COLEGIO MÉDICO
DE CHILE A.G.

Manejo del paciente COVID-19 hospitalizado en sala no intensiva

Dr. Daniel Ramos Soto

Médico Internista

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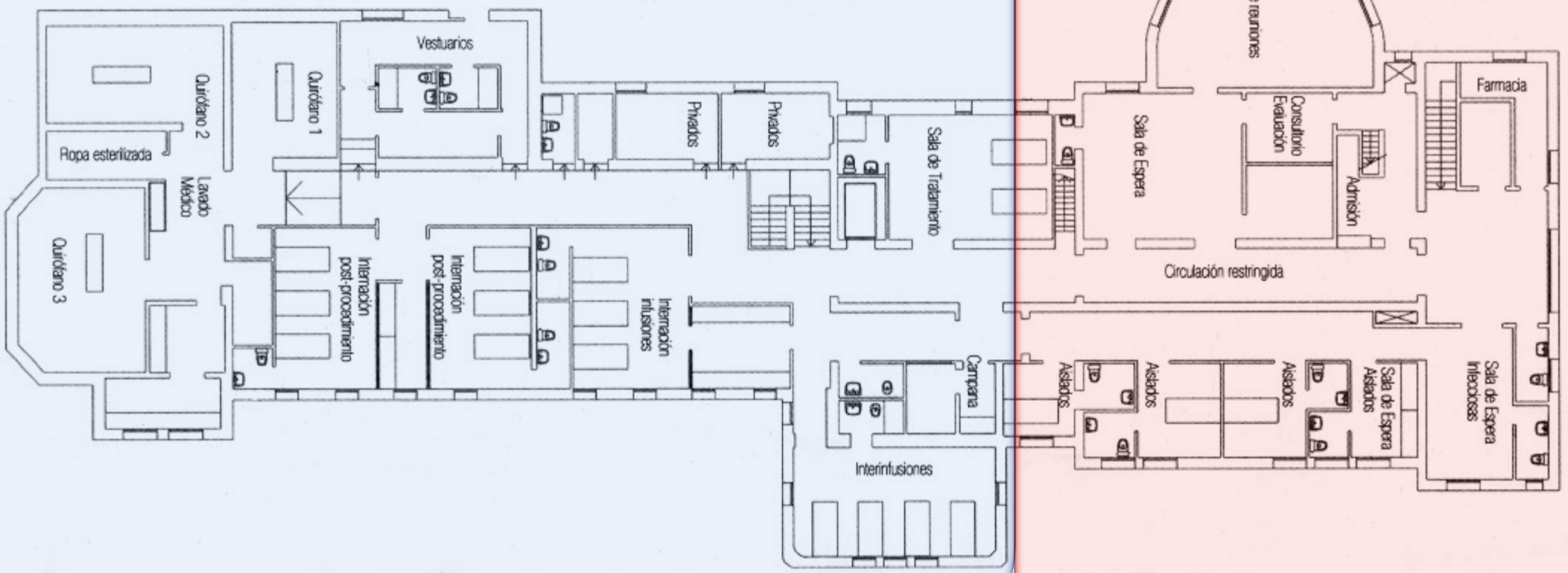
UPC Clínica Santa María

Temario

- Organización
- Protocolos
- Uso de equipos de protección personal
- Factores de riesgo
- Indicaciones generales hospitalizados
- Fármacos

COVID


Quirófano 2
Quirófano 1
Vestuarios
Ropa esterilizada
Lavado Médico
Quirófano 3
Internación post-procedimiento
Internación post-procedimiento
Internación infusiones
Privados
Privados
Sala de Tratamiento
Campana
Interinfusiones
Sala de reuniones
Sala de Espera
Consultorio Evaluación
Admisión
Farmacia
Circulación restringida
Aislados
Aislados
Aislados
Sala de Espera Aislados
Sala de Espera Infecciosas

Protocolos

- Ayuda a automatizar la atención
- Conocerlos y estudiarlos
- Estar atento a los cambios
- Dar feedback de su utilidad

COVID-19

Enfermedad por coronavirus 2019

CÓMO PONERSE EL EQUIPO DE PROTECCIÓN PERSONAL (EPP)

- Identifique peligros y gestione riesgos. Busque el EPP necesario.
- Vea dónde se pondrá y quitará el EPP.
- Pida ayuda a un amigo o póngase delante de un espejo.
- Descarte todo el EPP en un cubo de basura adecuado.

Póngase la bata. | Póngase la mascarilla quirúrgica o respirador.* | Póngase la protección ocular (gafas protectoras) o facial (protector facial).† | Póngase los guantes (incluso sobre la muñeca).

*Puede ser una mascarilla quirúrgica o un respirador (N95 o similar), según el nivel de atención.
En el procedimiento generador de aerosoles (PGA), use un respirador (N95 o similar).
†Por ejemplo, visor, careta o gafas protectoras (considere la posibilidad de usar gafas antiempañante o un líquido antiempañante).

CÓMO QUITARSE EL EPP

- Evite la contaminación para usted mismo, los demás y el entorno.
- Quítese primero los elementos más contaminados.

Quítese los guantes y luego la bata. | Higiénicese las manos. | Quítese la protección ocular, desde atrás hacia adelante. | Quítese la mascarilla quirúrgica o respirador, desde atrás hacia adelante. | Higiénicese las manos.

Nivel de atención	Higiene de las manos	Bata	Mascarilla quirúrgica	Respirador (N95 o similar)	Gafas protectoras (protección ocular) o protección de cara (protección facial)	Guantes
Triaje	●		●			
Recogida de muestras para diagnóstico de laboratorio	●	●		●	●	●
Caso sospechoso o confirmado de COVID-19 que requiera ser admitido en el establecimiento de salud, pero no requiera ningún procedimiento generador de aerosoles	●	●	●		●	●
Caso sospechoso o confirmado de COVID-19 que requiera ser admitido en el establecimiento de salud y que requiera algún procedimiento generador de aerosoles‡	●	●		●	●	●

‡Los procedimientos que generan aerosoles comprenden la ventilación con presión positiva (sistema de bipresión positiva o sistema de presión positiva continua), intubación endotraqueal, aspiración de las vías respiratorias, ventilación oscilatoria de alta frecuencia, traqueotomía, fisioterapia torácica, tratamiento con nebulizador, inducción del esputo, broncoscopía y necropsias.

OPS Organización Panamericana de la Salud | Organización Mundial de la Salud Américas

Conócelo. Prepárate. Actúa.
www.paho.org/coronavirus

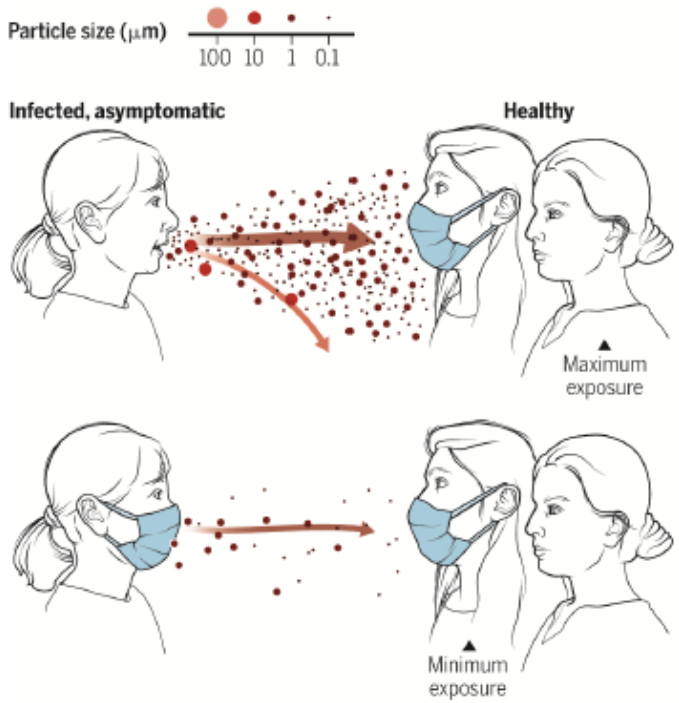
Cite as: K. A. Prather *et al.*, *Science* 10.1126/science.abc6197 (2020).

Reducing transmission of SARS-CoV-2

Kimberly A. Prather[1], Chia C. Wang,[2,3] Robert T. Schooley[4]

Masks reduce airborne transmission

Infectious aerosol particles can be released during breathing and speaking by asymptomatic infected individuals. No masking maximizes exposure, whereas universal masking results in the least exposure.

