**Supplementary Table 4 Information on excluded studies.**

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| **Duplicate** |
| Havel C, Arrich J, Losert H, Gamper G, Müllner M, Herkner H: Vasopressors for hypotensive shock. Cochrane Database Syst Rev 2011(5): Cd003709.  Li YT, Li HX, Zhang D: Timing of norepinephrine initiation in patients with septic shock: a systematic review and meta-analysis. Crit Care 2020, 24(1).  Serpa Neto A, Nassar AP, Cardoso SO, Manetta JA, Pereira VGM, Espósito DC, Damasceno MCT, Russell JA: Vasopressin and terlipressin in adult vasodilatory shock: a systematic review and meta-analysis of nine randomized controlled trials. Crit Care 2012, 16(4).  Wenzhe L, Pengfei P, Yi W, Xinxin D, Xiangyou Y: Effect of terlipressin on prognosis of adult septic shock patients: A Meta-analysis. Zhonghua wei zhong bing ji jiu yi xue 2020, 32(2):134-139. |
| **Pediatric** |
| Gamper G, Havel C, Arrich J, Losert H, Pace NL, Müllner M, Herkner H: Vasopressors for hypotensive shock. Cochrane Database Syst Rev 2016, 2(2): Cd003709.  Soong JL, Lim WH: Vasopressin and terlipressin in the treatment of vasodilatory septic shock: A systematic review. Proceedings of Singapore Healthcare 2011, 20(3):208-218.  Chen CX, Pang LL, Wang YY, Wen TM, Yu W, Yue XL, Rong YM, Liao W: Combination era, using combined vasopressors showed benefits in treating septic shock patients: a network meta-analysis of randomized controlled trials. Annals of translational medicine 2019, 7(20).  Belletti A, Nagy A, Sartorelli M, Mucchetti M, Putzu A, Sartini C, Morselli F, De Domenico P, Zangrillo A, Landoni G et al: Effect of Continuous Epinephrine Infusion on Survival in Critically Ill Patients: A Meta-Analysis of Randomized Trials. Crit Care Med 2020, 48(3):398-405. |
| **Not septic shock** |
| Pasin L, Umbrello M, Greco T, Zambon M, Pappalardo F, Crivellari M, Borghi G, Morelli A, Zangrillo A, Landoni G: Methylene blue as a vasopressor: a meta-analysis of randomised trials. Critical care and resuscitation: journal of the Australasian Academy of Critical Care Medicine 2013, 15(1):42-48.  Zhang X, Gao Y, Pan P, Wang Y, Li W, Yu X: [Methylene blue in the treatment of vasodilatory shock: a Meta-analysis]. Zhonghua wei zhong bing ji jiu yi xue 2017, 29(11):982-987.  Webb AJ, Seisa MO, Nayfeh T, Wieruszewski PM, Nei SD, Smischney NJ: Vasopressin in vasoplegic shock: A systematic review. World journal of critical care medicine 2020, 9(5):88-98.  Szeles TF, de Almeida JP, da Cruz JAS, Artifon ELA: Vasopressin in vasoplegic shock in surgical patients: systematic review and meta-analysis. Acta cirurgica brasileira 2023, 38. |
| **Wrong intervention** |
| Bhattacharjee S, Soni KD, Maitra S, Baidya DK: Levosimendan does not provide mortality benefit over dobutamine in adult patients with septic shock: A meta-analysis of randomized controlled trials. Journal of clinical anesthesia 2017, 39:67-72.  Chang W, Xie JF, Xu JY, Yang Y: Effect of levosimendan on mortality in severe sepsis and septic shock: a meta-analysis of randomised trials. BMJ Open 2018, 8(3): e019338.  Liu DH, Ning YL, Lei YY, Chen J, Liu YY, Lin XF, Yang ZQ, Xian SX, Chen WT: Levosimendan versus dobutamine for sepsis-induced cardiac dysfunction: a systematic review and meta-analysis. Sci Rep 2021, 11(1):20333.  Møller MH, Granholm A, Junttila E, Haney M, Oscarsson-Tibblin A, Haavind A, Laake JH, Wilkman E, Sverrisson KÖ, Perner A: Scandinavian SSAI clinical practice guideline on choice of inotropic agent for patients with acute circulatory failure. Acta anaesthesiologica Scandinavica 2018, 62(4):420-450.  