

## Literatur herzmedizin 4/2023

### Ambulante Herzinsuffizienzgruppen – eine Erweiterung der Herzgruppenarbeit

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#### Literatur:

1. Deutsche Herzstiftung in Kooperation mit der Deutschen Gesellschaft für Kardiologie (DGK): Deutscher Herzbericht 2021 <https://www.dgthg.de>
2. Frantz S et al. DGK-Leitlinie Akute und chronische Herzinsuffizienz (Version 2021). Eur Heart J 2021. <https://leitlinien.dgk.org>
3. Conrad N et al. Temporal trends and patterns in heart failure incidence: a population based study of 4 million individuals. Lancet 2018; 391(10120): 572–80
4. Bruck H et al. Medicom | Kardioresnales vs. renokardiales Syndrom Fallbeispiele der Therapie des kardioresnales Syndroms; Medicom Verlags gmbH, Ausgabe 3/2013
5. Poster und Vorträge im Rahmen der "Heart Failure 2015", Sevilla (Spanien), 23.–26. Mai 2015. Erschienen in: „Der Allgemeinarzt“, Kirchheim Verlag 2016; 38(10): 24–25
6. S3-Leitlinie zur kardiologischen Rehabilitation (LL-KardReha) im deutschsprachigen Raum Europas Deutschland, Österreich, Schweiz (D-A-CH), Version 1.0 (10.12.2020) AWMF-Registernummer: 133-001, Version 1.2, 07.01.2020, Kap. 4.6
7. Schubmann R. Bewegungstherapie und Patientenschulung: Nicht genügend eingesetzt. Dtsch Arztebl 2016; 113(41): 28
8. Mancini DM et al. Contribution of skeletal muscle atrophy to exercise intolerance and altered muscle metabolism in heart failure. Circulation 1992; 85(4): 1364–73
9. Drexler H et al. Alterations of skeletal muscle in chronic heart failure. Circulation 1992; 85: 1751–9
10. Mancini DM et al. Contribution of intrinsic skeletal muscle changes to <sup>31</sup>P NMR skeletal muscle metabolic abnormalities in patients with chronic heart failure. Circulation 1989; 80: 1338–46
11. Sullivan MJ et al. Skeletal muscle biochemistry and histology in ambulatory patients with long-term heart failure. Circulation 1990; 81: 518–27
12. Hambrecht R et al. Regular physical exercise corrects endothelial dysfunction and improves exercise capacity in patients with chronic heart failure. Circulation 1998; 98: 2709–15
13. Piepoli M et al. Contribution of muscle afferents to the hemodynamic, autonomic, and ventilatory responses to exercise in patients with chronic heart failure. Circulation 1996; 93: 940–52
14. Deutsche Gesellschaft für Prävention und Rehabilitation von Herz-Kreislaufkrankungen: DGPR-Positionspapier „Die Herzinsuffizienzgruppe“. Koblenz, 2018 [www.dgpr.de](http://www.dgpr.de)
15. Wienbergen H et al. Ärztliche Betreuung von ambulanten Herzgruppen. Positionspapier der Deutschen Gesellschaft für Kardiologie-Herz- und Kreislaufforschung (DGK) in Kooperation mit der Deutschen Gesellschaft für Prävention und Rehabilitation von Herz-Kreislaufkrankungen (DGPR). Der Kardiologe 2021; 15: 11–18
16. Güder G et al. Establishing a cardiac training group for patients with heart failure: the “HIP-in-Würzburg” study. Clin Res Cardiol 2022; 111: 406–15
17. Meyer K et al. Interval training in patients with severe chronic heart failure: analysis and recommendations for exercise procedures. Clinical Trial, Med Sci Sports Exerc 1997; 29(3): 306–12

18. Borg G. Psychophysical bases of perceived exertion. *Med Sci Sports Exerc* 1982; 14(5): 377–81
  19. Ebner N & von Haehling S. Kachexie und Sarkopenie bei chronischer Herzinsuffizienz. Veränderung von Muskelkraft und Muskelaufbau. Thieme Verlag, „Die Innere Medizin“, Ausgabe 5/2018
  20. Curriculum Herzinsuffizienztrainer der DGPR: Herzgruppen, Deutsche Gesellschaft für Prävention und Rehabilitation von Herz-Kreislauferkrankungen e.V. [www.dgpr.de](http://www.dgpr.de)
  21. Bundesarbeitsgemeinschaft für Rehabilitation (BAR) (2022): Rahmenvereinbarung über den Rehabilitationssport und das Funktionstraining vom 01.01.2022. Eigenverlag, Frankfurt/M.
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## Multimodaler Therapieansatz bei Patienten mit peripherer arterieller Verschlusskrankheit (PAVK) – Möglichkeiten und Perspektiven durch spezialisierte angiologische Rehabilitation