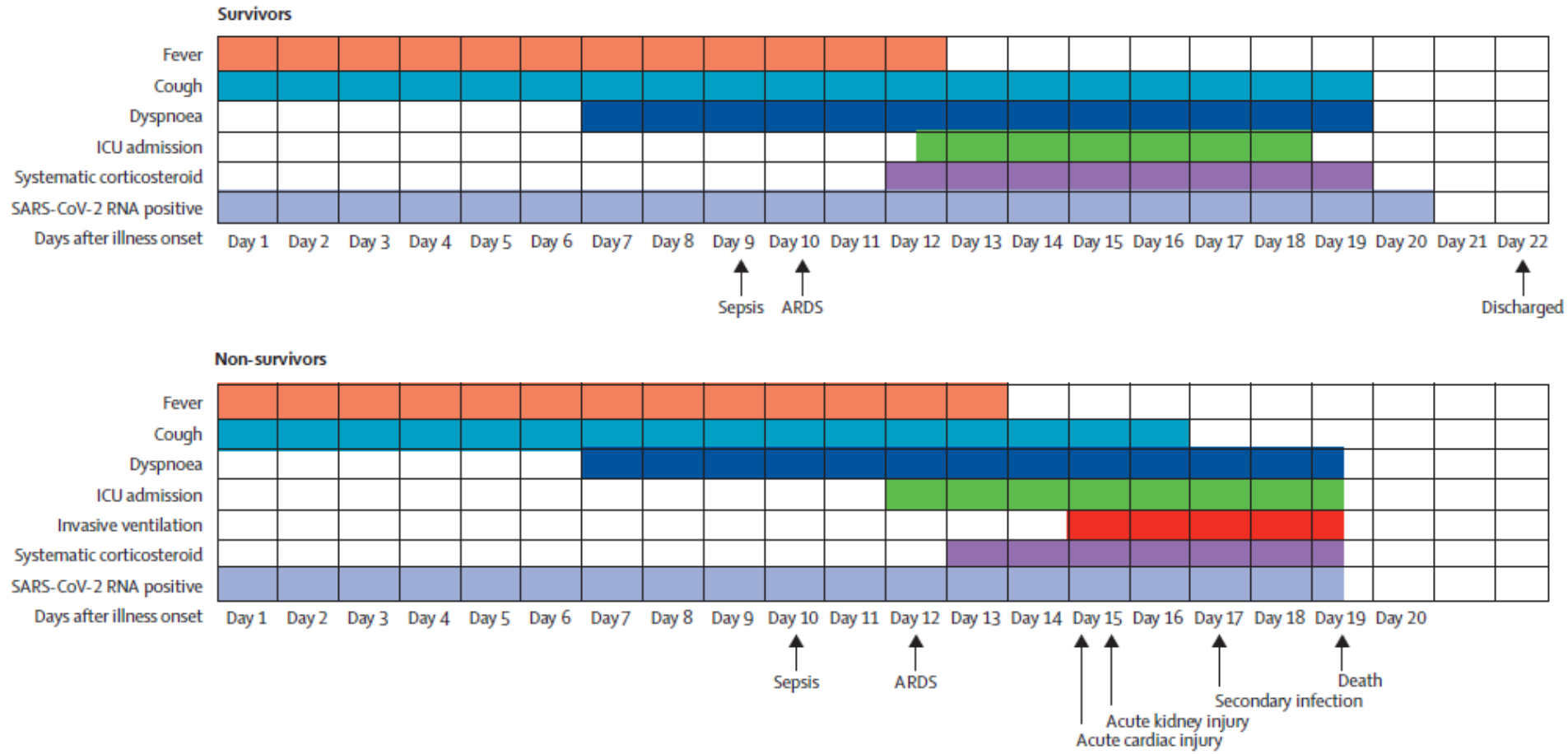


GRAPHIC: V. ALTOUNIAN/*SCIENCE*

Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study

Fei Zhou, Ting Yu*, Ronghui Du*, Guohui Fan*, Ying Liu*, Zhibo Liu*, Jie Xiang*, Yeming Wang, Bin Song, Xiaoying Gu, Lulu Guan, Yuan Wei, Hui Li, Xudong Wu, Jiuyang Xu, Shengjin Tu, Yi Zhang, Hua Chen, Bin Cao*

Lancet 2020; 395: 1054–62



Factores de riesgo para Progresión de Enfermedad por COVID-19		
Epidemiológicos	*Signos vitales*	*Pruebas de laboratorio*
Edad > 65 [a]	Frecuencia respiratoria > 24 respiraciones/min [k]	Dímero-D > 1000 ng/mL [n]
Enfermedad pulmonar preexistente [b]	Frecuencia cardíaca > 125 pulsaciones/min [l]	CPK > dos veces el límite superior normal [o]
Enfermedad Renal Crónica [c]	SatO2 ≤ 93% en ambiente aéreo [m]	PCR > 100 [p]
Diabetes con A1c > 7.6% [d]	PaO2/FiO2 < 300 mmHg [m]	LDH > 245 U/L [q]
Historia de hipertensión [e]		Troponina elevada [r]
Historia de enfermedad cardiovascular [f]		Recuento absoluto de linfocitos < 0.8 [s] al ingreso
Obesidad (IMC ≥ 30 kg/m^2) [g]		Ferritina > 500 ug/L [t]
Uso de agentes biológicos [h]		
Historia de trasplante u otras inmunosupresiones [i]		
HIV no controlado (viremia CD4 <200) [j]		

Estratificación de riesgo COVID. Massachusetts General Hospital. https://www.massgeneral.org/assets/MGH/pdf/news/coronavirus/estratificacion-de-riesgo-covid.pdf

Implications of Obesity for the Management of Severe Coronavirus Disease 2019 Pneumonia

Malcolm Lemyze, MD[1]; Nathan Courageux, MD[1]; Thomas Maladobry, MD[1]; Clothilde Arumadura, MD[1]; Philippe Pauquet, MD[1]; Annis Orfi, MD[1]; Matthieu Komorowski, MD, PhD[2]; Jihad Mallat, MD, Msc[3]; Maxime Granier, MD[1]

Critical Care Medicine

TABLE 3. Patients Management and Outcomes

Variables	SARS-CoV-2 ($n = 44$)	Non-SARS-CoV-2 ($n = 39$)	p
Treatments			
HFO_2NC, *n* (%)	16 (36.4)	11 (28.2)	0.43
HFO_2NC failure, *n* (%)	16 (100)	5 (45.5)	0.002
Invasive MV, *n* (%)	44 (100)	22 (56.4)	< 0.001
Ventilator settings			
Tidal volume ($mL/kg_{ideal\ body\ weight}$)	6.2 ± 0.56	6.2 ± 0.59	0.94
Plateau pressure (cm H_2O)	29 ± 4	24 ± 8	0.02
Positive end-expiratory pressure (cm H_2O)	15 (15–20)	8 (8–10)	< 0.001
Driving pressure (cm H_2O)	12 (10–15)	14 (11–16)	0.23
Static respiratory compliance (mL/cm H_2O)	33.8 (27.8–40)	31.4 (24.5–37.4)	0.31
Neuromuscular blocking agent use, *n* (%)	34 (77.3)	3 (13.6)	< 0.001
Prone position, *n* (%)	33 (75.0)	6 (27.3)	< 0.001
Number of sessions of prone position, *n* (%)			
Vasopressors	36 (81.8)	22 (56.4)	0.012
Renal replacement therapy	16 (36.4)	3 (7.7)	0.003
Outcomes			
Prolonged weaning from MV, *n* (%)	28 (63.6)	10 (25.6)	0.001
MV duration (d) within first 30 d	12.5 (8–30)	6 (3–14.5)	0.007
Tracheostomy, *n* (%)	18 (40.9)	2 (9.1)	0.01
ICU mortality rate, *n* (%)	10 (22.7)	10 (25.6)	0.23

Exámenes

- Hemograma
- Función renal / ELP
- P. hepático
- Dímero D
- Ferritina
- Fibrinógeno
- P. coagulación
- Troponina
- Hemocultivos
- Antígeno urinario neumococo-legionella
- Test pack o filmarray virus respiratorios

Indicaciones

- Reposo
- Régimen
- Oxigenoterapia
- Hidratación
- Manejo metabólico
- Fármacos
- Tromboprofilaxis

Reposo

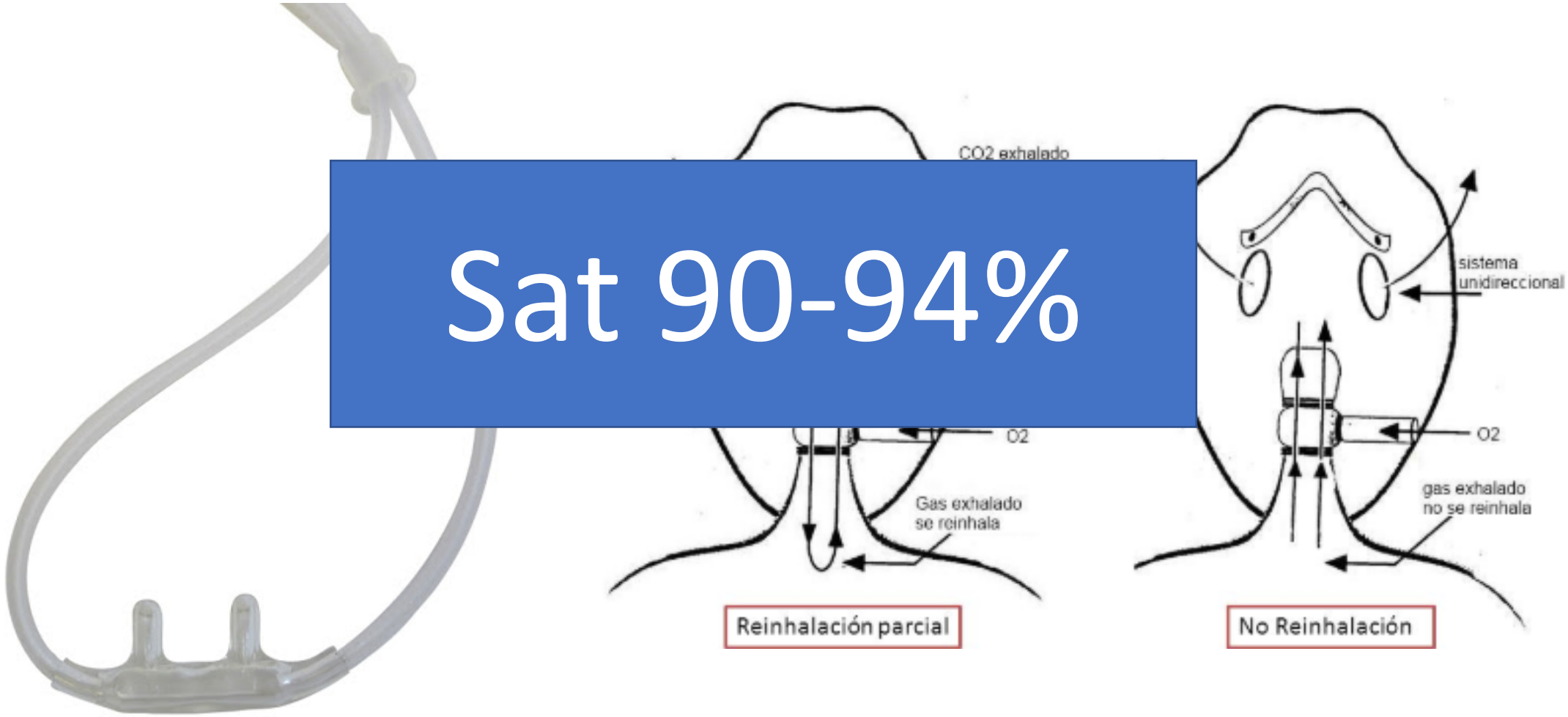
- Reposo completo 30°, levantar asistido según su tolerancia

Régimen

- Común si no hay conflicto metabólico ni de fatiga al comer

- Hipoglucídico e hiperproteico si existen signos de catabolismo

Oxigenoterapia

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?

