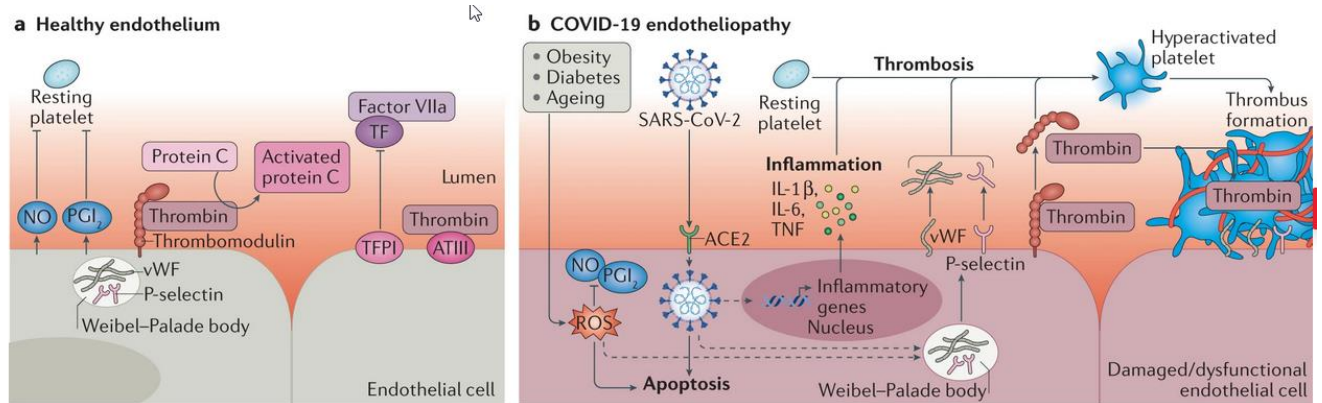
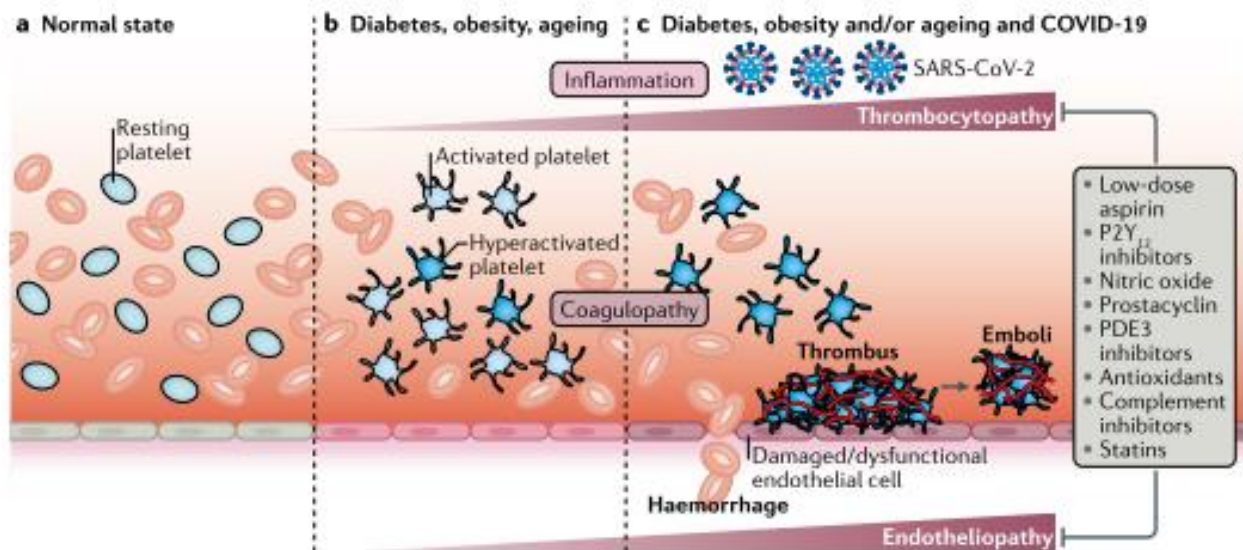


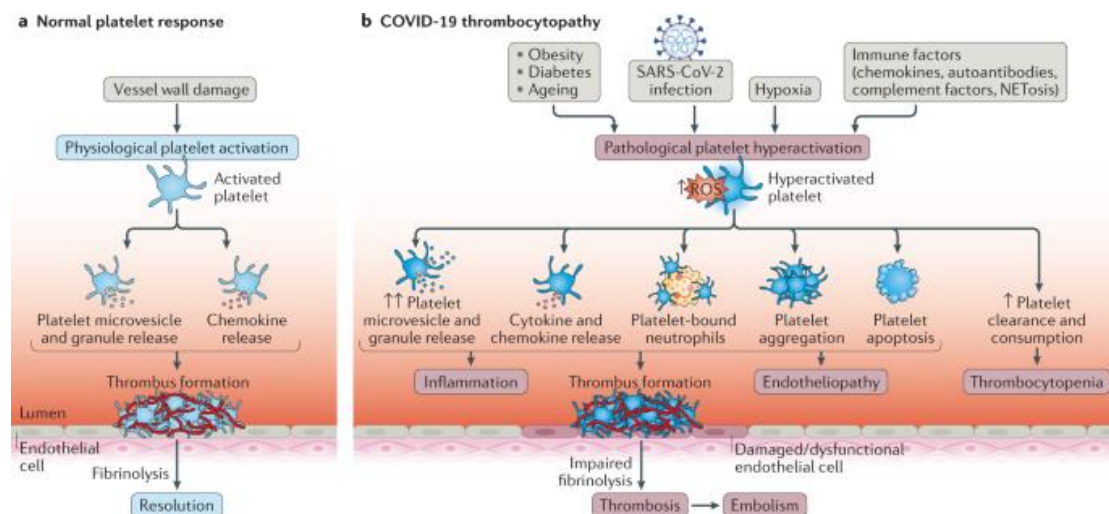
Anexos 1, 2, 3



Gu SX, Tyagi T, Jain K, Gu VW, Lee SH, Hwa JM, et al. Thrombocytopeny and endotheliopathy: crucial contributors to COVID-19 thromboinflammation. Nat Rev Cardiol [Internet]. 2021;18(3):194-209. Disponible en: <https://doi.org/10.1038/s41569-020-00469-1>