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### Literatur:

1. Abtan J et al. Geographic variation and risk factors for systemic and limb ischemic events in patients with symptomatic peripheral artery disease: Insights from the REACH Registry. *Clinical Cardiology* 2017; 40(9): 710–18
2. Bauersachs R et al. Burden of Coronary Artery Disease and Peripheral Artery Disease: A Literature Review. *Cardiovasc Ther* 2019; 26: 8295054
3. Diehm C et al. Mortality and vascular morbidity in older adults with asymptomatic versus symptomatic peripheral artery disease. *Circulation* 2009; 120: 2053–61
4. Song P et al. Global, regional, and national prevalence and risk factors for peripheral artery disease in 2015: an updated systematic review and analysis. *Lancet Glob Health* 2019; 7: e1020-e1030
5. Gebauer K et al, Medikamentöse Sekundärprävention bei Patienten mit peripherer arterieller Verschlusskrankheit. *Herz* 2021; 46(2): 280–6
6. Westin GG et al. Association between statin medications and mortality, major adverse cardiovascular event, and amputation-free survival in patients with critical limb ischemia. *J Am Coll Cardiol* 2014; 63: 682–90
7. Armstrong EJ et al. Adherence to guideline-recommended therapy is associated with decreased major adverse cardiovascular events and major adverse limb events among patients with peripheral arterial disease. *J Am Heart Assoc* 2014; 3: 1–11
8. Hussain MA et al. Efficacy of a Guideline-Recommended Risk-Reduction Program to Improve Cardiovascular and Limb Outcomes in Patients With Peripheral Arterial Disease. *AMA Surg* 2016; 151(8): 742–50
9. Falk J et al. Rehabilitation von Menschen mit einer peripheren arteriellen Verschlusskrankheit im Kontext aktueller Leitlinien. Eine Analyse auf Basis von Routinedaten; DOI <https://doi.org/10.1055/a-0620-6911>
10. S3 – Leitlinie zur kardiologischen Rehabilitation (LL-KardReha) im deutschsprachigen Raum Europas, Deutschland, Österreich, Schweiz (D-A-CH), Version 1.1 (10.12.2020) AWMF Registernummer: 133/001, [www.awmf.org](http://www.awmf.org)
11. Aboyans V et al. 2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS): Document

covering atherosclerotic disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries Endorsed by: the European Stroke Organization (ESO) The Task Force for the Diagnosis and Treatment of Peripheral Arterial Diseases of the European Society of Cardiology (ESC) and of the European Society for Vascular Surgery (ESVS). *Eur Heart J* 2018; 39(9): 763–816

