

Mechanische vs. manuelle Reanimation: Der Stand der Dinge

Literatur:

- Boehm R (1877) Über Wiederbelebung nach Vergiftungen und Asphyxie. *Archiv für experimentelle Pathologie und Pharmakologie* 8 (1-2): 68-101
- Kouwenhoven WB, Jude JR, Knickerbocker GG (1960) Closed-Chest Cardiac Massage. *JAMA* 173: 1064-1067
- Koster RW, Baubin MA, Bossaert LL, Caballero A, Cassan P, Castren M et al. (2010) European Resuscitation Council Guidelines for Resuscitation 2010: Section 2. Adult basic life support and use of automated external defibrillators. *Resuscitation* 81: 1277-92
- Paradis NA, Martin GB, Rivers EP, Goetting MG, Appleton TJ, Feingold M, Nowak RM (1990) *JAMA* 263 (8): 1106-13
- Edelson DP, Abella BS, Kramer-Johansen J, Wik L, Myklebust H, Barry AM, Merchant RM, Hoek TL, Steen PA, Becker LB (2006) Effects of compression depth and pre-shock pauses predict defibrillation failure during cardiac arrest. *Resuscitation* 71 (2): 137-45
- Stiell IG, Brown SP, Nichol G, Cheskes S, Vaillancourt C, Callaway CW, Morrison LJ, Christenson J, Aufderheide TP, Davis DP, Free C, Hostler D, Stouffer JA, Idris AH (2014) Resuscitation Outcomes Consortium Investigators. What is the optimal chest compression depth during out-of-hospital cardiac arrest resuscitation of adult patients? *Circulation* 130 (22): 1962-70. doi: 10.1161/CIRCULATIONAHA.114.008671. Epub 2014 Sep 24
- Abella BS et al. (2005) Chest Compression Rates During Cardiopulmonary Resuscitation Are Suboptimal. A Prospective Study During In-Hospital Cardiac Arrest. *Circulation* 111: 428-434
- Ashton A, McCluskey A, Gwinnutt CL, Keenan AM (2002) Effect of rescuer fatigue on performance of continuous external chest compressions over 3 min. *Resuscitation* 55 (2): 151-5
- Steen S, Liao Q, Pierre L, Paskevicius A, Sjöberg T (2004) Continuous intratracheal insufflation of oxygen improves the efficacy of mechanical chest compression-active decompression CPR. *Resuscitation* 62 (2): 219-27
- Axelsson C, Karlsson T, Axelsson AB, Herlitz J (2009) Mechanical active compression-decompression cardiopulmonary resuscitation (ACD-CPR) versus manual CPR according to pressure of end tidal carbon dioxide (P(Et)CO₂) during CPR in out-of-hospital cardiac arrest (OHCA). *Resuscitation* 80 (10): 1099-103
- Rubertsson S, Lindgren E, Smekal D, Östlund O, Silfverstolpe J, Lichtveld RA, Boomars R, Ahlstedt B, Skoog G, Kastberg R, Halliwell D, Box M, Herlitz J, Karlsten R (2014) Mechanical chest compressions and simultaneous defibrillation vs conventional cardiopulmonary resuscitation in out-of-hospital cardiac arrest: the LINC randomized trial. *JAMA* 311 (1): 53-61. doi: 10.1001/jama.2013.282538
- Halperin HR et al. (2004) Cardiopulmonary resuscitation with a novel chest compression device in a porcine model of cardiac arrest. *J Am Coll Cardiol* 44 (11): 2214-2220
- Ong ME et al. (2006) Use of an automated, load-distributing band chest compression device for out-of-hospital cardiac arrest resuscitation. *JAMA* 295 (22): 2629-37
- Hallstrom A et al. (2006) Manual chest compression vs use of an automated chest compression device during resuscitation following out-of-hospital cardiac arrest: a randomized trial. *JAMA* 295 (22): 2620-8
- Wik L, Olsen JA, Persse D, Sterz F, Lozano M Jr, Brouwer MA, Westfall M, Souders CM, Malzer R, van Grunsven PM, Travis DT, Whitehead A, Herken UR, Lerner EB (2014) Manual vs. integrated automatic load-distributing band CPR with equal survival after out of hospital cardiac arrest. The randomized CIRC trial. *Resuscitation* 85 (6): 741-8. doi:10.1016/j.resuscitation.2014.03.005. Epub 2014 Mar
- Wagner H et al. (2010) Cardiac arrest in the catheterisation laboratory: a 5-year experience of using mechanical chest compressions to facilitate PCI during prolonged resuscitation efforts. *Resuscitation* 81 (4): 383-7
- Gates S, Quinn T, Deakin CD, Blaire L, Coupera K, Perkins GD (2015) Mechanical chest compression for out of hospital cardiac arrest: Systematic review and meta-analysis. *Resuscitation* 94: 91-9
- Diepenseifen CJ, Heister U, Schewe J-C (2011) Kardiopulmonale Reanimation (CPR) Transport unter CPR – Wann macht es Sinn? *Anästhesiol Intensivmed Notfallmed Schmerzther* 46: 402-407
- Fox J et al. (2013) Mechanical versus manual chest compression CPR under ground ambulance transport conditions. *Acute Card Care* 15 (1): 1-6
- Putzer G et al. (2013) LUCAS compared to manual cardiopulmonary resuscitation is more effective during helicopter rescue – a prospective, randomized, cross-over manikin study. *Am J Emerg Med* 31 (2): 384-9. doi: 10.1016/j.ajem.2012.07.018
- Blomberg H, Gedeborg R, Berglund L, Karlsten R, Johansson J (2011) Poor chest compression quality with mechanical compressions in simulated cardiopulmonary resuscitation: a randomized, cross-over manikin study. *Resuscitation* 82 (10): 1332-7. doi: 10.1016/j.resuscitation.2011.06.002

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