

Informe semanal de evidencia en reanimación

Bibliografía correspondiente a la semana del 17 de octubre de 2026

43 registros revisados · 35 directamente relacionados · 3 tangenciales · 5 preclínicos/no humanos

Executive Summary

La semana concentra evidencia especialmente relevante en ECPR, ventilación durante la reanimación, cuidados posresucitación y organización de sistemas. En ECPR, dos trabajos refuerzan la importancia de seleccionar candidatos más allá de un criterio temporal aislado: el ROSC transitorio puede modular la interpretación del low-flow y la adherencia completa a criterios de selección se asocia con mejores resultados en el registro alemán. En ventilación, la evidencia pediátrica cuestiona que el rango recomendado de 20-30 ventilaciones/minuto discrimine supervivencia, mientras que un metaanálisis bayesiano en adultos encuentra una señal a favor de ventilación mecánica para ROSC sin demostrar todavía beneficio concluyente en supervivencia o resultado neurológico. La revisión de oxigenoterapia posparada no demuestra ventaja de una estrategia restrictiva y advierte del riesgo de hipoxemia. En circunstancias especiales, la revisión sistemática de ILCOR sobre parada por causas toxicológicas no opioides concluye que la evidencia actual no justifica modificaciones rutinarias del ALS estándar. A nivel comunitario y de sistema, destacan los datos sobre DA-CPR, preparación de sistemas en entornos de recursos limitados, motivación de primeros respondedores y distribución geográfica de cuidados críticos prehospitalarios. Finalmente, esta bibliografía incluye una corrección oficial de las Guías ERC 2025 de Soporte Vital Avanzado, que debe incorporarse a materiales docentes y de implementación.

Control de recuento

Grupo	N	Tratamiento en el informe
Directamente relacionados con RCP/reanimación	35	Incluidos y categorizados
Resultados tangenciales	3	Separados, sin eliminarlos
Preclínicos / exclusivamente no humanos	5	Separados al final

Top 8 de la semana

1. Prognostic Impact of Transient Return of Spontaneous Circulation According to Low-Flow Time in Patients with Out-of-Hospital Cardiac Arrest Undergoing Extracorporeal Cardiopulmonary Resuscitation: A Nationwide Cohort Study.

Cohorte nacional de 810 pacientes con OHCA sometidos a ECPR. La presencia de ROSC transitorio se asoció con mayor supervivencia cuando el low-flow fue ≤ 90 minutos, pero no cuando superó ese umbral; no se demostró una interacción equivalente para el resultado neurológico. ¿Cambia mi práctica? Sugiere que el low-flow cronológico no refleja toda la carga isquémica y que un ROSC transitorio puede aportar información adicional en la selección/pronóstico ECPR, pero no valida por sí solo un nuevo criterio.

PMID / DOI: 42881816 · 10.3390/jcm15197354

2. Pediatric Cardiopulmonary Resuscitation Ventilation Rates and Outcomes.

Estudio multicéntrico pediátrico sobre frecuencia ventilatoria durante RCP. Las frecuencias actualmente recomendadas de 20-30/min no se asociaron con supervivencia; en análisis exploratorios de menores de 8 años, frecuencias ≥ 26 /min se asociaron con mejor supervivencia. ¿Cambia mi práctica? No todavía. Es una señal que merece confirmación antes de modificar objetivos ventilatorios pediátricos.

PMID / DOI: 42872941 · 10.1097/CCM.0000000000007381

3. Conservative Versus Higher Oxygen Targets Post-Cardiac Arrest: A Systematic Review, Meta-Analysis, and Trial Sequential Analysis.

Revisión sistemática, metaanálisis y trial sequential analysis de objetivos de oxígeno posparada. No encontró beneficio de una estrategia restrictiva sobre mortalidad o resultado neurológico y señala un posible aumento de hipoxemia. ¿Cambia mi práctica? Refuerza evitar estrategias excesivamente restrictivas y mantener una titulación que prevenga tanto hipoxemia como hiperoxia, sin asumir beneficio de reducir agresivamente el oxígeno.

PMID / DOI: 42872895 · 10.1111/acem.70422

4. Intra-arrest strategies to treat cardiac arrest due to a non-opioid toxicological causes in adults and children: a systematic review.

Revisión sistemática realizada por las Task Forces ALS y PLS de ILCOR sobre modificaciones intra-parada en intoxicaciones no opioides. La evidencia fue escasa, observacional y de muy baja certeza. ¿Cambia mi práctica? No respalda modificar de forma rutinaria el ALS estándar por una presunta causa toxicológica; las intervenciones específicas deben reservarse a situaciones con fundamento fisiopatológico y evidencia suficiente.

PMID / DOI: 42871632 · 10.1016/j.resplu.2026.101501

5. From call to home: The role of dispatcher-assisted CPR in patient survival.

Cohorte nacional centrada en DA-CPR en OHCA con ritmos desfibrilables. La asistencia telefónica se asoció con mayor éxito temprano y mejor supervivencia a largo plazo. ¿Cambia mi práctica? Sí a nivel de sistema: refuerza protocolos centralizados, formación de operadores y auditoría continua del reconocimiento y de las instrucciones de RCP.

PMID / DOI: 42867902 · 10.1556/2060.2026.00960

6. Mechanical versus manual bag-valve ventilation during cardiopulmonary resuscitation in adults with cardiac arrest: A systematic review and Bayesian meta-analysis.

Metaanálisis bayesiano de ocho estudios y 6.847 pacientes: la ventilación mecánica durante RCP se asoció con mayor ROSC que la bolsa-válvula manual, con alta probabilidad posterior de beneficio; sin embargo, supervivencia y resultado neurológico siguen siendo imprecisos. ¿Cambia mi práctica? No justifica convertir la ventilación mecánica en estándar universal, pero apoya evaluarla en sistemas capaces de implementarla sin interrumpir compresiones.

PMID / DOI: 42863592 · 10.1016/j.resuscitation.2026.111345

7. Geographical alignment of prehospital critical care services with population need for out-of-hospital cardiac arrest patients.

Análisis geoespacial que muestra una mala alineación entre servicios prehospitalarios de cuidados críticos -especialmente HEMS- y la distribución real de necesidad por OHCA y privación. ¿Cambia mi práctica? Es relevante para planificación regional: la ubicación y modalidad de los recursos avanzados debería responder a necesidad poblacional y equidad, no solo a disponibilidad histórica.

PMID / DOI: 42458552 · 10.1186/s13049-026-01655-9

8. Beyond the protocol: adherence to ECPR selection criteria and outcomes after Out-of-Hospital Cardiac Arrest (OHCA)-insights from the German Cardiac Arrest Registry (G-CAR).

Datos del German Cardiac Arrest Registry muestran baja adherencia real a criterios propuestos de selección ECPR; cuando se cumplían todos, la supervivencia era claramente mayor. ¿Cambia mi práctica? Refuerza que el beneficio de ECPR depende de una selección estricta y de la disciplina del sistema, y ayuda a explicar por qué los resultados del mundo real pueden ser peores que los de ensayos.

PMID / DOI: 42084737 · 10.1007/s00392-026-02930-6

ERC / ILCOR Watch

Esta semana sí hay dos elementos de especial interés institucional. Primero, la revisión sistemática sobre estrategias intra-parada en intoxicaciones no opioides fue realizada por las Task Forces de Advanced Life Support y Pediatric Life Support de ILCOR; concluye que la evidencia actual no respalda modificaciones rutinarias del ALS estándar. Se trata de una revisión de



evidencia vinculada a ILCOR, no de una nueva recomendación clínica aislada por sí misma. Segundo, se publica un corrigendum oficial de la European Resuscitation Council Guideline 2025 Adult Advanced Life Support. Esta corrección debe incorporarse a cualquier versión docente o local de la guía. Además, los trabajos sobre ventilación mecánica durante RCP, frecuencia ventilatoria pediátrica, objetivos de oxígeno posparada y criterios de selección ECPR son señales relevantes para futuras revisiones de ALS, PLS y cuidados posresucitación.

Research Radar

Tendencias emergentes: 1) ECPR cada vez más basada en selección dinámica, carga isquémica y adherencia a criterios, no solo en cronómetro; 2) ventilación durante RCP como variable medible y potencialmente modificable, tanto en adultos como en pediatría; 3) post-resuscitation care de precisión mediante biomarcadores, oxigenación y modelos pronósticos; 4) sistemas comunitarios con DA-CPR, primeros respondedores voluntarios y distribución geográfica de recursos avanzados; 5) equidad y representación en educación de reanimación, incluida anatomía femenina; 6) formación de BLS con énfasis en transferencia real de conocimiento y autoeficacia; 7) ciencia básica posparada centrada en ferroptosis, inflamación y neuroprotección, todavía lejos de aplicación clínica.

Artículos directamente relacionados, por categorías

Sistemas EMS, respuesta comunitaria y cadena de supervivencia

1. Health system readiness for out-of-hospital-cardiac-arrest management in resource limited settings: A mixed-method study from rural and suburban Sindh, Pakistan.

Referencia: Resusc Plus. 2026 Sep 24;32:101505. doi: 10.1016/j.resplu.2026.101505. eCollection 2026 Nov.

Autores: Ali Baig MN(1)(2), Fatmi Z(3), Khan NU(1), Khan UR(1), Raheem A(1), Razzak JA(2)(4).

PMID: 42893053

DOI: 10.1016/j.resplu.2026.101505

Tipo de estudio: Estudio de métodos mixtos

Mensaje principal: Triangulation of quantitative and qualitative findings showed that the Chain of Survival in rural and suburban Sindh is weak at several points, including the community, prehospital care, health facilities, and governance. The study shows that there is a need to strengthen the system at multiple levels. This includes training community members, ambulance crew and emergency room staff in cardiopulmonary resuscitation, setting minimum standards for resuscitation readiness, and creating out-of-hospital-cardiac-arrest registries.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

BACKGROUND: Out-of-hospital-cardiac-arrest requires a robust emergency response system for survival. In low-resource settings like suburban and rural Sindh in Pakistan, little is known about the readiness of healthcare systems and communities. **AIM:** The aim of this study was to comprehensively assess the system-readiness for out-of-hospital-cardiac-arrest management in rural and suburban areas of Sindh, Pakistan by studying out-of-hospital and in-hospital elements of chain of survival in these areas. **METHODS:** A triangulation mixed-methods design was used. The study was conducted in seven hospitals in the suburban and rural areas of upper, central and southern parts of the province of Sindh, Pakistan. Quantitative data from exit interviews (n = 163) using the Patient Satisfaction Questionnaire-18 and a facility readiness checklist (n = 7 hospitals) were analysed using descriptive statistics. Qualitative data were collected through focus group discussions with community members and ambulance crew, in-depth interviews with emergency room doctors and nurses, and key informant interviews with emergency room supervisors and cardiologists and were analysed using thematic analysis. **RESULTS:** Exit interviews with 163 patients showed that the lowest proportions satisfied were for communication (26.4%), financial aspects (31.3%), accessibility and convenience (32.5%), technical quality of emergency room staff (40.5%), and time spent with doctors (47.2%). Among the seven facilities assessed, defibrillators were available in two, but neither was functional; epinephrine was available in four, pulse oximeters in three, and endotracheal tubes in three, while laryngeal mask airways were unavailable in all facilities. Qualitative data from 12 focus group discussions, 15 in-depth interviews, and three key informant interviews identified limited recognition of cardiac arrest, inadequate ambulance availability, poor road access, shortages of trained staff and resuscitation equipment, sociocultural and gender-related barriers, and weaknesses in emergency care governance and data systems. **CONCLUSION:** Triangulation of quantitative and qualitative findings showed that the Chain of Survival in rural and suburban Sindh is weak at several points, including the community, prehospital care, health facilities, and governance. The study shows that there is a need to strengthen the system at multiple levels. This includes training community members, ambulance crew and emergency room staff in cardiopulmonary resuscitation, setting minimum standards for resuscitation readiness, and creating out-of-hospital-cardiac-arrest registries.

19. Articulación de espacios cardioprottegidos con la red Código Infarto: respuesta integrada al paro cardíaco extrahospitalario en México.

Referencia: Salud Publica Mex. 2026 Oct 10;68(5 (sept-oct)):552-560. doi: 10.21149/18209.

Autores: [Article in Spanish]

PMID: 42873943

DOI: 10.21149/18209

Tipo de estudio: Artículo de sistema / salud pública

Mensaje principal: Fortalecer la continuidad de la atención prehospitalaria mediante la articulación de los espacios cardioprottegidos con la red tiene como objetivo disminuir la carga epidemiológica asociada con el paro cardíaco extrahospitalario

y el infarto agudo de miocardio, eventos vinculados con 60 a 80% de las muertes súbitas de origen cardíaco. Por ello, su atención constituye una prioridad de salud pública en México.

Comentario crítico breve: Aporta contexto conceptual, ético o de implementación, pero no evidencia clínica causal. Su valor principal es orientar prioridades de sistema, investigación o educación.

Abstract / resumen del registro fuente:

En México, las enfermedades cardiovasculares constituyen la principal causa de mortalidad de acuerdo con los datos del Inegi, registrándose anualmente cerca de 200 000 defunciones; la cardiopatía isquémica predomina y concentra un promedio de 75% de los decesos. Cerca de 50% de las muertes por cardiopatía isquémica ocurren como un paro cardíaco extrahospitalario, cuya atención tardía puede derivar en muerte súbita cardíaca. La legislación e implementación de espacios cardioprotégidos dotados de recursos humanos, técnicos y organizativos, para iniciar precozmente la cadena de supervivencia y traslado directo a las redes hospitalarias especializadas, pueden duplicar o hasta triplicar la supervivencia ante estos eventos. En México, donde persisten demoras críticas en el reconocimiento, traslado y reperfusión, articular modelos integrados de atención cardiovascular puede mejorar la equidad y reducir las brechas entre los tiempos de actuación, optimizando la cadena de supervivencia y el acceso oportuno a terapias de reperfusión con la red Código Infarto. Fortalecer la continuidad de la atención prehospitalaria mediante la articulación de los espacios cardioprotégidos con la red tiene como objetivo disminuir la carga epidemiológica asociada con el paro cardíaco extrahospitalario y el infarto agudo de miocardio, eventos vinculados con 60 a 80% de las muertes súbitas de origen cardíaco. Por ello, su atención constituye una prioridad de salud pública en México.

27. Volunteer engagement in out-of-hospital cardiac arrest: a survey exploring the characteristics and motivations of community first responders.

Referencia: Resusc Plus. 2026 Sep 21;32:101498. doi: 10.1016/j.resplu.2026.101498. eCollection 2026 Nov.

Autores: Lelling C(1), Andréll C(2)(3), Moseby-Knappe M(1)(3).