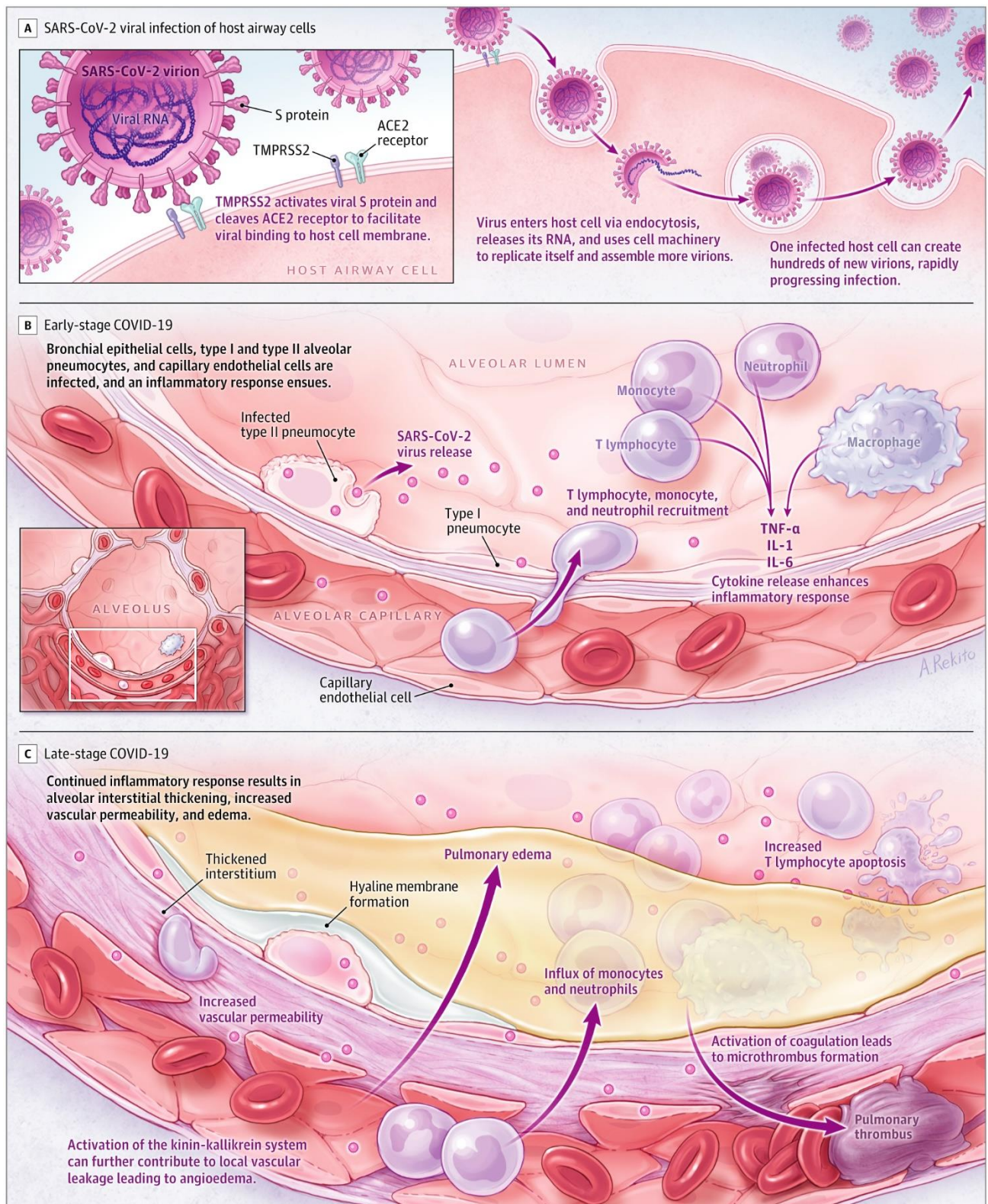


Gu SX, Tyagi T, Jain K, Gu VW, Lee SH, Hwa JM, et al. Thrombocytopeny and endotheliopathy: crucial contributors to COVID-19 thromboinflammation. Nat Rev Cardiol [Internet]. 2021;18(3):194-209. Disponible en: <https://doi.org/10.1038/s41569-020-00469-1>



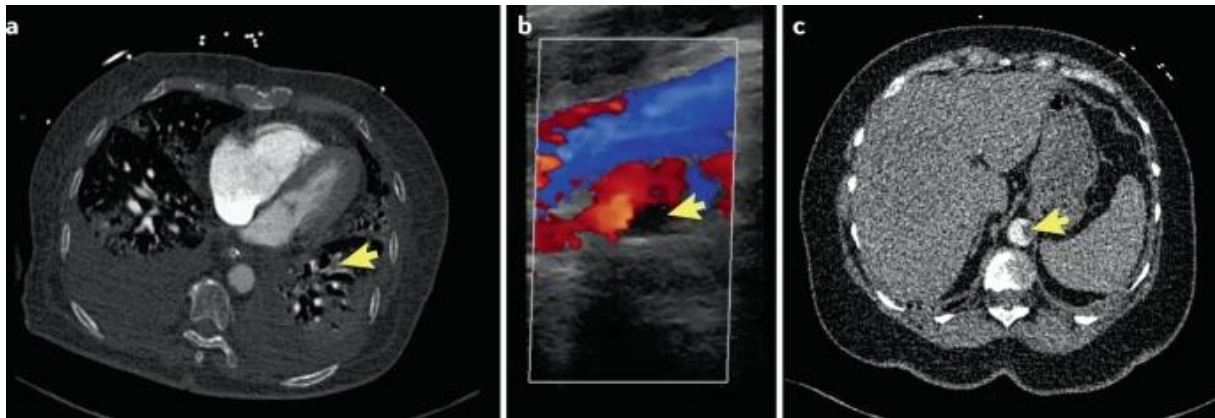
Gu SX, Tyagi T, Jain K, Gu VW, Lee SH, Hwa JM, et al. Thrombocytopeny and endotheliopathy: crucial contributors to COVID-19 thromboinflammation. Nat Rev Cardiol [Internet]. 2021;18(3):194-209. Disponible en: <https://doi.org/10.1038/s41569-020-00469-1>

Anexo 4



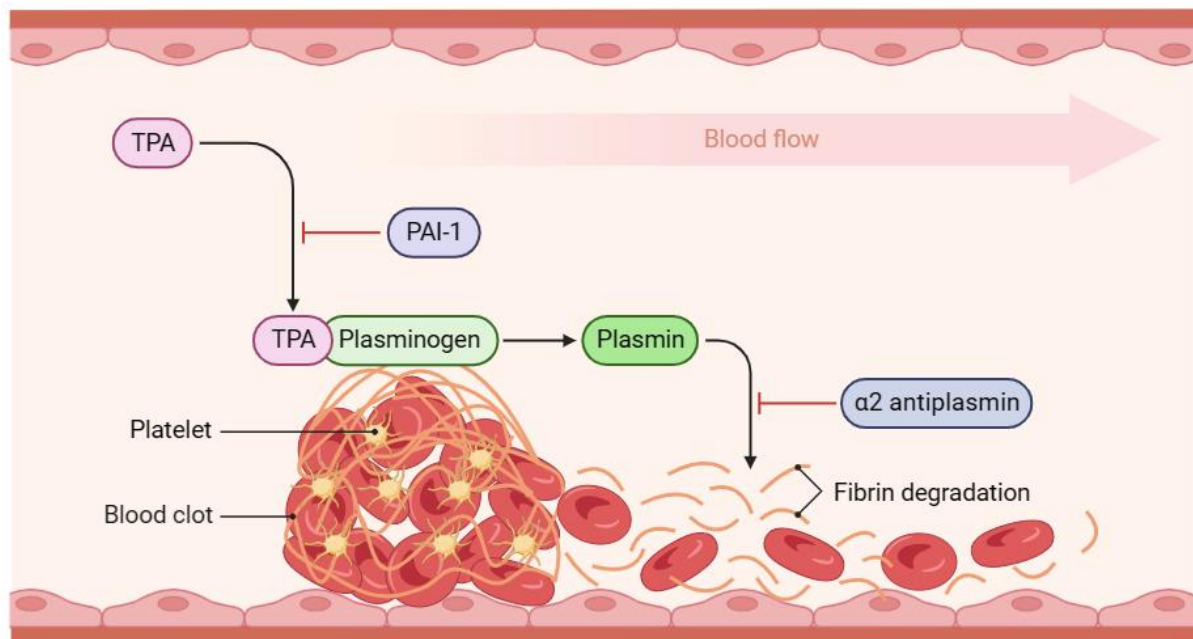
Wiersinga WJ, Rhodes A, Cheng AC, Peacock SJ, Prescott HC. Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19). JAMA [Internet]. 25 de agosto de 2020;324(8):782. Disponible en: <https://doi.org/10.1001/jama.2020.12839>

Anexo 5



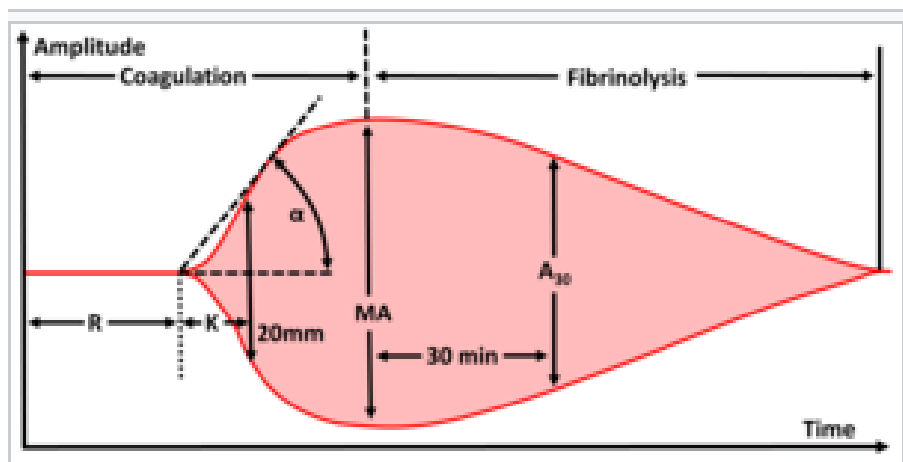
Gu SX, Tyagi T, Jain K, Gu VW, Lee SH, Hwa JM, et al. Thrombocytopenia and endotheliopathy: crucial contributors to COVID-19 thromboinflammation. *Nat Rev Cardiol* [Internet]. 2021;18(3):194-209. Disponible en: <https://doi.org/10.1038/s41569-020-00469-1>

Anexo 5



Created with BioRender.com

Anexo 6- Tromboelastografia normal



Normal thromboelastogram with parameters.

