

HEIMLICH MANEVRASI

Bilgen ÖZKAYA¹

GİRİŞ

Trakeobronşiyal yabancı cisim aspirasyonu (YCA), ani solunum yolu obstrüksiyonuna yol açarak dakikalar içinde yaşamı tehdit edebilen, özellikle bebekler, küçük çocuklar, yaşlı bireyler ve belirli risk gruplarında daha sık ve ölümcül seyreden bir acil durumdur. YCA tanısının gecikmesi hipoksik beyin hasarı ve ölüm gibi geri dönüşümsüz sonuçlara yol açabilmektedir. Bu durumla mücadelede 1974 yılında Dr. Henry Heimlich tarafından tanımlanan ve adını taşıyan manevra, üst hava yolu tıkanıklıklarında pozitif intratorasik basınç oluşturarak yabancı cismin dışarı atılmasını hedefleyen etkili bir ilk yardım müdahalesi olarak geliştirilmiş ve zaman içinde hem toplum temelli uygulamalarda hem de profesyonel sağlık sistemlerinde hayat kurtarıcı bir standart haline gelmiştir (1,2). Amerikan Kalp Derneği (American Heart Association, AHA) ve Avrupa Resüsitasyon Konseyi (European Resuscitation Council, ERC) ve Birleşik Krallık Resüsitasyon Konseyi (Resuscitation Council UK, RCUK) gibi saygın kılavuz kurumlar, > 1 yaş çocuklar ve erişkinlerde Heimlich manevrasını öncelikli girişim olarak önermeye devam etmektedir (3-6). Ancak yaş, anatomik farklılıklar (örneğin gebelik ve obezite), müdahale koşulları ve uygulayıcının eğitimi gibi faktörler manevranın başarısını ve güvenliğini doğrudan etkilemektedir. Ayrıca bildirilen ciddi komplikasyonlar, müdahalenin dikkatle ve bilgiye dayalı biçimde uygulanması gerektiğini ortaya koymaktadır. Bu kapsamda, teknolojik eğitim modelleri ve alternatif cihazlar da Heimlich manevrasının etkinliğini artırmak amacıyla gündeme gelmiştir. Bu çalışma kapsamında Heimlich manevrasının etki mekanizması, farklı yaş ve risk gruplarındaki uygulama algoritmaları, klinik etkinliği, olası komplikasyonları, başarısızlık durumunda uygulanabilecek ileri girişimler ve gelişmekte olan alternatif teknolojilerle karşılaştırılması literatür destekli olarak detaylı şekilde ele alınacaktır.

¹ Uzm. Dr., Lôsante Çocuk ve Yetişkin Hastanesi, Acil Tıp Kliniği, bilgenilkuplu@gmail.com, ORCID ID: 0000-0003-1659-4723

malarla desteklenmesi ve komplikasyon risklerine karşı dikkatli olunması gerekmektedir.

Literatürde bildirilen ciddi komplikasyonlar özellikle ileri yaş, gebelik, obezite gibi özel durumlarda daha dikkatli ve eğitilmiş uygulamayı zorunlu kılmaktadır. Ayrıca, vakum bazlı emme cihazları gibi yeni teknolojiler ile simülasyon destekli eğitim araçları, geleneksel uygulamalara alternatif veya tamamlayıcı yollar sunarak acil müdahale alanında yeni bir çerçeve oluşturmaktadır.

Gelecekteki öncelikler arasında topluma yönelik yaygınlaştırılmış ilk yardım eğitimleri, özel risk grupları için güncellenmiş algoritmalar, komplikasyonları en aza indiren uygulama protokolleri ve Heimlich manevrasının yerini alabilecek veya tamamlayabilecek teknolojik çözümlere yönelik bilimsel araştırmalar yer almalıdır.

Sonuç olarak, Heimlich manevrası basit bir ilk yardım tekniğinden öte, etkili bir halk sağlığı aracıdır. Ancak bu etkinliğin sürdürülebilmesi, yalnızca uygulamanın değil, eğitimin de doğru bireylere ulaştırılması ile mümkündür.