PMID: 42871442

DOI: 10.1016/j.resplu.2026.101498

Tipo de estudio: Encuesta de primeros respondedores comunitarios

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

30. From call to home: The role of dispatcher-assisted CPR in patient survival.

Referencia: Physiol Int. 2026 Oct 13;113(3):415-430. doi: 10.1556/2060.2026.00960. Print 2026 Oct 16.

Autores: Molnár F(1)(2)(3), Góbl G(2), Szabó A(2)(4), Csomós Á(2), Hőnyi P(2)(4), Pápai G(2), Toldi F(2), Csató G(2), Constantinovits M(2)(4), Szabó D(2).

PMID: 42867902

DOI: 10.1556/2060.2026.00960

Tipo de estudio: Cohorte nacional observacional

Mensaje principal: In this nationwide cohort of OHCA patients with shockable rhythms, dispatcher-assisted CPR was strongly associated with improved early resuscitation success and long-term survival. These findings support DA-CPR as a critical system-level intervention and highlight the importance of centralised protocols and continuous performance monitoring.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

BACKGROUND: Dispatcher-assisted cardiopulmonary resuscitation (DA-CPR) is a key strategy to reduce no-flow time in out-of-hospital cardiac arrest (OHCA), yet its impact on long-term survival remains various across emergency medical systems.

PURPOSE: We aimed to evaluate the association between DA-CPR and resuscitation outcomes in a nationwide cohort of OHCA patients presenting with an initial shockable rhythm. **METHODS:** We conducted a retrospective observational study including all adult OHCA cases with ventricular fibrillation or pulseless ventricular tachycardia (VF/VT) in which resuscitation was carried out by emergency medical services in Hungary during 2019, 2022, and 2023. Patients were stratified according to whether DA-CPR was ongoing upon ambulance arrival, or initiated by the ambulance crew. Primary outcomes were return of spontaneous circulation (ROSC) and hospital admission with sustained circulation. Utstein-style consensus reporting guidelines were followed. **RESULTS:** A total of 3,674 VF/VT OHCA cases were included, of whom 1,744 (47.5%) received DA-CPR. Patients in the DA-CPR group had significantly higher rates of ROSC (92.0% vs. 12.4%), hospital admission with sustained circulation (90.8% vs. 11.7%), 30-day survival (54.6% vs. 7.1%), and one-year survival (45.8% vs. 6.2%) compared with those without DA-CPR (all $P < 0.001$). DA-CPR occurrence increased over time, while declined in 2022 followed by partial recovery in 2023. **CONCLUSION:** In this nationwide cohort of OHCA patients with shockable rhythms, dispatcher-assisted CPR was strongly associated with improved early resuscitation success and long-term survival. These findings support DA-CPR as a critical system-level intervention and highlight the importance of centralised protocols and continuous performance monitoring.

38. Geographical alignment of prehospital critical care services with population need for out-of-hospital cardiac arrest patients.

Referencia: Scand J Trauma Resusc Emerg Med. 2026 Jul 15;34(1):164. doi: 10.1186/s13049-026-01655-9.

Autores: Boulton AJ(1), Lang N(2), Miller J(3), Whitley GA(4), Zorab O(5)(6), de Paeztron A(7), Leech C(8)(9)(10), Gill P(11), Perkins GD(8)(12), de Albuquerque JP(13), Brown TP(7), Yeung J(8)(12).

PMID: 42458552

DOI: 10.1186/s13049-026-01655-9

Tipo de estudio: Análisis geoespacial de servicios prehospitalarios

Mensaje principal: Prehospital critical care provision, particularly HEMS, is generally poorly aligned with neighbourhood OHCA risk, pre-EMS predicted survival, and deprivation. The only region demonstrating favourable cardiac arrest alignment was attributable to its urban NHS car asset. Expanding car-based prehospital critical care in deprived urban areas may warrant consideration as a strategy to reach more OHCA patients and improve equity of access.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

BACKGROUND: Prehospital critical care is associated with improved outcomes following out-of-hospital cardiac arrest (OHCA), but may not be distributed equitably. **AIM:** To examine the alignment between prehospital critical care provision and neighbourhood OHCA risk, predicted survival, and deprivation across three neighbouring ambulance regions in England. **METHODS:** Data on all OHCA cases treated by three neighbouring English ambulance services (2018-2023) were aggregated to the neighbourhood level. Prehospital critical care response time predictions were generated from service-supplied operational parameters and calibrated against observed data with rural-urban adjustment. High-risk neighbourhoods were defined by above-median OHCA incidence and below-median bystander CPR. Pre-EMS predicted survival was estimated using a published model. Deprivation was measured with Index of Multiple Deprivation. Weighted regression models with service-by-response time interaction terms examined each neighbourhood metric per 5-minute response time increase. A secondary analysis examined a HEMS-only configuration by removing the unique urban, NHS car asset in service B. **RESULTS:** Overall, 52.9% of the resident population and 51.3% of OHCA cases were within 15 min of a prehospital critical care response. In two services, increasing response time was associated with higher odds of a neighbourhood being high-risk and with greater deprivation. For pre-EMS predicted survival, poor alignment was found in one service, favourable alignment in another, and no significant association in the third. Service B showed favourable alignment across all three metrics. Removing the urban car asset (HEMS-only configuration) reversed this favourable pattern, producing gradients consistent with the other two services. Sensitivity analysis using observed response times and distances produced consistent but attenuated associations. **CONCLUSION:** Prehospital critical care provision, particularly HEMS, is generally poorly aligned with neighbourhood OHCA risk, pre-EMS predicted survival, and deprivation. The only region demonstrating favourable cardiac arrest alignment was attributable to its urban NHS car asset. Expanding car-based prehospital critical care in deprived urban areas may warrant consideration as a strategy to reach more OHCA patients and improve equity of access.

Factores humanos, ética, formación e implementación

2. Where Are the Female Manikins? Representation of Female Anatomy Across Two European Resuscitation Congresses.

Referencia: Resuscitation. 2026 Oct 17:111366. doi: 10.1016/j.resuscitation.2026.111366. Online ahead of print.

Autores: Fijačko N(1), Imbriaco G(2), Greif R(3), Alm-Kruse K(4), Cazorla-Calderón S(5).

PMID: 42892481

DOI: 10.1016/j.resuscitation.2026.111366

Tipo de estudio: Comentario / análisis de representación

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: Aporta contexto conceptual, ético o de implementación, pero no evidencia clínica causal. Su valor principal es orientar prioridades de sistema, investigación o educación.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

3. Beyond Selection Bias: Post-Event Video Deletion and Trust in Healthcare.

Referencia: Resuscitation. 2026 Oct 17:111354. doi: 10.1016/j.resuscitation.2026.111354. Online ahead of print.

Autores: Al-Abdi S(1).

PMID: 42892480

DOI: 10.1016/j.resuscitation.2026.111354

Tipo de estudio: Carta / comentario ético-metodológico

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: Aporta contexto conceptual, ético o de implementación, pero no evidencia clínica causal. Su valor principal es orientar prioridades de sistema, investigación o educación.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

6. Perceived factors influencing healthcare professionals' adherence to the ABCDE approach: an exploratory explanatory sequential mixed-methods study.

Referencia: Resusc Plus. 2026 Sep 24;32:101506. doi: 10.1016/j.resplu.2026.101506. eCollection 2026 Nov.

Autores: Linders M(1), Schoeber NHC(2), Binkhorst M(2), de Boode WP(2), Fluit CRMG(3), Hogeveen M(2).

PMID: 42891031

DOI: 10.1016/j.resplu.2026.101506

Tipo de estudio: Estudio mixto secuencial explicativo

Mensaje principal: This study identified perceived factors influencing healthcare professionals' adherence to the ABCDE approach. Adequate application of the ABCDE approach may require continuous learning in education and clinical practice.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

BACKGROUND: The Airway, Breathing, Circulation, Disability, and Exposure (ABCDE) approach is considered the preferred way to assess potentially critically ill patients. This study aimed to identify perceived factors influencing healthcare professionals' adherence to the ABCDE approach. **METHODS:** An exploratory, explanatory sequential mixed-methods study was performed, comprising a cross-sectional questionnaire phase followed by semi-structured focus groups. A total of 239 healthcare professionals (nurses, nurse practitioners, physician assistants, residents and medical specialists) from six disciplines (Anaesthesiology, Emergency Medicine, Paediatrics and the Neonatal, Paediatric and Adult Intensive Care Units) filled out a questionnaire. Questionnaire results were analysed and used as input for five semi-structured focus groups with 22 participants. The focus groups were transcribed and analysed using template analysis, complemented by identification of additional themes.

RESULTS: Perceived factors influencing adherence to the approach were categorised into five domains: guideline, individual health professional, patient, professional interactions, and incentives/resources. The importance of the ABCDE approach was affirmed, with 95.4% recognising it as their responsibility to perform the approach. Confidence in competency was high with a median rating of 90% (IQR 80-99) on a 0-100% scale. While feedback was considered valuable, 68.2% indicated it was provided rarely. Other identified factors included the ABCDE approach's simplicity and structure, healthcare professionals' experience, patient condition, the presence of a predefined team leader, and the role of regular education. 'Context dependency', 'ABCDE as a language' and 'Personal value' were identified as additional themes. **CONCLUSIONS:** This study identified perceived factors influencing healthcare professionals' adherence to the ABCDE approach. Adequate application of the ABCDE approach may require continuous learning in education and clinical practice.

9. Dental Advanced Life Support (DALs) in Korea: development, current practice, and future perspectives.

Referencia: J Dent Anesth Pain Med. 2026 Oct;26(5):475-477. doi: 10.17245/jdamp.2026.26.189. Epub 2026 Sep 28.

Autores: Kim S(1).

PMID: 42889429

DOI: 10.17245/jdamp.2026.26.189

Tipo de estudio: Artículo de desarrollo e implementación formativa

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

10. Exploring global trends in basic life support (BLS) proficiency: A comprehensive multi-national cross-sectional investigation among medical students and practicing physicians.

Referencia: Medicine (Baltimore). 2026 Oct 16;105(42):e51111. doi: 10.1097/MD.00000000000051111.

Autores: Amin MHJ(1), Wedatalla RAE(1), Abdelrahman AOO(2), Bakheit KMA(3), Ahmed MKM(4), Ahmed OKA(4), Kheerallah RMI(5), Ali SBH(6), Eldouma MEYM(5), Mohamed MAA(7), Nouri MAI(7), Osman OIA(7), Ibrahim NBM(7), Mohamed AEAB(7), Gusem Alseed MTUM(7), Ahmed FMAAM(7), Mohamed MMM(7).

PMID: 42888592

DOI: 10.1097/MD.00000000000051111

Tipo de estudio: Estudio transversal

Mensaje principal: A significant number of participants do not acquire adequate practice of BLS. There is an urgent need to encourage medical students and physicians to undergo BLS training.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

Basic Life Support (BLS) is integral to emergency medical procedures. Proficiency in BLS is essential for healthcare providers to respond to life-threatening situations effectively. This study aimed to explore the proficiency of BLS practice among medical students and practicing physicians. This cross-sectional study was conducted among medical students and practicing physicians in multiple countries. The data were collected using a questionnaire based on knowledge, attitude, and practice of BLS and barriers to practicing BLS according to the European Resuscitation Council guidelines. In this study, 4478 medical students and physicians participated; most participants were female, 2712 (61%). The respondents were from different ethnic and racial backgrounds. Most respondents, 4102 (92%), know what BLS stands for. More than two-thirds of the participants, 3238 (72%), answered correctly about the compression ventilation ratio. 1666 (37%) participants have never been certified in BLS, and 1384 (31%) claimed they can perform BLS intervention in an emergency. 2844 (64%) strongly agree that access to regular BLS training sessions is a barrier to improving CPR and BLS outcomes. The study reveals adequate knowledge of BLS among medical students and postgraduates. However, BLS practice is poor. A significant number of participants do not acquire adequate practice of BLS. There is an urgent need to encourage medical students and physicians to undergo BLS training.

13. Basic Life Support Awareness, Knowledge, and Attitudes Among a Self-Selected Online Sample in the Aseer Region, Saudi Arabia: An Exploratory Cross-Sectional Survey.

Referencia: Healthcare (Basel). 2026 Oct 4;14(19):3311. doi: 10.3390/healthcare14193311.

Autores: Tawhari I(1), Alshehri S(2), Alaklabi AS(2), Alqahtani RJ(2), Qahtani AH(2), Alqahtani BME(2), Alsharif RAS(2), Almutib DM(2), Alshehri GA(3).

PMID: 42881751

DOI: 10.3390/healthcare14193311

Tipo de estudio: Estudio transversal

Mensaje principal: In this demographically imbalanced sample, self-reported awareness and self-assessed ability to perform CPR were often not matched by objectively scored knowledge. Associations with reported training may reflect who seeks training rather than training effects, and item wording may have influenced responses. The shared dataset and identified instrument weaknesses can inform representative studies using validated measures and objective skills assessment.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

Background/Objectives: Basic life support (BLS) and cardiopulmonary resuscitation (CPR) are essential emergency interventions. This exploratory study described BLS awareness, reported training, self-assessed and objectively scored CPR knowledge, and attitudes in a self-selected online sample of adults in the Aseer Region, Saudi Arabia, and examined how these constructs related to one another; it was not designed to estimate regional prevalence. **Methods:** A cross-sectional online survey (April-June 2025) used convenience recruitment through social media. The study-specific questionnaire was expert-reviewed and pilot-tested but not psychometrically validated; the five technical items (Kuder-Richardson 20 = 0.59) were analyzed individually. Analyses were primarily descriptive; comparisons, including a multivariable logistic regression, were exploratory. **Results:** Of 364 respondents, 87.1% were female, 49.5% were students, and 67.9% held a bachelor's degree. Overall, 90.9% had heard of BLS, 47.3% reported CPR training, and 45.1% reported knowing how to perform CPR; 27.5% to 57.1% selected the keyed answer on individual objectively scored items. Only 20.7% of those reporting knowing how to perform CPR selected all four keyed answers. Respondents reporting CPR training selected keyed answers more often on every objectively scored item, most markedly for the 30:2 compression-to-ventilation ratio (50.6% vs. 18.2%), yet only 41.3% of them selected the "at least 100 compressions/min" option. Measured sociodemographic characteristics explained little of the variation in reported training (McFadden pseudo-R² = 0.11). **Conclusions:** In this demographically imbalanced sample, self-reported awareness and self-assessed ability to perform CPR were often not matched by objectively scored knowledge. Associations with reported training may reflect who seeks training rather than training effects, and item wording may have influenced responses. The shared dataset and identified instrument weaknesses can inform representative studies using validated measures and objective skills assessment.

18. Resuscitation training with school children - Analysis of factors affecting chest compression quality.

Referencia: Am J Emerg Med. 2026 Oct 7;110:592-596. doi: 10.1016/j.ajem.2026.10.005. Online ahead of print.