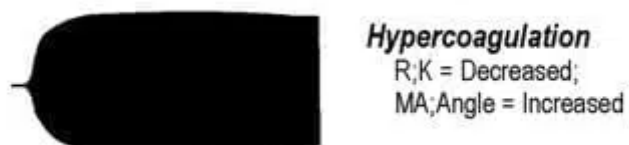
<https://litfl.com/thromboelastogram-teg/>

Anexo 7- Tromboelastografia normal



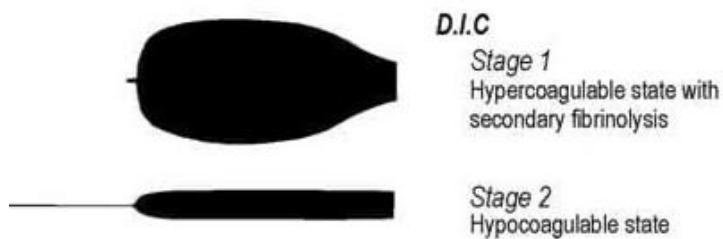
<https://litfl.com/thromboelastogram-teg/>

Tromboelastografia – Estado de hipercoagulación



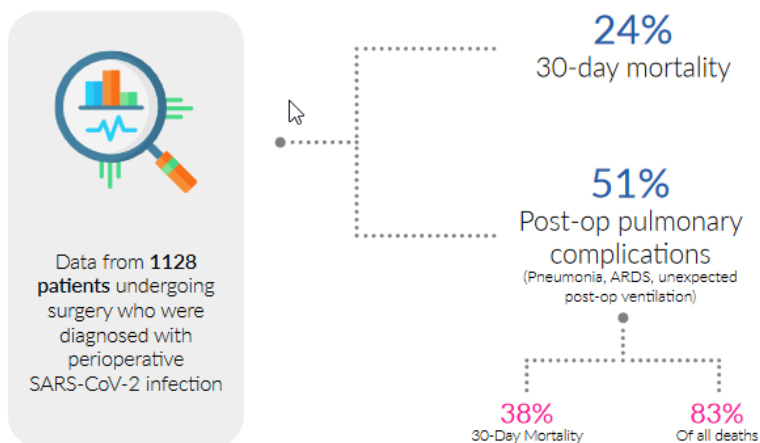
<https://litfl.com/thromboelastogram-teg/>

Tromboelastografia - DIC



<https://litfl.com/thromboelastogram-teg/>

Anexo 8

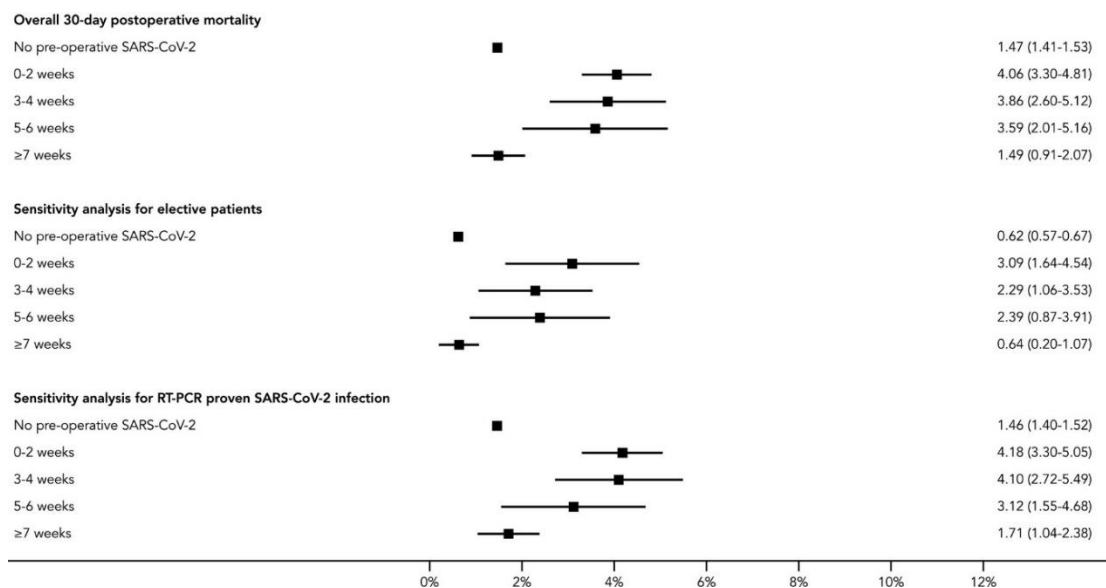


Reovery of Surgical Services in te Post- Pademica Era" => COVIDSurg Collaborative. Recovery of surgical services in the post-pandemic era: Surgery 2020-2025. Version 1.1 [Internet]. [cited 2022 Oct 29]. Available from: https://www.aneelbACE2.u.co.uk/files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

Anexo 9

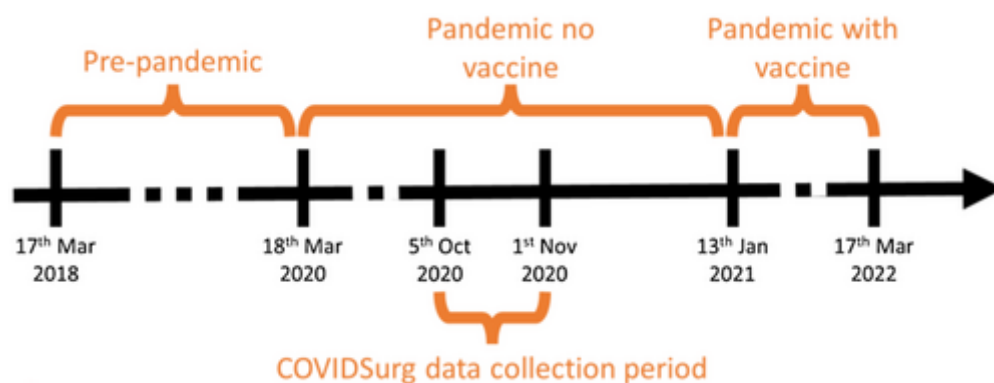
Factor de riesgo	Factor protector"
Sexo masculino OR 1,75 (CI 1,28 – 2,4, p< 0,0001)	Sexo femenino
Edad > 70 años (OR 2,3 (CI 1,65 – 3,22) p<0,0001)	Edad <70 años
Grado 3 – 5 (según "ASA" ** Grado 3 - 5) OR 2,35 (CI 1,57 – 3, 53) p< 0,0001	ASA 1 – 2
Diagnostico maligno OR 1,67 (CI 1,6 – 2, 64) p, 0,46	Diagnostico benigno / o Diagnostico obstétrico
Cirugía de emergencia OR 1, 67 (CI, 1,06 – 2,63), P = 0,026	Cirugía electiva
Cirugía "mayor" OR 1,52 (CI 10,1 – 2, 42); p,= 0,047	Cirugía "menor"

**ASA: American Society of Anesthesiologist Grades 1 – 2 vs 3 – 5



Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study. Anaesthesia [Internet]. 2021 Jun 1 [cited 2023 Jan 1];76(6):748–58. Available from: <https://pubmed.ncbi.nlm.nih.gov/33690889/>

Anexo 10:



McInerney CD, Kotzé A, Bacon S, Cutting JE, Fisher L, Goldacre B, et al. Postoperative mortality and complications in patients with and without pre-operative SARS-CoV-2 infection: a service evaluation of 24 million linked records using OpenSAFELY. Anaesthesia [Internet]. 2023 Mar 23;n/a(n/a). Available from: <https://doi.org/10.1111/anae.16001>

Anexo 11 Enumeración de los efectos de COVID 19 sobre la cirugía electiva- a nivel mundial – según “COVIDSurg Colaborative”:

	Europe and Central Asia	East Asia and Pacific	Latin America and the Caribbean	North America	Middle East and North Africa	South Asia	Sub-Saharan Africa	Total
Colorectal	370,947	429,080	289,478	66,360	216,938	51,498	39,253	1,463,554
Gynaecology	615,432	726,822	438,252	109,110	413,412	108,772	92,479	2,504,279
Head & neck	1,273,813	1,145,636	1,040,920	161,277	599,701	56,571	46,237	4,324,155
Obstetrics	118,086	93,227	108,147	25,184	25,855	35,266	35,846	441,611
Orthopaedics	1,552,527	2,026,572	1,040,757	244,121	1,196,372	144,637	90,054	6,295,040
Plastics	177,608	344,224	113,308	48,738	173,955	48,222	36,341	942,396
Upper gastrointestinal and hepatobiliary	782,347	747,601	668,231	113,529	335,765	46,355	28,253	2,722,081
Urology	758,344	889,675	561,714	120,947	484,983	73,061	62,031	2,950,755
Other surgery	1,776,126	2,027,511	1,361,682	274,363	1,071,638	159,448	89,964	6,760,732
Total	7,425,231	8,430,348	5,622,488	1,163,629	4,518,618	723,829	520,459	28,404,603

Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform Surgical recovery plans. Nepogodiev D, Omar O, [...] Ray S. British Journal of Surgery (2020) 107(11) 1440-1449 https://www.aneelbhACE2.u.co.uk/_files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

