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**Monday 27th September 2021 Exercise for Cardiac Rehabilitation.**

[Contained within this document are links to video clips, quizzes, templates and academic evidence concerning mental health disorders]

Group Resource Page [Link](https://www.exercisescienceacademy.online/cardiac-rehabilitation)

**Cardiac Rehab Notes**

Lecture on the Cardiorespiratory System [Link](https://youtu.be/uO5ZBgMo8vg)

**Myocardial infarction definition**: A heart attack [Abbreviated MI] The term "**myocardial infarction**" focuses on the **myocardium** (**the heart muscle**) and the changes that occur in it due to the sudden deprivation of circulating blood. The main change is necrosis (death) of **myocardial** tissue.

**Free Textbooks to Download**

* ACSM’s Guidelines for Exercise Testing and Prescription - [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:bcf32813-8e59-49e1-8b36-2ec09d17813f)
* ACSM's Advanced Exercise Physiology (American College of Sports Med) [Link](file:///Users/grantralston/Desktop/Desk%20Top%20Folders/WRIGHT%20FOUNDATION%20CIC/WF%20Day%20Notes/ACSM%27s%20Advanced%20Exercise%20Physiology%20%28American%20College%20of%20Sports%20Med%29)
* Clinical Exercise Testing [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:50e1c955-b2cc-4fa2-90b1-d531cb7246fe)
* Cardiac rehabilitation - British Heart Foundation [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:8fbe7a06-cdf1-4656-a4a4-fe4e2ef7b2da)
* The Gross Physiology of the Cardio-vascular System [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:81c670ab-aba9-406e-9818-2f2a356b4e04)
* Cardiac Rehabilitation Guidelines Phase IV [Belfast] 2016-2017 [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:d0a2131e-3e8e-460d-869e-5ed6b2433bdf)

**Definitions**

**Arteriosclerosis** occurs when the blood vessels that carry oxygen and nutrients from your heart to the rest of your body (arteries) become thick and stiff — sometimes restricting blood flow to your organs and tissues. Healthy arteries are flexible and elastic, but over time, the walls in your arteries can harden, a condition commonly called hardening of the arteries.

**Atherosclerosis** is a specific type of arteriosclerosis, but the terms are sometimes used interchangeably. Atherosclerosis refers to the build-up of fats, cholesterol and other substances in and on your artery walls (plaque), which can restrict blood flow.

The plaque can burst, triggering a blood clot. Although atherosclerosis is often considered a heart problem, it can affect arteries anywhere in your body. Atherosclerosis may be preventable and is treatable.

**Cardiac Observation Links or Virtual Animation**

* Cardiac Exercise[Link](https://youtu.be/Ohm56pv85A0)
* Cardiac Rehab NHS Ayrshire & Arran [Link](https://youtu.be/iElquWB2BtM)
* Cardiac Rehabilitation Exercises [CHRISTUS Health [Link]](https://youtu.be/Ohm56pv85A0)
* Live Cardiac Rehab Class [Link](https://youtu.be/zEPdWTAJ6DU)
* Animation of Valve Replacement [Link](https://youtu.be/mKuoc0ZbKug)
* Cardiac Arrhythmia [Link](https://youtu.be/2U-_Zse5a-8)
* Hypertension [Nucleaus Health] [Link](https://youtu.be/diG519dFVNs)
* Understanding Hypertension [GDAHC Michigan] [Link](file:///Users/grantralston/Desktop/Desk%20Top%20Folders/WRIGHT%20FOUNDATION%20CIC/WF%20Day%20Notes/Understanding%20Hypertension)
* Angina animations YouTube [Link](https://youtu.be/YhcA2yB0IJQ)
* Angioplasty Procedure Animation Video [Link](https://youtu.be/e13TGGccvT4)
* Coronary Artery Bypass Graft (CABG) [Link](https://youtu.be/WX04rLHSTP4)
* Pathophysiology of Pulmonary Arterial Hypertension (PAH) [Link](https://youtu.be/9a4untSzLzg)
* ATHEROSCLEROSIS and CARDIOVASCULAR DISEASE [Link](https://youtu.be/8fuvtMiZfao)
* Cardiac Arrhythmia [Link](https://youtu.be/2U-_Zse5a-8)
* Hypertrophic Cardiomyopathy (HCM) Mechanism of Disease Video [Link](https://youtu.be/_K1F3bHyELo)

**MOOK [Free] Courses** [Link](https://www.mooc.org/)

**Cardiac Rehab Example Template from NHS Trust** [Link](https://www.ouh.nhs.uk/patient-guide/leaflets/files/091011cardiacrehableys.pdf)

BHF High Cholesterol - Causes, Symptoms & Treatments [Link](https://www.bhf.org.uk/informationsupport/risk-factors/high-cholesterol)