Autores: Reese L(1), Hörlin I(2), Kippnich M(3), Meybohm P(4), Wurmb T(5).

PMID: 42874253

DOI: 10.1016/j.ajem.2026.10.005

Tipo de estudio: Estudio transversal

Mensaje principal: A tailored and focused CPR training is feasible and effective in children aged 8-13 years but higher body weight improves compression depth, older age improves compression, while correct hand position is largely independent of these variables.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

BACKGROUND: Early bystander cardiopulmonary resuscitation (CPR) improves survival after sudden cardiac arrest, but bystander CPR rates remain low. International guidelines therefore recommend CPR training during childhood. This study evaluated CPR performance in children aged 8-13 years and assessed determinants of chest compression quality. **METHODS:** In this observational cross-sectional study (2019-2022), 784 schoolchildren aged 8-13 years completed a standardized 90-min CPR

training session. Anthropometric data and CPR quality parameters were recorded using Resusci Anne QCPR Torso manikins (Laerdal Medical AS, Stavanger, Norway) and SimPad Plus SkillReporter systems (Laerdal Medical AS, Stavanger, Norway). Associations were analyzed using multivariate statistics. RESULTS: A total of 784 children (mean age 11 ± 1 years) were included. Two minutes of chest compressions were completed by 93% of children. Mean compression depth was 40.0 ± 9.9 mm and correlated with weight ($r = 0.663$), height ($r = 0.623$), and age ($r = 0.544$; all $p < .001$). In multivariable analysis, these factors explained 50% of variance ($R^2 = 0.50$, $p < .001$). Mean compression rate ($115 \pm 8/\text{min}$) was higher in younger children and became more consistent with increasing age ($\beta = -0.119$, $p = .02$). Correct hand positioning was achieved almost universally (median 100%). CONCLUSION: A tailored and focused CPR training is feasible and effective in children aged 8-13 years but higher body weight improves compression depth, older age improves compression, while correct hand position is largely independent of these variables.

28. Healthcare providers' confidence, satisfaction, and perceived preparedness following a multicomponent simulation-based cardiopulmonary resuscitation training program in Gaza.

Referencia: Front Public Health. 2026 Sep 29;14:1950292. doi: 10.3389/fpubh.2026.1950292. eCollection 2026.

Autores: Aser MJSA(1)(2), Salha SJ(3)(4), Al-Balawi HHI(1)(4).

PMID: 42871062

DOI: 10.3389/fpubh.2026.1950292

Tipo de estudio: Estudio clínico / análisis observacional

Mensaje principal: Multicomponent simulation-based CPR training was associated with marked improvement in healthcare providers' self-reported confidence, and was accompanied by high levels of post-training satisfaction and perceived emergency preparedness in a conflict-affected healthcare environment. Integrating structured simulation-based education into continuing professional development programs may strengthen emergency response capacity and workforce readiness in resource-limited settings.

Comentario crítico breve: La simulación permite analizar desempeño de forma controlada, pero no demuestra beneficio en pacientes. Es útil para optimizar procesos antes de una evaluación clínica.

Abstract / resumen del registro fuente:

BACKGROUND: High-quality cardiopulmonary resuscitation (CPR) requires not only technical competence but also confidence, effective teamwork, and psychological readiness among healthcare providers. Evidence regarding the impact of simulation-based CPR training on healthcare providers' confidence, satisfaction, and perceived preparedness remains limited in conflict-affected and resource-constrained settings. **OBJECTIVE:** To assess healthcare providers' self-confidence, satisfaction, and perceived preparedness following an intensive, multicomponent simulation-based CPR training program implemented among physicians and nurses working in governmental critical care facilities in Gaza. **METHODS:** This was a single-group evaluation of an intensive, 8-h multicomponent simulation-based CPR training program delivered to 100 healthcare providers (50 physicians, 50 nurses) working in emergency rooms, intensive care units, and coronary care units at Al-Shifa Medical Complex, Gaza, between August and December 2022, aligned with the 2020 American Heart Association Guidelines. Participants were recruited using purposive, non-probability sampling of all eligible clinical staff in these units. Self-reported confidence in CPR-related competencies was assessed before and after the intervention using identical questionnaire items; satisfaction and perceived preparedness were assessed only after the intervention. Outcomes were measured on a structured, five-point Likert-scale questionnaire (Cronbach's $\alpha = 0.87$), content-validated by an expert panel and refined through a pilot study, analyzed descriptively using SPSS version 26. **RESULTS:** Participants reported very high satisfaction across all training domains, with instructor feedback usefulness rated highest (4.75 ± 0.39). Self-reported confidence increased markedly from pre- to post-training across all assessed domains: confidence in performing CPR rose from 2.91 ± 0.82 to 4.63 ± 0.51 , airway management confidence from 2.85 ± 0.79 to 4.58 ± 0.54 , and CPR team leadership confidence from 2.73 ± 0.88 to 4.49 ± 0.57 . Most participants (92%) preferred simulation-based training over traditional lecture-based methods, and post-training perceived preparedness for real cardiac arrest situations was high (rapid response ability, 4.71 ± 0.40). **CONCLUSION:** Multicomponent simulation-based CPR training was associated with marked improvement in healthcare providers' self-reported confidence, and was accompanied by high levels of post-training satisfaction and perceived emergency preparedness in a conflict-affected healthcare environment. Integrating structured simulation-based education into continuing professional development programs may strengthen emergency response capacity and workforce readiness in resource-limited settings.

34. Knowledge, willingness, and self-efficacy in CPR: A two-phase study of prevalence and preliminary peer-led workshop in a Malaysian tertiary institution.

Referencia: PLoS One. 2026 Oct 12;21(10):e0360510. doi: 10.1371/journal.pone.0360510. eCollection 2026.

Autores: Lee SK(1), Hoo LJ(1), Koh Raj RZ(1), Yeo IKL(1), Beh YW(1), Ibrahim R(1), Liew KB(2), Chew YL(3), Tan ESS(4), Chua AL(5).

PMID: 42862803

DOI: 10.1371/journal.pone.0360510

Tipo de estudio: Estudio transversal

Mensaje principal: Although participants displayed positive attitudes toward CPR, baseline knowledge and self-efficacy were limited. The peer-led workshop demonstrated feasibility as a proof-of-concept intervention, generating significant short-term gains in self-reported knowledge and confidence.

Comentario crítico breve: El trabajo aporta información pertinente para la cadena de supervivencia. Su impacto práctico debe ponderarse según población, contexto, comparador y solidez de los desenlaces.

Abstract / resumen del registro fuente:

BACKGROUND: Out-of-hospital cardiac arrest remains a major public health concern, and early cardiopulmonary resuscitation (CPR) by bystanders is crucial for improving survival outcomes. University students represent an important target population for CPR education because they are socially active, highly accessible, and capable of disseminating lifesaving knowledge within the wider community. However, inadequate CPR knowledge, low willingness to perform CPR, and poor self-efficacy remain common among university students in Malaysia. **OBJECTIVES:** This two-phase study aims to determine the prevalence of self-reported CPR-related knowledge, willingness, and self-efficacy among students in a Malaysian tertiary institution (Phase 1) and to explore the preliminary changes in these outcomes following a peer-led CPR workshop (Phase 2). **METHODS:** In Phase 1, a cross-sectional survey was conducted at a tertiary institute in Selangor, Malaysia using a validated questionnaire on knowledge, attitudes, behavioral intention, and self-efficacy (KABSE) (N = 431). In Phase 2, a two-hour peer-led workshop, delivered by medical students, targeted students without CPR training in the past two years, and pre-post KABSE changes were measured (N = 33). **RESULTS:** Phase 1 baseline findings revealed CPR knowledge and self-efficacy levels were relatively lower than attitudes and willingness to perform CPR. Females showed higher knowledge and attitudes, while males reported greater self-efficacy. Older and married participants demonstrated better attitudes, and those with a healthcare-related background had higher knowledge, attitudes, and self-efficacy, though similar behavioral intention. Higher scores were also linked to AED awareness, AED usage capability, and recent CPR training. Statistical analysis revealed significant associations among the KABSE domains. Following the peer-led workshop, the participants showed significant gains in self-reported knowledge ($p < 0.001$), attitude ($p < 0.001$), behavioral intention ($p < 0.01$), and self-efficacy ($p < 0.001$). **CONCLUSION:** Although participants displayed positive attitudes toward CPR, baseline knowledge and self-efficacy were limited. The peer-led workshop demonstrated feasibility as a proof-of-concept intervention, generating significant short-term gains in self-reported knowledge and confidence.

Reanimación avanzada, ECPR/ECMO y soporte circulatorio

12. Prognostic Impact of Transient Return of Spontaneous Circulation According to Low-Flow Time in Patients with Out-of-Hospital Cardiac Arrest Undergoing Extracorporeal Cardiopulmonary Resuscitation: A Nationwide Cohort Study.

Referencia: J Clin Med. 2026 Sep 22;15(19):7354. doi: 10.3390/jcm15197354.

Autores: Noh S(1), Kim JG(1), Kang GH(1), Jang YS(1), Kim W(1), Choi HY(1).

PMID: 42881816

DOI: 10.3390/jcm15197354

Tipo de estudio: Estudio retrospectivo

Mensaje principal: The association between transient ROSC and survival after ECPR differed according to LFT using the prespecified 90-min cutoff. Transient ROSC may provide prognostic information complementary to chronological LFT, whereas the three-category findings should be considered exploratory.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

Background/Objectives: Low-flow time (LFT) is a major prognostic factor in patients undergoing extracorporeal cardiopulmonary resuscitation (ECPR), but chronological LFT may not fully reflect ischemic burden when transient return of spontaneous circulation (ROSC) occurs. We investigated whether the association between transient ROSC and outcomes varies according to LFT. **Methods:** This nationwide retrospective cohort study included 810 adults with witnessed out-of-hospital cardiac arrest who underwent ECPR. The primary outcome was survival to hospital discharge, and the secondary outcome was good neurological outcome. A prespecified subgroup analysis compared LFT ≤ 90 versus > 90 min, followed by an exploratory analysis using < 60 , 60-90, and > 90 min categories. Multivariable logistic regression and interaction analyses were performed. **Results:** Among 810 patients, 450 (55.6%) experienced transient ROSC. In the prespecified analysis, transient ROSC was associated with survival in patients with LFT ≤ 90 min (adjusted odds ratio [AOR], 2.375; 95% confidence interval [CI], 1.076-5.241; $p = 0.032$), but not in those with LFT > 90 min (AOR, 0.884; 95% CI, 0.595-1.315; $p = 0.543$), with a significant interaction ($p = 0.036$). The exploratory three-category analysis showed a significant association in the 60-90-min subgroup (AOR, 3.399; 95% CI, 1.021-11.316; $p = 0.046$), although the global interaction was not significant ($p = 0.126$). No significant interaction was observed for good neurological outcome. The prespecified survival interaction remained significant in sensitivity analyses. **Conclusions:** The association between transient ROSC and survival after ECPR differed according to LFT using the prespecified 90-min cutoff. Transient ROSC may provide prognostic information complementary to chronological LFT, whereas the three-category findings should be considered exploratory.

15. Mechanical CPR - Assisted Percutaneous Coronary Intervention During Cardiac Arrest: Feasibility and Outcomes.

Referencia: Med Princ Pract. 2026 Oct 15;1. doi: 10.1159/mpp/adpag012. Online ahead of print.

Autores: Triantafyllis A, Kotoulas SC, Aqeel I, Karapedi E, Antoniadis K, Pervana AM, Sotiris G, Kolyda A, Giannakopoulos A, Poulimenos LE.

PMID: 42879381

DOI: 10.1159/mpp/adpag012

Tipo de estudio: Serie de casos + revisión narrativa

Mensaje principal: The role of extracorporeal CPR (ECPR) as a complementary or alternative strategy warrants explicit consideration at appropriately resourced centers. Improved patient selection and integration into structured resuscitation pathways may enhance clinical outcomes.

Comentario crítico breve: Útil para reconocer situaciones infrecuentes y generar hipótesis, pero su naturaleza descriptiva impide estimar frecuencia, eficacia o causalidad. La generalización debe ser prudente.

Abstract / resumen del registro fuente:

Cardiac arrest complicating acute coronary syndromes requires immediate coronary reperfusion; however, performing percutaneous coronary intervention (PCI) during active manual cardiopulmonary resuscitation (CPR) presents significant technical challenges. The Lund University Cardiac Arrest System (LUCAS) provides automated mechanical chest compressions and enables uninterrupted CPR during coronary angiography and PCI. Existing evidence is primarily limited to case reports and small observational studies, mechanical CPR has emerged as a practical adjunct in catheterization laboratories where manual compressions are unsafe or logistically challenging. We report two cases from our center in which LUCAS-assisted PCI was performed during ongoing cardiac arrest in the setting of cardiogenic shock and acute coronary syndromes, alongside a structured narrative synthesis of contemporary literature addressing feasibility, procedural considerations, and clinical outcomes. Mechanical chest compressions allowed uninterrupted angiography and successful revascularization in both cases, with return of spontaneous circulation achieved in one patient. Despite procedural success, survival remained poor, reflecting severe global ischemia and metabolic derangement. LUCAS-assisted PCI is a technically feasible strategy that facilitates coronary reperfusion in carefully selected patients. Evidence of survival benefit remains limited and derives predominantly from observational studies and case reports rather than randomized controlled trials. The role of extracorporeal CPR (ECPR) as a complementary or alternative strategy warrants explicit consideration at appropriately resourced centers. Improved patient selection and integration into structured resuscitation pathways may enhance clinical outcomes.

16. Extracorporeal Cardiopulmonary Resuscitation as a Bridge to Cardiac Transplantation in Refractory Cardiac Arrest Due to Fulminant Myocarditis: A Case Report.

Referencia: Int Med Case Rep J. 2026 Oct 9;19:625131. doi: 10.2147/IMCRJ.S625131. eCollection 2026.

Autores: Szentgyorgyi L(1)(2), Roberts L(1), Cheung W(1), Hooper J(1), Jayne-Coupe FA(1), Elmahdi H(1), Mehta V(1).

PMID: 42876919

DOI: 10.2147/IMCRJ.S625131

Tipo de estudio: Caso clínico

Mensaje principal: This case demonstrates that when deterioration is imminent and standard therapies have failed, ECPR may provide life-saving support while preparing for definitive mechanical circulatory support, even when most members of the clinical team lack ECPR experience. Timely leadership and coordinated multidisciplinary expertise were the key to achieving a successful outcome in this case.

Comentario crítico breve: Útil para reconocer situaciones infrecuentes y generar hipótesis, pero su naturaleza descriptiva impide estimar frecuencia, eficacia o causalidad. La generalización debe ser prudente.