12. Gerhard-Herman MD et al. 2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* 2017; 135(12): e686–e725
13. Treat-Jacobson D et al. American Heart Association Council on Peripheral Vascular Disease; Council on Quality of Care and Outcomes Research; and Council on Cardiovascular and Stroke Nursing. Optimal Exercise Programs for Patients With Peripheral Artery Disease: A Scientific Statement From the American Heart Association. *Circulation* 2019; 139(4): e10–e33
14. Cavalcante BR et al. Are the barriers for physical activity practice equal for all peripheral artery disease patients? *Arch PhysMed Rehabil* 2015; 96(2): 248–52
15. Abaraogu U et al. Barriers and enablers to walking in individuals with intermittent claudication: A systematic review to conceptualize a relevant and patient-centered program. *PLoS One* 2018; 13(7): e0201095
16. Bestehorn K et al. Current state of cardiac rehabilitation in Germany: patient characteristics, risk factor management and control status, by education level. *Vasc Health Risk Manag* 2011; 7: 639–47
17. Stauber S et al. Psychosocial outcome in cardiovascular rehabilitation of peripheral artery disease and coronary artery disease patients. *Vasc Med* 2013; 18(5): 257–62
18. Sozialmedizinische Beurteilung von Menschen mit arteriellen Gefäßkrankheiten (Stand: 07/2013), [www.deutscherentenversicherung.de](http://www.deutscherentenversicherung.de) (Pfad: Fachinfos > Sozialmedizin und Forschung > Sozialmedizin > Begutachtung > Leitlinien]
19. Hamburg N & Balady GJ. Exercise Rehabilitation in Peripheral Artery Disease: Functional Impact and Mechanisms of Benefits. *Circulation* 2011; 123(1): 87–97
20. Fakhry F et al. Supervised walking therapy in patients with intermittent claudication. *J Vasc Surg* 2012; 56(4): 1132–42
21. Lane R et al. Exercise for intermittent claudication. *Cochrane Database Syst Rev* 2014; 18(7)
22. Fakhry F et al. Endovascular Revascularization and Supervised Exercise for Peripheral Artery Disease and Intermittent Claudication: A Randomized Clinical Trial. *JAMA* 2015; 314(18): 1936–44
23. Meneses AL et al. Combined Lower Limb Revascularisation and Supervised Exercise Training for Patients with Peripheral Arterial Disease: A Systematic Review of Randomised Controlled Trials. *Sports medicine (Auckland, NZ)* 2017; 47(5): 987–1002
24. Jansen SCP et al. A systematic review and meta-analysis of the effects of supervised exercise therapy on modifiable cardiovascular risk factors in intermittent claudication. *Journal of Vascular Surgery* 2019; 69(4): 1293–1308
25. Milani R & Lavie CJ. The role of exercise training in peripheral arterial disease. *Vasc Med* 2007; 12: 351
26. Rejeski WJ et al. A group-mediated, home-based physical activity intervention for patients with peripheral artery disease: effects on social and psychological function. *J Transl Med* 2014; 12: 29
27. Li Y et al. A prospective survey study on the education and awareness about walking exercise amongst inpatients with symptomatic peripheral arterial disease in Germany. *Vasa* 2023; 52(4): 218–23

28. Rother U et al. How German vascular surgeons and angiologists judge walking exercise for patients with PAD Results from a nationwide survey amongst 743 members of two major scientific societies. *Vasa* 2023; 52(4): 224–9
- 

## Patient-related Outcome Measures (PROMs) in der kardiovaskulären Rehabilitation: Standardisierte Erfassung der Betroffenenperspektive

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### Literatur:

1. Deutsche Rentenversicherung Bund, Geschäftsbereich Sozialmedizin und Rehabilitation, Bereich Reha-Wissenschaften. Reha-Therapiestandards Koronare Herzkrankheit für die medizinische Rehabilitation der Rentenversicherung. Berlin; 2020
2. Deutsche Gesellschaft für Prävention und Rehabilitation von Herz-Kreislaufkrankungen (DGPR) e. V., Österreichische Kardiologische Gesellschaft (ÖKG), Arbeitsgruppe Prävention, Rehabilitation und Sportkardiologie, Swiss Working Group for Cardiovascular Prevention, Rehabilitation and Sports Cardiology. S3-Leitlinie zur kardiologischen Rehabilitation (LL-KardReha) im deutschsprachigen Raum Europas, Deutschland, Österreich, Schweiz (D-A-CH). Gesamtversion-Langfassung, 2020 AWMF Registernummer: 133/001. [https://www.awmf.org/uploads/tx\\_szleitlinien/133-001I\\_S3-Kardiologische-Rehabilitation-in-D-A-CH\\_2020-01.pdf](https://www.awmf.org/uploads/tx_szleitlinien/133-001I_S3-Kardiologische-Rehabilitation-in-D-A-CH_2020-01.pdf); Stand: 15.06.2021
3. Deutscher Ethikrat. Patientenwohl als ethischer Maßstab für das Krankenhaus. *Jahrbuch für Wissenschaft und Ethik* 2017; 22: 355–94
4. Deutsche Vereinigung für Rehabilitation e. V. Entschliessung der Mitglieder der DVfR zur Umsetzung der UN-Behindertenrechtskonvention. *Rehabilitation (Stuttg)* 2010; 49: 402
5. World Health Organization. International classification of functioning, disability and health: ICF. Geneva: WHO; 2001
6. Tegegn HG et al. Measurement Properties of Patient-Reported Outcome Measures for Medication Adherence in Cardiovascular Disease: A COSMIN Systematic Review. *Clin Drug Investig* 2022; 42: 879–908
7. Weldring T & Smith SMS. Patient-Reported Outcomes (PROs) and Patient-Reported Outcome Measures (PROMs). *Health Serv Insights* 2013; 6: 61–8
8. Chew DS et al. Patient-Reported Outcome Measures in Cardiovascular Disease: An Evidence Map of the Psychometric Properties of Health Status Instruments. *Ann Int Med* 2022; 175: 1431–9
9. Bovend'Eerd T et al. Writing SMART rehabilitation goals and achieving goal attainment scaling: a practical guide. *Clin Rehabil* 2009; 23: 352–61
10. Zoch-Lesniak B et al. Performance Measures for Short-Term Cardiac Rehabilitation in Patients of Working Age: Results of the Prospective Observational Multicenter Registry OutCaRe. *Arch Rehabil Res Clin Transl* 2020; 2: 100043
11. Ware JE et al. *Sf-12: How to score the sf-12 physical and mental health summary scales. Quality Metric incorporated.* Boston MA 1998
12. Berg SK et al. DenHeart: Differences in physical and mental health across cardiac diagnoses at hospital discharge. *J Psychosom Res* 2017; 94: 1–9
13. Kroenke K et al. The PHQ-9: validity of a brief depression severity measure: Validity of a Brief Depression Severity Measure. *J Gen Intern Med* 2001; 16: 606–13
14. Bauer-Staeb C et al. Effective dose 50 method as the minimal clinically important difference: Evidence from depression trials. *J Clin Epidemiol* 2021; 137: 200–8