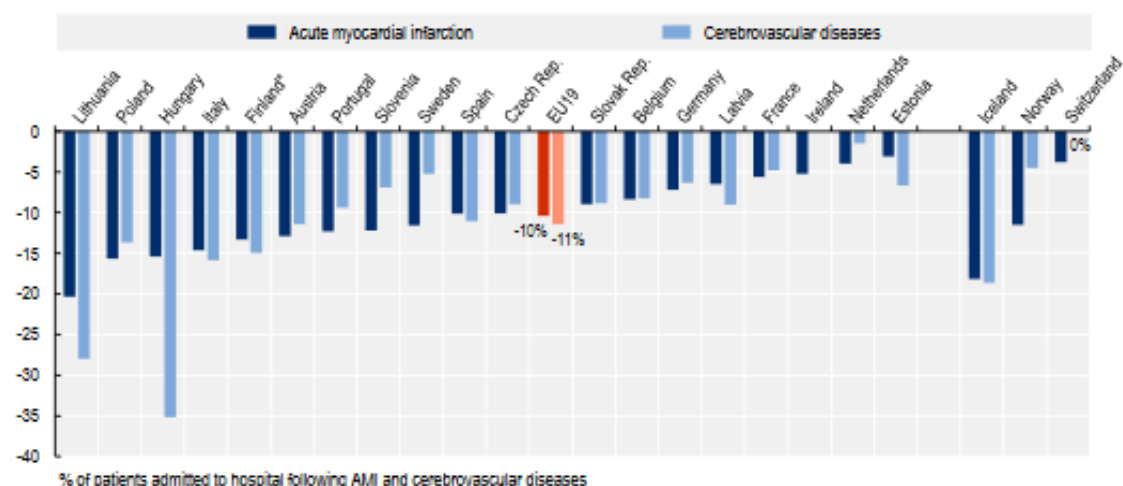
Anexo 12

Table 1 Best estimates of cancelled operations over a 12-week period of peak disruption, by specialty group			
	Normal volume*	Estimated cancellations	12-week cancellation rate (%)
Cancer surgery			
Colorectal	1 353 952	486 563	35.9
Gynaecology	834 839	328 505	39.3
Head and neck	959 190	373 603	38.9
Plastics	505 294	178 362	35.3
Upper gastrointestinal and hepatobiliary	1 258 862	498 885	39.6
Urology	1 250 175	458 151	36.6
Benign surgery			
Colorectal	1 201 825	976 992	81.3
Gynaecology	2 665 361	2 175 774	81.6
Head and neck	4 845 604	3 950 551	81.5
Orthopaedics	7 677 515	6 295 041	82.0
Plastics	933 822	764 033	81.8
Upper gastrointestinal and hepatobiliary	2 728 786	2 223 194	81.5
Urology	3 051 523	2 492 604	81.7
Other	8 273 626	6 760 731	81.7
Obstetrics	1 735 483	441 611	25.4
Total	39 275 857	28 404 603	72.3

*Surgical volume at full capacity (no cancellations).

COVIDSurg Collaborative. Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. Br J Surg. 2020 Oct;107(11):1440-1449. doi: 10.1002/bjs.11746. Epub 2020 Jun 13. PMID: 32395848; PMCID: PMC7272903.

Figure 2.16. The number of patients admitted to hospital following AMI and cerebrovascular diseases dropped in all countries in 2020 compared to 2019

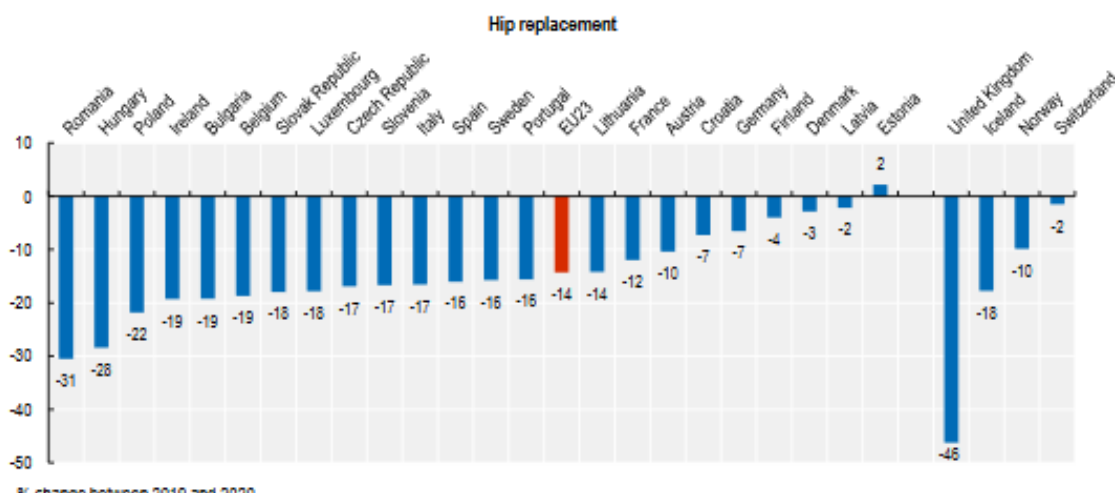


Note: In Ireland, the data gap for cerebrovascular diseases is due to a break in the time series in 2020 caused by coding changes, preventing any direct comparison of 2020 data with data from earlier years. * In Finland, the pre-pandemic data relate to 2018.
Source: OECD Health Statistics 2022.

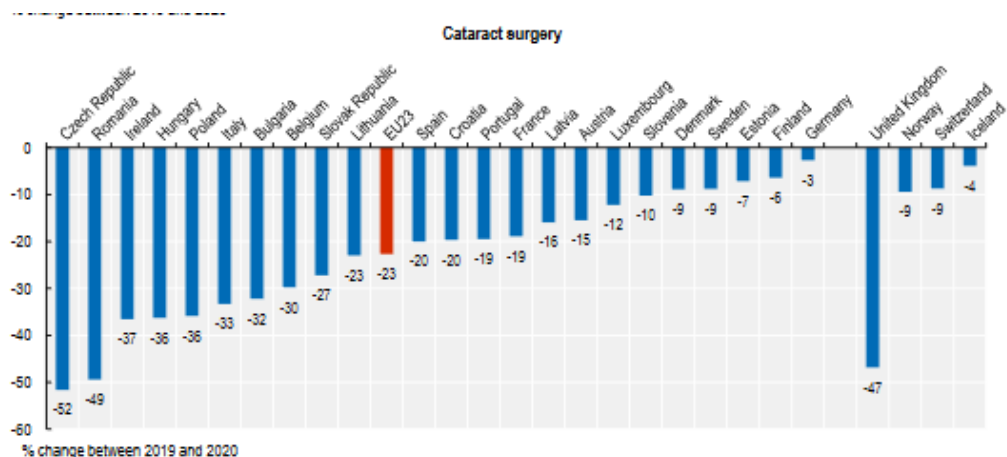
StatLink <https://stat.link/jnzcqd>

Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en

Figure 2.17. The number of hip and knee replacements and cataract surgery fell sharply in 2020



Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en



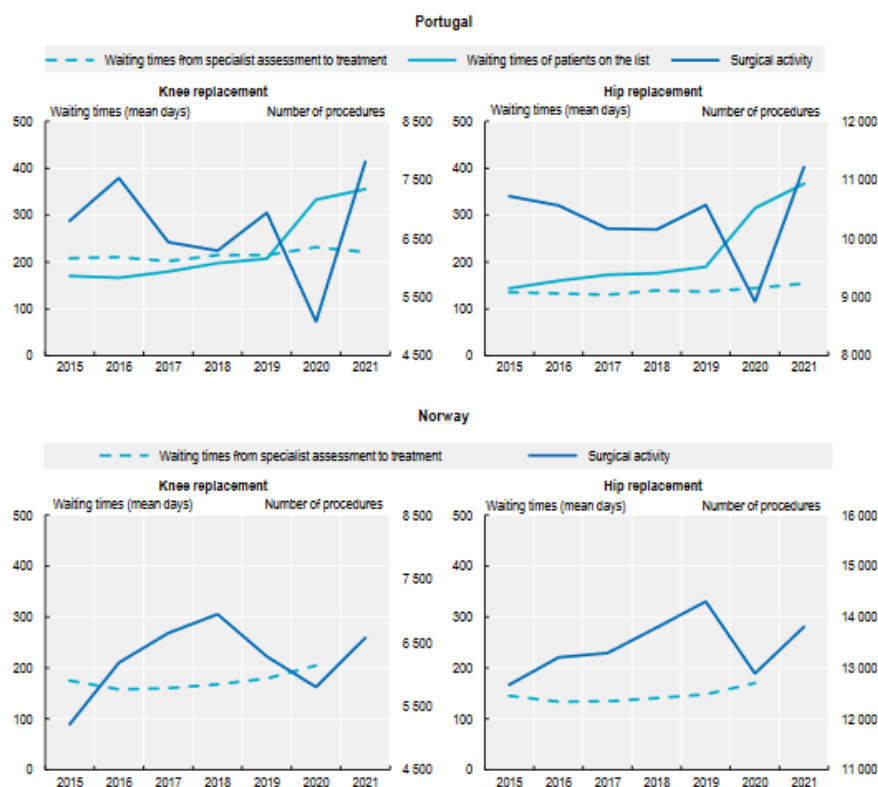
Note: The EU average is unweighted. For Ireland, data pertain only to publicly-funded hospitals; public patients treated in private hospitals are not included, which overestimates the decrease showed here. Iceland does not provide any data on knee replacement.
Source: OECD Health Statistics 2022.