Abstract / resumen del registro fuente:

Extracorporeal cardiopulmonary resuscitation (ECPR) is increasingly used for refractory cardiac arrest, although evidence for a survival benefit remains heterogeneous and appears highly dependent on patient selection and systems of care. We report the case of a previously healthy 36-year-old woman who presented with acute fulminant myocarditis and cardiogenic shock. Following an in-hospital cardiac arrest unresponsive to conventional cardiopulmonary resuscitation, bedside ECPR was initiated using peripheral veno-arterial extracorporeal membrane oxygenation (VA-ECMO) as a bridge to longer-term mechanical circulatory support with a biventricular assist device (BiVAD). After conversion to central BiVAD support, the patient was listed super-urgently and subsequently underwent successful donation-after-circulatory-death heart transplantation. She was discharged home neurologically intact and remains well five months after discharge. This case demonstrates that when deterioration is imminent and standard therapies have failed, ECPR may provide life-saving support while preparing for definitive mechanical circulatory support, even when most members of the clinical team lack ECPR experience. Timely leadership and coordinated multidisciplinary expertise were the key to achieving a successful outcome in this case.

17. [Successful treatment of myocardial infarction complicated with thyroid crisis using extracorporeal membrane oxygenation: a case report and literature review].

Referencia: Zhonghua Wei Zhong Bing Ji Jiu Yi Xue. 2026 Sep;38(9):860-865. doi: 10.3760/cma.j.cn121430-20260207-00078.

Autores: [Article in Chinese]

PMID: 42875246

DOI: 10.3760/cma.j.cn121430-20260207-00078

Tipo de estudio: Caso clínico + revisión

Mensaje principal: This case study suggests that early application of ECMO combined with antithyroid therapy can significantly improve the prognosis of patients with refractory cardiogenic shock and thyroid crisis. Even without a clear history of hyperthyroidism, acute coronary events may trigger crisis, and clinical vigilance should be maintained.

Comentario crítico breve: Útil para reconocer situaciones infrecuentes y generar hipótesis, pero su naturaleza descriptiva impide estimar frecuencia, eficacia o causalidad. La generalización debe ser prudente.

Abstract / resumen del registro fuente:

Thyroid crisis is caused by an excess of thyroid hormones in the body, leading to a hypermetabolic state and a series of pathological and physiological changes. Clinical manifestations are often non-specific, and in severe cases, it can manifest as multiple organ dysfunction. Acute myocardial infarction combined with thyroid crisis is dangerous and has a high mortality rate. Timely identification and combination of mechanical circulatory support and antithyroid drug treatment are key to improving prognosis. On January 28, 2021, a 49-year-old female patient was admitted to Yanbian University Affiliated Hospital due to "altered mental status for 4 hours, cardiopulmonary during this period". After cardiopulmonary resuscitation, her vital signs were extremely unstable, and electrocardiogram and myocardial enzymes showed acute non-ST-segment elevation myocardial infarction with severe heart function decline (ejection fraction 26%). On the third day of admission, she underwent veno-arterial extracorporeal membrane oxygenation (VA-ECMO) support, and on the sixth day, she underwent percutaneous coronary stent implantation. After surgery, the patient continued to experience recurrent persistent hyperpyrexia and profuse diaphoresis. Screening revealed a significant increase in thyroid hormones and inhibition of thyroid-stimulating hormone. Combined with thyroid ultrasound and Burch-Wartofsky score > 45 points, the diagnosis was confirmed to be hyperthyroidism and thyroid crisis. Subsequently, treatment was given with propylthiouracil, propranolol, and hydrocortisone. On the 9th day of admission, extracorporeal membrane oxygenation (ECMO) was successfully withdrawn, cardiac function recovered (ejection fraction of 60%), consciousness improved, and finally the patient was weaned off the ventilator and transferred to a primary hospital for rehabilitation. After 3 months of

follow-up, normal life and work were resumed. This case study suggests that early application of ECMO combined with antithyroid therapy can significantly improve the prognosis of patients with refractory cardiogenic shock and thyroid crisis. Even without a clear history of hyperthyroidism, acute coronary events may trigger crisis, and clinical vigilance should be maintained.

41. Renal Dysfunction Modifies the Prognostic Value of Lactate Clearance in Extracorporeal Cardiopulmonary Resuscitation: A Retrospective Interaction Analysis.

Referencia: J Cardiothorac Vasc Anesth. 2026 Nov;40(11):3679-3692. doi: 10.1053/j.jvca.2026.06.013. Epub 2026 Jun 10.

Autores: Kim T(1), Lee SH(1), Song K(2), Yoo J(3).

PMID: 42401501

DOI: 10.1053/j.jvca.2026.06.013

Tipo de estudio: Estudio prospectivo

Mensaje principal: Among patients undergoing ECPR who survive to 24 hours, elevated creatinine defines an interpretation boundary for percentage-based lactate clearance. Clinicians should interpret this metric cautiously when renal dysfunction is present and consider absolute lactate values as complementary information. These findings should be considered hypothesis-generating, given the single-center retrospective design, modest events-per-variable ratio, and the inability to fully disentangle renal-mediated metabolic factors from baseline lactate distribution differences; prospective multicenter validation is required before clinical implementation.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

OBJECTIVES: To test whether renal dysfunction modifies the prognostic value of 24-hour lactate clearance for survival to discharge after extracorporeal cardiopulmonary resuscitation (ECPR). **DESIGN:** Retrospective cohort study with a 24-hour landmark approach. **SETTING:** Single tertiary academic medical center. **PARTICIPANTS:** Of 158 patients screened for ECPR, 99 with calculable lactate clearance and available 24-hour creatinine comprised the analytic cohort. **INTERVENTIONS:** None (observational study). **MEASUREMENTS AND MAIN RESULTS:** Effect modification was tested using multivariable logistic regression with an interaction term (lactate clearance $\times$ elevated 24-hour creatinine >2.0 mg/dL), adjusting for age, cardiopulmonary resuscitation duration, shockable rhythm, and baseline lactate. After baseline lactate adjustment, the interaction odds ratio (OR) was 0.63 per 10% increase in clearance (95% confidence interval, 0.45-0.87; $p = 0.005$), indicating attenuated prognostic value in patients with elevated creatinine. Stratified analyses confirmed that higher clearance was associated with survival only in patients with normal creatinine (OR, 1.30; area under the receiver operating characteristic curve [AUROC], 0.654), whereas no meaningful association was observed with elevated creatinine (OR, 0.98; AUROC, 0.516). The interaction remained robust after excluding patients with chronic kidney disease (OR, 0.59, $p = 0.005$) and when modeling creatinine continuously (OR, 0.91, $p = 0.028$). **CONCLUSIONS:** Among patients undergoing ECPR who survive to 24 hours, elevated creatinine defines an interpretation boundary for percentage-based lactate clearance. Clinicians should interpret this metric cautiously when renal dysfunction is present and consider absolute lactate values as complementary information. These findings should be considered hypothesis-generating, given the single-center retrospective design, modest events-per-variable ratio, and the inability to fully disentangle renal-mediated metabolic factors from baseline lactate distribution differences; prospective multicenter validation is required before clinical implementation.

43. Beyond the protocol: adherence to ECPR selection criteria and outcomes after Out-of-Hospital Cardiac Arrest (OHCA)-insights from the German Cardiac Arrest Registry (G-CAR).

Referencia: Clin Res Cardiol. 2026 Nov;115(11):1983-1992. doi: 10.1007/s00392-026-02930-6. Epub 2026 May 5.

Autores: Springer A(1), Rossberg M(2), Sinning C(3), Voigt I(4), Freund A(2), Höslér N(2), Michels G(5), Ewen S(6)(7), Voss F(8), Wohlmuth P(9), Thiele H(2), Zeymer U(10)(7), Pösch J(11), Tigges E(1).

PMID: 42084737

DOI: 10.1007/s00392-026-02930-6

Tipo de estudio: Cohorte de registro ECPR

Mensaje principal: Adherence to proposed ECPR selection criteria was low in this real-world cohort, potentially contributing to lower survival rates compared with results from RCTs. However, when all criteria were fulfilled, survival rates were significantly higher, underscoring the importance of stringent patient selection.

Comentario crítico breve: El diseño aleatorizado mejora la inferencia causal, pero la aplicabilidad depende del contexto, el tamaño muestral y de que los resultados se traduzcan en desenlaces clínicamente relevantes.

Abstract / resumen del registro fuente:

BACKGROUND: Extracorporeal cardiopulmonary resuscitation (ECPR) is a potential treatment for selected patients with refractory out-of-hospital cardiac arrest (OHCA). Randomized controlled trials (RCTs) emphasize the importance of appropriate patient selection. Expert consensus statements recommend six criteria for ECPR suitability: age ≤ 75 years, witnessed OHCA, bystander cardiopulmonary resuscitation (CPR), no-flow time ≤ 5 min (min), low-flow time ≤ 60 min, and an initial shockable rhythm. Although widely accepted, these items are not supported by robust data and adherence varies greatly. We present an analysis from the German Cardiac Arrest Registry (G-CAR) describing the current state of ECPR across participating centers. **RESULTS:** Of 1,644 patients in G-CAR, 576 patients (34.6%) were admitted with ongoing CPR. Of these, 162 (28.0%) were treated with ECPR. Only 18 patients (11.0%) met all six ECPR criteria, with the majority displaying five (37.0%) or four (25.9%) characteristics. Overall, rates of favorable neurological survival at 30 days did not differ between patients treated with ECPR and those treated conventionally (8.6% vs. 5.6%, $p = 0.25$). When stratified according to the number of criteria, the probability of survival was higher in patients meeting all six or five compared to those meeting one to four criteria (20.0% vs. 11.9% vs. 1.4%; $p = 0.028$). A similar gradient in survival according to the number of fulfilled criteria was observed in conventionally treated patients. **CONCLUSIONS:** Adherence to proposed ECPR selection criteria was low in this real-world cohort, potentially contributing to lower survival rates compared with results from RCTs. However, when all criteria were fulfilled, survival rates were significantly higher, underscoring the importance of stringent patient selection.

Vía aérea, ventilación y calidad de la RCP

7. Manual ventilation with and without a flow limiting device during induction of general anesthesia: a randomized crossover trial.

Referencia: Resusc Plus. 2026 Sep 14;32:101494. doi: 10.1016/j.resplu.2026.101494. eCollection 2026 Nov.

Autores: Brady MF(1), Ramanujam V(2), Dankievitch K(2), Barnicle R(1), Slutsky AS(3), Kendall MC(2).

PMID: 42891022

DOI: 10.1016/j.resplu.2026.101494

Tipo de estudio: Ensayo aleatorizado cruzado

Mensaje principal: The novel flow-limiting device reduced excessive peak airway pressures, inspiratory flow, and tidal volumes during forceful SIRB ventilation in anesthetized, intubated adults undergoing elective surgery. However, reduced tidal volumes during forceful breaths may cause inadequate alveolar ventilation if not corrected over several breaths, particularly during CPR.

Comentario crítico breve: El diseño aleatorizado mejora la inferencia causal, pero la aplicabilidad depende del contexto, el tamaño muestral y de que los resultados se traduzcan en desenlaces clínicamente relevantes.

Abstract / resumen del registro fuente:

BACKGROUND AND PURPOSE: Poor manual ventilation with a self-inflating resuscitator bag (SIRB) can result in excessive tidal volumes and elevated airway pressures, increasing the risk of gastric insufflation, aspiration and lung injury. This study compared peak airway pressures generated during intentionally forceful manual ventilation using a SIRB with, and without a flow-limiting device in patients undergoing non-emergent surgery. **METHODS:** In this randomized, two-group crossover superiority trial, 30 adult patients undergoing general anesthesia received manual SIRB ventilation with and without the Sotair® inline flow limiting device (FLD) in randomized order (FLD + SIRB followed by SIRB alone vs SIRB alone followed by FLD + SIRB). Following endotracheal intubation, the SIRB, FLD, flow and pressure sensor, and adjustable pressure-limiting valve were connected in series to the endotracheal tube. During each intervention period, five forceful breaths were delivered every 30 s for 3 min. For safety, a pressure-limiting valve was set at 35 cm H₂O. The primary outcome was the mean peak inspiratory pressure across the five forceful breaths. **RESULTS:** The mean peak inspiratory pressure across five forceful breaths was 18.4 cm H₂O [95% CI, 17.2-19.6] with FLD + SIRB compared to 29.6 cm H₂O [95% CI, 28.4-30.8] with SIRB ventilation alone, with a mean difference of 11.2 cm H₂O [95% CI, 10.5-11.9], which was above the superiority margin of 7.5 cm H₂O ($p < 0.001$). Mean peak inspiratory flow (60.1 L/min [95% CI, 55.7-64.6] vs 101.7 L/min [95% CI, 97.2-106.1]) and tidal volume (96.7 mL [95% CI, 77.6-115.9] vs 789.2 mL [95% CI, 770.1-808.3]) were also significantly lower with the FLD + SIRB compared to SIRB alone ($p < 0.001$). No FLD related malfunction events were observed. **CONCLUSION:** The novel flow-limiting device reduced excessive peak airway pressures, inspiratory flow, and tidal volumes during forceful SIRB ventilation in anesthetized, intubated adults undergoing elective surgery. However, reduced

tidal volumes during forceful breaths may cause inadequate alveolar ventilation if not corrected over several breaths, particularly during CPR.

22. Pediatric Cardiopulmonary Resuscitation Ventilation Rates and Outcomes.

Referencia: Crit Care Med. 2026 Oct 14. doi: 10.1097/CCM.0000000000007381. Online ahead of print.

Autores: Shepard LN(1), Friess SH(1), Reeder RW(2), Bender D(3), Berg RA(1), Graham K(1), Meert KL(4), Mourani PM(5), Murray R(6), Nadkarni VM(1), Nataraj C(3), Palmer CA(7), Patterson E(7), Srivastava N(8), Wolfe HA(1), Yates AR(6), Morgan RW(1), Sutton RM(1); ICU-RESUS and Eunice Kennedy Shriver National Institute of Child Health and Human Development Collaborative Pediatric Critical Care Research Network (CPCCRN) Investigator Groups.