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JUNE 6, 2013 VOL. 368 NO. 23

Prone Positioning in Severe Acute Respiratory Distress Syndrome

Claude Guérin, M.D., Ph.D., Jean Reignier, M.D., Ph.D., Jean-Christophe Richard, M.D., Ph.D., Pascal Beuret, M.D., Arnaud Gacouin, M.D., Thierry Boulain, M.D., Emmanuelle Mercier, M.D., Michel Badet, M.D., Alain Mercat, M.D., Ph.D., Olivier Baudin, M.D., Marc Clavel, M.D., Delphine Chatellier, M.D., Samir Jaber, M.D., Ph.D., Sylvène Rosselli, M.D., Jordi Mancebo, M.D., Ph.D., Michel Sirodot, M.D., Gilles Hilbert, M.D., Ph.D., Christian Bengler, M.D., Jack Richecoeur, M.D., Marc Gainnier, M.D., Ph.D., Frédérique Bayle, M.D., Gael Bourdin, M.D., Véronique Leray, M.D., Raphaele Girard, M.D., Loredana Baboi, Ph.D., and Louis Ayzac, M.D., for the PROSEVA Study Group*

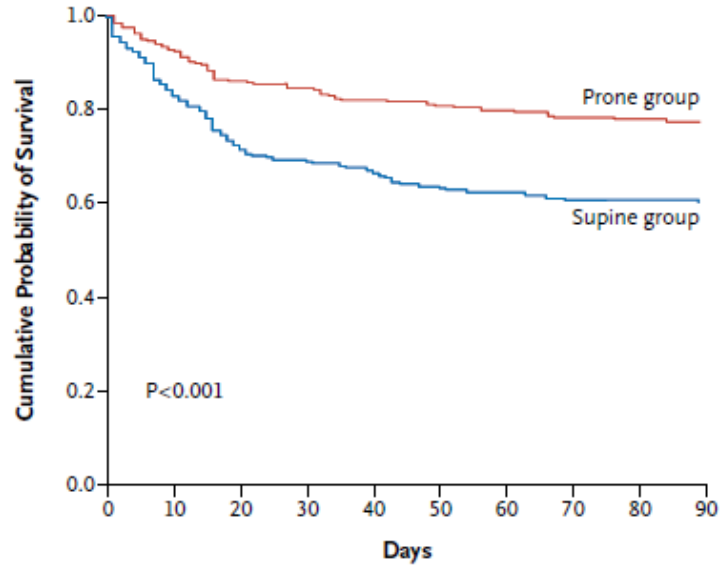
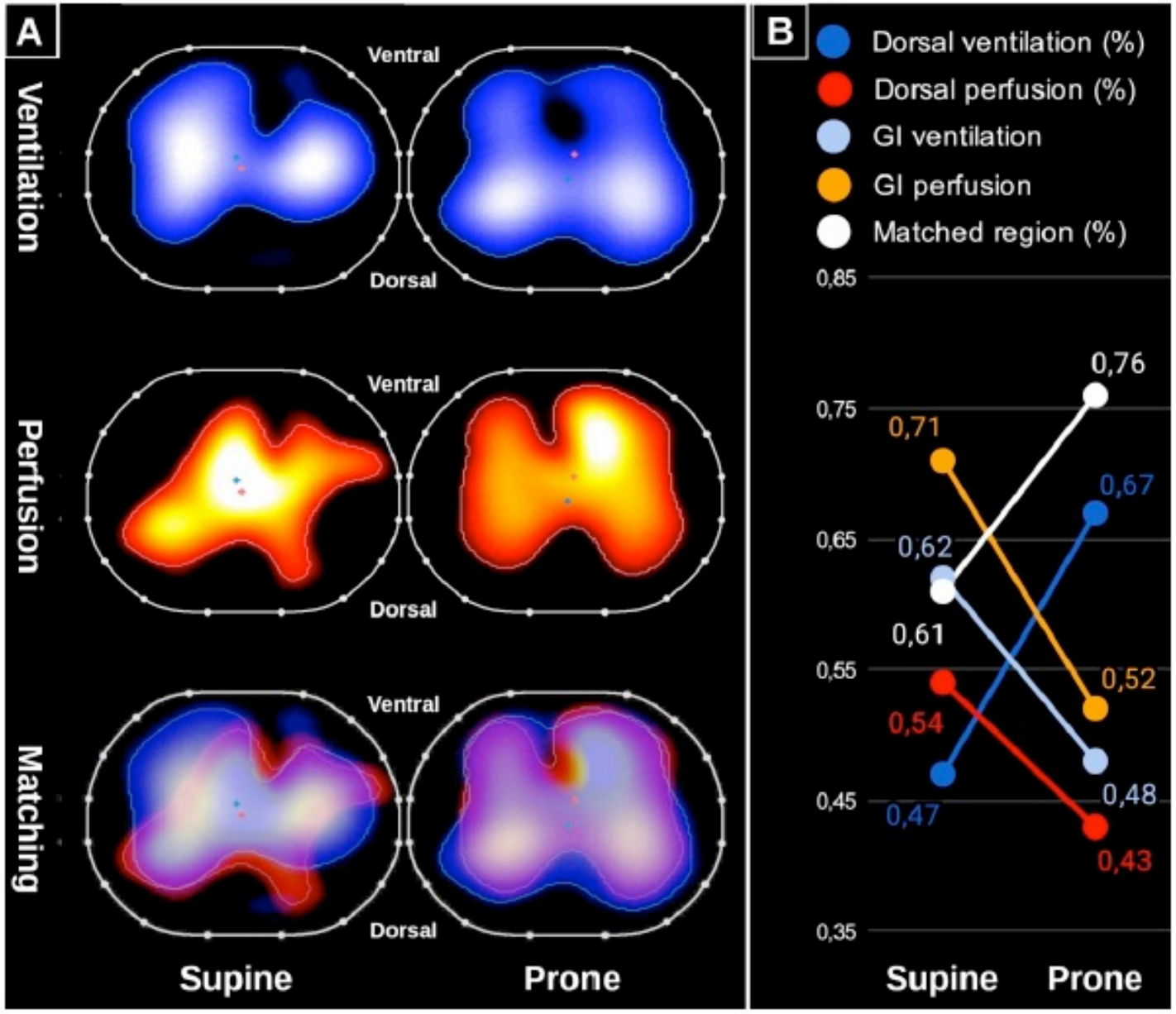


Figure 2. Kaplan–Meier Plot of the Probability of Survival from Randomization to Day 90.



Zarantonello F. et al. Prone Position and Lung Ventilation/Perfusion Matching in Acute Respiratory Failure Due to COVID-19. *American Journal of Respiratory and Critical Care Medicine*, 0(ja), pp

Xu et al. Critical Care (2020) 24:250
https://doi.org/10.1186/s13054-020-02991-7

Critical Care

RESEARCH LETTER Open Access

Early awake prone position combined with high-flow nasal oxygen therapy in severe COVID-19: a case series

Qiancheng Xu[1†], Tao Wang[1†], Xuemei Qin[1†], Yanli Jie[2], Lei Zha[3] and Weihua Lu[1*]

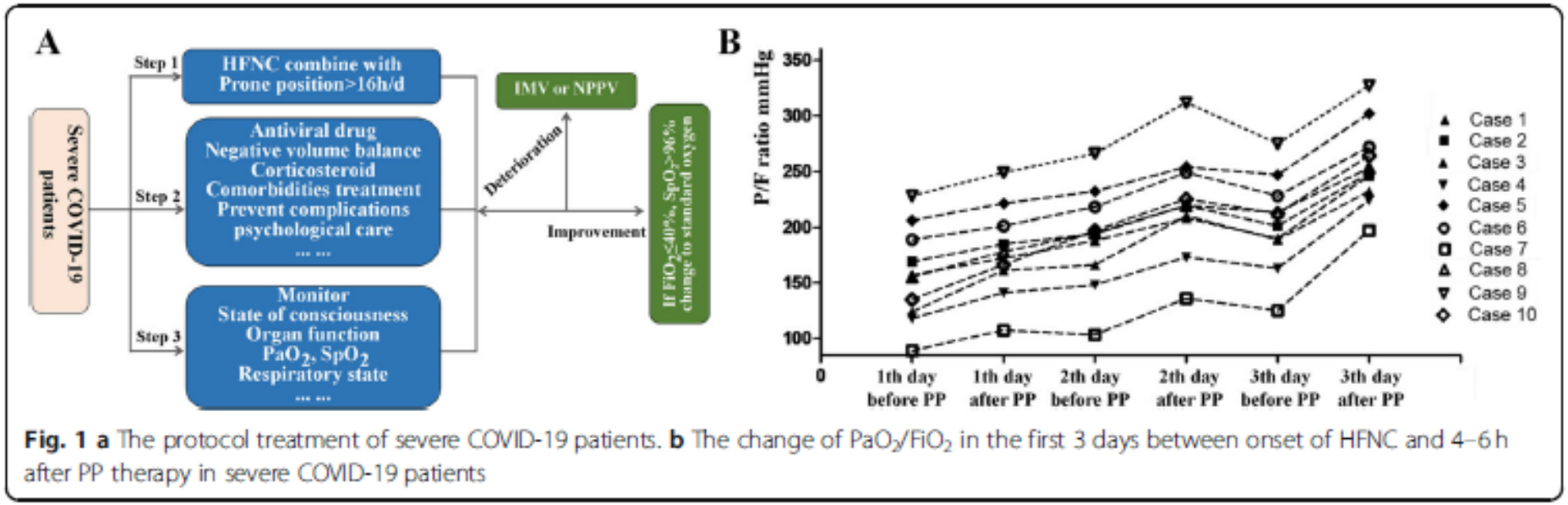
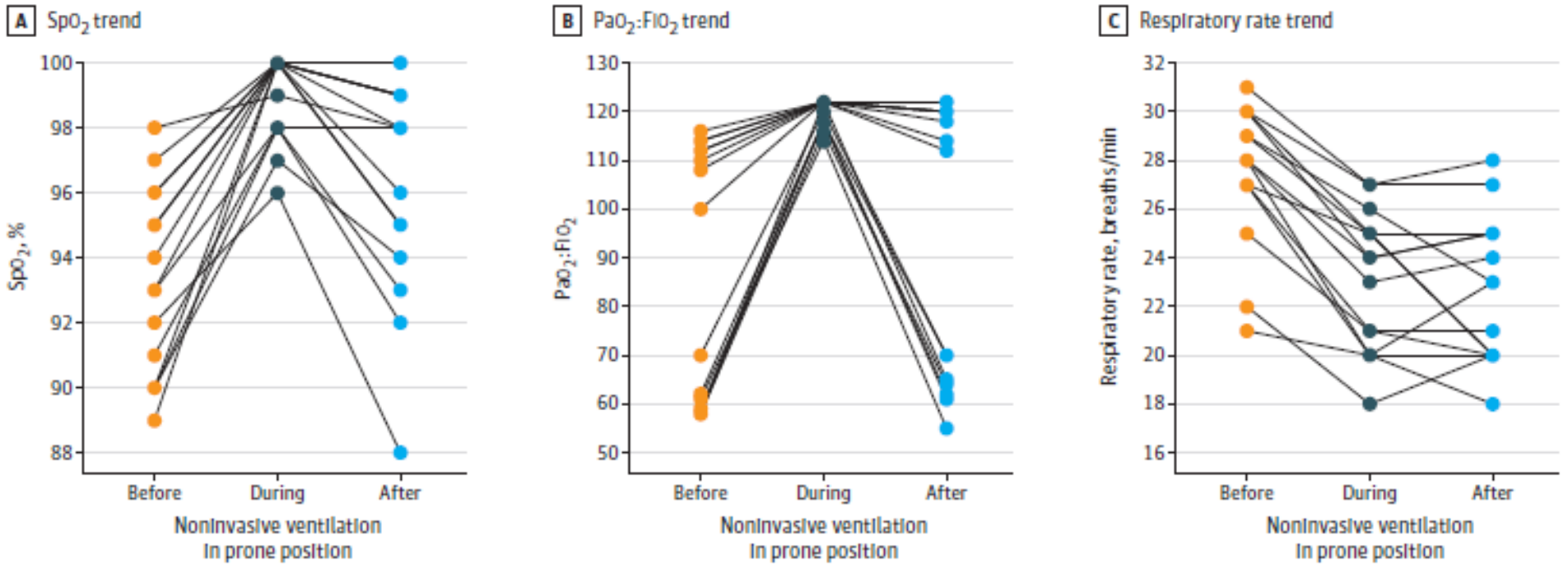