StatLink <https://stat.link/0d713o>

Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en

Anexo 14

Figure 2.19. Surgical activities rebounded in 2021 in Portugal and Norway

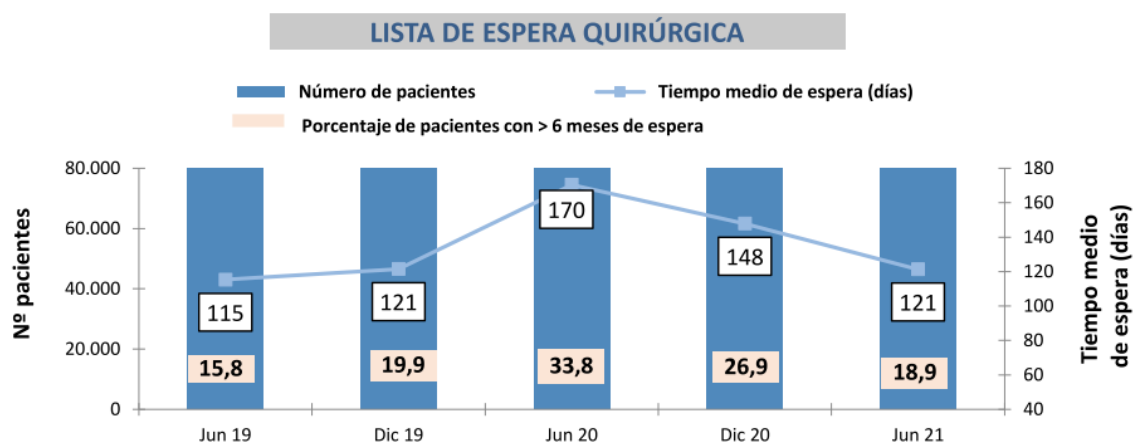


Source: OECD Health Statistics 2022.

StatLink <https://stat.link/12gv58>

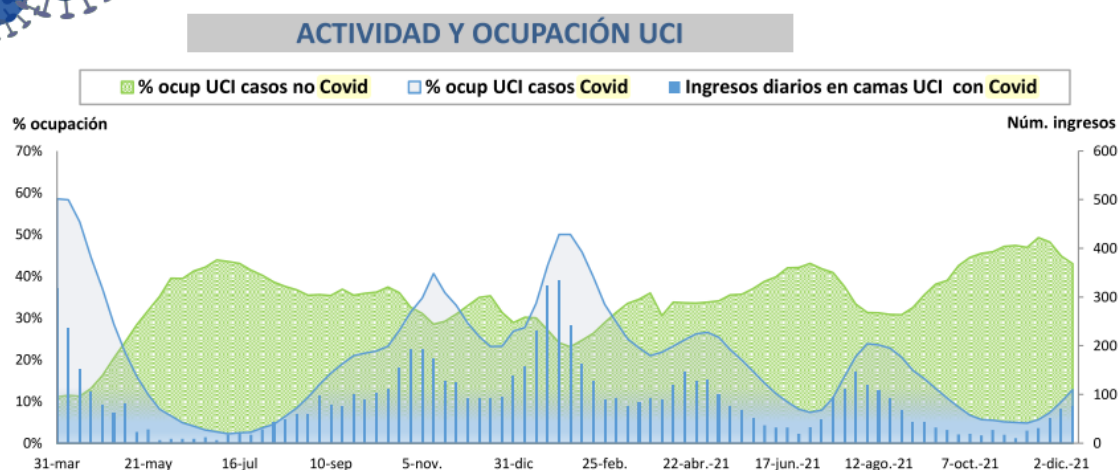
Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en

Anexo 15 - Listas de espera en Aragon



Informe Anual del Sistema Nacional de Salud 2020-2021 [Internet]. [cited 2023 Mar 29]. Available from: https://www.sanidad.gob.es/estadEstudios/estadisticas/sisInfSanSNS/tablasEstadisticas/InfAnualSNS2020_21/INFORME_ANUAL_2020_21.pdf

Anexo 16



Informe Anual del Sistema Nacional de Salud 2020-2021 [Internet]. [cited 2023 Mar 29]. Available from: https://www.sanidad.gob.es/estadEstudios/estadisticas/sisInfSanSNS/tablasEstadisticas/InfAnualSNS2020_21/INFORME_ANUAL_2020_21.pdf

Anexo 17

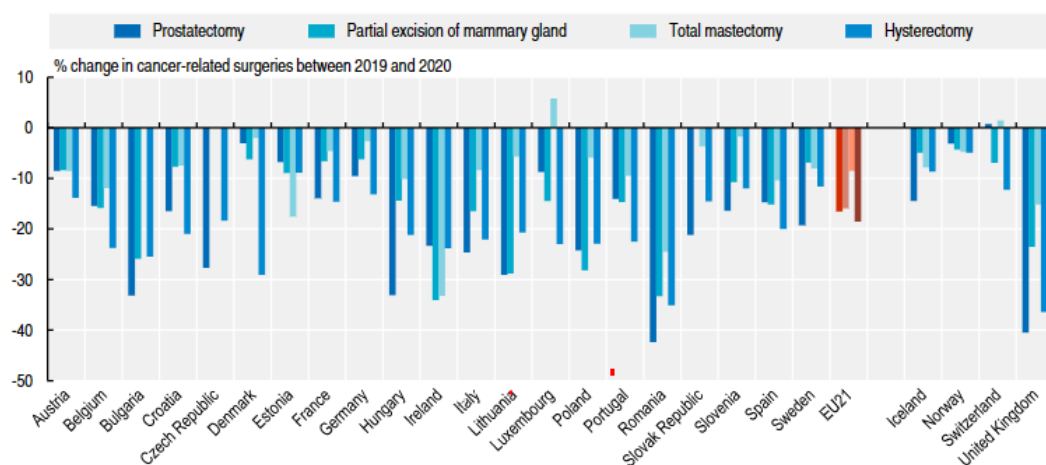
1	Reference period of time/ months		12
2	Per patient delay/months		6
3	OUTCOMES FROM CANCER SURGERY		
4	STANDARD Cancer Surgery typical for time period	Major resections for cancer-total	94.912
5	-adults only	HCRUs-total	764.765
6	-rare tumour types not included	LYGs-total	1.717.051
7		Lives saved-total	
8		(Patients attaining longterm survival (≥ 5 years))	80.406
9		LYG from cancer treatment- average per patient	18,1
10		LYG from cancer treatment per HCRU- average per patient	2,25
11	IMPACT of DELAY (accounting for COVID-related mortality for surgical admission and SACT CURRENT and POST-DELAY)	Per patient delay/months	6
12		Deaths attributable to delay-total	10.555
13		Life years lost attributable to delay-total	205.024
14		LYG from post-delay cancer treatment- average per patient	15,93
15		Life years lost attributable to delay-average per patient	2,16
16		LYG from post-delay cancer treatment per HCRU- average per patient	1,98
17		Life years lost per HCRU attributable to delay-average per patient	0,27
18	OUTCOMES FROM COMMUNITY-ACQUIRED COVID INFECTION		
19	Community infections		683.083
20	Hospital Admissions	Total admissions	94.912
21		ICU admissions	15.186
22		non-ICU admissions	79.726
23	Health care resource units (HCRUs)	Total	1.097.937
24		ICU	523.912
25		non-ICU	574.025
26	Deaths	Total	15.141
27		ICU	7.756
28		non-ICU	7.385
29	Lives saved	Total	25.515
30	-attributable to hospital admission	ICU	7.430
31	-total	non-ICU	18.085
32	LYGs	Total	474.505
33	-attributable to hospital admission	ICU	210.096
34	-total	non-ICU	264.409
35	LYG from hospitalisation- average per patient	All	5,0
36		ICU	13,8
37		non-ICU	3,3
38	LYG from hospitalisation per HCRU- average per patient	All	0,43
39		ICU	0,40
40		non-ICU	0,46
41	Comparison between Cancer Surgery and hospitalisation for community-acquired COVID	LYs lost through cancer delay as a proportion of LYGs from hospitalisation from COVID-19	0,43
42		RALYs lost through cancer delay as a proportion of RALYs from hospitalisation from COVID-19	0,62
43	1 health care resource units(HCRU) =1 (weighted) full shift of direct medical/nursing staff		
44	LYG: life year gained		
	For comparison we model the number of community COVID-19 infections required to generate an equivalent number of hospital admissions to the number of surgical admissions under the time period being examined.		
	Note: this is for the purpose of comparison of health impact and resources requirement of equivalent admission volumes. The timescale over which the COVID-19 cases are admitted will be predicated on pandemic characteristics and is not considered within this analysis.		

