pharmacother*. 2024 Jan 17;171:116147. doi: 10.1016/j.biopha.2024.116147.
17. Wu MA, Del Giovane C, **Colombo R**, Dolci G, Arquati M, Vicini R, Russo U, Ruggiero D, Coluccio V, Taino A, Franceschini E, Facchinetti P, Mighali P, Trombetta L, Tonelli F, Gabiati C, Cogliati C, D'Amico R, Marietta M; ETHYCO Study Group. Low-molecular-weight heparin for the prevention of clinical worsening in severe non-critically ill COVID-19 patients: a joint analysis of two randomized controlled trials. *Intern Emerg Med*. 2024. doi: 10.1007/s11739-023-03439-w. Online ahead of print.

18. Catena E, Volontè A, Rizzuto C, Bergomi P, Gambarini M, Fossali T, Ottolina D, Perotti A, Veronese A, **Colombo R**. The value of a dynamic echocardiographic approach to diastolic dysfunction in intensive care medicine. *J Clin Ultrasound*. 2023;1-8. doi:10.1002/jcu.23610
19. Pozza G, Casalini G, Ciubotariu CL, Giacomelli A, Galimberti M, Zacheo M, Rabbione A, Pieruzzi M, Oreni L, Galimberti L, **Colombo R**, Rizzardini G, Pagani C, Rimoldi SG, Bonazzetti C, Ridolfo AL, Antinori S. Bloodstream Infections in Intensive Care Unit during Four Consecutive SARS-CoV-2 Pandemic Waves. *Antibiotics (Basel)*. 2023 Sep 14;12(9):1448. doi: 10.3390/antibiotics12091448.
20. **Colombo R**, Wu MA, Ottolina D, Fossali T, Montomoli J, Lopez G, Catena E, Nebuloni M; Luigi Sacco Hospital COVID-19 ARDS Study Group. Failing categorization of severe COVID-19 ARDS into ventilatory subphenotypes studied via the clinical-histopathologic relationship. *Respir Med*. 2023 Aug-Sep;215:107283. doi: 10.1016/j.rmed.2023.107283. Epub 2023 May 31.
21. Porta A, Cairo B, Bari V, Gelpi F, De Maria B, **Colombo R**. Model-based spectral causality of cardiovascular variability interactions during head-down tilt. *Physiol Meas*. 2023 Apr 18. doi: 10.1088/1361-6579/acce1f
22. Porta A, Gelpi F, Bari V, Cairo B, De Maria B, Takahashi ACM, Catai AM, **Colombo R**. Changes of the cardiac baroreflex bandwidth during postural challenges. *Am J Physiol Regul Integr Comp Physiol*. 2023 Apr 1;324(4):R601-R612. doi: 10.1152/ajpregu.00305.2022. Epub 2023 Mar 6.
23. Ottolina D, **Colombo R**, Fossali T, Castelli A, Rech R, Borghi B, Ballone E, Catena E. The efficacy of venous-arterial membrane oxygenation for emergency extracorporeal life support: results from a single-center large series over 6 years. *Intern Emerg Med*. 2023 Mar 24. doi: 10.1007/s11739-023-03198-8.
24. Perego AAM, Sabiu G, Ottolina D, **Colombo R**, Casazza G, Gallieni M, Nebuloni M. Post-mortem renal histopathological findings in 43 COVID-19 patients with acute kidney injury (AKI) deceased in the intensive care unit. *J Nephrol*. 2023 Feb 13:1-4. doi: 10.1007/s40620-023-01587-y.
25. Davide Ottolina, Beatrice Cairo, Tommaso Fossali, Claudio Mazzucco, Antonio Castelli, Roberto Rech, Emanuele Catena, Alberto Porta, **Riccardo Colombo**. Cardiorespiratory coupling in mechanically ventilated patients studied via synchrogram analysis. *Med Biol Eng Comput*. 2023. doi: 10.1007/s11517-023-02784-4. Online ahead of print.
26. Tàì Pham, Leo Heunks, Giacomo Bellani, Fabiana Madotto, Irene Aragao, Gaëtan Beduneau, Ewan C Goligher, Giacomo Grasselli, Jon Henrik Laake, Jordi Mancebo, Oscar Peñuelas, Lise Piquilloud, Antonio Pesenti, Hannah Wunsch, Frank van Haren, Laurent Brochard, John G Laffey; **Collaborator** WEAN SAFE Investigators. Weaning from mechanical ventilation in intensive care units across 50 countries (WEAN SAFE): a multicentre, prospective, observational cohort study. *Lancet Respir Med*. 2023. 20;S2213-2600(22)00449-0. doi: 10.1016/S2213-2600(22)00449-0. Online ahead of print.
27. Butler-Laporte, Guillaume; Povysil, Gundula; Kosmicki, Jack A.; Cirulli, Elizabeth T.; Drivas, Theodore; Furini, Simone et al. (2022): Exome-wide association study to identify rare variants influencing COVID-19 outcomes: Results from the Host Genetics Initiative. In: PLoS genetics n. 11, 18, e1010367. DOI: 10.1371/journal.pgen.1010367
28. Amado-Rodríguez L, Rodríguez-García R, Bellani G, Pham T, Fan E, Madotto F, Laffey JG, Albaiceta GM; LUNG SAFE investigators. **Collaborator**. Mechanical ventilation in patients with cardiogenic