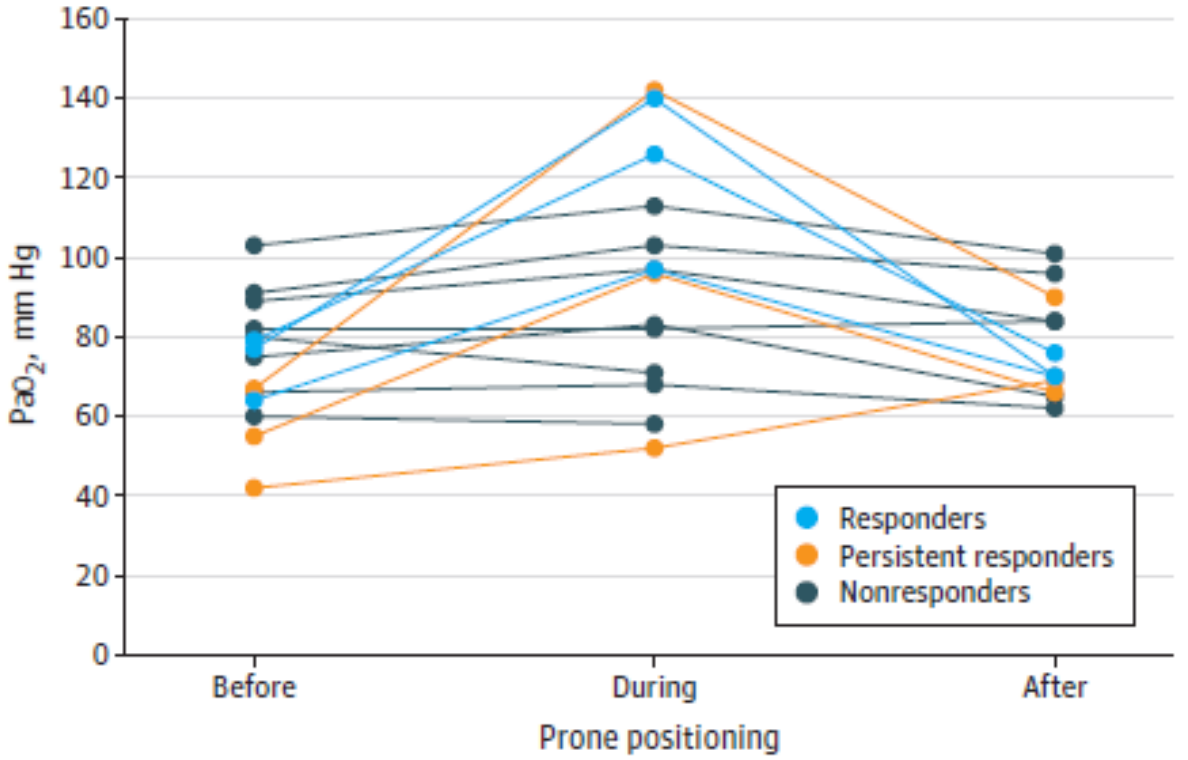
Fig. 1 **a** The protocol treatment of severe COVID-19 patients. **b** The change of PaO_2/FiO_2 in the first 3 days between onset of HFNC and 4–6 h after PP therapy in severe COVID-19 patients

Figure. Respiratory Parameters in the Individual Patients Before, During, and After Noninvasive Ventilation in the Prone Position



Sartini C. et al. Respiratory Parameters in Patients With COVID-19 After Using Noninvasive Ventilation in the Prone Position Outside the Intensive Care Unit.
JAMA. Published online May 15, 2020.

Figure. Individual Partial Pressure of Arterial Oxygen (Pao_2) Variation for Patients Who Sustained Prone Positioning (PP) for at Least 3 Hours



Elharrar X et al. Use of Prone Positioning in Nonintubated Patients With COVID-19 and Hypoxemic Acute Respiratory Failure. JAMA Published online May 15, 2020

ORIGINAL CONTRIBUTION

Early Self-Proning in Awake, Non-intubated Patients in the Emergency Department: A Single ED's Experience During the COVID-19 Pandemic

Nicholas D. Caputo, MD, MSc[1], Reuben J. Strayer, MD[2], and Richard Levitan, MD[3]

ACADEMIC EMERGENCY MEDICINE 2020;27:375–378.

Methods: This pilot study was carried out in a single urban ED in New York City. We included patients suspected of having COVID-19 with hypoxia on arrival. A standard pulse oximeter was used to measure SpO_2. SpO_2 measurements were recorded at triage and after 5 minutes of proning. Supplemental oxygenation methods included non-rebreather mask (NRB) and nasal cannula. We also characterized post-proning failure rates of intubation within the first 24 hours of arrival to the ED.

Results: Fifty patients were included. Overall, the median SpO_2 at triage was 80% (IQR 69 to 85). After application of supplemental oxygen was given to patients on room air it was 84% (IQR 75 to 90). After 5 minutes of proning was added SpO_2 improved to 94% (IQR 90 to 95). Comparison of the pre- to post-median by the Wilcoxon Rank-sum test yielded P = 0.001. Thirteen patients (24%) failed to improve or maintain their oxygen saturations and required endotracheal intubation within 24 hours of arrival to the ED.

Protocolo de acción

- Sat < 92% y FR > 25
  - Prono vigil

- Respondedor
  - Sat > 92%
  - FR < 25
  - Disnea no
  - Trabajo respiratorio no

- No respondedor
  - Sat < 92%
  - FR > 25
  - Si no presenta disnea ni aumento de trabajo ventilatorio posible iniciar CNAF
  - Si presenta disnea o aumento de trabajo ventilatorio posible iniciar VMNI

Propuesta Dr. Orlando Díaz, Webinar SERCHILE, 26/05/20

intensive care society
proud to be the voice of critical care since 1970

ICS Guidance for Prone Positioning of the Conscious COVID Patient 2020

- 30 minutos a 2 horas de prono completo (cama plana)
- 30 minutos a 2 horas acostado sobre el lado derecho (cama plana)
- 30 minutos a 2 horas sentado (30–60 grados) ajustando la cabecera de la cama
- 30 minutos a 2 horas acostado sobre el lado izquierdo (cama plana)


PHILIPS

$$\frac{PaO_2}{FIO_2}$$

Criterios para intubación en Covid

- Justificados
  - Uso persistente de musculatura accesoria
  - Respiración paradojal persistente
  - Agitación o compromiso de conciencia
  - Inestabilidad hemodinámica asociada a dificultad respiratoria

- No Justificados
  - Por alto requerimiento de FIO2 o relación PaO2/FIO2 baja
  - Por polipnea 25-40/min
  - Para permitir traslado seguro
  - Por imagen pulmonar que muestre neumonía extensa

Propuesta Dr. Alejandro Bruhn, SOCHIMI/UC

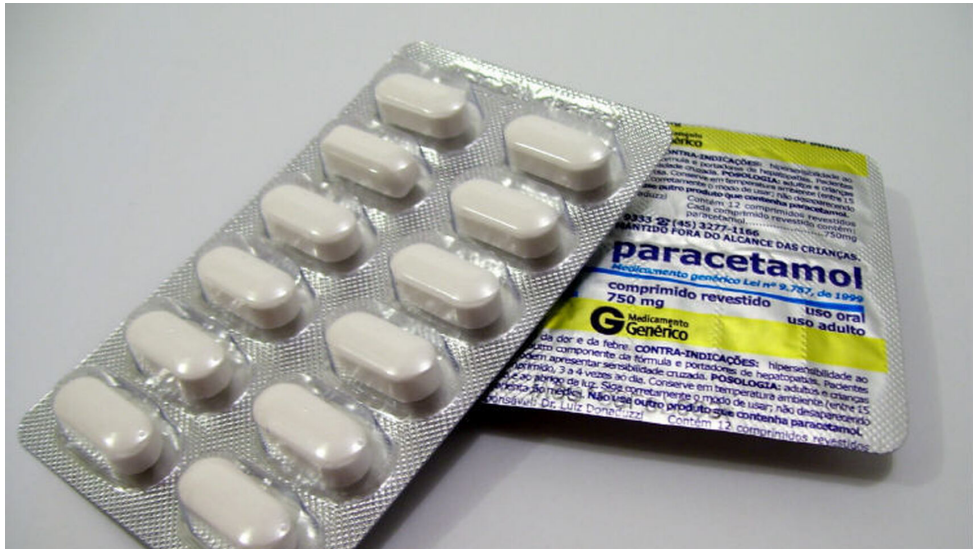
Balances hídricos: Neutros a negativos

Manejo metabólico

- HGT c/6 hrs, si estabilidad espaciarlos
- Hiperglicemia leve: HGT < 200
  - NPH – Insulina acción larga 0.1 U/kg día
- Hiperglicemia moderada: HGT 201-300
  - NPH – Insulina acción larga 0.2-0.3 U/kg día
- Hiperglicemia severa: HGT > 300
  - NPH-Insulina acción larga 0.4-0-5 U/kg día

Antipiréticos

- Paracetamol 1 gr c/8 hrs VO
- Medidas físicas
- Dipirona en caso de persistencia fiebre



Cobertura antimicrobiana empírica

- Ceftriaxona 2 grs día EV
  - Suspender si cultivos y antígeno urinario negativo