KAYNAKLAR

1. Heimlich HJ. A life-saving maneuver to prevent food-choking. *JAMA*. 1975;234(4):398–401.
2. Pavitt MJ, Swanton LL, Hind M, et al. Choking on a foreign body: a physiological study of the effectiveness of abdominal thrust manoeuvres to increase thoracic pressure. *Thorax*, 2017; 72(6): 576–578. doi:10.1136/thoraxjnl-2016-209540
3. Panchal AR, Bartos JA, Cabañas JG, et al. Part 3: Adult Basic and Advanced Life Support: 2020 American Heart Association Guidelines for CPR and ECC. *Circulation*, **142** (16_suppl_2), S366–S468, 2020. doi:10.1161/CIR.0000000000000916
4. Resuscitation Council UK (2021). Paediatric basic life support Guidelines. [Online] <https://www.resus.org.uk/library/2021-resuscitation-guidelines/paediatric-basic-life-support-guidelines> [Accessed: 7th June 2025]
5. Resuscitation Council UK. *Adult basic life support Guidelines*. [Online] <https://www.resus.org.uk/library/2021-resuscitation-guidelines/adult-basic-life-support-guidelines> [Accessed: 8th June 2025]
6. Topjian AA, Raymond TT, Atkins DL, et al. Part 4: Pediatric Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2020;142(16_suppl_2):S469–S523. doi:10.1161/CIR.0000000000000901
7. Dodson H, Sharma S, Cook J. Foreign Body Airway Obstruction. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; Jan 2025. [Online] <https://www.ncbi.nlm.nih.gov/books/NBK553186> [Accessed: 1st July 2025]
8. Chen Z, Zhu F, Zhang N, et al. Therapeutic experience from 1428 patients with pediatric tracheobronchial foreign body. *Journal of Pediatric Surgery*. 2008;43(4):718–721. doi:10.1016/j.jpedsurg.2007.10.010
9. Saki N, Nikakhlagh S, Rahim F, et al. Foreign body aspirations in infancy: a 20-year experience. *International Journal of Medical Sciences*. 2009;6(6):322–328. doi:10.7150/ijms.6.322
10. National Safety Council. *Injury Facts: Deaths in the home and community by age group and*

- cause. [Online] <https://injuryfacts.nsc.org/home-and-community/home-and-community-overview/deaths-in-the-home-and-community-by-age-group-and-cause/> [Accessed: 10th June 2025]
11. Centers for Disease Control and Prevention (CDC). *Web-based Injury Statistics Query and Reporting System (WISQARS): Leading Causes of Death Reports, 1981–2020*. [Online] <https://wisqars.cdc.gov/fatal-leading> [Accessed: 10th June 2025]
 12. Parvar SY, Sarasyabi MS, Moslehi MA, et al. The characteristics of foreign bodies aspirated by children across different continents: A comparative review. *Pediatric Pulmonology*. 2023;58(2):408–424. doi:10.1002/ppul.26242
 13. Chang DT, Abdo K, Bhatt JM, et al. Persistence of choking injuries in children. *International Journal of Pediatric Otorhinolaryngology*. 2021;144:110685. doi:10.1016/j.ijporl.2021.110685
 14. Centers for Disease Control and Prevention (CDC). *Nonfatal choking-related episodes among children—United States, 2001. Morbidity and Mortality Weekly Report*. 2002;51(42):945–948. [Online] <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5142a1.htm> [Accessed: 10th June 2025]
 15. Passali D, Lauriello M, Bellussi L, et al. Foreign body inhalation in children: an update. *Acta Otorhinolaryngol Italica*, 30 (1), 27–32, 2010.
 16. Foltran F, Ballali S, Passali FM, et al. Foreign bodies in the airways: a meta-analysis of published papers. *International Journal of Pediatric Otorhinolaryngology*, 76 (Suppl 1), S12–S19, 2012. <https://doi.org/10.1016/j.ijporl.2012.02.004>
 17. Aslan N, Yıldızdaş D, Özden Ö, et al. Evaluation of foreign body aspiration cases in our pediatric intensive care unit: single-center experience. *Turkish Archives of Pediatrics*. 2019;54(1):44–48. doi: 10.14744/TurkPediatriArs.2019.60251
 18. Tanrıverdi MH, Çelik C, et al. Bronkoskopik değerlendirme ile yabancı cisim aspirasyonu tanısının doğruluğu. *Gaziosmanpaşa Tıp Dergisi*, 7 (2), 60–65, 2015.- bu yok
 19. Hemsley B, Steel J, Sheppard JJ, et al. Dying for a meal: an integrative review of characteristics of choking incidents and recommendations to prevent fatal and nonfatal choking across populations. *American Journal of Speech-Language Pathology*. 2019;28(3):1283–1297. doi:10.1044/2018_AJSLP-18-0150
 20. Soma-Pillay P, Nelson-Piercy C, Tolppanen H, et al. Physiological changes in pregnancy. *Cardiovascular Journal of Africa*. 2016;27(2):89–94. doi:10.5830/CVJA-2016-021
 21. LoMauro A, Aliverti A. Respiratory physiology of pregnancy. *Breathe*. 2015;11(4):297–301. doi:10.1183/20734735.008615
 22. Rose DL. *Airway foreign bodies*. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. [Online] <https://www.ncbi.nlm.nih.gov/books/NBK539756/> [Accessed: 14th June 2025]
 23. Bajaj D, Sachdeva A, Deepak D. Foreign body aspiration. *Journal of Thoracic Disease*. 2021;13(8). doi:10.21037/jtd.2020.03.94
 24. Ojeda Rodriguez J, Ladd M, Brandis D. *Abdominal thrust maneuver*. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. [Online] <https://www.ncbi.nlm.nih.gov/books/NBK531467/> [Accessed: 9th June 2025]
 25. Heimlich HJ. Pop goes the café coronary. *Emergency Medicine*. 1974;6:154–155.
 26. Guildner CW, Williams D, Subitch T. Airway obstructed by foreign material: the Heimlich maneuver. *Journal of the American College of Emergency Physicians*. 1976;5(9):675–677. doi:10.1016/s0361-1124(76)80099-8
 27. Sternbach G, Kiskaddon RT. Henry Heimlich: a life-saving maneuver for food choking. *Journal*