Nadeem R, Sockanathan S, Singh M, Hussain T, Kent P, AbuAlreesh S: Impact of Dobutamine in Patients With Septic Shock: A Meta-Regression Analysis. AMERICAN JOURNAL OF THERAPEUTICS 2017, 24(3): E333-E346.  Pabon MC, Albert V, Anacaona M, Guzman N, Nieto VH: Levosimendan VS Dobutamine in septic shock. Systematic Review and Meta-Analysis. Crit Care Med 2014, 42(12).  Wang B, Chen R, Guo X, Zhang W, Hu J, Gong Y, Cheng B: Effects of levosimendan on mortality in patients with septic shock: systematic review with meta-analysis and trial sequential analysis. Oncotarget 2017, 8(59):100524-100532.  Zangrillo A, Putzu A, Monaco F, Oriani A, Frau G, De Luca M, Di Tomasso N, Bignami E, Lomivorotov V, Likhvantsev V et al: Levosimendan reduces mortality in patients with severe sepsis and septic shock: A meta-analysis of randomized trials. J Crit Care 2015, 30(5):908-913.  Hammond DA, Sacha GL, Bissell BD, Musallam N, Altshuler D, Flannery AH, Lam SW, Bauer SR: Effects of Norepinephrine and Vasopressin Discontinuation Order in the Recovery Phase of Septic Shock: A Systematic Review and Individual Patient Data Meta-Analysis. Pharmacotherapy 2019, 39(5):544-552.  Jacob P, Surendran PJ, E M MA, Papasavvas T, Praveen R, Swaminathan N, Milligan F: Early Mobilization of Patients Receiving Vasoactive Drugs in Critical Care Units: A Systematic Review. Journal of Acute Care Physical Therapy 2021, 12(1):37-48.  Jin P, Zhao T, Wei Y, Zhao F: Efficacy of beta-blockers in the treatment of sepsis. Bangladesh Journal of Pharmacology 2021, 16(1):1-18.  Li J, Sun W, Guo Y, Ren Y, Li Y, Yang Z: Prognosis of β-adrenergic blockade therapy on septic shock and sepsis: A systematic review and meta-analysis of randomized controlled studies. Cytokine 2020, 126:154916.  Chacko CJ, Gopal S: Systematic review of use of β-blockers in sepsis. Journal of Anaesthesiology Clinical Pharmacology 2015, 31(4):460-465.  Sanfilippo F, Santonocito C, Morelli A, Foex P: Beta-blocker use in severe sepsis and septic shock: A systematic review. Current Medical Research and Opinion 2015, 31(10):1817-1825.  Teja B, Bosch NA, Walkey AJ, Pinto R, Wunsch H: Vasopressor Dosing in Septic Shock Clinical Trials: A Systematic Review and Ecologic Study. Ann Am Thorac Soc 2020, 17(6):773-776.  Yu YW, Sun TW, Wan YD, Liu ZQ, Kan QC: [Effects of β-blockers in patients with septic shock: a meta analysis]. Zhonghua Yi Xue Za Zhi 2016, 96(7):570-574.  Duclos G, Baumstarck K, Dünser M, Zieleskiewicz L, Leone M: Effects of the discontinuation sequence of norepinephrine and vasopressin on hypotension incidence in patients with septic shock: A meta-analysis. Heart Lung 2019, 48(6):560-565.  Mavrothalassitis OY, Allen IE, Lazzareschi DV, Tahir P, Legrand M: Impact of Vasodilator Administration on Survival in Patients with Sepsis: A Systematic Review and Meta-Analysis. Annals of the American Thoracic Society 2023, 20(9):1345-1352. |
| **Abstract/protocol only** |