- Oseltamivir 75 mg c/12 hrs VO
  - Suspender si se descarta coinfección

Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis

Mandeep R Mehra, Sapan S Desai, Frank Ruschitzka, Amit N Patel

Published Online
May 22, 2020
https://doi.org/10.1016/
S0140-6736(20)31180-6

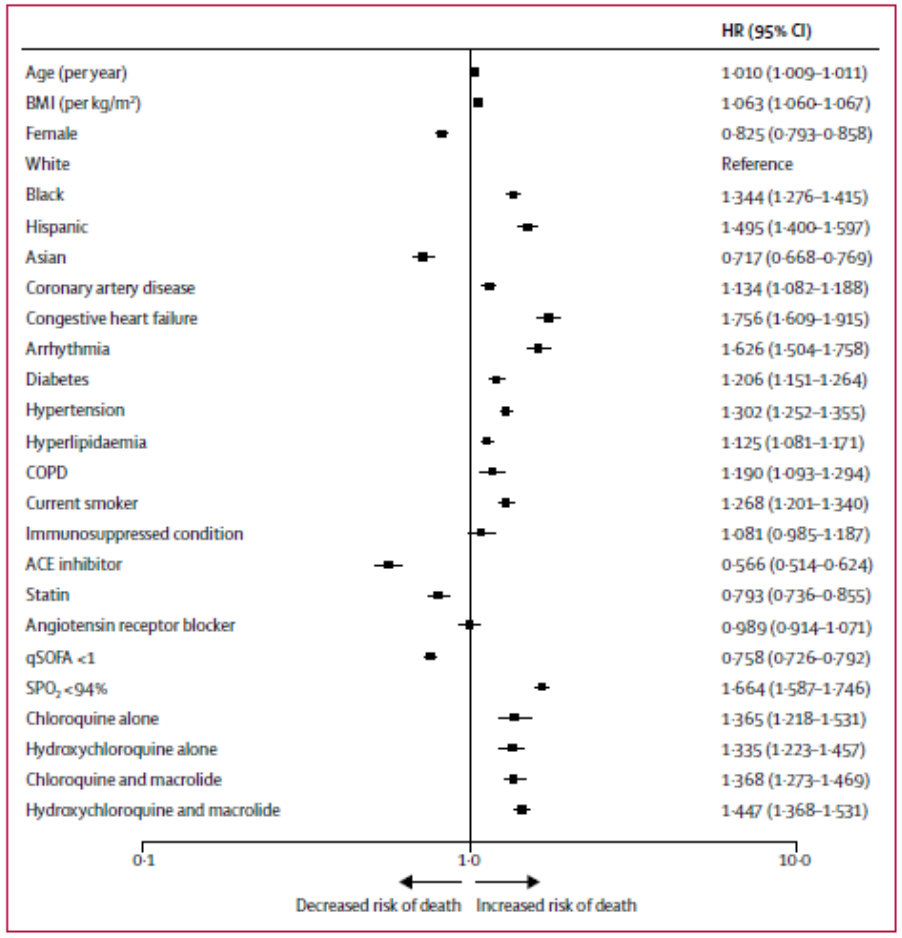


Figure 2: **Independent predictors of in-hospital mortality**
Age and BMI are continuous variables. The 95% CIs have not been adjusted for multiple testing and should not be used to infer definitive effects. ACE=angiotensin-converting enzyme. BMI=body mass index. COPD=chronic obstructive pulmonary disease. HR=hazard ratio. qSOFA=quick sepsis-related organ failure assessment. SPO_2=oxygen saturation.

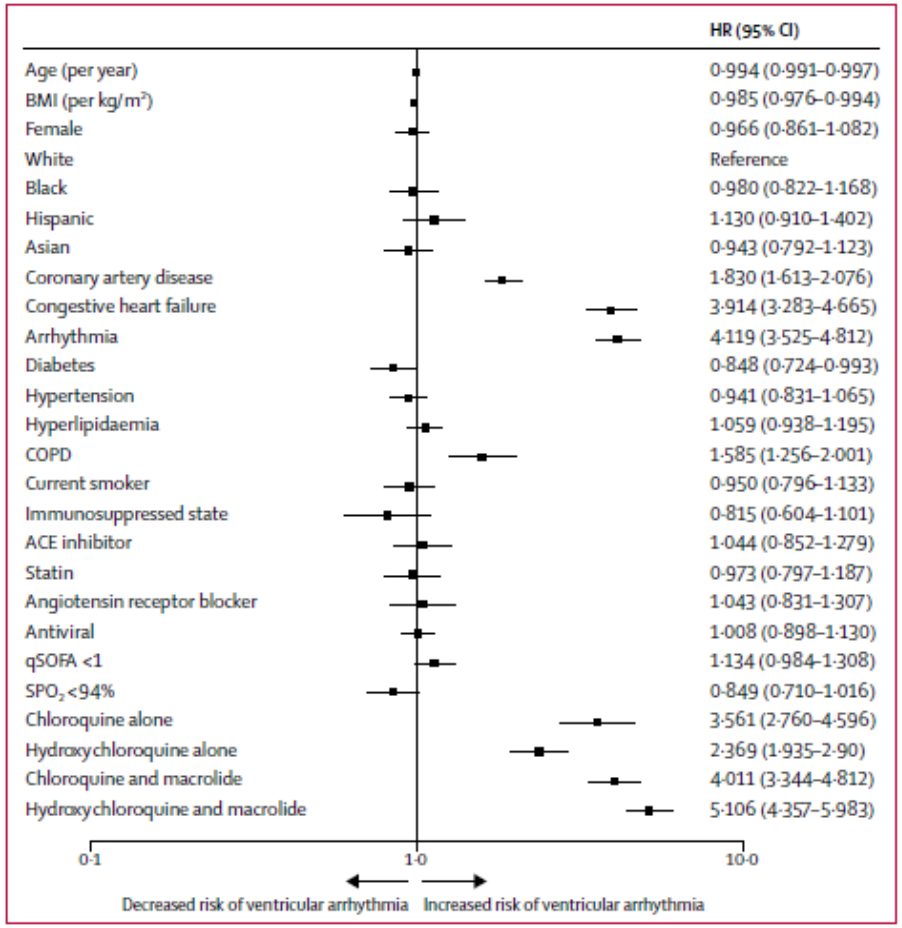
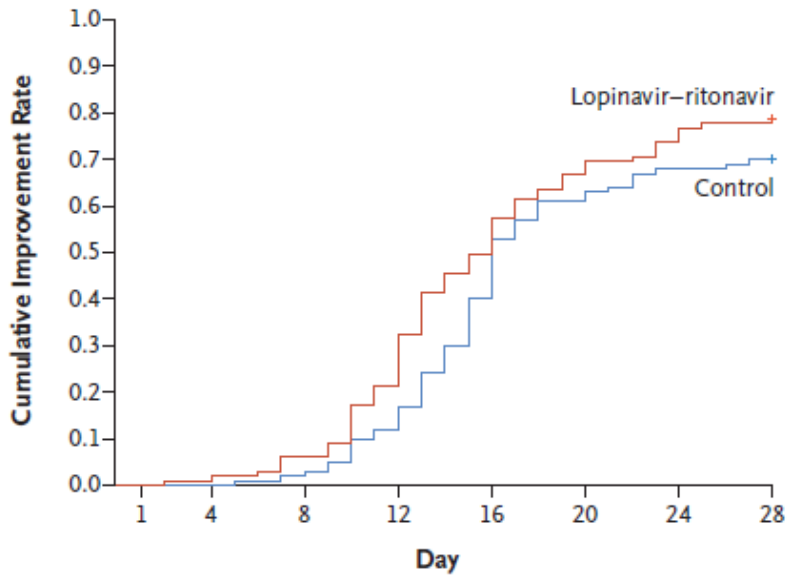


Figure 3: **Independent predictors of ventricular arrhythmias during hospitalisation**
Age and BMI are continuous variables. The 95% CIs have not been adjusted for multiple testing and should not be used to infer definitive effects. ACE=angiotensin-converting enzyme. BMI=body mass index. COPD=chronic obstructive pulmonary disease. HR=hazard ratio. qSOFA=quick sepsis-related organ failure assessment. SPO_2=oxygen saturation.

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 MAY 7, 2020 VOL. 382 NO. 19

A Trial of Lopinavir–Ritonavir in Adults Hospitalized with Severe Covid-19



No. at Risk								
Lopinavir–ritonavir	99	98	93	78	50	33	26	22
Control	100	100	98	88	60	39	32	30

Figure 2. Time to Clinical Improvement in the Intention-to-Treat Population.

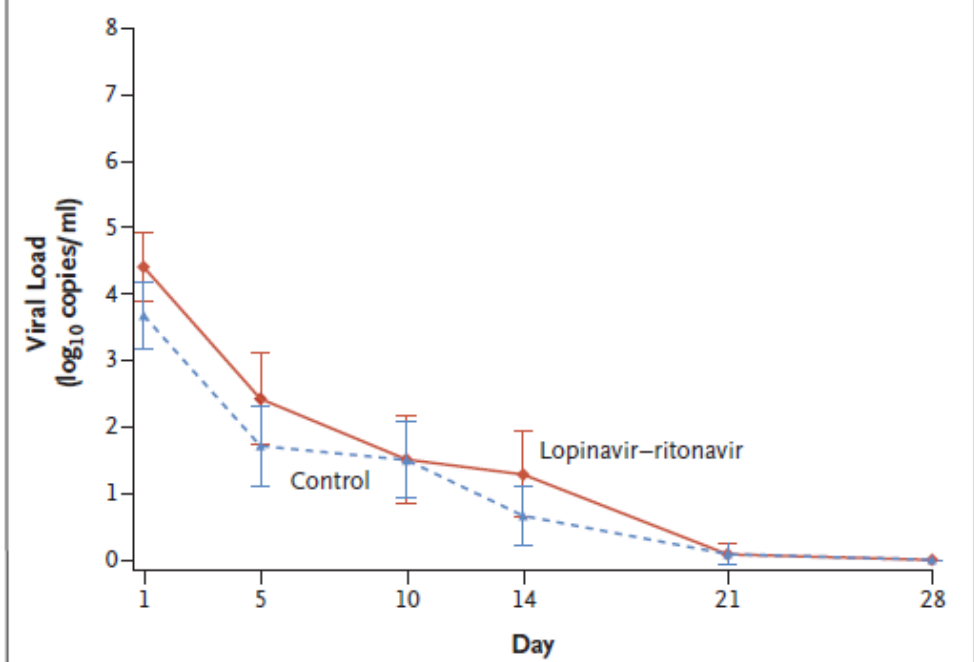


Figure 3. Mean Change from Baseline in SARS-CoV-2 Viral RNA Load by qPCR on Throat Swabs.