15. Hoyer J & Eifert G. HAF - Herzangstfragebogen. ZPID (Leibniz Institute for Psychology Information) – Testarchiv; 2009. doi:10.23668/PSYCHARCHIVES.364
  16. Topp CW et al. The WHO-5 Well-Being Index: a systematic review of the literature: A systematic review of the literature. *Psychother Psychosom* 2015; 84: 167–76
  17. Wirtz M et al. IRES-24 Patientenfragebogen. *Diagnostica* 2005; 51: 75–87
  18. Röhrig B et al. Outcome-basierte Einrichtungsvergleiche in der stationären kardiologischen Rehabilitation - Ergebnisse aus dem Projekt EVA-Reha® Kardiologie. *Rehabilitation (Stuttg)* 2015; 54: 45–52
  19. Beierlein C et al. Ein Messinstrument zur Erfassung subjektiver Kompetenzerwartungen: Allgemeine Selbstwirksamkeit Kurzsкала (ASKU) [Mannheim: GESIS]. [https://www.ssoar.info/ssoar/bitstream/handle/document/29235/ssoar-2012-beierlein\\_et\\_al-ein\\_messinstrument\\_zur\\_erfassung\\_subjektiver.pdf?sequence=1](https://www.ssoar.info/ssoar/bitstream/handle/document/29235/ssoar-2012-beierlein_et_al-ein_messinstrument_zur_erfassung_subjektiver.pdf?sequence=1); Stand: 28.07.2023
  20. Salzwedel A et al. Patient-reported outcomes predict return to work and health-related quality of life six months after cardiac rehabilitation: Results from a German multi-centre registry (OutCaRe). *PLOS ONE* 2020; 15: e0232752
  21. Löffler S et al. Das Würzburger Screening zur Identifikation von beruflichen Problemlagen – Entwicklung und Validierung. *Gesundheitswesen* 2008; 70
  22. Kather F et al. Test-retest reliability of the Mini Nutritional Assessment-Short Form (MNA-SF) in older patients undergoing cardiac rehabilitation. *J Geriatr Cardiol* 2020; 17: 574–79
  23. Anker SD et al. The importance of patient-reported outcomes: a call for their comprehensive integration in cardiovascular clinical trials. *Eur Heart J* 2014; 35: 2001–9
  24. Rumsfeld JS et al. Cardiovascular health: the importance of measuring patient-reported health status: a scientific statement from the American Heart Association. *Circulation* 2013; 127: 2233–49
  25. Catalyst NEJM. What Is Patient-Centered Care? *NEJM Catalyst* 2017; 3
  26. Vogel B et al. Implementierung eines psychodiagnostischen Stufenplans in der medizinischen Rehabilitation - Ergebnisse einer Pilotstudie. *Rehabilitation (Stuttg)* 2009; 48: 361–8
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## Leitliniengerechte Fettstoffwechseltherapie in der kardiologischen Reha