**Academic Evidence**

1. Saleh, M. and Ambrose, J.A., 2018. Understanding myocardial infarction. *F1000Research*, *7*.[Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124376/pdf/f1000research-7-16443.pdf) (Table 1 is interesting about the history)
2. Berenson, G.S., Srinivasan, S.R., Bao, W., Newman, W.P., Tracy, R.E. and Wattigney, W.A., 1998. Association between multiple cardiovascular risk factors and atherosclerosis in children and young adults. *New England journal of medicine*, *338*(23), pp.1650-1656. [Link](https://www.nejm.org/doi/full/10.1056/nejm199806043382302) page 8 graph

**Summary Findings -** Among the cardiovascular risk factors, body-mass index, systolic and diastolic blood pressure, and serum concentrations of total cholesterol, triglycerides, low-density lipoprotein cholesterol, and high-density lipoprotein cholesterol, collectively were strongly associated with the extent of lesions in the aorta and coronary arteries In addition, cigarette smoking increased the percentage of the intimal surface involved with fibrous plaques in the aorta (1.22 percent in smokers vs. 0.12 percent in non-smokers) and fatty streaks in the coronary vessels (8.27 percent vs. 2.89 percent). The effect of multiple risk factors on the extent of atherosclerosis was quite evident. Subjects with 0, 1, 2, and 3 or 4 risk factors had, respectively, 19.1 percent, 30.3 percent, 37.9 percent, and 35.0 percent of the intimal surface covered with fatty streaks in the aorta. The comparable figures for the coronary arteries were 1.3 percent, 2.5 percent, 7.9 percent, and 11.0 percent, respectively, for fatty streaks and 0.6 percent, 0.7 percent, 2.4 percent, and 7.2 percent for collagenous fibrous plaques.

1. Price, K.J., Gordon, B.A., Bird, S.R. and Benson, A.C., 2016. A review of guidelines for cardiac rehabilitation exercise programmes: is there an international consensus?. European Journal of Preventive Cardiology, 23(16), pp.1715-1733. [Link](https://journals.sagepub.com/doi/pdf/10.1177/2047487316657669)
2. Ronaldson, A., Molloy, G.J., Wikman, A., Poole, L., Kaski, J.C. and Steptoe, A., 2015. Optimism and recovery after acute coronary syndrome: a clinical cohort study. Psychosomatic medicine, 77(3), p.311. [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4396437/pdf/psm-77-311.pdf) NHS Stats
3. Bhatnagar, P., Wickramasinghe, K., Wilkins, E. and Townsend, N., 2016. Trends in the epidemiology of cardiovascular disease in the UK. Heart, 102(24), pp.1945-1952. [Link](https://heart.bmj.com/content/heartjnl/102/24/1945.full.pdf)

**Summary Findings -** This review highlights that improvements in the burden of CVD have not occurred equally between the four constituent countries of the UK, or between men and women. Some interesting thoughts and statistics

1. Heran, B.S., Chen, J.M., Ebrahim, S., Moxham, T., Oldridge, N., Rees, K., Thompson, D.R. and Taylor, R.S., 2011. Exercise‐based cardiac rehabilitation for coronary heart disease. Cochrane database of systematic reviews. [Link](https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD001800.pub2/full)

**Summary Findings -** Coronary heart disease (CHD) is one of the most common forms of heart disease. It affects the heart by restricting or blocking the flow of blood around it. This can lead to a feeling of tightness in the chest (angina) or a heart attack. Exercise-based cardiac rehabilitation aims to restore people with CHD to health through either regular exercise alone or a combination of exercise with education and psychological support. The findings of this review indicate that exercise-based rehabilitation reduces the likelihood of dying from heart disease and there is moderate evidence of an improvement in quality of life in the predominantly middle aged, male patients included in these studies. More research is needed to assess the overall health impact of exercise-based rehabilitation in a broader range of patients.

**4.** Kavanagh, T., 1982. The Toronto Rehabilitation Centre's cardiac exercise program. J Cardiopulmonary Rehabil, 2, pp.496-502. [Link](https://www.researchgate.net/profile/Terence_Kavanagh/publication/280721873_The_Toronto_Rehabilitation_Centre%27s_Cardiac_Exercise_Program/links/55c2c2c208aea2d9bdbfefaa/The-Toronto-Rehabilitation-Centres-Cardiac-Exercise-Program.pdf)

**5.** Bhatnagar, P., Wickramasinghe, K., Williams, J., Rayner, M. and Townsend, N., 2015. The epidemiology of cardiovascular disease in the UK 2014. Heart, 101(15), pp.1182-1189. [Link](https://heart.bmj.com/content/heartjnl/101/15/1182.full.pdf)

**6.** Oppenheimer, G.M., 2005. Becoming the Framingham study 1947–1950. American journal of public health, 95(4), pp.602-610. [Link](https://ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.2003.026419)

**7.** Barton, K.L., Chambers, S., Anderson, A.S. and Wrieden, W.L., 2018. Time to address the double inequality of differences in dietary intake between Scotland and England. British Journal of Nutrition, 120(2), pp.220-226. [Link](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/A4B1B658E290B2297AB726793AE5AA44/S0007114518001435a.pdf/div-class-title-time-to-address-the-double-inequality-of-differences-in-dietary-intake-between-scotland-and-england-div.pdf)