Antiviral Research 178 (2020) 104787

Contents lists available at ScienceDirect

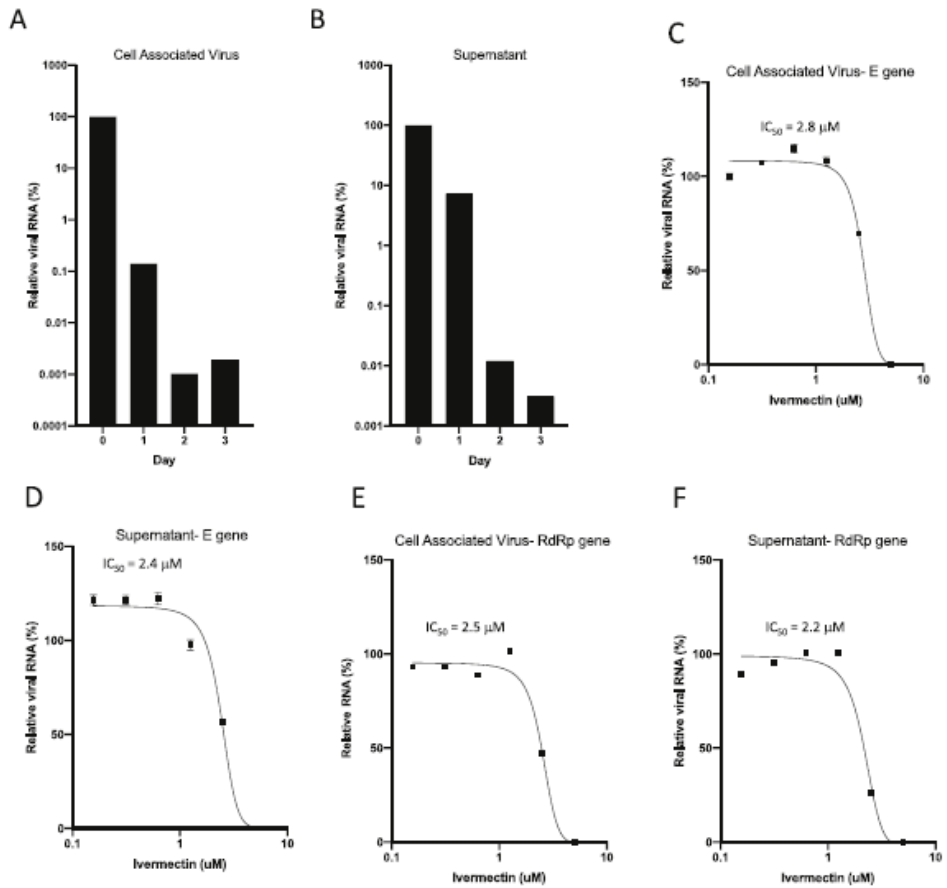
Antiviral Research

journal homepage: www.elsevier.com/locate/antiviral

The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 *in vitro*

Leon Caly[a], Julian D. Druce[a], Mike G. Catton[a], David A. Jans[b], Kylie M. Wagstaff[b,*]

[a] Victorian Infectious Diseases Reference Laboratory, Royal Melbourne Hospital, At the Peter Doherty Institute for Infection and Immunity, Victoria, 3000, Australia
[b] Biomedicine Discovery Institute, Monash University, Clayton, Vic, 3800, Australia



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Remdesivir for the Treatment of Covid-19 — Preliminary Report

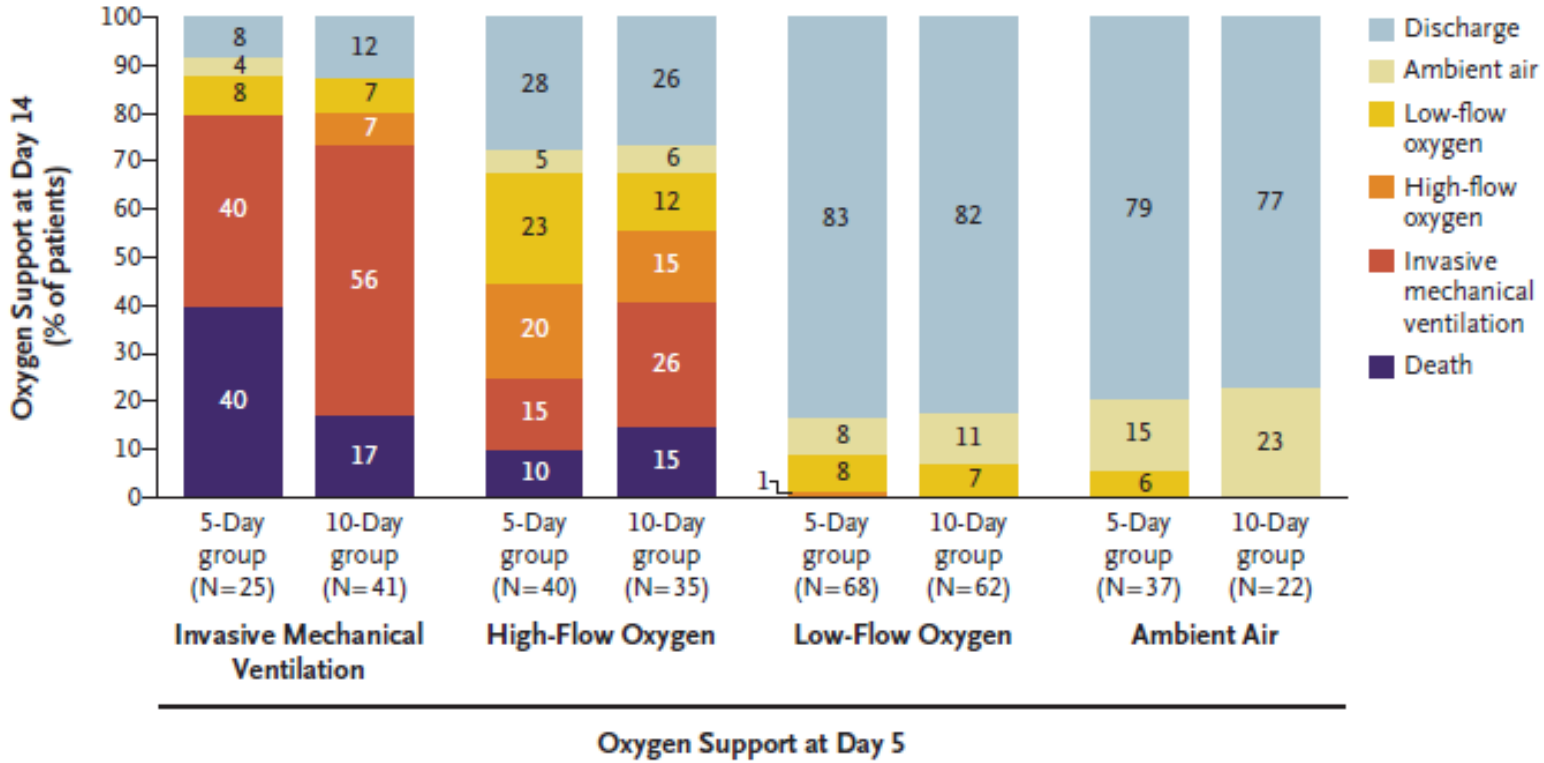
J.H. Beigel, K.M. Tomashek, L.E. Dodd, A.K. Mehta, B.S. Zingman, A.C. Kalil, E. Hohmann, H.Y. Chu, A. Luetkemeyer, S. Kline, D. Lopez de Castilla, R.W. Finberg, K. Dierberg, V. Tapson, L. Hsieh, T.F. Patterson, R. Paredes, D.A. Sweeney, W.R. Short, G. Touloumi, D.C. Lye, N. Ohmagari, M. Oh, G.M. Ruiz-Palacios, T. Benfield, G. Fätkenheuer, M.G. Kortepeter, R.L. Atmar, C.B. Creech, J. Lundgren, A.G. Babiker, S. Pett, J.D. Neaton, T.H. Burgess, T. Bonnett, M. Green, M. Makowski, A. Osinusi, S. Nayak, and H.C. Lane, for the ACTT-1 Study Group Members*

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Remdesivir for 5 or 10 Days in Patients with Severe Covid-19

Jason D. Goldman, M.D., M.P.H., David C.B. Lye, M.B., B.S., David S. Hui, M.D., Kristen M. Marks, M.D., Raffaele Bruno, M.D., Rocio Montejano, M.D., Christoph D. Spinner, M.D., Massimo Galli, M.D., Mi-Young Ahn, M.D., Ronald G. Nahass, M.D., Yao-Shen Chen, M.D., Devi SenGupta, M.D., Robert H. Hyland, D.Phil., Anu O. Osinusi, M.D., Huyen Cao, M.D., Christiana Blair, M.S., Xuelian Wei, Ph.D., Anuj Gaggar, M.D., Ph.D., Diana M. Brainard, M.D., William J. Towner, M.D., Jose Muñoz, M.D., Kathleen M. Mullane, D.O., Pharm.D., Francisco M. Marty, M.D., Karen T. Tashima, M.D., George Diaz, M.D., and Aruna Subramanian, M.D., for the GS-US-540-5773 Investigators*



Cochrane Library

Cochrane Database of Systematic Reviews

Convalescent plasma or hyperimmune immunoglobulin for people with COVID-19: a rapid review (Review)

Valk SJ, Piechotta V, Chai KL, Doree C, Monsef I, Wood EM, Lamikanra A, Kimber C, McQuilten Z, So-Osman C, Estcourt LJ, Skoetz N

Authors' conclusions

We identified eight studies (seven case-series and one prospectively planned single-arm intervention study) with a total of 32 participants (range 1 to 10). Most studies assessed the risks of the intervention; reporting two adverse events (potentially grade 3 or 4), one of which was a serious adverse event. We are very uncertain whether convalescent plasma is effective for people admitted to hospital with COVID-19 as studies reported results inconsistently, making it difficult to compare results and to draw conclusions. We identified very low-certainty evidence on the effectiveness and safety of convalescent plasma therapy for people with COVID-19; all studies were at high risk of bias and reporting quality was low.

No RCTs or controlled non-randomised studies evaluating benefits and harms of convalescent plasma have been completed. There are 47 ongoing studies evaluating convalescent plasma, of which 22 are RCTs, and one trial evaluating hyperimmune immunoglobulin. We will update this review as a living systematic review, based on monthly searches in the above mentioned databases and registries. These updates are likely to show different results to those reported here.