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### **Literatur:**

1. S3-Leitlinie zur kardiologischen Rehabilitation (LL-KardReha) im deutschsprachigen Raum Europas. Deutschland, Österreich, Schweiz. (D-A-CH) AWMF-Registernummer: 133-001 Version 1.1 (10.12.2020)
2. Ference BA et al. Low-density lipoproteins cause atherosclerotic cardiovascular disease. 1. Evidence from genetic, epidemiologic, and clinical studies. A consensus statement from the European Atherosclerosis Society Consensus Panel. *Eur Heart J* 2017; 38: 2459–72
3. Baigent C et al. Cholesterol Treatment Trialists' (CTT) Collaborators. Efficacy and safety of cholesterol-lowering treatment: prospective meta-analysis of data from 90,056 participants in 14 randomised trials of statins. *Lancet* 2005; 366: 1267–78
4. Lincoff AM et al. ACCELERATE Investigators. Evacetrapib and cardiovascular outcomes in high-risk vascular disease. *N Engl J Med* 2017; 376: 1933–42
5. HPS/TIMI/REVEAL Collaborative Group, Bowman L et al. Effects of anacetrapib in patients with atherosclerotic vascular disease. *N Engl J Med* 2017; 377: 1217–27

6. Di Angelantonio E et al. Lipid-related markers and cardiovascular disease prediction. *JAMA* 2012; 307: 2499–506
7. Mach F et al. The 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *Eur Heart J* 2019; 37(3): 2999
8. Bhatt DL et al. Cardiovascular risk reduction with Icosapent ethyl for hypertriglyceridemia. *N Engl J Med* 2019; 380: 11–22
9. Nordestgaard BG et al. Lipoprotein(a) as a cardiovascular risk factor: current status. *Eur Heart J* 2010; 31: 2844–53
10. Leebmann J et al. Lipoprotein Apheresis in Patients with Maximally Tolerated Lipid Lowering Therapy, Lp(a)-Hyperlipoproteinemia and Progressive Cardiovascular Disease: Prospective Observational Multicenter Study. *Circulation* 2013; 128: 2567–76
11. Tsimikas S et al. Lipoprotein(a) Reduction in Persons with Cardiovascular Disease. *N Engl J Med* 2020; 382: 244–55
12. Grundy SM et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA guideline on the management of blood cholesterol: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *J Am Coll Cardiol* 2019; 73(24): e285-e350
13. Cannon CP et al. Ezetimibe added to statin therapy after acute coronary syndromes. *N Engl J Med* 2015; 372: 2387–97
14. Sabatine MS et al. Evolocumab and clinical outcomes in patients with cardiovascular disease. *N Engl J Med* 2017; 376: 1713–22
15. Schwartz GG et al. Alirocumab and cardiovascular outcomes after acute coronary syndrome. *N Engl J Med* 2018; 379: 2097–107
16. Singh M et al. Comparison of Transatlantic Approaches to Lipid Management: The AHA/ACC/Multisociety Guidelines vs the ESC/EAS Guidelines. *Mayo Clin Proc* 2020; 95: 998–1014
17. Nissen SE et al. Bempedoic acid and cardiovascular outcomes in statin-intolerant patients. *N Engl J Med* 2023; 388: 1353–64
18. Baigent C et al. Efficacy and safety of more intensive lowering of LDL cholesterol: a metaanalysis of data from 170,000 participants in 26 randomised trials. *Lancet* 2010; 376: 1670–81
19. Schreml J & Gouni-Berthold I. Role of anti-PCSK9 antibodies in the treatment of patients with statin intolerance. *Curr Med Chem* 2018; 25: 1538–48
20. Moriarty PM et al. Efficacy and safety of Alirocumab vs ezetimibe in statin-intolerant patients, with a statin rechallenge arm: The ODYSSEY ALTERNATIVE randomized trial. *J Clin Lipidol* 2015; 9: 758–69
21. Nissen SE et al. Gauss-3 Investigators. Efficacy and tolerability of evolocumab vs ezetimibe in patients with muscle-related statin intolerance: the GAUSS-3 randomized clinical trial. *JAMA* 2016; 315: 1580–90