- pulmonary edema: a sub-analysis of the LUNG SAFE study. *J Intensive Care*. 2022 Dec 25;10(1):55. doi: 10.1186/s40560-022-00648-x
29. Baldassarri M, Zguro K, Tomati V, Pastorino C, Fava F, Croci S, Bruttini M, Picchiotti N, Furini S, Pedemonte N, Gabbi C, Renieri A, Fallerini C; **Gen-Covid Multicenter Study**. Gain- and Loss-of-Function CFTR Alleles Are Associated with COVID-19 Clinical Outcomes. *Cells*. 2022 Dec 16;11(24):4096. doi: 10.3390/cells11244096.
 30. Anthony Onoja, Nicola Picchiotti, Chiara Fallerini, Margherita Baldassarri, Francesca Fava; **GEN-COVID Multicenter Study**; Francesca Colombo, Francesca Chiaromonte, Alessandra Renieri, Simone Furini, Francesco Raimondi. An explainable model of host genetic interactions linked to COVID-19 severity. *Commun Biol*. 2022 Oct 26;5(1):1133. doi: 10.1038/s42003-022-04073-6
 31. Giacomo Grasselli, Alberto Zanella, Eleonora Carlesso, et al. **Collaborator**. Association of COVID-19 Vaccinations With Intensive Care Unit Admissions and Outcome of Critically Ill Patients With COVID-19 Pneumonia in Lombardy, Italy. *JAMA Netw Open*. 2022;5(10):e2238871. doi:10.1001/jamanetworkopen.2022.38871
 32. Giacomo Casalini, Andrea Giacomelli, Laura Galimberti, **Riccardo Colombo**, Giacomo Pozza, Martina Zacheo, Miriam Galimberti, Maria Rita Gismondo, Elisabetta Ballone, Cristina Tonello, Manuela Nebuloni, Spinello Antinori, Letizia Oreni, Luca Carsana, Margherita Longo. Challenges in Diagnosing COVID-19-Associated Pulmonary Aspergillosis in Critically Ill Patients: The Relationship between Case Definitions and Autoptic Data. *JoF (Journal of Fungi)*. 2022 Aug; 8(9):894. doi: 10.3390/jof8090894
 33. Wendel-Garcia Pedro David; Moser André; Jeitziner Marie-Madlen; Aguirre-Bermeo Hernán; Arias-Sanchez Pedro; Apolo Janina; Roche-Campo Ferran; Franch-Llasat Diego; Kleger Gian-Reto; Schrag Claudia; Pietsch Urs; Filipovic Miodrag; David Sascha; Stahl Klaus; Bouaoud Souad; Ouyahia Amel; Fodor Patricia; Locher Pascal; Siegemund Martin; Zellweger Nuria; Cereghetti Sara; Schott Peter; Gangitano Gianfilippo; Wu Maddalena Alessandra; Alfaro-Farias Mario; Vizmanos-Lamotte Gerardo; Ksouri Hatem; Gehring Nadine; Rezoagli Emanuele; Turrini Fabrizio; Lozano-Gómez Herminia; Carsetti Andrea; Rodríguez-García Raquel; Yuen Bernd; Weber Anja Baltussen; Castro Pedro; Escos-Orta Jesus Oscar; Dullenkopf Alexander; Martín-Delgado Maria C.; Aslanidis Theodoros; Perez Marie-Helene; Hillgaertner Frank; Ceruti Samuele; Franchitti Laurent Marilene; Marrel Julien; **Colombo Riccardo**; Laube Marcus; Fogagnolo Alberto; Studhalter Michael; Wengenmayer Tobias; Gamberini Emiliano; Buerkle Christian; Buehler Philipp K.; Keiser Stefanie; Elhadi Muhammed; Montomoli Jonathan; Guerci Philippe; Fumeaux Thierry; Schuepbach Reto A.; Jakob Stephan M.; Que Yok-Ai; Hilty Matthias Peter. Dynamics of disease characteristics and clinical management of critically ill COVID-19 patients over the time course of the pandemic: an analysis of the prospective, international, multicentre RISC-19-ICU registry. *Crit Care*. 2022 Jul 4;26(1):199. doi: 10.1186/s13054-022-04065-2.
 34. Bonazzetti C, Rinaldi M, Giacomelli A, **Colombo R**, Ottolina D, Rimoldi SG, Pagani C, Morena V, Ridolfo AL, Vatamanu O, Giacomini ME, Campoli C, Oreni L, Rizzardini G, Viale P, Antinori S, Giannella M. Risk factors associated with bacteremia in COVID-19 patients admitted to intensive care unit: a retrospective multicenter cohort study. *Infection*. 2022 Jun 10;1-8. doi: 10.1007/s15010-022-01853-4
 35. D'Amato M, Vertui V, Pandolfi L, Bozzini S, Fossali T, **Colombo R**, Aliberti A, Fumagalli M, Iadarola P, Didò C, Viglio S, Meloni F. Investigating the Link between Alpha-1 Antitrypsin and Human

- Neutrophil Elastase in Bronchoalveolar Lavage Fluid of COVID-19 Patients. *Curr Issues Mol Biol.* 2022 May 10;44(5):2122-2138. doi: 10.3390/cimb44050143.
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