PMID: 42872941

DOI: 10.1097/CCM.0000000000007381

Tipo de estudio: Estudio prospectivo

Mensaje principal: CPR ventilation rates in the currently recommended range (20-30 bpm) were not associated with survival in children with in-hospital cardiac arrest. In exploratory analyses in children younger than 8 years, higher ventilation rates (≥ 26 bpm) were associated with improved survival and warrant confirmation in future studies.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

OBJECTIVES: Evaluate the association between cardiopulmonary resuscitation (CPR) ventilation rates and survival to hospital discharge, and identify novel ventilation targets. **DESIGN:** Multicenter prospective ancillary observational cohort study of the ICU-RESUS trial (NCT02837497). **SETTING:** A total of 18 ICUs from 10 U.S. clinical sites from October 2016 to March 2021. **PATIENTS:** Hospitalized children (≤ 18 yr) with endotracheal or tracheostomy tubes and evaluable intra-arrest end-tidal carbon dioxide data to calculate ventilation rate. **INTERVENTIONS:** None. **MEASUREMENTS AND MAIN RESULTS:** Among 234 included events, 86 events (36.8%) had guideline-recommended (20-30 beats per min [bpm]) average ventilation rates during CPR. The association between guideline-recommended CPR ventilation rate and survival to hospital discharge was evaluated with Poisson regression using generalized estimating equations, controlling for a priori covariables (initial pulse status, immediate cause of arrest). We found no association between guideline-recommended ventilation rates and survival to hospital discharge (adjusted relative risk [aRR], 0.95; 95% CI, 0.75-1.21; $p = 0.68$). In exploratory analyses, novel age-stratified ventilation rates were identified using natural cubic splines and subsequently evaluated in multivariable models. We identified potential thresholds (< 8 yr, ≥ 26 bpm; ≥ 8 yr, < 26 bpm). For children younger than 8 years, average CPR ventilation rate greater than or equal to 26 bpm was associated with improved survival to hospital discharge compared with less than 26 bpm (aRR, 1.32; 95% CI, 1.00-1.73; $p = 0.048$). **CONCLUSIONS:** CPR ventilation rates in the currently recommended range (20-30 bpm) were not associated with survival in children with in-hospital cardiac arrest. In exploratory analyses in children younger than 8 years, higher ventilation rates (≥ 26 bpm) were associated with improved survival and warrant confirmation in future studies.

32. Mechanical versus manual bag-valve ventilation during cardiopulmonary resuscitation in adults with cardiac arrest: A systematic review and Bayesian meta-analysis.

Referencia: Resuscitation. 2026 Oct 12:111345. doi: 10.1016/j.resuscitation.2026.111345. Online ahead of print.

Autores: Chu YQ(1), Su EH(2), Li H(3), Ko YC(4), Wei WT(5), Tsai TY(6).

PMID: 42863592

DOI: 10.1016/j.resuscitation.2026.111345

Tipo de estudio: Revisión sistemática y metaanálisis bayesiano

Mensaje principal: In adult cardiac arrest, MV use during CPR was associated with higher ROSC compared with manual BV. Evidence for improved survival and neurological outcomes remains imprecise and inconclusive.

Comentario crítico breve: La síntesis de evidencia aporta una visión más robusta que un estudio aislado, aunque la certeza final depende de la calidad, heterogeneidad y riesgo de sesgo de los estudios incluidos.

Abstract / resumen del registro fuente:

BACKGROUND/OBJECTIVE: Optimal ventilation delivery during cardiopulmonary resuscitation (CPR) remains uncertain. Current resuscitation guidelines do not recommend mechanical ventilation (MV) over manual bag-valve ventilation (BV). We evaluated the

association between MV use during CPR and clinical outcomes in adults with cardiac arrest compared with manual BV.

METHODS: We searched 6 bibliographic databases from inception through May 31, 2026. Included studies compared MV and BV ventilation CPR in adult cardiac arrest patients. Patients receiving MV at any moment during CPR were classified as the MV group; those receiving only BV comprised the BV group. Primary outcomes included return of spontaneous circulation (ROSC), survival to hospital admission, survival to hospital discharge, and good neurological outcome. Secondary outcomes included physiologic variables and pneumothorax. We calculated pooled risk ratios (RRs) and mean differences with 95% credible intervals (CrIs) using Bayesian random-effects meta-analyses. **RESULTS:** Eight studies involving 6,847 patients were included. For the primary outcome, MV use during CPR was associated with a higher rate of ROSC than BV use (pooled RR, 1.20; 95% CrI, 1.04 to 1.42), with a 99% posterior probability of benefit. Posterior probabilities favoring MV for survival to admission, survival to discharge, and favorable neurological outcome were 92.3%, 93.6%, and 92.2%, respectively. Pneumothorax incidence was similar between groups. **CONCLUSION:** In adult cardiac arrest, MV use during CPR was associated with higher ROSC compared with manual BV. Evidence for improved survival and neurological outcomes remains imprecise and inconclusive.

Cuidados posresucitación y neuropronóstico

4. Making blood work: Toward precision care after cardiac arrest.

Referencia: Resuscitation. 2026 Oct 17;111363. doi: 10.1016/j.resuscitation.2026.111363. Online ahead of print.

Autores: Case N(1), Elmer J(2).

PMID: 42892479

DOI: 10.1016/j.resuscitation.2026.111363

Tipo de estudio: Editorial / comentario

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: Aporta contexto conceptual, ético o de implementación, pero no evidencia clínica causal. Su valor principal es orientar prioridades de sistema, investigación o educación.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

8. Neuroprotective effect of early remote ischaemic post-conditioning after out-of-hospital cardiac arrest (RIPOST-CA): study protocol for a randomised, single-blinded, monocentric, controlled trial.

Referencia: Resusc Plus. 2026 Sep 24;32:101503. doi: 10.1016/j.resplu.2026.101503. eCollection 2026 Nov.

Autores: Chelly J(1)(2)(3)(4), Cheyssac R(5), Bertrand T(1), Gardan V(3), Jobic A(3), Rahmati M(2)(3), Lambert R(5), Durif J(6), Sapin V(6), Cariou A(4)(7), Aria AD(8), Ducros L(1).

PMID: 42891020

DOI: 10.1016/j.resplu.2026.101503

Tipo de estudio: Protocolo de ensayo aleatorizado

Mensaje principal: RIPOST-CA is the first randomised trial to evaluate early remote ischemic post-conditioning on brain-injury biomarkers after out-of-hospital cardiac arrest. Its results could inform larger clinical trials of this simple, non-invasive intervention. Trial registration number: NCT06473207.

Comentario crítico breve: Es un protocolo y todavía no aporta resultados de eficacia. El interés reside en que evaluará una intervención simple y no invasiva con biomarcadores de lesión cerebral y desenlaces clínicos posteriores.

Abstract / resumen del registro fuente:

INTRODUCTION: Hypoxic-ischaemic brain injury is the leading cause of death and long-term disability after out-of-hospital cardiac arrest and is driven by the ischaemia-reperfusion syndrome, for which no specific treatment exists. Remote ischaemic post-conditioning (brief, repeated cycles of limb ischaemia and reperfusion delivered with a pneumatic cuff), is protective across ischemia-reperfusion conditions. We aim to assess whether early conditioning reduces hypoxic-ischaemic brain injury after out-of-hospital cardiac arrest. **METHODS:** This single-centre, single-blinded, randomised (1:1) controlled trial with blinded assessment of the outcome, enrolls 48 comatose adults resuscitated from out-of-hospital cardiac arrest. Participants receive standard post-resuscitation care with three sham cuff sessions, or standard care plus three sessions of conditioning (thigh cuff, four cycles of 5-min inflation at 200 mmHg alternating with 5-min deflation), the first within 4 h of return of spontaneous circulation and repeated

at the 12th and 24th hour. Randomisation is stratified by initial rhythm (shockable versus non-shockable). The primary endpoint is the change in serum neurofilament light chain between the 6th and 72nd hour after return of spontaneous circulation. Secondary endpoints include daily Sequential Organ Failure Assessment scores (days 1-3), serum neuron-specific enolase and protein S100-B kinetics, in-intensive care unit mortality by cause, and a favourable neurological outcome (modified Rankin Scale 0-3) at intensive care unit discharge and at 90 days. **CONCLUSION:** RIPOST-CA is the first randomised trial to evaluate early remote ischemic post-conditioning on brain-injury biomarkers after out-of-hospital cardiac arrest. Its results could inform larger clinical trials of this simple, non-invasive intervention. Trial registration number: NCT06473207.

14. Translating the R-EDByUS score into clinical decisions after cardiac arrest.

Referencia: Resuscitation. 2026 Oct 15:111353. doi: 10.1016/j.resuscitation.2026.111353. Online ahead of print.

Autores: Fan CY(1), Sung CW(2).

PMID: 42880622

DOI: 10.1016/j.resuscitation.2026.111353

Tipo de estudio: Comentario / perspectiva clínica

Mensaje principal: El registro fuente no aporta un abstract que permita extraer un resultado principal con suficiente detalle.

Comentario crítico breve: Aporta contexto conceptual, ético o de implementación, pero no evidencia clínica causal. Su valor principal es orientar prioridades de sistema, investigación o educación.

Abstract / resumen del registro fuente:

El registro de PubMed incluido en el archivo fuente no aporta abstract.

23. Conservative Versus Higher Oxygen Targets Post-Cardiac Arrest: A Systematic Review, Meta-Analysis, and Trial Sequential Analysis.

Referencia: Acad Emerg Med. 2026 Oct;33(10):e70422. doi: 10.1111/acem.70422.

Autores: Khan MM(1), Saboor A(1), Aqil M(2), Jan R(1), Hanif R(1), Muiz A(1), Haseeb A(1), Khan MH(3), Gul T(4), Abdullah A(1), Bashir S(5), Khalil H(1), Shah M(6), Ali A(7).

PMID: 42872895

DOI: 10.1111/acem.70422

Tipo de estudio: Revisión sistemática y metaanálisis

Mensaje principal: There is no significant improvement in overall mortality, neurological outcome, or any other major clinical endpoint in adult CA patients with restrictive oxygen compared to higher oxygen therapy. Under current normothermia (36°C-37.5°C) protocols, the accumulated evidence trends toward futility for a restrictive approach, though the definitive information size has not yet been entirely accrued. Although restrictive levels could lead to an increased number of ventilator-free days, there will be an increased risk of hypoxemia.

Comentario crítico breve: La síntesis de evidencia aporta una visión más robusta que un estudio aislado, aunque la certeza final depende de la calidad, heterogeneidad y riesgo de sesgo de los estudios incluidos.

Abstract / resumen del registro fuente:

BACKGROUND: Optimal oxygenation following return of spontaneous circulation (ROSC) remains uncertain, as both hypoxemia and hyperoxemia risk secondary injury. We conducted an updated systematic review and meta-analysis comparing the efficacy of restrictive versus higher oxygenation targets. **METHODS:** A systematic review and meta-analysis following the PRISMA 2020 protocol was carried out from database inception through June 2026. Only RCTs examining the impact of restrictive oxygenation versus higher oxygenation for adult CA patients undergoing invasive mechanical ventilation were included. Risks of bias and the quality of the evidence were evaluated using RoB 2 and GRADE tools. A random-effects model was used for data synthesis and presented the results in RR/MD. **RESULTS:** Eleven RCTs (12 reports) involving 4136 participants were included. Restrictive oxygenation showed no significant difference in all-cause mortality (RR 0.96, 95% CI 0.88-1.06) or unfavorable neurological outcomes (RR 0.96, 95% CI 0.88-1.04). Most subgroup analyses were non-significant, except for reduced mortality in the strict hypothermia subgroup (33°C-34°C), although TSA showed unstable evidence. No significant differences were observed in secondary outcomes. Restrictive oxygenation increased hypoxemia risk (RR 1.65) but improved ventilator-free days (MD 2.14). **CONCLUSION:** There is no significant improvement in overall mortality, neurological outcome, or any other major clinical endpoint in adult CA patients with restrictive oxygen compared to higher oxygen therapy. Under current normothermia (36°C-37.5°C) protocols, the accumulated evidence trends toward futility for a restrictive approach, though the definitive information size has not

yet been entirely accrued. Although restrictive levels could lead to an increased number of ventilator-free days, there will be an increased risk of hypoxemia.

24. Influencing factors analysis and prediction model development for ROSC in adult non-traumatic OHCA: a retrospective study based on pre-hospital emergency settings.

Referencia: Ann Med. 2026 Dec;58(1):2740275. doi: 10.1080/07853890.2026.2740275. Epub 2026 Oct 14.

Autores: Zhang Q(1)(2), Pang Z(2), Yan X(1), Tang F(2), Li S(2), Shao X(2), Zou W(2), Xing T(2), Guo S(2), Meng X(2), Hu N(2), Meng X(1), Lu L(1), Li S(2), Fan H(1).

PMID: 42872556

DOI: 10.1080/07853890.2026.2740275

Tipo de estudio: Estudio retrospectivo

Mensaje principal: This study identified multiple factors significantly associated with ROSC in OHCA patients; the constructed model showed good predictive value.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

BACKGROUND: Cardiac arrest is a major global public health problem. This study aimed to explore factors influencing return of spontaneous circulation (ROSC) and develop a prediction model for out-of-hospital cardiac arrest (OHCA) patients. **METHODS:** We retrospectively collected electronic medical records of adult non-traumatic OHCA patients at Tianjin Emergency Medical Center from January 1, 2023 to December 31, 2024. The primary outcome was sustained ROSC up to emergency department arrival and handover to receiving-hospital staff. Multivariable mixed-effects logistic regression with clinician ID as random intercept adjusted clustering bias; predictors with $p < 0.05$ formed the nomogram. Patients were randomly split 7:3 for training and internal testing. Discrimination was assessed by ROC-AUC (acceptable threshold >0.7). We performed 1000 bootstrap resampling to correct C-index against overfitting. Calibration curves and decision curve analysis (DCA) further evaluated predictive consistency and net clinical benefit. **RESULTS:** Among 9,386 included cases, 678 (7.2%) achieved ROSC. Mixed-effects regression identified independent ROSC predictors: public location (aOR = 1.285, 95% CI:1.038-1.592), 06:00-12:00 onset (aOR = 1.308, 95% CI:1.018-1.682), prolonged emergency response time (aOR = 0.971, 95% CI:0.945-0.999), extended onset-to-ambulance intervals (5-10 min: aOR = 0.758; 10-30 min: aOR = 0.578; >30 min: aOR = 0.498 vs ≤ 5 min), no OHCA occurred at emergency call (aOR = 1.540, 95% CI:1.048-2.262), male attending physicians (aOR = 1.255, 95% CI:1.077-1.464), longer physician practice years (aOR = 1.043, 95% CI: 1.022-1.065), intermediate physician title (aOR = 1.236, 95% CI:1.047-1.459), shockable initial rhythm (aOR = 2.850, 95% CI:2.390-3.397), endotracheal intubation (aOR = 2.294, 95% CI:1.936-2.718), epinephrine >5 mg (aOR = 0.765, 95% CI:0.626-0.935). The nomogram AUC reached 0.775 (95% CI:0.756-0.794) in the training set and 0.775 (95% CI:0.745-0.805) in the test set; 1000 bootstrap internal validation gave an optimism-corrected C-index of 0.7679 with minimal optimism of 0.0071, showing negligible overfitting, good calibration and favorable net clinical benefit via DCA. **CONCLUSION:** This study identified multiple factors significantly associated with ROSC in OHCA patients; the constructed model showed good predictive value.