Sud A, Jones ME, Broggio J, Loveday C, Torr B, Garrett A, et al. Collateral damage: the impact on outcomes from cancer surgery of the COVID-19 pandemic. *Ann Oncol Off J Eur Soc Med Oncol*. 2020 Aug;31(8):1065–74.

https://www.medrxiv.org/highwire/filestream/78493/field_highwire_adjunct_files/0/2020.04.21.20073833-1.pdf

https://www.medrxiv.org/highwire/filestream/78493/field_highwire_adjunct_files/1/2020.04.21.20073833-2.xlsx

Figure 2.13. Cancer-related surgery dropped significantly in 2020 compared to 2019

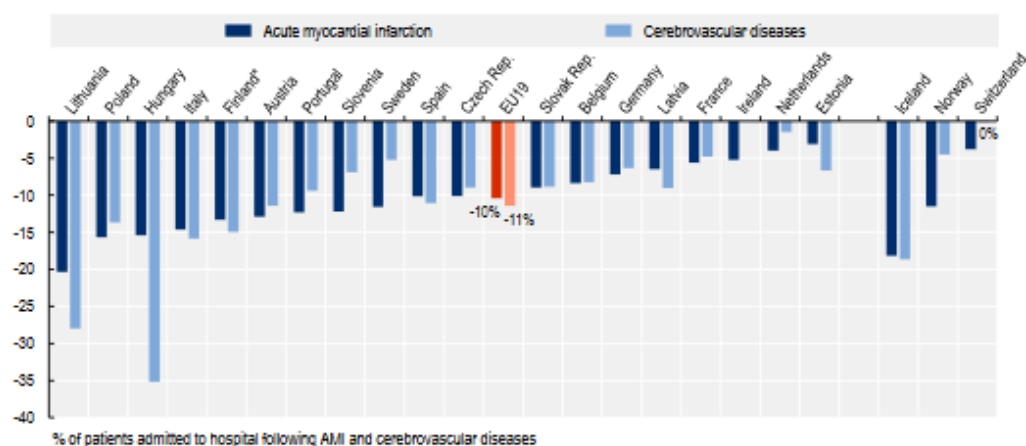


Note: Countries are ranked by alphabetical order. For Ireland, data pertain only to publicly-funded hospitals; public patients treated in private hospitals are not included, which overestimates the decrease showed here.
Source: OECD Health Statistics 2022.

StatLink <https://stat.link/mkdyrf>

Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en

Figure 2.16. The number of patients admitted to hospital following AMI and cerebrovascular diseases dropped in all countries in 2020 compared to 2019

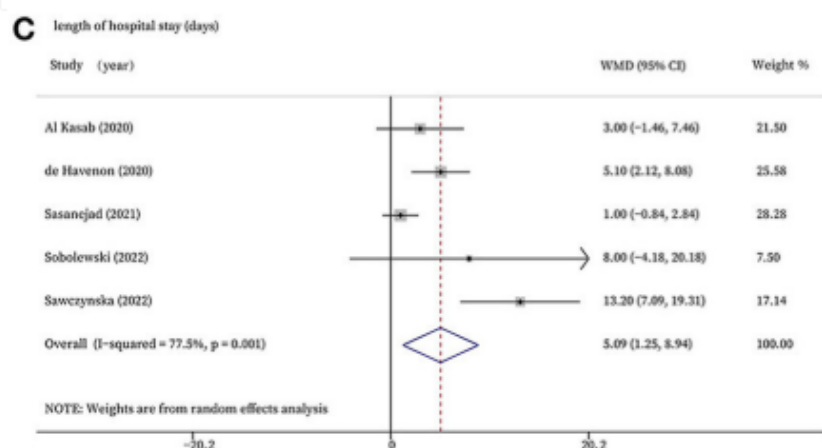


Note: In Ireland, the data gap for cerebrovascular diseases is due to a break in the time series in 2020 caused by coding changes, preventing any direct comparison of 2020 data with data from earlier years. * In Finland, the pre-pandemic data relate to 2018.
Source: OECD Health Statistics 2022.

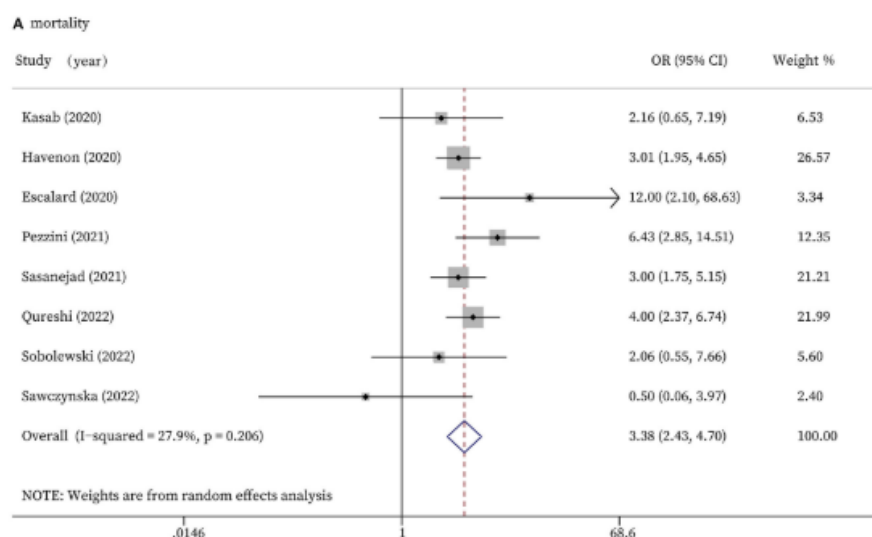
StatLink <https://stat.link/jnzcqd>

Health at a Glance: Europe 2022. 5 de diciembre de 2022 [citado 6 de diciembre de 2022]; Disponible en: https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2022_507433b0-en