RESEARCH

Efficacy and safety of corticosteroids in COVID-19 based on evidence for COVID-19, other coronavirus infections, influenza, community-acquired pneumonia and acute respiratory distress syndrome: a systematic review and meta-analysis

Zhikang Ye MPharm, Ying Wang MPharm, Luis Enrique Colunga-Lozano MD MSc, Manya Prasad MD MBBS, Wimonchat Tangamornsuksan PharmD PhD, Bram Rochwerg MD MSc, Liang Yao MSc, Shahrzad Motaghi MSc, Rachel J. Couban MA MISt, Maryam Ghadimi PharmD BCPS, Malgorzata M. Bala MD PhD, Huda Gomaa MSc, Fang Fang MD, Yingqi Xiao MN, Gordon H. Guyatt MD MSc

■ Cite as: *CMAJ* 2020. doi: 10.1503/cmaj.200645; early-released May 14, 2020

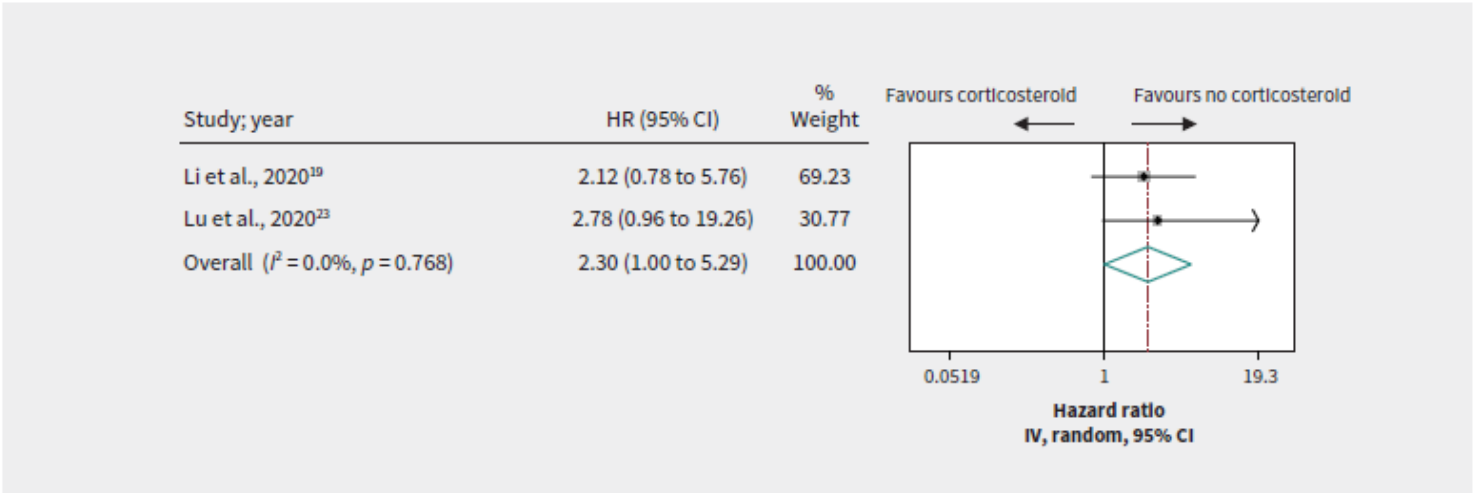


Figure 2: Effect of corticosteroids on mortality in patients with severe coronavirus disease 2019. Weights are from random-effects analysis. Note: CI = confidence interval, HR = hazard ratio, IV = inverse variance.

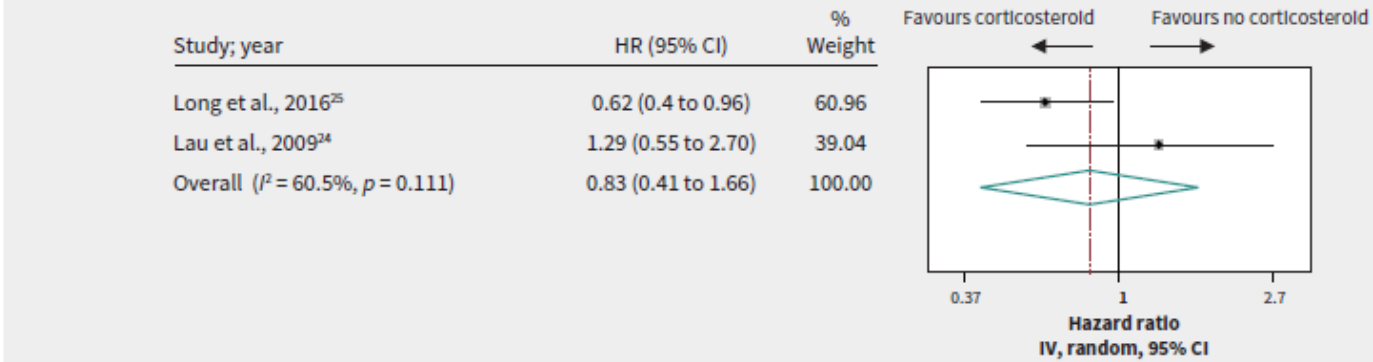


Figure 3: Effect of corticosteroids on mortality in patients with severe acute respiratory syndrome. Weights are from random-effects analysis. Note: CI = confidence interval, HR = hazard ratio, IV = inverse variance.

Early Short Course Corticosteroids in Hospitalized Patients with COVID-19

Raef Fadel, D.O.[1]*, Austin R. Morrison, Pharm.D.[2]*, Amit Vahia, M.D.[3], Zachary R. Smith, Pharm.D.[2], Zohra Chaudhry, M.D.[3], Pallavi Bhargava, M.D.[3], Joseph Miller, M.D.[4], Rachel M. Kenney, Pharm.D.[2], George Alangaden, M.D.[3], Mayur S. Ramesh, M.D.[3], Henry Ford COVID-19 Management Task Force[#]

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Moderado: Con infiltrados a la Rx, con uso de naricera o CNAF

0.5 – 1 mg/kg EV de Metilprednisolona dividido en dos dosis por 3 días

Grave: Necesidad de VMI

0.5 – 1mg/kg EV de Metilprednisolona dividido en dos dosis de 3 a 7 días

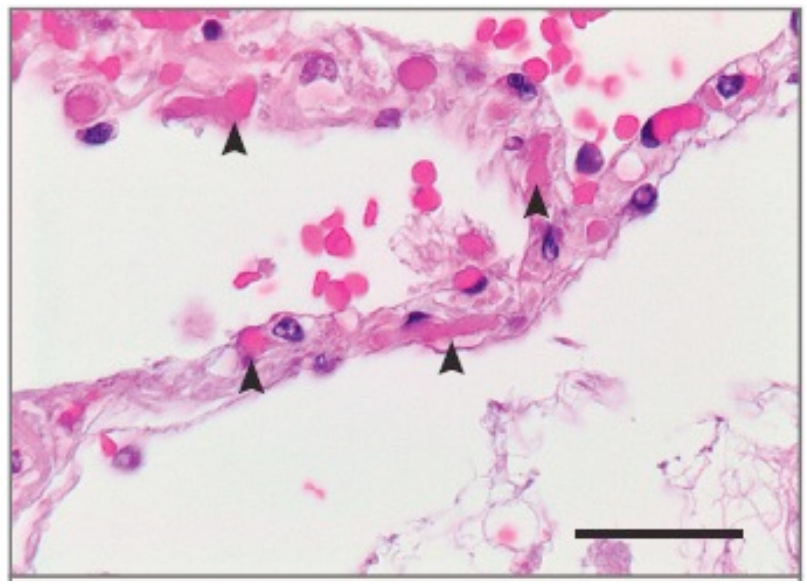
Table III. Outcomes in the Pre-Corticosteroid and Corticosteroid Protocol Groups

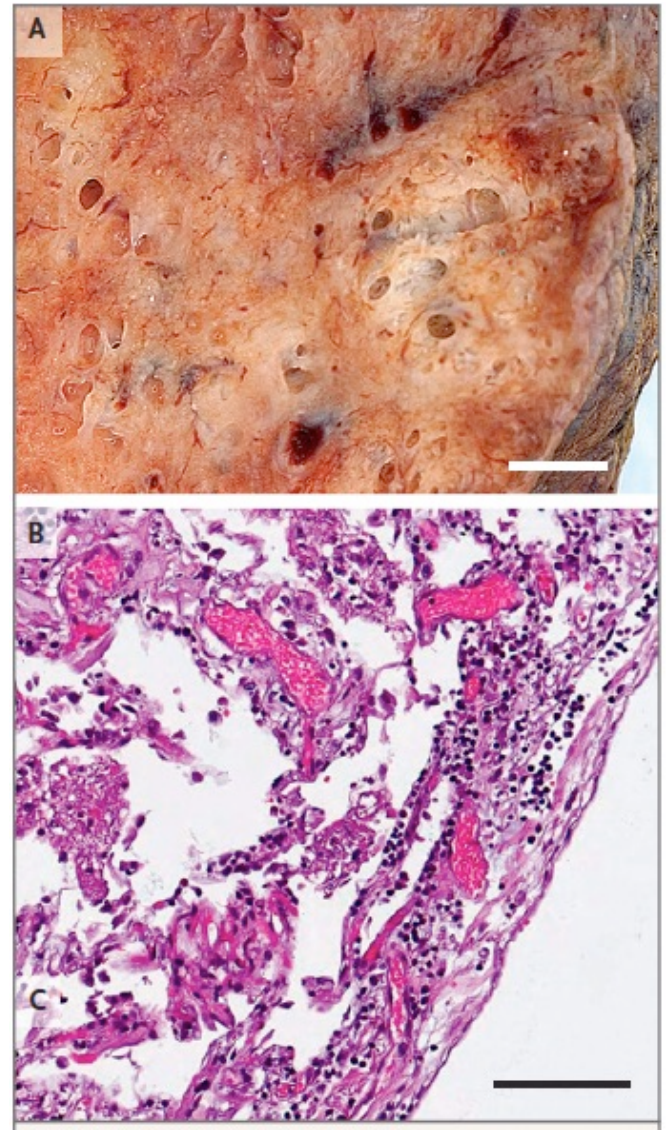
Outcomes	Standard of Care (n=81)	Early CP (n=132)	Odds Ratio (CI)	p-value
Primary Outcome				
Primary composite outcome – no. (%)	44 (54.3)	46 (34.9)	0.45 (0.26 – 0.79)	0.005
Death – no. (%)	21 (26.3)	18 (13.6)	0.45 (0.22 – 0.91)	0.024
Respiratory failure requiring mechanical ventilation – no. (%)*	26 (36.6)	26 (21.7)	0.47 (0.25-0.92)	0.025
Escalation from GMU to ICU – no. (%)*	31 (44.3)	32 (27.3)	0.47 (0.25 – 0.88)	0.017
Secondary Outcomes				
Overall mechanical ventilation – no. (%)	36 (44.4)	38 (28.8)	0.51 (0.28 – 0.90)	0.020
ARDS – no. (%)	31 (38.3)	33 (26.6)		0.040
Mild	3 (3.7)	1 (0.76)		0.125
Moderate	8 (9.9)	9 (6.8)		0.307
Severe	20 (24.7)	23 (17.4)		0.201
Median duration of mechanical ventilation (IQR) - days	8 (4-13)	7 (4-9)		0.558
Median time to extubation (IQR) – days	8 (4-13)	7 (4-9)		0.558
Shock – no. (%)	19 (23.5)	17 (12.6)		0.069
Acute kidney injury – no. (%)	42 (51.9)	59 (44.7)		0.310
Median hospital length of stay (IQR) - days	8 (5-14)	5 (3-7)		<0.001
Discharged from hospital – no. (%)	51 (62.2)	88 (66.7)		0.584
Remain hospitalized – no. (%)	9 (11.1)	26 (19.7)		0.102
Remain intubated – no. (%)	7 (8.6)	13 (9.8)		0.771