42. Time to return of spontaneous circulation and associations with early neurological outcome at hospital discharge after out-of-hospital cardiac arrest.

Referencia: Clin Res Cardiol. 2026 Nov;115(11):1993-2004. doi: 10.1007/s00392-026-02940-4. Epub 2026 Jun 3.

Autores: Rose U(#)(1), Wulf M(#)(1)(2), Jensen MSK(1)(2), Meyer ER(1), Bro-Jeppesen J(3)(4).

PMID: 42234132

DOI: 10.1007/s00392-026-02940-4

Tipo de estudio: Estudio retrospectivo

Mensaje principal: In initial OHCA survivors transferred to the cardiology ward, increased time to ROSC was independently associated with decreased odds of good neurological function at hospital discharge, even after adjusting for age and primary rhythm. The majority of patients had good neurological function at hospital discharge. In this population time to ROSC was not associated with mortality.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

AIM: To assess the impact of time to return of spontaneous circulation (ROSC) on early in-hospital neurological function and long-term survival in survivors after out-of-hospital cardiac arrest (OHCA). **METHODS:** This retrospective cohort study included survivors of OHCA admitted to the cardiology ward at Aarhus University Hospital. Patients were included from June 2020 to February 2024 and data were collected through review of medical records. Primary outcome was neurological function, and patients were stratified by modified Rankin Scale (mRS) at hospital discharge: good neurological outcome (mRS 0-2) and poor neurological outcome (mRS 3-6). Secondary outcomes were cognitive function assessed with Montreal Cognitive Assessment (MoCA) at hospital discharge and 180-day survival. **RESULTS:** In total, 321 patients were included, of which 232 (72%) had good neurological outcome and 89 (28%) had poor neurological outcome. Every 5-min increase in time to ROSC was associated with decreased odds of good neurological outcome (OR 0.88, 95% CI 0.81-0.95, $p < 0.0001$). This association remained significant after adjusting for age and primary rhythm (OR_{adjusted} 0.86, 95% CI 0.78-0.95, $p = 0.004$). Patients with good neurological outcome had significantly higher MoCA scores (median 23 vs. 18, $p < 0.001$). In-hospital mortality was 6% and time to ROSC was not significantly associated with 180-day mortality. **CONCLUSION:** In initial OHCA survivors transferred to the cardiology ward, increased time to ROSC was independently associated with decreased odds of good neurological function at hospital discharge, even after adjusting for age and primary rhythm. The majority of patients had good neurological function at hospital discharge. In this population time to ROSC was not associated with mortality.

Causas reversibles, toxicología y circunstancias especiales

26. Intra-arrest strategies to treat cardiac arrest due to a non-opioid toxicological causes in adults and children: a systematic review.

Referencia: Resusc Plus. 2026 Sep 24;32:101501. doi: 10.1016/j.resplu.2026.101501. eCollection 2026 Nov.

Autores: Couper K(1), Alenazi A(1)(2)(3), Gray J(4)(5), Grunau B(6)(7)(8), Katzenschlager S(9), Rutherford B(1), Simpson MD(10)(11), Drennan IR(12)(13)(14), Scholefield B(15), Lavonas EJ(16)(17); Advanced Life Support and Pediatric Life Support Task Forces of the International Liaison Committee on Resuscitation.

PMID: 42871632

DOI: 10.1016/j.resplu.2026.101501

Tipo de estudio: Revisión sistemática ILCOR

Mensaje principal: Current evidence does not support the modification of standard advanced life support during cardiac arrest due to a presumed toxicological cause in adults or children. Registration: PROSPERO CRD420251149412.

Comentario crítico breve: La síntesis de evidencia aporta una visión más robusta que un estudio aislado, aunque la certeza final depende de la calidad, heterogeneidad y riesgo de sesgo de los estudios incluidos.

Abstract / resumen del registro fuente:

OBJECTIVE: To summarise evidence on the effectiveness of specific alterations to standard advanced life support during ongoing cardiopulmonary resuscitation in adults and children with cardiac arrest due to a presumed toxicological cause. **METHODS:** We searched MEDLINE (OVID platform), Embase (OVID platform), and Cochrane CENTRAL from inception to 22nd July 2026 for relevant observational and interventional studies with a control group. We excluded studies focussed specifically on opioid toxicity. Two authors independently screened studies for inclusion. Our primary outcome was 30-day survival. We assessed risk of bias using the Cochrane recommended tools and certainty of evidence using the GRADE system. **RESULTS:** We identified four observational studies, of which none specifically focused on children and three included fewer than 100 patients. Studies examined general toxicological causes ($n = 2$), smoke inhalation and cyanide poisoning ($n = 1$), and beta-blocker and calcium-channel blocker overdose ($n = 1$). All studies were at critical risk of bias. Across the four studies, nine interventions were reported. Whilst some interventions were associated with either benefit or harm, estimates of effect were very imprecise and challenging to interpret. The largest study (1545 patients) reported that sodium bicarbonate use in out-of-hospital cardiac arrest due to suspected drug overdose was associated with lower survival to hospital discharge (adjusted odds ratio 0.16, 95% confidence interval 0.08-0.31). **CONCLUSION:** Current evidence does not support the modification of standard advanced life support during cardiac arrest due to a presumed toxicological cause in adults or children. Registration: PROSPERO CRD420251149412.

29. Life-Threatening Ventricular Tachycardia and Transient Brugada-Like Electrocardiographic Abnormalities Caused by Severe Hyperkalemia Due to Urinary Retention in a 55-Year-Old Man.

Referencia: Am J Case Rep. 2026 Oct 13;27:e954530. doi: 10.12659/AJCR.954530.

Autores: Aizawa Y(1), Kato TS(2), Kawamura A(3).

PMID: 42868100

DOI: 10.12659/AJCR.954530

Tipo de estudio: Caso clínico

Mensaje principal: CONCLUSIONS This case illustrates that severe hyperkalemia secondary to reversible postrenal acute kidney injury can simultaneously present with malignant ventricular tachyarrhythmia and transient electrocardiographic abnormalities. Recognition of this reversible metabolic condition is essential to avoid diagnostic error and facilitate prompt life-saving treatment.

Comentario crítico breve: Útil para reconocer situaciones infrecuentes y generar hipótesis, pero su naturaleza descriptiva impide estimar frecuencia, eficacia o causalidad. La generalización debe ser prudente.

Abstract / resumen del registro fuente:

BACKGROUND Hyperkalemia is a potentially fatal electrolyte disturbance that typically manifests as progressive conduction abnormalities, bradyarrhythmias, and sine-wave electrocardiographic changes. In rare cases, however, severe hyperkalemia also presents with malignant ventricular tachyarrhythmias and transient electrocardiographic abnormalities involving the right precordial leads, potentially leading to diagnostic confusion with primary arrhythmic disorders. **CASE REPORT** A 55-year-old man with no known cardiovascular disease presented with palpitations, dyspnea, and diaphoresis. Electrocardiography demonstrated sustained wide-QRS ventricular tachycardia accompanied by hemodynamic instability. Following electrical cardioversion, recurrent ventricular tachyarrhythmias occurred, requiring repeated defibrillation, cardiopulmonary resuscitation, intravenous amiodarone, and mechanical ventilation. Laboratory testing revealed severe hyperkalemia (7.6 mmol/L), profound metabolic acidosis (pH 7.059, HCO_3^- 13.8 mmol/L), and advanced renal dysfunction. Serum potassium was confirmed on repeat testing. Subsequent electrocardiography demonstrated marked QRS widening, terminal conduction delay, and transient right precordial ST-segment abnormalities involving leads V1-V2. Intravenous calcium gluconate and sodium bicarbonate rapidly improved the electrocardiographic abnormalities. Continuous hemodiafiltration and bladder catheterization were performed after postrenal acute kidney injury caused by urinary retention was identified. Correction of hyperkalemia together with treatment of metabolic acidosis resulted in complete resolution of the ventricular arrhythmias and electrocardiographic abnormalities without recurrence. No evidence of structural heart disease or persistent myocardial ischemia was identified during subsequent evaluation. **CONCLUSIONS** This case illustrates that severe hyperkalemia secondary to reversible postrenal acute kidney injury can simultaneously present with malignant ventricular tachyarrhythmia and transient electrocardiographic abnormalities. Recognition of this reversible metabolic condition is essential to avoid diagnostic error and facilitate prompt life-saving treatment.

36. A population-based analysis of prognostic factors associated with survival in adult traumatic cardiac arrest patients.

Referencia: CJEM. 2026 Oct;28(10):939-948. doi: 10.1007/s43678-026-01247-7. Epub 2026 Jul 27.

Autores: Green RS(1)(2), Green D(3), Hannah M(4), Opra I(3), Jensen JL(5)(6)(7), Kureshi N(8), Goldstein J(5)(6).

PMID: 42507326

DOI: 10.1007/s43678-026-01247-7

Tipo de estudio: Análisis poblacional retrospectivo

Mensaje principal: Survival to hospital discharge was observed in 1.9% of traumatic cardiac arrest patients. Critical care transport and direct transport to the final facility were associated with patient survival. The identified predictors of survival may help inform prehospital triage and resuscitation strategies for patients experiencing traumatic cardiac arrest.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

OBJECTIVES: Historically, traumatic cardiac arrest studies have described poor survival rates and argued that resuscitation is futile. However, recent reports have demonstrated that survival rates may be higher than previously appreciated. Our objectives were to determine survival rates in traumatic cardiac arrest patients and assess for factors associated with survival to hospital discharge. **METHODS:** We conducted a registry review study of adult traumatic cardiac arrest patients (≥ 17 years old) in Nova Scotia over a 16-year period (2007-2023). Data were collected from the paramedic electronic Patient Care Record and the Nova Scotia Trauma Registry. The primary outcome was survival to hospital discharge. We compared characteristics between survivors and non-survivors and assessed for predictors of survival. Descriptive statistics, t-tests, chi-square analysis, and multivariable logistic regression models were used. **RESULTS:** A total of 1042 patients were included in the analysis. Ages ranged from 17 to 96 years (mean 50.03 ± 19.2), and 80.7% were male. Most injuries were blunt trauma (71.7%, 747/1042). The overall survival rate was 1.9% (20/1042). Compared to non-survivors, patients who survived to hospital discharge had lower mean Injury Severity Score

(17.8 ± 11.1 vs. 34.4 ± 21.3 , $p < 0.001$). On multivariate analysis, survival to discharge was associated with critical care transport (OR 27.16, 95%CI 7.32-103.86) and direct transport to final facility (OR 4.10, 95%CI 1.37-11.80), while increasing Injury Severity Score (OR 0.93, 95%CI 0.88-0.97) was associated with mortality. **CONCLUSIONS:** Survival to hospital discharge was observed in 1.9% of traumatic cardiac arrest patients. Critical care transport and direct transport to the final facility were associated with patient survival. The identified predictors of survival may help inform prehospital triage and resuscitation strategies for patients experiencing traumatic cardiac arrest.

37. Mid-ascending aortic pseudoaneurysm causing left main coronary artery compression in a patient with a history of tuberculosis.

Referencia: J Cardiothorac Surg. 2026 Jul 17;21(1):777. doi: 10.1186/s13019-026-04529-4.

Autores: Lim HA(1), Lee J(2).

PMID: 42469848

DOI: 10.1186/s13019-026-04529-4

Tipo de estudio: Estudio clínico / análisis observacional

Mensaje principal: Ascending aortic pseudoaneurysm may cause sudden cardiac arrest through extrinsic compression of the left main coronary artery. In patients with a history or radiologic evidence of tuberculosis, tuberculosis-related involvement may be considered, but definitive surgical treatment should not be delayed in life-threatening presentations.

Comentario crítico breve: Útil para reconocer situaciones infrecuentes y generar hipótesis, pero su naturaleza descriptiva impide estimar frecuencia, eficacia o causalidad. La generalización debe ser prudente.

Abstract / resumen del registro fuente:

BACKGROUND: Aortic pseudoaneurysm secondary to Mycobacterium tuberculosis infection is exceedingly rare. Extrinsic compression of the left main coronary artery by an aortic pseudoaneurysm is also uncommon, and cases attributable to tuberculosis are particularly rare. This report describes a mid-ascending aortic pseudoaneurysm causing left main coronary artery compression resulting in cardiac arrest in a patient with a history of tuberculosis, which was successfully managed with emergent surgical intervention. **CASE PRESENTATION:** A 76-year-old man with a history of tuberculosis and radiologic findings suggestive of previous tuberculous disease experienced cardiac arrest prior to transfer and was referred to the authors' institution. Coronary angiography, performed because of chest pain and elevated cardiac biomarkers, demonstrated extrinsic compression of the left main coronary artery by an ascending aortic pseudoaneurysm. Return of spontaneous circulation was achieved after approximately 48 min of cardiopulmonary resuscitation. Upon arrival at our emergency department, computed tomography revealed a 6-cm pseudoaneurysm of the proximal-to-mid ascending aorta. Emergent surgical resection of necrotic ascending aortic tissue and graft replacement of the ascending aorta were performed, and the postoperative course was favorable. **CONCLUSION:** Ascending aortic pseudoaneurysm may cause sudden cardiac arrest through extrinsic compression of the left main coronary artery. In patients with a history or radiologic evidence of tuberculosis, tuberculosis-related involvement may be considered, but definitive surgical treatment should not be delayed in life-threatening presentations.

39. Hospitalized pediatric drowning in Zhejiang, China (2010-2021): an epidemiological analysis.

Referencia: BMC Pediatr. 2026 Jul 15;26(1):978. doi: 10.1186/s12887-026-07320-5.

Autores: Zhu S(1), Liu L(1), Chen F(1), Chen X(2), Lin Y(1), Zhang C(1), Ding J(1), Ye S(3), Jiang K(4).

PMID: 42458318

DOI: 10.1186/s12887-026-07320-5

Tipo de estudio: Estudio retrospectivo

Mensaje principal: Pediatric drowning persists as a critical public health issue, with rural areas posing the greatest risk. Early rescue and high-quality basic life support are key to improving outcomes. Targeted prevention strategies should prioritize rural water safety and caregiver education, while clinical indicators may aid in assessment of outcomes when drowning history is unavailable.

Comentario crítico breve: Aporta evidencia de práctica real y permite estudiar poblaciones difíciles de aleatorizar. Persisten confusión residual, sesgo de selección y limitaciones de registro; las asociaciones no equivalen a causalidad.

Abstract / resumen del registro fuente:

BACKGROUND: Despite advancements in public health awareness in China, pediatric drowning remains a significant concern with no marked decline in incidence. This study is to explore the changes in the epidemiological characteristics of children drowning.