- of Emergency Medicine*. 1985;3(2):143–148. doi:10.1016/0736-4679(85)90047-2
28. Heimlich HJ, Patrick EA. The Heimlich maneuver. Best technique for saving any choking victim's life. *Postgraduate Medicine*. 1990;87(6):38–48,53. doi:10.1080/00325481.1990.11716329
 29. American Heart Association. Part 4: Adult basic life support. *Circulation*. 2005;112(24 Suppl). doi:10.1161/CIRCULATIONAHA.105.166553
 30. Handley AJ, Koster R, Monsieurs K, et al. European Resuscitation Council guidelines for resuscitation 2005. Section 2. Adult basic life support and use of automated external defibrillators. *Resuscitation*. 2005;67 Suppl 1: S7–S23. doi:10.1016/j.resuscitation.2005.10.007
 31. American Heart Association. *Heartsaver® Infant Choking Digital Poster: KJ-1708*. Dallas (TX): American Heart Association; 2021.
 32. American Red Cross. *Adult and child choking*. [Online] <https://www.redcross.org/take-a-class/resources/learn-first-aid/adult-child-choking> [Accessed: 9th June 2025]
 33. Mayo Clinic Staff. *First aid for choking: adult*. [Online] <https://www.mayoclinic.org/first-aid/first-aid-choking/basics/art-20056637> [Accessed: 9th June 2025]
 34. Resuscitation Council UK. *Adult choking algorithm*. [Internet]. 2021. [Online] <https://www.resus.org.uk/sites/default/files/2021-04/Adult%20Choking%20Algorithm%202021.pdf> [Accessed: 14th June 2025]
 35. Carlile T. Self-administered Heimlich maneuver. *JAMA*. 1983;249(23):3175. Doi:10.1001/jama.1983.03330470017017
 36. European Resuscitation Council. *European Resuscitation Council Guidelines 2021: Basic Life Support*. [Online] <https://cprguidelines.eu/assets/guidelines/European-Resuscitation-Council-Guidelines-2021-Ba.pdf> [Accessed: 9th June 2025]
 37. Visintine RE, Baick CH. Ruptured stomach after Heimlich maneuver. *JAMA*. 1975;234(4): 415.
 38. Ebrahimi M, Mirhaghi A. Heimlich maneuver complications: a systematic review. *Eurasian Journal of Emergency Medicine*. 2019;18(3):157–165. doi: 10.4274/eajem.galenos.2019.21033.
 39. Kleytman N, Satoskar S, Gonzalez CR, et al. Gastric rupture secondary to a Heimlich maneuver: a case report. *Cureus*. 2024;16(8):e66466. doi: 10.7759/cureus.66466.Top of Form
 40. Truong T, Salire K, De Cicco I, et al. Incarcerated diaphragmatic hernia following Heimlich maneuver. *Proceedings (Baylor University Medical Center)*. 2017;31(1):48–50. Doi: 10.1080/08998280.2017.1391034.
 41. Ulger H. Complications of the Heimlich maneuver: isolated sternum fracture. *Journal of Clinical and Analytical Medicine*. 2016;7(1):15–16.
 42. Drinka P. Broken ribs following CPR or the Heimlich maneuver. *Journal of the American Medical Directors Association*. 2009;10(4):283–284. doi: 10.1016/j.jamda.2009.02.009.
 43. Agia GA, Hurst DJ. Pneumomediastinum following the Heimlich maneuver. *Journal of the American College of Emergency Physicians*. 1979;8(11):473–475. Doi: 10.1016/s0361-1124(79)80064-7.
 44. Koss SL, Karle WE, Dibelius G, et al. Esophageal perforation as a complication of the Heimlich maneuver in a pediatric patient: a case report. *Ear, Nose & Throat Journal*. 2018;97(7): E1–E3. Doi: 10.1177/014556131809700701.
 45. Cecchetto G, Viel G, Cecchetto A, et al. Fatal splenic rupture following Heimlich maneuver: case report and literature review. *American Journal of Forensic Medicine and Pathology*. 2011;32(2):169–171. doi: 10.1097/PAF.0b013e318219c878.
 46. Otero Palleiro MM, Barbagelata López C, Fernández Pretel MC, et al. Hepatic rupture after Heimlich maneuver. *Annals of Emergency Medicine*. 2007;49(6):825–826. Doi: 10.1016/j.annemergmed.2006.12.019