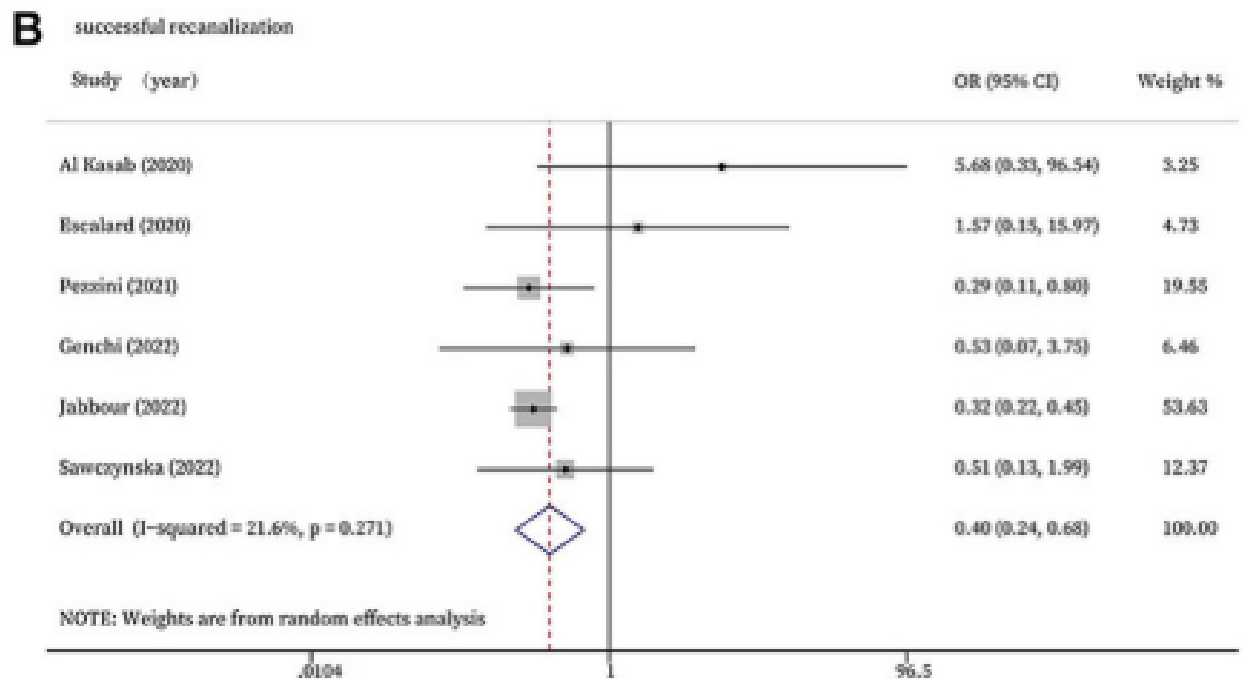
Anexo 19



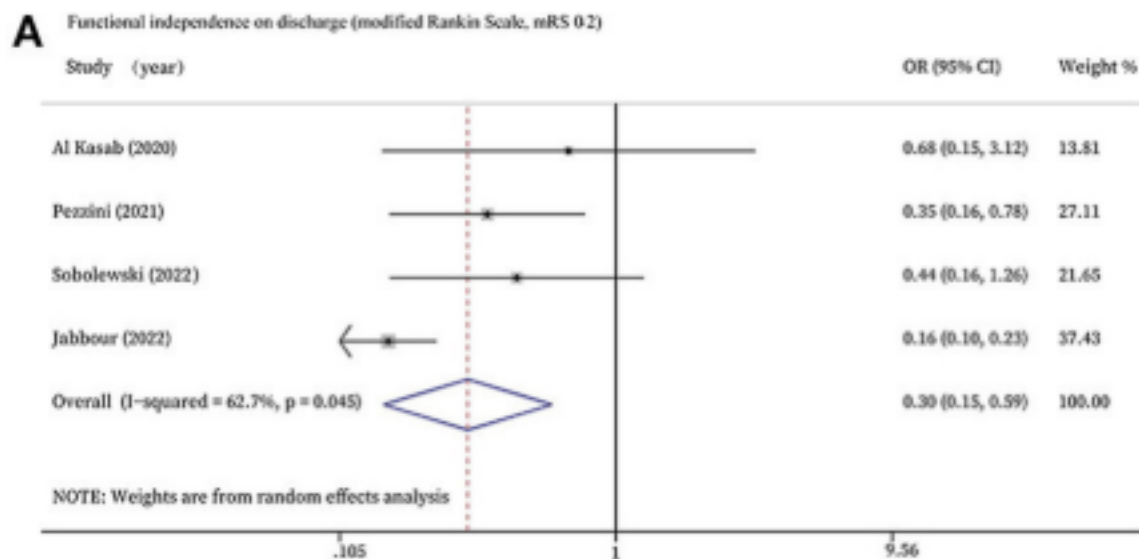
WACE2 Z, Teng H, Wu X, YACE2 X, Qiu Y, Chen H, et al. Efficacy and safety of recanalization therapy for acute ischemic stroke with COVID-19: A systematic review and meta-analysis. *Front Neurol* [Internet]. 30 de agosto de 2022;13:984135. Disponible en: <https://www.frontiersin.org/articles/10.3389/fneur.2022.984135/full>



WACE2 Z, Teng H, Wu X, YACE2 X, Qiu Y, Chen H, et al. Efficacy and safety of recanalization therapy for acute ischemic stroke with COVID-19: A systematic review and meta-analysis. *Front Neurol* [Internet]. 30 de agosto de 2022;13:984135. Disponible en: <https://www.frontiersin.org/articles/10.3389/fneur.2022.984135/full>

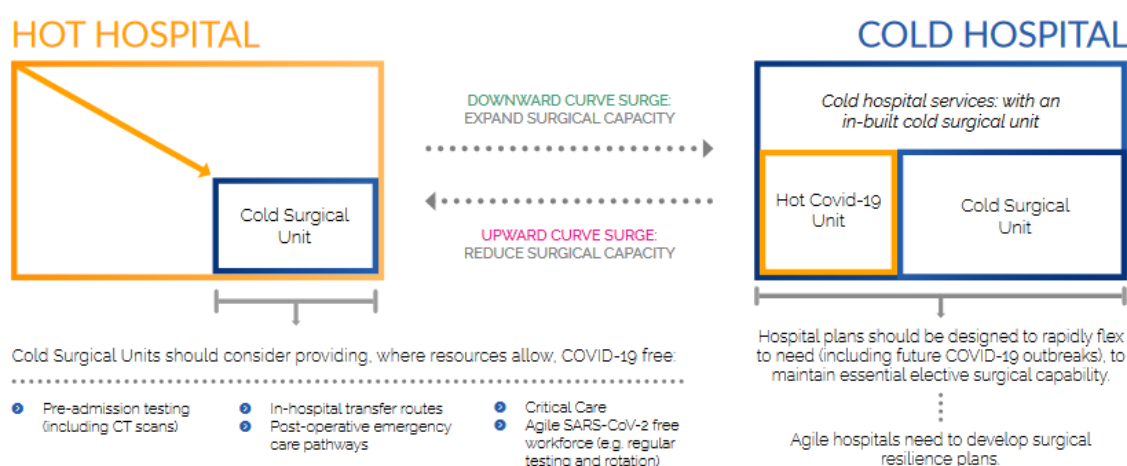


WACE2 Z, Teng H, Wu X, YACE2 X, Qiu Y, Chen H, et al. Efficacy and safety of recanalization therapy for acute ischemic stroke with COVID-19: A systematic review and meta-analysis. *Front Neurol* [Internet]. 30 de agosto de 2022;13:984135. Disponible en: <https://www.frontiersin.org/articles/10.3389/fneur.2022.984135/full>



WACE2 Z, Teng H, Wu X, YACE2 X, Qiu Y, Chen H, et al. Efficacy and safety of recanalization therapy for acute ischemic stroke with COVID-19: A systematic review and meta-analysis. *Front Neurol* [Internet]. 30 de agosto de 2022;13:984135. Disponible en: <https://www.frontiersin.org/articles/10.3389/fneur.2022.984135/full>

Anexo 20



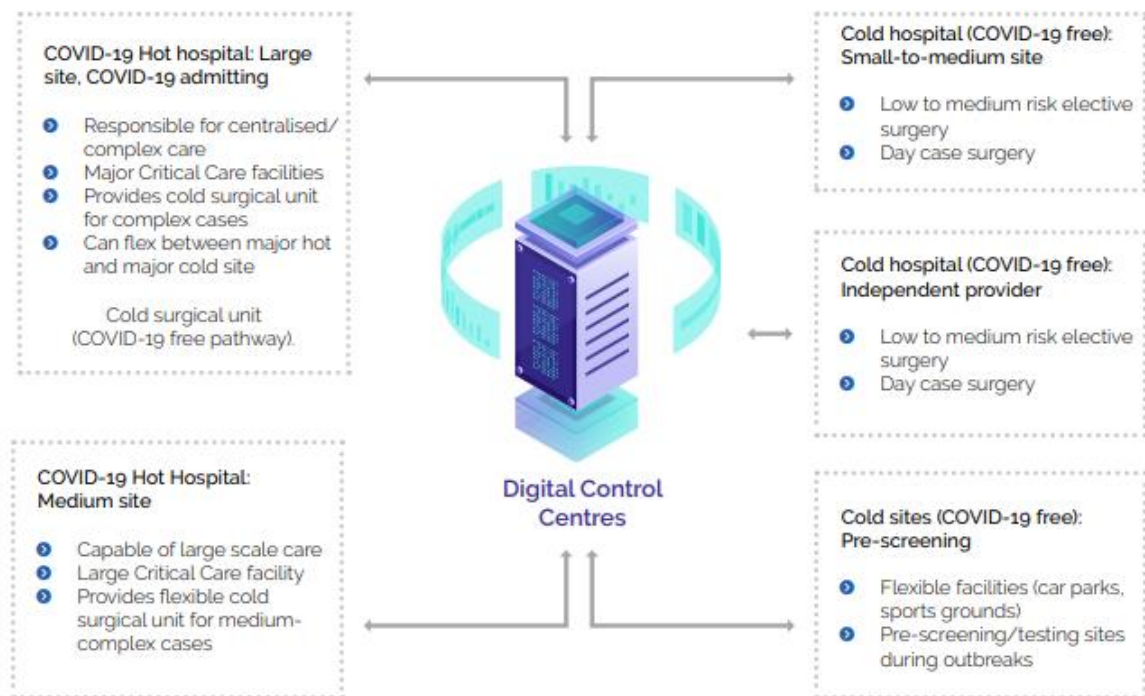
COVIDSurg Collaborative. Recovery of surgical services in the post-pandemic era: Surgery 2020-2025. Version 1.1 [Internet]. [cited 2022 Oct 29]. Available from: https://www.aneelbhACE2.u.co.uk/files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

Anexo 18

	Capacity	Critical care	Workforce and supply chain		Surgery response to surges	Impact
REACTIVE	COVID-19 mixed theatre and ward environments Case load not prioritised No plans for COVID-19 cold areas	Surges fill critical care Elective services stopped when critical care full	Redeployment unavailable and unplanned Intermittent PPE supply chain	→	Stop all elective surgery	Worsening cancer and non-cancer waiting lists Major impact on population health
RESPONSIVE	Prioritised case load Some capacity for COVID-19 cold areas	Critical care can be expanded under pressure High risk operating stopped	Redeployment available but not planned Adequate PPE supply chain	→	Continue low risk cancer surgery	Benign waiting lists increase Major impact on population health for non-cancer disease
AGILE	Flexible cold surgical units can continue during surges Isolated COVID-19 cold surgical units available Fully prioritised case load	Step-wise plan to expand critical care to need Ability to maintain COVID-19 free critical care unless in extreme conditions	Proactive redeployment plan based on elective activity scenarios Plans for testing and isolation Resilient PPE supply chain Staffing plans to cover hot and cold pathways	→	Continue low to medium risk, high priority surgery (cancer and non-cancer) in COVID-19 free environment Continue day case procedures in COVID-19 free environments	Lower impact on waiting lists Minimise impact on population health