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Pulmonary Vascular Endothelialitis, Thrombosis, and Angiogenesis in Covid-19





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Confirmation of the high cumulative incidence of thrombotic complications in critically ill ICU patients with COVID-19: An updated analysis

F.A. Klok[a,*], M.J.H.A. Kruip[b], N.J.M. van der Meer[c,d], M.S. Arbous[e], D. Gommers[f], K.M. Kant[g], F.H.J. Kaptein[a], J. van Paassen[e], M.A.M. Stals[a], M.V. Huisman[a,1], H. Endeman[f,1]

Análisis de 184 pacientes de UCI
Incidencia de desenlaces compuesto de: TEP, TVP, ACV, IAM, Isquemia EEII, embolias arteriales

Todos los pacientes recibieron tromboprofilaxis
Incidencia acumulada de desenlaces compuestos de 49%
87% de eventos fueron TEP
TACO fue factor protector de eventos trombóticos

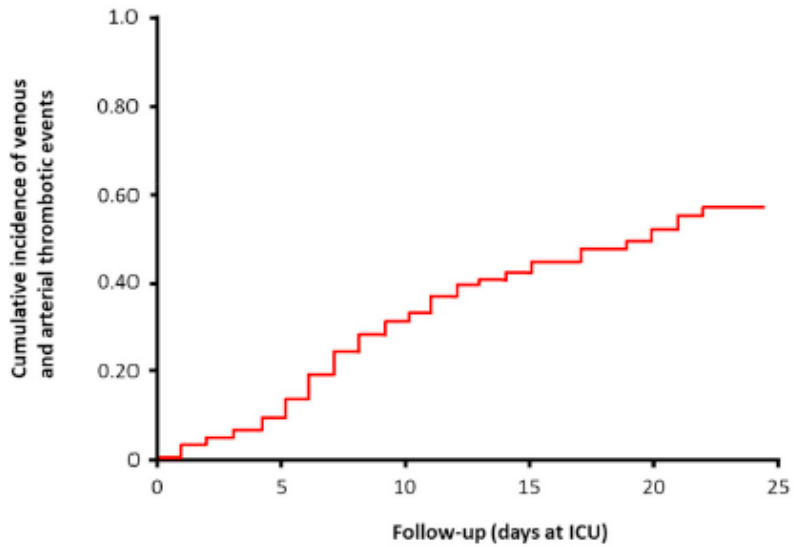

Fig. 1. Cumulative incidence of venous and arterial thrombotic complications during the course of intensive care unit admission of patients with proven COVID-19 pneumonia.

Original article- Revision

Incidence of venous thromboembolism in hospitalized patients with COVID-19

Saskia Middeldorp[1], Michiel Coppens[1], Thijs F. van Haaps[1], Merijn Foppen[1], Alexander P. Vlaar[2], Marcella C.A. Müller[2], Catherine C.S. Bouman[2], Ludo F.M. Beenen[3], Ruud S. Kootte[4], Jarom Heijmans[4], Loek P. Smits[4], Peter I. Bonta[5], Nick van Es[1]

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2) Department of Intensive Care Medicine
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4) Department of Acute Internal Medicine
5) Department of Pulmonary Medicine

10.1161/CIRCULATIONAHA.120.047430

Pulmonary Embolism in COVID-19 Patients:

Awareness of an Increased Prevalence

Running Title: *Poissy et al.; COVID-19 and Pulmonary Embolism*

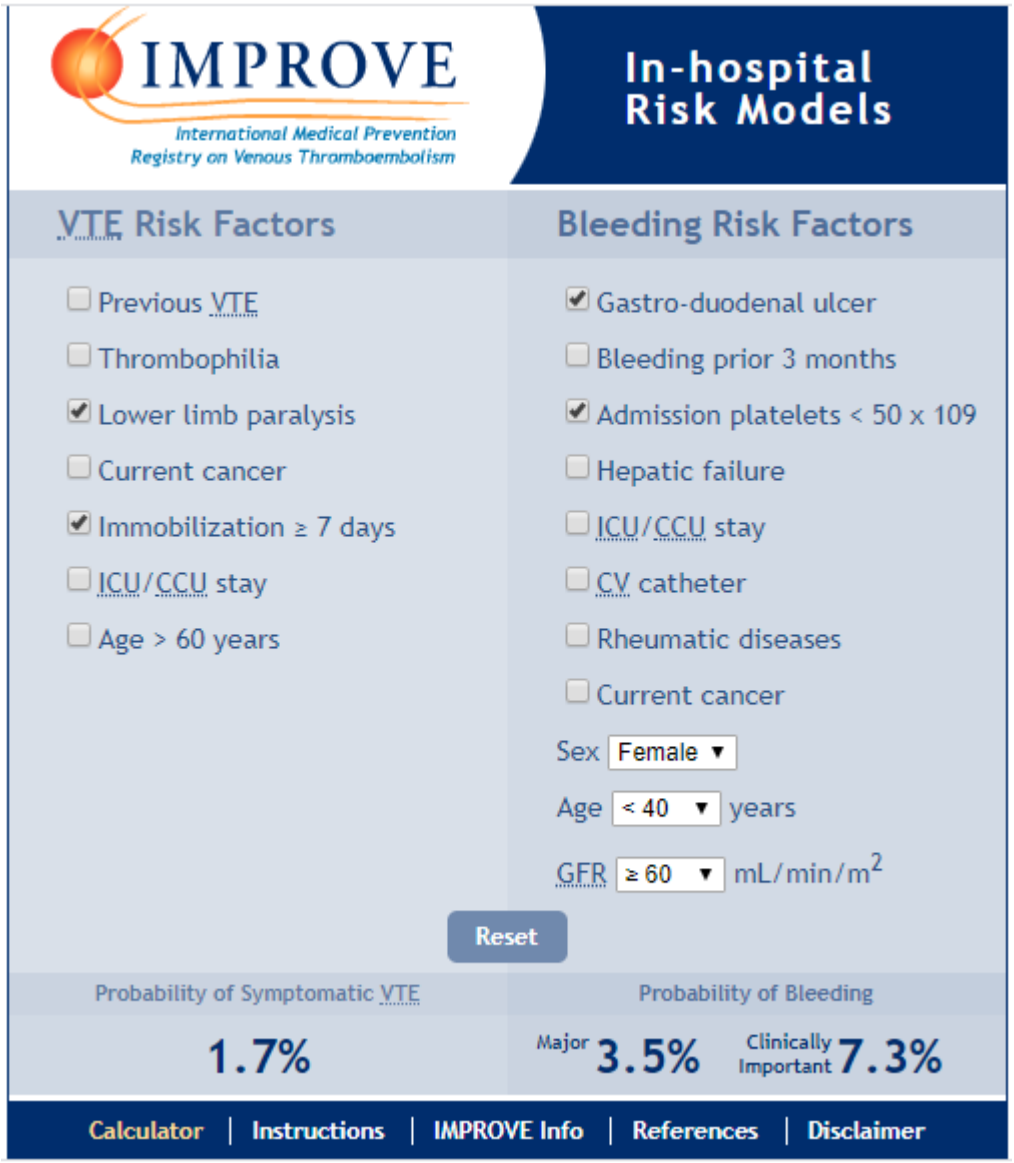
Julien Poissy, MD, PhD[1]; Julien Goutay, MD[2]; Morgan Caplan, MD[2]; Erika Parmentier, MD[2]; Thibault Duburcq, MD[2]; Fanny Lassalle, PharmD[3]; Emmanuelle Jeanpierre, PharmD[3]; Antoine Rauch, MD, PhD[3]; Julien Labreuche, BST[4]; Sophie Susen, MD, PhD[3]; and the Lille ICU Haemostasis COVID-19 group

J Thromb Haemost. 2020 May 27. doi: 10.1111/jth.14929. Online ahead of print.

Scientific and Standardization Committee Communication: Clinical Guidance on the Diagnosis, Prevention and Treatment of Venous Thromboembolism in Hospitalized Patients With COVID-19

Guidance Statement 1: Diagnosis of VTE in hospitalized COVID-19 patients:

a. *Practitioners should use standard-of-care objective testing (i.e., CTPA, V/Q scan, MRI venography, Doppler ultrasonography) to diagnose VTE based on clinical index of suspicion. A pragmatic approach (i.e., point-of-care bedside ultrasonography or echocardiography) can also be combined with standard-of-care objective testing (50% of respondents).*
b. *Routine screening for VTE using bedside Doppler ultrasonography of the lower extremities or based on elevated D-dimer levels is not recommended.*



Padua Prediction Score for Risk of VTE

Determines anticoagulation need in hospitalized patients by risk of VTE.

When to Use | Pearls/Pitfalls | Why Use

Active cancer	No 0	Yes +3
Previous VTE Excluding superficial vein thrombosis	No 0	Yes +3
Reduced mobility	No 0	Yes +3
Already known thrombophilic condition	No 0	Yes +3

0 points

Pharmacologic prophylaxis is NOT indicated. Consider using mechanical prophylaxis.

Copy Results | Next Steps

Guidance Statement 2: VTE prophylaxis in non-ICU hospitalized COVID-19 patients:

a) *A universal strategy of routine thromboprophylaxis with standard-dose UFH or LMWH should be used after careful assessment of bleed risk, with LMWH as the preferred agent. Intermediate-dose LMWH may also be considered (30% of respondents).*

b) *VTE prophylaxis recommendations should be modified based on extremes of body weight, severe thrombocytopenia (i.e. platelet counts of 50,000 x 10^9 per liter or 25,000 x 10^9 per liter) or deteriorating renal function.*

Conclusiones

- Manejo protocolizado
- Feedback de protocolos, información va cambiando día a día
- Evaluación de mecánica ventilatoria, no guiarse solo por PaFi
- Solicitar apoyo de especialistas en caso de ser necesario

Manejo del paciente COVID19 hospitalizado en sala no intensiva

Dr. Daniel Ramos Soto

Médico Internista

Prof. Asistente Depto. Med. Interna Oriente, U. de Chile

UPC Clínica Santa María