METHODS: We retrospectively analyzed the clinical data of 296 drowning children who received treatment from January 2010 to December 2021. **RESULTS:** We found that 1-3-year-old male children have the highest incidence of drowning in the afternoon of summer, especially in natural water in rural areas, which are more dangerous than swimming pools. The pre hospital cardiopulmonary resuscitation (CPR) time and drowning time are significantly associated with the outcome of the patient. In children without clear drowning time, our study found that clinical indicators such as Glasgow Coma Scale (GCS) score, blood lactate level, blood pH value, and blood glucose have a certain association with the outcomes of the children. The occurrence of child drowning incidents did not show significant changes due to the COVID-19 pandemic or the national control measures. **CONCLUSIONS:** Pediatric drowning persists as a critical public health issue, with rural areas posing the greatest risk. Early rescue and high-quality basic life support are key to improving outcomes. Targeted prevention strategies should prioritize rural water safety and caregiver education, while clinical indicators may aid in assessment of outcomes when drowning history is unavailable.

Directrices, revisiones y correcciones

33. Corrigendum to "European Resuscitation Council Guideline 2025 Adult Advanced Life Support" [Resuscitation 215(Supplement 1) (2025) 110769].

Referencia: Resuscitation. 2026 Oct 12;229:111313. doi: 10.1016/j.resuscitation.2026.111313. Online ahead of print.

Autores: Soar J(1), Böttiger BW(2), Carli P(3), Jiménez FC(4), Cimpoesu D(5), Cole G(6), Couper K(7), D'Arrigo S(8), Deakin CD(9), Ek JE(10), Holmberg MJ(11), Magliocca A(12), Nikolaou N(13), Paal P(14), Pocock H(15), Sandroni C(8), Scquizzato T(16), Skrifvars MB(17), Verginella F(18), Yeung J(19), Nolan JP(20).

PMID: 42863166

DOI: 10.1016/j.resuscitation.2026.111313

Tipo de estudio: Corrigendum de guía ERC 2025

Mensaje principal: 2025 Oct;215 Suppl 1:110769. doi: 10.1016/j.resuscitation.2025.110769.

Comentario crítico breve: Es una corrección oficial de la Guía ERC 2025 de Soporte Vital Avanzado. No añade evidencia nueva, pero debe incorporarse a cualquier material docente o implementación de la versión original.

Abstract / resumen del registro fuente:

Erratum for Resuscitation. 2025 Oct;215 Suppl 1:110769. doi: 10.1016/j.resuscitation.2025.110769.

Resultados tangenciales de la estrategia de búsqueda

Se conservan para mantener íntegro el resultado de la búsqueda, pero no se utilizan para las conclusiones clínicas principales sobre RCP.

5. Age and intensive care unit admissions following opioid overdose.

Referencia: Drug Alcohol Depend. 2026 Oct 9;288:113390. doi: 10.1016/j.drugalcdep.2026.113390. Online ahead of print.

PMID / DOI: 42892178 · 10.1016/j.drugalcdep.2026.113390

Motivo de separación: La RCP aparece como intervención recibida dentro de una cohorte de sobredosis, pero el objetivo principal es la utilización de UCI según edad.

BACKGROUND: Older adults are increasingly impacted by the opioid crisis, yet age-related differences in overdose presentation, management, and outcomes leading to intensive care unit (ICU) admission remain poorly characterized. This study examined age-related variations in drug exposures, interventions provided, and hospital utilization among patients experiencing an opioid overdose. **METHODS:** The Toxicology Investigators Consortium (ToxIC) Fentalog Study was conducted at 10 US medical centers and collected data on patients who presented to emergency departments with confirmed non-fatal opioid overdose, and available waste serum samples between 9/21/2020-4/14/2026 were included. Chart reviews captured presentations, treatments, and hospital utilization. Toxicologic analyses were performed at the Center for Forensic Science Research and Education. Nested multivariable logistic regressions assessed whether age improved predicted ICU admission, after accounting for sociodemographic characteristics and drug classes detected. **RESULTS:** Among 1930 patients, 15.3% were admitted to the ICU, 7.8% received cardiopulmonary resuscitation, and 5.8% were intubated. Length of hospital stay varied by age, with patients 65+ years old staying longest (median: 22.0h, IQR: 87.0, $p < 0.001$). Illicit opioids were less commonly detected in older adults ($p < 0.001$), while prescription opioids were more common ($p < 0.001$). Age cohort did not significantly predict ICU admission, although prescription benzodiazepine (AOR: 1.4, 95% CI: 1.1, 1.9) and opioid (AOR: 0.7, 95% CI: 0.5, 0.9) detection did. **CONCLUSIONS:** Older age was associated with longer hospital stays but did not predict ICU admission after adjustment for relevant covariates. Benzodiazepine and opioid exposures showed a modest association with ICU utilization. Further work should clarify how pharmacologic combinations influence clinical severity across age groups.

21. Tools Measuring Health Literacy in Critically Ill Patients and Their Caregivers: A Scoping Review.

Referencia: Crit Care Med. 2026 Oct 14. doi: 10.1097/CCM.0000000000007382. Online ahead of print.

PMID / DOI: 42872943 · 10.1097/CCM.0000000000007382

Motivo de separación: La RCP aparece como uno de muchos dominios de alfabetización sanitaria en pacientes críticos, pero el estudio no evalúa específicamente reanimación.

OBJECTIVES: Health literacy, the ability to understand and use health information, is important for critically ill patients and their caregivers in the neonatal ICU (NICU), PICU, and adult ICU to make informed decisions and navigate complex care. This review aimed to identify and summarize tools used to assess health literacy in critically ill patients or their caregivers. **DATA SOURCES:** We searched MEDLINE, Embase, CINAHL, and PsycINFO through July 24, 2025. **STUDY SELECTION:** Included articles reported on tools to assess health literacy in critically ill patients or their caregivers. Two reviewers independently performed screening and data extraction. **DATA EXTRACTION:** Two independent reviewers extracted data in Covidence. Data items included study characteristics (country in which the study was conducted, study funding, study setting) and health literacy tool characteristics (tool user, types of questions in the tool, method of tool administration, if the tool was created by the study team, and if a full version was available in the publication). **DATA SYNTHESIS:** We included 92 articles describing 84 health literacy tools. Tools measured: 1) topic-specific clinical knowledge (e.g., organ donation, cardiopulmonary resuscitation; $n = 24/84$, 29%; NICU: $n = 9$; PICU: $n = 1$; ICU: $n = 14$); 2) ICU prognosis, diagnosis, and treatment ($n = 23/84$, 27%; NICU: 6; PICU: 3; ICU: $n = 15$); 3) neonatal and parenting ($n = 13/84$, 15%; all NICU); 4) general health literacy abilities ($n = 11/84$, 13%; NICU: $n = 6$; PICU: $n = 2$; ICU: $n = 7$); 5) information needs ($n = 4/84$, 5%; NICU: $n = 1$; PICU: $n = 0$; ICU: $n = 3$); 6) readiness for discharge ($n = 3/84$, 4%; all NICU); 7) decision-making ($n = 3/84$, 4%; all NICU); 8) health-related behaviors ($n = 2/84$, 2%; NICU: $n = 1$; ICU: $n = 1$); and 9) research participation ($n = 1/84$, 1%; NICU). **CONCLUSIONS:** Although several health literacy tools exist, they often focus on individual knowledge of specific aspects of ICU care, with less attention to how understanding is produced within the clinical context through interactions among patients, caregivers, and healthcare providers. This may limit their ability to reflect how health literacy functions in critical illness. Assessment of health literacy requires pairing the appropriate tools with interaction-focused approaches to guide communication and support informed decision-making in ICU settings.

31. Complete ventilation failure due to a defective heat and moisture exchange filter.

Referencia: Anaesth Rep. 2026 Oct 11;14(2):e70114. doi: 10.1002/anr3.70114. eCollection 2026 Jul-Dec.

PMID / DOI: 42865568 · 10.1002/anr3.70114

Motivo de separación: El caso se centra en fallo de equipamiento anestésico y seguridad del circuito; su relación con la RCP es indirecta.

Heat and moisture exchange filters are routinely used in anaesthesia to provide passive humidification and protect the breathing circuit. We report a case of a 3-year-old patient where a complete circuit obstruction due to a defective heat and moisture exchange filter occurred. This resulted in a total inability to ventilate the patient's lungs, initially attributed to bronchospasm, followed by the need for cardiopulmonary resuscitation. Manufacturing defects resulting in such critical incidents are rare but remain an important potential differential when managing difficulty in ventilation. This incident underscores the need to maintain a high index of suspicion for equipment malfunction when difficulty in ventilation arises, even in the presence of plausible clinical causes. Automated anaesthetic machine checks do not assess circuit patency; therefore, manual verification, such as the two-bag test, remains essential following any circuit change. This case also illustrates how human factors and system gaps can align to permit equipment defects to reach the patient, while effective teamwork and crisis management can help to mitigate harm. Routine inclusion of circuit patency testing, simulation-based training and rigorous manufacturing quality control are suggested for preventing recurrence and enhancing patient safety in anaesthetic practice.

Estudios preclínicos / exclusivamente no humanos

Se mantienen como radar de ciencia básica y traslacional, pero se separan de la evidencia clínica humana.

11. Sivelestat sodium improves post-resuscitation brain outcomes possibly by inhibiting cell pyroptosis via inactivating the cGAS/STING/TBK1 pathway.

Referencia: Neurosci Lett. 2026 Oct 16:138764. doi: 10.1016/j.neulet.2026.138764. Online ahead of print.

PMID / DOI: 42887670 · 10.1016/j.neulet.2026.138764

Clasificación: estudio exclusivamente animal/preclínico.

Comentario traslacional: Aporta una señal mecánica de neuroprotección posisquemia/posparada, pero requiere replicación y estudios clínicos antes de cualquier extrapolación terapéutica.

Sivelestat sodium (SS) is shown to protect vital organs against regional ischemic stimuli. We investigated its effects on brain outcomes after global ischemic stimuli resulted from cardiac arrest (CA) and resuscitation. Adult pigs were randomly divided into sham (S), cardiopulmonary resuscitation (CPR), and CPR + SS groups. The animals were subjected to 9 mins of CA followed by 6 mins of CPR. After resuscitation, a dose of 10 mg/kg of SS was intravenously administered for 60 mins. Post-resuscitation brain injury and neurological function were regularly evaluated. Brain hippocampus tissues were harvested to measure histopathological injury, cell apoptosis, pyroptosis-related proteins and proinflammatory cytokines, and the cGAS/STING/TBK1 pathway. Consequently, post-resuscitation brain injury and neurological dysfunction were observed in those animals experiencing the CA/CPR procedure. However, they were significantly milder in the CPR + SS group than in the CPR group. Hippocampal histopathological injury and apoptosis were observed after resuscitation in the CPR and CPR + SS groups. Nevertheless, SS treatment significantly decreased both of them compared with the CPR group. Furthermore, pyroptosis-related proteins were upregulated, its-related proinflammatory cytokines were increased, and the cGAS/STING/TBK1 pathway was activated in post-resuscitation hippocampus in the CPR and CPR + SS groups. Likewise, SS treatment significantly reversed the changes of pyroptosis-related proteins and proinflammatory cytokines, and the cGAS/STING/TBK1 pathway compared to the CPR group. Thus, SS treatment was effective in improving post-resuscitation brain outcomes, and its protective role was possibly related to the inhibition of cell pyroptosis through the inactivation of the cGAS/STING/TBK1 pathway.

20. IMRCs Alleviate Post-resuscitation Cerebral Injury Possibly by Inhibiting Ferroptosis in a Porcine Model of Cardiac Arrest.

Referencia: Neurochem Res. 2026 Oct 14;51(5):293. doi: 10.1007/s11064-026-04918-0.

PMID / DOI: 42873400 · 10.1007/s11064-026-04918-0

Clasificación: estudio exclusivamente animal/preclínico.

Comentario traslacional: Aporta una señal mecánica de neuroprotección posisquemia/posparada, pero requiere replicación y estudios clínicos antes de cualquier extrapolación terapéutica.

Cerebral injury following cardiac arrest (CA) is a primary contributor to patients' mortality and poor neurological outcome. However, there are currently no definitive and effective therapeutic approaches. Emerging evidence has indicated that mesenchymal stem cell (MSC) pretreatment exerted protective effects against cardiac and cerebral injuries in the porcine model of CA. However, given the unpredictable nature of CA, we administered immunity-and-matrix-regulatory cells (IMRCs) derived from human embryonic stem cells (hESCs) following CA to investigate whether IMRCs could alleviate cerebral injury following CA in swine. In vivo, a porcine CA model was established using male domestic white swine. In vitro, CA-induced injury was simulated by subjecting HT22 cells and primary cultures of hippocampal neurons to hypoxia/reoxygenation (H/R). SAT1 overexpression was achieved in HT22 cells via lentiviral transduction and in primary cultures of hippocampal neurons via adeno-associated virus (AAV) transduction. Following IMRC administration, neurological function, cerebral injury, cell viability, lactate dehydrogenase (LDH) release, and ferroptosis-related indicators were systematically evaluated using a series of experimental assays. IMRC administration significantly decreased ferroptosis-related ferrous iron (Fe²⁺), lipid reactive oxygen species (ROS), malondialdehyde (MDA), and 4-hydroxynonenal (4-HNE) at 24, 48, and 72 h following CA, while concomitantly elevating glutathione (GSH) levels and mitigating cerebral injury. Further in vitro studies demonstrated that SAT1 overexpression promoted ALOX15 activation and suppressed GPX4 expression, thereby exacerbating H/R-induced neuronal ferroptosis. Moreover, SAT1 overexpression was found to partially attenuate the protective effects of IMRCs against H/R-induced ferroptosis. In vivo, IMRC administration downregulated the expression of SAT1 and ALOX15, while concurrently upregulating GPX4 levels. Early post-

resuscitation administration of IMRCs attenuated cerebral injury following cardiac arrest, and this protective effect was possibly related to the suppression of ferroptosis via regulation of the SAT1/ALOX15/GPX4 signaling pathway.

25. Feasibility and placement accuracy of a sensor-guided intraosseous device with an automated stop in a small-bone rat cadaver model: a single-arm pilot study.

Referencia: Resusc Plus. 2026 Sep 21;32:101500. doi: 10.1016/j.resplu.2026.101500. eCollection 2026 Nov.

PMID / DOI: 42871938 · 10.1016/j.resplu.2026.101500

Clasificación: modelo cadavérico animal para evaluación de acceso intraóseo; no constituye evidencia clínica humana.

Comentario traslacional: Aporta información técnica preliminar, con aplicabilidad clínica todavía no demostrada.