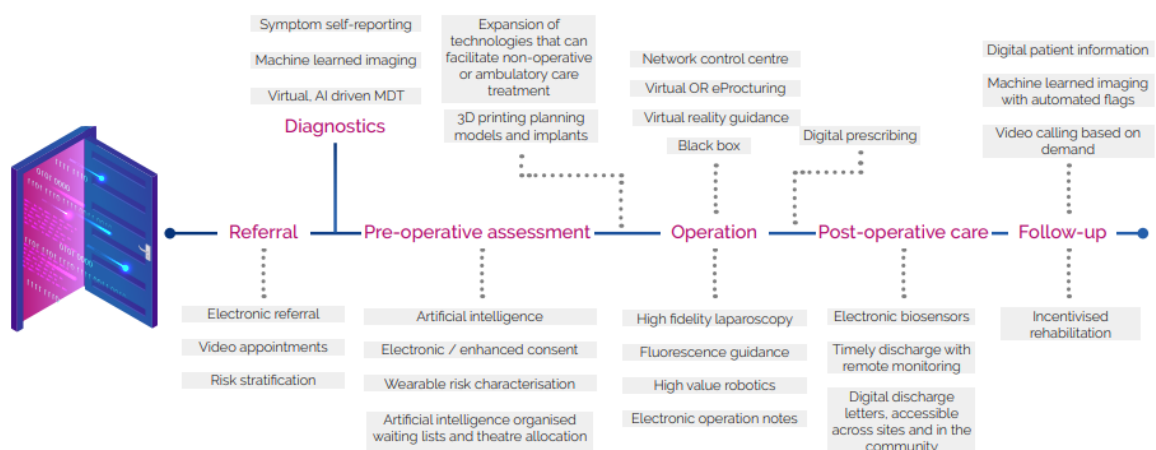
COVIDSurg Collaborative. Recovery of surgical services in the post-pandemic era: Surgery 2020-2025. Version 1.1 [Internet]. [cited 2022 Oct 29]. Available from: https://www.aneelbhACE2.u.co.uk/files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

Anexo 20



COVIDSurg Collaborative. Recovery of surgical services in the post-pandemic era: Surgery 2020-2025. Version 1.1 [Internet]. [cited 2022 Oct 29]. Available from: https://www.aneelbhACE2 u.co.uk/ files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

Anexo 21



COVIDSurg Collaborative. Recovery of surgical services in the post-pandemic era: Surgery 2020-2025. Version 1.1 [Internet]. [cited 2022 Oct 29]. Available from: https://www.aneelbhACE2 u.co.uk/ files/ugd/28aaf2_0bdb552c7aec4492911406097f2462fa.pdf

Anexo 22 - Parámetros COVID 19 - Lab Score

Laboratory data	Multivariate			Points
	OR	95% CI	p-value	
Hemoglobin < 12 g/dL	1.07	1.05–1.09	< 0.001	1
Erythrocytes < 4.1 per 10 ⁶ /mm ³	2.14	1.19–3.84	0.011	2
Leukocytes > 8.3 per 10 ³ /mm ³	2.51	1.56–4.03	< 0.001	3
Neutrophils > 8.1 per 10 ³ /mm ³	2.13	1.14–3.95	0.017	2
Lymphocytes < 6.5 per 100 leukocytes	2.85	1.82–4.46	< 0.001	3
Creatinine > 1.1 mg/dL	4.10	2.56–6.55	< 0.001	4
CRP > 4.5 mg/L	4.05	1.08–8.58	0.035	4
IL-6 > 24 pg/mL	1.83	1.17–2.88	0.009	2
Procalcitonin > 0.2 ng/mL	5.72	3.35–9.76	< 0.001	5
LDH ≥ 393 IU/L	4.29	2.49–7.39	< 0.001	4
D-Dimer > 1116 ng/mL	1.92	1.22–3.02	0.005	2

Table 4. Multivariate analysis for biomarkers to predict mortality basing on cut-off points (as categorical variables). Multivariate adjustment: age, comorbidities (hypertension, dyslipemia, diabetes mellitus, peripheral artery disease, heart disease, COPD/asthma), days of symptoms, respiratory insufficiency, in-hospital drugs (antiviral, chloroquine, ceftriaxone, corticosteroids, anticoagulation, antiplatelet).

Antunez Muiños PJ, López Otero D, Amat-Santos IJ, López País J, Aparisi A, Cacho Antonio CE, et al. The COVID-19 lab score: an accurate dynamic tool to predict in-hospital outcomes in COVID-19 patients. *Sci Rep* [Internet]. 2021;11(1):9361. Disponible en: <https://doi.org/10.1038/s41598-021-88679-6>

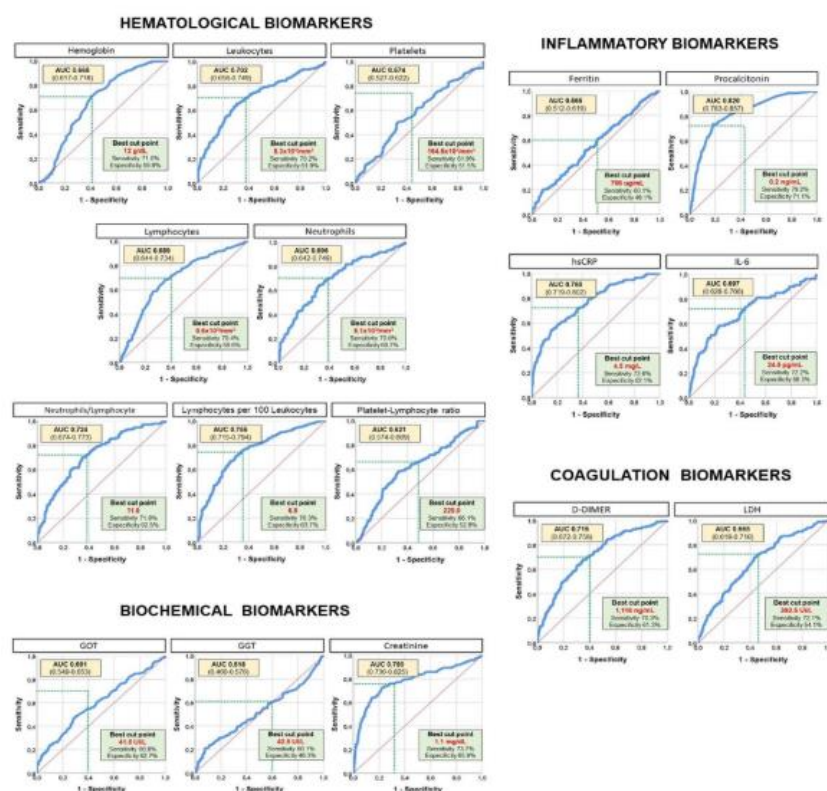
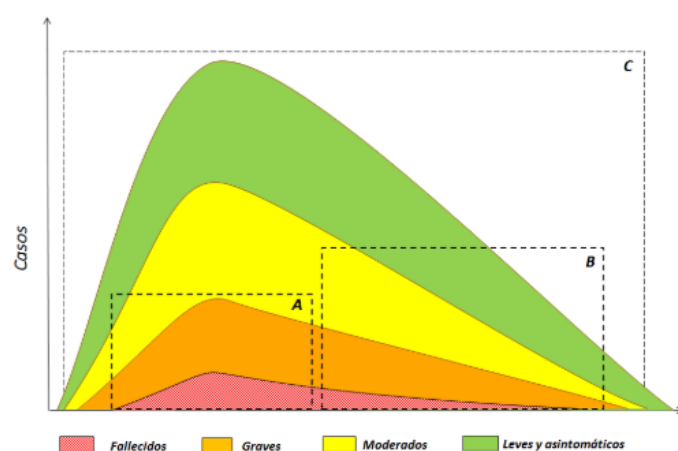


Figure 1. Discrimination of biomarkers. AUC area under the curve for each different biomarker.

Antunez Muiños PJ, López Otero D, Amat-Santos IJ, López País J, Aparisi A, Cacho Antonio CE, et al. The COVID-19 lab score: an accurate dynamic tool to predict in-hospital outcomes in COVID-19 patients. *Sci Rep* [Internet]. 2021;11(1):9361. Disponible en: <https://doi.org/10.1038/s41598-021-88679-6>

Anexo 23 - Evolución casos graves

Figura 14. Estimación de la gravedad y la letalidad en distintos momentos de la primera ola de la epidemia: febrero a mayo de 2020



A: estimación en la fase inicial y el pico de la epidemia sobre casos observados mayoritariamente graves; **A + B:** estimación en una fase posterior al pico de la epidemia con la realización de pruebas diagnósticas progresivamente a casos más leves o asintomáticos; **C:** estimaciones teniendo en cuenta al conjunto de la población mediante estudios de seroprevalencia.

Fuente: elaboración propia

Aportaciones de esta actualización INFORMACIÓN CIENTÍFICA-TÉCNICA Enfermedad por coronavirus, COVID-19. [citado 5 de marzo de 2023]; Disponible en: <https://www.aemps.gob.es/https://www.mscbs.gob.es/profesionales/saludPublica/prevPromocion/vacunaciones/covid19/vacunasCovid19.htm>