47. Valero V. Mesenteric laceration complicating a Heimlich maneuver. *Annals of Emergency Medicine*. 1986;15(1):105–106. Doi: 10.1016/s0196-0644(86)80536-4.
48. Wang C, Wang ZZ, Wang TB. Blunt myocardial injury and gastrointestinal hemorrhage following Heimlich maneuver: a case report and literature review. *World Journal of Emergency Medicine*. 2022;13(3):248–250. doi: 10.5847/wjem.j.19208642.2022.038
49. Lee KY, Wu YL, Ho SW. Silent aortic dissection after the Heimlich maneuver: a case report. *Journal of Emergency Medicine*. 2019;56(2):210–212. Doi: 10.1016/j.jemermed.2018.09.053.
50. Desai SC, Chute DJ, Desai BC, et al. Traumatic dissection and rupture of the abdominal aorta as a complication of the Heimlich maneuver. *Journal of Vascular Surgery*. 2008;48(5):1325–1327. Doi: 10.1016/j.jvs.2008.05.061.
51. Pawlukiewicz AJ, Merrill DR, Griffiths SA, et al. Cholesterol embolization and arterial occlusion from the Heimlich maneuver. *American Journal of Emergency Medicine*. 2021;43:290.e1–290.e3. doi: 10.1016/j.ajem.2020.09.079.
52. Putnam EM, Allen RL, Engle AJ, et al. Virtual reality simulation for critical pediatric airway management training. *Journal of Clinical and Translational Research*. 2021;7(1):93–99.
53. Shepherd W. Airway foreign bodies in adults. 2025. [Online]. Available: https://www.uptodate.com/contents/airway-foreign-bodies-in-adults?search=choking&source=search_result&selectedTitle=2~150&usage_type=default&display_rank=2#H3839937. [Accessed: 14 Haz 2025].
54. Limper AH, Prakash UB. Tracheobronchial foreign bodies in adults. *Annals of Internal Medicine*. 1990;112(8):604–609. doi: 10.7326/0003-4819-112-8-604.
55. Chen CH, Lai CL, Tsai TT, et al. Foreign body aspiration into the lower airway in Chinese adults. *Chest*. 1997;112(1):129–133. doi: 10.1378/chest.112.1.129.
56. Duan L, Chen X, Wang H, et al. Surgical treatment of late-diagnosed bronchial foreign body aspiration: a report of 23 cases. *Clinical Respiratory Journal*. 2014;8(3):269–273. doi: 10.1111/crj.12040.
57. Paludi MA, Palermo N, Limonti F, et al. A systematic review on suction-based airway clearance devices for foreign body airway obstruction. *International Emergency Nursing*. 2025;79:101575. doi: 10.1016/j.ienj.2025.101575.
58. Patterson E, Tang HT, Ji C, et al. The efficacy and usability of suction-based airway clearance devices for foreign body airway obstruction: a manikin randomised crossover trial. *Resuscitation Plus*. 2021;5:100067. doi: 10.1016/j.resplu.2020.100067.
59. Ramaswamy A, Done A, Solis R, et al. The efficacy of two commercially available devices for airway foreign body relief: a cadaver study. *Laryngoscope Investigative Otolaryngology*. 2023;8(3):708–711. doi: 10.1002/lio2.1057.
60. Dunne CL, Osman S, Viguers K, et al. Phase one of a global evaluation of suction-based airway clearance devices in foreign body airway obstructions: a retrospective descriptive analysis. *International Journal of Environmental Research and Public Health*. 2022;19(7):3846. doi: 10.3390/ijerph19073846.
61. Resuscitation Council UK. RCUK's position on the use of suction-based airway clearance devices in choking individuals. *Resuscitation Council UK*. May 2023. [Çevrimiçi]. Available: <https://www.resus.org.uk/about-us/news-and-events/rcuks-position-use-suction-based-airway-clearance-devices-choking-individuals>. [Accessed: 14 Haz 2025].