| Borghi G, Greco T, Zambon M, Pasin L, Mattioli L, Febres Escalante D, Landoni G, Zangrillo A: Terlipressin versus norepinephrine for treatment of vasodilatory hypotension: A meta-analysis of randomized controlled studies. Intensive Care Medicine 2012, 38: S89.  Dogliotti A, Ramos A, Lovesio C: Vasopressor agents in the treatment of shock: A network meta-analysis of 4,406 patients. Intensive Care Medicine Experimental 2016, 4.  Elkady GAM, Elshafei MMN, Mostafa ANS, Awoad ATA: Vasopressors in septic shock (a systematic review / meta-analysis). QJM 2020, 113(SUPPL 1): i15.  Fukui S, Higashio K, Murao S, Endo A, Akira T, Yamakawa K: Optimal target blood pressure in critically ill adult patients with vasodilatory shock: a protocol for a systematic review and meta-analysis. BMJ Open 2021, 11(3): e048512.  McIntyre W, Um K, Lengyel A, Healey J, Whitlock R, Belley-Cote E: Vasopressin versus catecholaminergic vasopressors in the treatment of vasodilatory shock: A systematic review and meta-analysis of the impact on atrial fibrillation, myocardial injury and mortality. Canadian Journal of Cardiology 2017, 33(10): S129-S130.  Melzer D: Dopamine versus norepinephrine in the treatment of septic shock: A meta-analysis: De Backer D, Aldecoa C, Njimi H, Vincent JL. Crit Care Med 2012;40:725-30. Journal of Emergency Medicine 2012, 42(6):751.  Pereira VGM, Serpa Neto A, Cardoso SO, Manetta JA, Espósito DC, De Oliveira Prado Pasqualucci M: Vasopressin and terlipressin in adult vasodilatory shock: A systematic review and meta-analysis of nine randomized controlled trials. Critical Care 2013, 17:11.  Polito A, Parisini E, Ricci Z, Picardo S, Annne D: Vasopressin for the treatment of vasodilatory shock: An ESICM systematic review and a meta-analysis. Critical Care 2011, 15: S33-S34.  Sedhai YR, Shrestha D, Budhathoki P, Memon W, Acharya R, Asija A, Gaire S, Pokharel N, Maharjan S, Jasaraj R et al: Vasopressin versus norepinephrine as the first-line vasopressor in septic shock: A meta-analysis. Crit Care Med 2022, 50(1 SUPPL):762.  Shenoy S, Ganesh A, Rishi A, Doshi V, Lankala S, Molnar J, Kogilwaimath S: Dopamine versus norepinephrine in septic shock: A meta-analysis. Crit Care 2011, 15: S32.  Zhou F, Peng Z, Zhang W, Bishop J, Song Q: Is norepinephrine more effective than other vasopressors for septic shock? A systematic review and meta-analysis. Crit Care 2013, 17: S83.  Ishisaka Y, Wang H, Sharma V, Hasegawa D, Miyakawa L, Rothman A: Use of Phenylephrine Compared to Norepinephrine in Patients With Sepsis; a Meta-analysis of Mortality and Review of Current Literature. Am J Respir Crit Care Med 2023, 207. |
| **Not meta-analysis** **of RCTs** |
| Allen JM, Feild C, Shoulders BR, Voils SA: Recent Updates in the Pharmacological Management of Sepsis and Septic Shock: A Systematic Review Focused on Fluid Resuscitation, Vasopressors, and Corticosteroids. The Annals of pharmacotherapy 2019, 53(4):385-395.  Bissell BD, Browder K, McKenzie M, Flannery AH: A Blast From the Past: Revival of Angiotensin II for Vasodilatory Shock. Annals of Pharmacotherapy 2018, 52(9):920-927.  Busse LW, McCurdy MT, Ali O, Hall A, Chen H, Ostermann M: The effect of angiotensin II on blood pressure in patients with circulatory shock: A structured review of the literature. Crit Care 2017, 21(1).  Guinot PG, Martin A, Berthoud V, Voizeux P, Bartamian L, Santangelo E, Bouhemad B, Nguyen M: Vasopressor-sparing strategies in patients with shock: A scoping-review and an evidence-based strategy proposition. J Clinical Med 2021, 10(14).  Friedrich JO, Lapinsky SE: New evidence for old therapies in catecholamine-dependent septic shock. Intensive Care Med 2001, 27(4):787-790.  