BACKGROUND: Rapid intraosseous (IO) access is critical in emergency care when venous access is not feasible. IO access is particularly prone to error in small animals and human neonates with narrow medullary cavities. This pilot study evaluated the feasibility and placement accuracy of a novel sensor-guided IO drilling device with an automatic stop mechanism in a rat cadaver model. **METHODS:** Seven thawed Sprague-Dawley rat cadavers underwent 14 tibial insertions by a single experienced operator using a standardised protocol. Placement was assessed by computed tomography (CT), with successful insertion defined as intramedullary positioning of the needle tip. Two blinded readers independently classified each insertion. The principal outcome was the proportion of successful placements; a prespecified device-evaluable analysis excluding user-related targeting errors was exploratory. **RESULTS:** Nine of 14 insertions were correctly positioned, yielding a success rate of 64.3% (9/14; 95% CI 35.1-87.2%). In the device-evaluable analysis, success was 81.8% (9/11; 95% CI 48.2-97.7%). Three lateral displacements and two overpenetrations occurred. Reader agreement was complete ($\kappa = 1.00$). The medullary cavity narrowed from 6.02 mm at the proximal metaphysis to 3.13 mm at the diaphysis, with cortical thickness of 0.54-0.57 mm; proximal epiphyseal outer diameter of 8.07 mm. No device malfunction was identified. **CONCLUSION:** In this small-bone cadaver model, the automated-stop intraosseous device achieved CT-verified intramedullary placement in most attempts and functioned as intended. As this single-arm pilot lacked a comparator and CT assessed needle-tip position rather than functional access, the findings are limited to placement accuracy and are hypothesis-generating.

35. Post-ischemic inhibition of the mitochondrial Ca^{2+} uniporter with Ru265 protects in ex vivo and in vivo models of cerebral ischemia.

Referencia: Clin Sci (Lond). 2026 Nov 11;140(11):2325-2344. doi: 10.1042/CS20261842.

PMID / DOI: 42775856 · 10.1042/CS20261842

Clasificación: estudio exclusivamente animal/preclínico.

Comentario traslacional: Aporta una señal mecánica de neuroprotección posisquemia/posparada, pero requiere replicación y estudios clínicos antes de cualquier extrapolación terapéutica.

Brain ischemia is a leading cause of morbidity and mortality in the aging population, yet no effective neuroprotective interventions currently exist. This therapeutic gap stems from two key challenges: the inability to deliver neuroprotective drugs before reperfusion and limited understanding of post-reperfusion events leading to delayed neurodegeneration. Zn^{2+} is an important contributor to ischemic brain injury, with mitochondrial Zn^{2+} uptake playing a central role in its neurotoxic effects. Ongoing Zn^{2+} accumulation occurs through the mitochondrial Ca^{2+} uniporter (MCU) in selectively vulnerable CA1 neurons after transient ischemia, contributing to delayed mitochondrial dysfunction. We previously demonstrated that post-ischemic administration of the non-selective MCU antagonist, ruthenium red attenuated neuronal damage in both an ex vivo oxygen-glucose deprivation (OGD) mouse brain slice model and in an in vivo rat cardiac arrest (CA) model. In the present study, we test post-ischemic treatment with Ru265, a novel selective MCU blocker, in both ischemic models. In the slice model, OGD induced delayed Zn^{2+} accumulation in CA1 neuronal mitochondria (as previously reported), followed by late-onset persistent mitochondrial depolarization and sustained elevation of cytoplasmic Ca^{2+} levels, indicating loss of Ca^{2+} homeostasis. Application of Ru265 after OGD termination inhibited the mitochondrial Zn^{2+} accumulation and largely prevented subsequent mitochondrial depolarization and loss of cytosolic Ca^{2+} homeostasis. In the CA model, intravenous Ru265 administration during cardiopulmonary resuscitation largely mitigated mitochondrial damage, markedly reduced neuronal injury and improved behavioral outcomes 20-24 h after ischemia. These findings suggest that post-ischemic MCU blockade may constitute a promising neuroprotective therapeutic strategy.

40. Mesenchymal stem cell-derived exosomes alleviate post-resuscitation brain injury by inhibiting neuronal ferroptosis partly via the PRMT1/SLC7A11/GPX4 pathway.

Referencia: Cell Mol Life Sci. 2026 Jul 15;83(1):369. doi: 10.1007/s00018-026-06344-5.

PMID / DOI: 42455175 · 10.1007/s00018-026-06344-5

Clasificación: estudio exclusivamente animal/preclínico.

Comentario traslacional: Aporta una señal mecánica de neuroprotección posisquemia/posparada, pero requiere replicación y estudios clínicos antes de cualquier extrapolación terapéutica.

BACKGROUND: Post-resuscitation brain injury is the main contributor to the death and disability of cardiac arrest (CA) victims. Neuronal ferroptosis is involved in the pathogenesis of brain injury after resuscitation, which becomes an effective therapeutic target. Recent studies demonstrated that mesenchymal stem cell-derived exosomes (MSC-Exo) were a promising approach for the alleviation of regional cerebral ischemia reperfusion injury; however, its effectiveness in post-resuscitation brain injury remains to be investigated. In this study, we investigated whether MSC-Exo could alleviate post-resuscitation brain injury by inhibiting neuronal ferroptosis and its regulatory mechanism. **METHODS AND RESULTS:** In vivo, a clinically relevant swine model of CA and resuscitation was established. In parallel, SH-SY5Y neuronal cells exposed to hypoxia/reoxygenation (H/R) were used as the in vitro model. We found that MSC-Exo administration provided potent protection of neuronal cells against H/R injury in vitro, and effectively alleviated brain injury after CA and resuscitation in vivo. Furthermore, we showed that the protective effects of MSC-Exo administration were associated with the upregulation of protein arginine methyltransferase 1 (PRMT1), solute carrier family 7 member 11 (SLC7A11) and glutathione peroxidase 4 (GPX4) expression, and subsequent inhibition of neuronal ferroptosis in in vitro and in vivo studies. Mechanistically, MSC-Exo administration promoted the recovery of PRMT1 expression, and then the latter bound to the promoter of SLC7A11 and enhanced its transcriptional activity after H/R injury in neuronal cells. Additionally, the miR-320a-3p/tripartite motif-containing 21 (TRIM21) axis was a possible mechanism by which MSC-Exo administration activated the PRMT1/SLC7A11/GPX4 pathway in vitro. **CONCLUSIONS:** MSC-Exo administration effectively alleviated post-resuscitation brain injury after CA and resuscitation, which was related to the inhibition of neuronal ferroptosis partly through the activation of PRMT1/SLC7A11/GPX4 pathway.

Base acumulativa de evidencia - índice de esta semana

Nº	PMID	Título	Categoría	Estado
1	42893053	Health system readiness for out-of-hospital-cardiac-arrest management in resource limited settings: A mixed-method study from rural and suburban Sindh, Pakistan.	Sistemas EMS, respuesta comunitaria y cadena de supervivencia	Incluido
2	42892481	Where Are the Female Manikins? Representation of Female Anatomy Across Two European Resuscitation Congresses.	Factores humanos, ética, formación e implementación	Incluido
3	42892480	Beyond Selection Bias: Post-Event Video Deletion and Trust in Healthcare.	Factores humanos, ética, formación e implementación	Incluido
4	42892479	Making blood work: Toward precision care after cardiac arrest.	Cuidados posresucitación y neuropronóstico	Incluido
5	42892178	Age and intensive care unit admissions following opioid overdose.	Tangencial	Separado
6	42891031	Perceived factors influencing healthcare professionals' adherence to the ABCDE approach: an exploratory explanatory sequential mixed-methods study.	Factores humanos, ética, formación e implementación	Incluido
7	42891022	Manual ventilation with and without a flow limiting device during induction of general anesthesia: a randomized crossover trial.	Vía aérea, ventilación y calidad de la RCP	Incluido
8	42891020	Neuroprotective effect of early remote ischaemic post-conditioning after out-of-hospital cardiac arrest (RIPOST-CA): study protocol for a randomised, single-blinded, monocentric, controlled trial.	Cuidados posresucitación y neuropronóstico	Incluido
9	42889429	Dental Advanced Life Support (DALs) in Korea: development, current practice, and future perspectives.	Factores humanos, ética, formación e implementación	Incluido
10	42888592	Exploring global trends in basic life support	Factores humanos, ética, formación e	Incluido

		(BLS) proficiency: A comprehensive multi-national cross-sectional investigation among medical students and practicing physicians.	implementación	
11	42887670	Sivelestat sodium improves post-resuscitation brain outcomes possibly by inhibiting cell pyroptosis via inactivating the cGAS/STING/TBK1 pathway.	Preclínico / no humano	Separado
12	42881816	Prognostic Impact of Transient Return of Spontaneous Circulation According to Low-Flow Time in Patients with Out-of-Hospital Cardiac Arrest Undergoing Extracorporeal Cardiopulmonary Resuscitation: A Nationwide Cohort Study.	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido
13	42881751	Basic Life Support Awareness, Knowledge, and Attitudes Among a Self-Selected Online Sample in the Aseer Region, Saudi Arabia: An Exploratory Cross-Sectional Survey.	Factores humanos, ética, formación e implementación	Incluido
14	42880622	Translating the R-EDByUS score into clinical decisions after cardiac arrest.	Cuidados posresucitación y neuropronóstico	Incluido
15	42879381	Mechanical CPR - Assisted Percutaneous Coronary Intervention During Cardiac Arrest: Feasibility and Outcomes.	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido
16	42876919	Extracorporeal Cardiopulmonary Resuscitation as a Bridge to Cardiac Transplantation in Refractory Cardiac Arrest Due to Fulminant Myocarditis: A Case Report.	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido
17	42875246	[Successful treatment of myocardial infarction complicated with thyroid crisis using extracorporeal	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido

		membrane oxygenation: a case report and literature review].		
18	42874253	Resuscitation training with school children - Analysis of factors affecting chest compression quality.	Factores humanos, ética, formación e implementación	Incluido
19	42873943	Articulación de espacios cardioprottegidos con la red Código Infarto: respuesta integrada al paro cardíaco extrahospitalario en México.	Sistemas EMS, respuesta comunitaria y cadena de supervivencia	Incluido
20	42873400	IMRCs Alleviate Post-resuscitation Cerebral Injury Possibly by Inhibiting Ferroptosis in a Porcine Model of Cardiac Arrest.	Preclínico / no humano	Separado
21	42872943	Tools Measuring Health Literacy in Critically Ill Patients and Their Caregivers: A Scoping Review.	Tangencial	Separado
22	42872941	Pediatric Cardiopulmonary Resuscitation Ventilation Rates and Outcomes.	Vía aérea, ventilación y calidad de la RCP	Incluido
23	42872895	Conservative Versus Higher Oxygen Targets Post-Cardiac Arrest: A Systematic Review, Meta-Analysis, and Trial Sequential Analysis.	Cuidados posresucitación y neuropronóstico	Incluido
24	42872556	Influencing factors analysis and prediction model development for ROSC in adult non-traumatic OHCA: a retrospective study based on pre-hospital emergency settings.	Cuidados posresucitación y neuropronóstico	Incluido
25	42871938	Feasibility and placement accuracy of a sensor-guided intraosseous device with an automated stop in a small-bone rat cadaver model: a single-arm pilot study.	Preclínico / no humano	Separado
26	42871632	Intra-arrest strategies to treat cardiac arrest due to a non-opioid toxicological causes in adults and children: a	Causas reversibles, toxicología y circunstancias especiales	Incluido

		systematic review.		
27	42871442	Volunteer engagement in out-of-hospital cardiac arrest: a survey exploring the characteristics and motivations of community first responders.	Sistemas EMS, respuesta comunitaria y cadena de supervivencia	Incluido
28	42871062	Healthcare providers' confidence, satisfaction, and perceived preparedness following a multicomponent simulation-based cardiopulmonary resuscitation training program in Gaza.	Factores humanos, ética, formación e implementación	Incluido
29	42868100	Life-Threatening Ventricular Tachycardia and Transient Brugada-Like Electrocardiographic Abnormalities Caused by Severe Hyperkalemia Due to Urinary Retention in a 55-Year-Old Man.	Causas reversibles, toxicología y circunstancias especiales	Incluido
30	42867902	From call to home: The role of dispatcher-assisted CPR in patient survival.	Sistemas EMS, respuesta comunitaria y cadena de supervivencia	Incluido
31	42865568	Complete ventilation failure due to a defective heat and moisture exchange filter.	Tangencial	Separado
32	42863592	Mechanical versus manual bag-valve ventilation during cardiopulmonary resuscitation in adults with cardiac arrest: A systematic review and Bayesian meta-analysis.	Vía aérea, ventilación y calidad de la RCP	Incluido
33	42863166	Corrigendum to "European Resuscitation Council Guideline 2025 Adult Advanced Life Support" [Resuscitation 215(Supplement 1) (2025) 110769].	Directrices, revisiones y correcciones	Incluido
34	42862803	Knowledge, willingness, and self-efficacy in CPR: A two-phase study of	Factores humanos, ética, formación e implementación	Incluido

		prevalence and preliminary peer-led workshop in a Malaysian tertiary institution.		
35	42775856	Post-ischemic inhibition of the mitochondrial Ca ²⁺ uniporter with Ru265 protects in ex vivo and in vivo models of cerebral ischemia.	Preclínico / no humano	Separado
36	42507326	A population-based analysis of prognostic factors associated with survival in adult traumatic cardiac arrest patients.	Causas reversibles, toxicología y circunstancias especiales	Incluido
37	42469848	Mid-ascending aortic pseudoaneurysm causing left main coronary artery compression in a patient with a history of tuberculosis.	Causas reversibles, toxicología y circunstancias especiales	Incluido
38	42458552	Geographical alignment of prehospital critical care services with population need for out-of-hospital cardiac arrest patients.	Sistemas EMS, respuesta comunitaria y cadena de supervivencia	Incluido
39	42458318	Hospitalized pediatric drowning in Zhejiang, China (2010-2021): an epidemiological analysis.	Causas reversibles, toxicología y circunstancias especiales	Incluido
40	42455175	Mesenchymal stem cell-derived exosomes alleviate post-resuscitation brain injury by inhibiting neuronal ferroptosis partly via the PRMT1/SLC7A11/GPX4 pathway.	Preclínico / no humano	Separado
41	42401501	Renal Dysfunction Modifies the Prognostic Value of Lactate Clearance in Extracorporeal Cardiopulmonary Resuscitation: A Retrospective Interaction Analysis.	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido
42	42234132	Time to return of spontaneous circulation and associations with early neurological outcome at hospital discharge	Cuidados posresucitación y neuropronóstico	Incluido

		after out-of-hospital cardiac arrest.		
43	42084737	Beyond the protocol: adherence to ECPR selection criteria and outcomes after Out-of-Hospital Cardiac Arrest (OHCA)-insights from the German Cardiac Arrest Registry (G-CAR).	Reanimación avanzada, ECPR/ECMO y soporte circulatorio	Incluido