Honarmand K, Um KJ, Belley-Côté EP, Alhazzani W, Farley C, Fernando SM, Fiest K, Grey D, Hajdini E, Herridge M et al: Canadian Critical Care Society clinical practice guideline: The use of vasopressin and vasopressin analogues in critically ill adults with distributive shock. Can J Anaesth 2020, 67(3):369-376.  Katz DV, Troster EJ, Vaz FA: [Dopamine and kidney in sepsis: a systematic review]. Rev Assoc Med Bras (1992) 2003, 49(3):317-325.  Kwok ESH, Howes DW: Use of methylene blue in sepsis: A systematic review. J Intensive Care Med 2006, 21(6):359-363.  Lampard JG, Lang E: Vasopressors for hypotensive shock. Annals of emergency medicine 2013, 61(3):351-352.  Potter EK, Hodgson L, Creagh-Brown B, Forni LG: Manipulating the Microcirculation in Sepsis - the Impact of Vasoactive Medications on Microcirculatory Blood Flow: A Systematic Review. Shock 2019, 52(1):5-12.  Rocha DL, Moreira FT, Neto AS: Terlipressin as a first choice in septic shock—not yet. Journal of Thoracic Disease 2019, 11: S1384-S1386.  Rodriguez R, Cucci M, Kane S, Fernandez E, Benken S: Novel Vasopressors in the Treatment of Vasodilatory Shock: A Systematic Review of Angiotensin II, Selepressin, and Terlipressin. J Intensive Care Med 2020, 35(4):327-337.  Sandifer JP, Jones AE: Is the addition of vasopressin to norepinephrine beneficial for the treatment of septic shock? Annals of emergency medicine 2013, 62(5):534-535.  Avni T, Lador A, Lev S, Leibovici L, Paul M, Grossman A: Vasopressors for the Treatment of Septic Shock: Systematic Review and Meta-Analysis. PLoS One 2015, 10(8): e0129305.  Møller MH, Claudius C, Junttila E, Haney M, Oscarsson-Tibblin A, Haavind A, Perner A: Scandinavian SSAI clinical practice guideline on choice of first-line vasopressor for patients with acute circulatory failure. Acta anaesthesiologica Scandinavica 2016, 60(10):1347-1366.  Huang HJ, Wu CX, Shen QK, Xu H, Fang YX, Mao W: The effect of early vasopressin use on patients with septic shock: A systematic review and meta-analysis. AMERICAN JOURNAL OF EMERGENCY MEDICINE 2021, 48:203-208.  Mandal N, Kham NI, Shahid R, Naik SS, Ramphall S, Rijal S, Prakash V, Ekladios H, Saju JM, Venugopal S: Efficacy and Safety of Vasopressin Alone or in Combination With Catecholamines in the Treatment of Septic Shock: A Systematic Review. CUREUS JOURNAL OF MEDICAL SCIENCE 2022, 14(9).  Tibi S, Zeynalvand G, Mohsin H: Role of the Renin Angiotensin Aldosterone System in the Pathogenesis of Sepsis-Induced Acute Kidney Injury: A Systematic Review. Journal of Clinical Medicine 2023, 12(14).  Zhao CC, Zhai YJ, Hu ZJ, Huo Y, Li ZQ, Zhu GJ: Efficacy and safety of methylene blue in patients with vasodilatory shock: A systematic review and meta-analysis. Frontiers in medicine 2022, 9.  Xourgia E, Exadaktylos AK, Chalkias A, Ziaka M: Angiotensin II in the treatment of distributive shock: A Systematic Review and Meta-Analysis. Shock 2024, 62(2):155-164.  Semedi BP, Rehatta NM, Soetjipto S, Nugraha J, Mahyuddin MH, Arnindita JN, Wairooy NAP: How Effective is Angiotensin II in Decreasing Mortality of Vasodilatory Shock? A Systematic Review. Open access emergency medicine : OAEM 2023, 15:1-11.  Mao FK, Liang DC, Tang ZW, Xu YX, Lin LQ: TERLIPRESSIN COMBINED WITH NOREPINEPHRINE IN THE TREATMENT OF SEPTIC SHOCK: A SYSTEMATIC REVIEW. Shock 2023, 60(4):479-486.  Sedhai YR, Shrestha DB, Budhathoki P, Memon W, Acharya R, Gaire S, Pokharel N, Maharjan S, Jasaraj R, Sodhi A et al: Vasopressin versus norepinephrine as the first-line vasopressor in septic shock: A systematic review and meta-analysis. J Clin Transl Res 2022, 8(3):185-199. |