**8.** Thomas, H., Diamond, J., Vieco, A., Chaudhuri, S., Shinnar, E., Cromer, S., Perel, P., Mensah, G.A., Narula, J., Johnson, C.O. and Roth, G.A., 2018. Global Atlas of Cardiovascular Disease. Global heart, 13(3). [Link](https://globalheartjournal.com/articles/10.1016/j.gheart.2018.09.511/galley/425/download/)

**9.** de Mestral, C. and Stringhini, S., 2017. Socioeconomic status and cardiovascular disease: an update. Current cardiology reports, 19(11), p.115. [Link](https://www.researchgate.net/profile/Carlos_De_Mestral/publication/320133387_Socioeconomic_Status_and_Cardiovascular_Disease_an_Update/links/5b29f66c0f7e9b1d009b846b/Socioeconomic-Status-and-Cardiovascular-Disease-an-Update.pdf)

**10.** Scholes, S., Biddulph, J., Davis, A. and Mindell, J.S., 2018. Socioeconomic differences in hearing among middle-aged and older adults: cross-sectional analyses using the health survey for England. BMJ open, 8(2), p.e019615. [Link](https://bmjopen.bmj.com/content/8/2/e019615)

**Risk factors with Cardiac Disease**

**11.** Petersen, S.E., Sanghvi, M.M., Aung, N., Cooper, J.A., Paiva, J.M., Zemrak, F., Fung, K., Lukaschuk, E., Lee, A.M., Carapella, V. and Kim, Y.J., 2017. The impact of cardiovascular risk factors on cardiac structure and function: Insights from the UK Biobank imaging enhancement study. PloS one, 12(10). [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5626035/)

**12.** Hamer, M., Kivimäki, M., Gale, C.R. and Batty, G.D., 2020. Lifestyle Risk Factors for Cardiovascular Disease in Relation to COVID-19 Hospitalization: A Community-Based Cohort Study of 387,109 Adults in UK. medRxiv. [Link](https://discovery.ucl.ac.uk/id/eprint/10049807/39/ms_biobank_stroke_mi_revised2_clean.pdf)

**13.** Santos, M. and Shah, A.M., 2014. Alterations in cardiac structure and function in hypertension. Current hypertension reports, 16(5), p.428. [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4051201/)

**14.** Hegde, S.M. and Solomon, S.D., 2015. Influence of physical activity on hypertension and cardiac structure and function. Current hypertension reports, 17(10), p.77. [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4624627/)

**15.** Danias, P.G., Tritos, N.A., Stuber, M., Kissinger, K.V., Salton, C.J. and Manning, W.J., 2003. Cardiac Structure and Function in the Obese: A Cardiovascular Magnetic Resonance Imaging Study: STRUCTURE AND FUNCTION. Journal of Cardiovascular Magnetic Resonance, 5(3), pp.431-438. [Link](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.590.3417&rep=rep1&type=pdf)

**16.** Nadruz Jr, W., Claggett, B., Gonçalves, A., Querejeta-Roca, G., Fernandes-Silva, M.M., Shah, A.M., Cheng, S., Tanaka, H., Heiss, G., Kitzman, D.W. and Solomon, S.D., 2016. Smoking and cardiac structure and function in the elderly: the ARIC study (Atherosclerosis Risk in Communities). Circulation: Cardiovascular Imaging, 9(9), p.e004950. [Link](https://www.ahajournals.org/doi/pdf/10.1161/CIRCIMAGING.116.004950)

**17.** Benotti, P.N., Bistrain, B., Benotti, J.R., Blackburn, G. and Forse, R.A., 1992. Heart disease and hypertension in severe obesity: the benefits of weight reduction. The American journal of clinical nutrition, 55(2), pp.586S-590S. [Link](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.839.8769&rep=rep1&type=pdf)

**18.** Lavie, C.J., Sharma, A., Alpert, M.A., De Schutter, A., Lopez-Jimenez, F., Milani, R.V. and Ventura, H.O., 2016. Update on obesity and obesity paradox in heart failure. Progress in cardiovascular diseases, 58(4), pp.393-400. [Link](https://core.ac.uk/download/pdf/83975206.pdf)

**19.** Abel, E.D., Litwin, S.E. and Sweeney, G., 2008. Cardiac remodeling in obesity. Physiological reviews, 88(2), pp.389-419. [Link](https://journals.physiology.org/doi/pdf/10.1152/physrev.00017.2007)

**20.** Castardeli, E., Paiva, S.A., Matsubara, B.B., Matsubara, L.S., Minicucci, M.F., Azevedo, P.S., Campana, A.O. and Zornoff, L.A., 2005. Chronic cigarette smoke exposure results in cardiac remodeling and impaired ventricular function in rats. Arq Bras Cardiol, 84(4), pp.320-4. [Link](https://www.researchgate.net/publication/7861198_Chronic_cigarette_smoke_exposure_results_in_cardiac_remodeling_and_impaired_ventricular_function_in_rats)

**21.** ASH (Action on Smoking and Health), (2016), Electronic Cigarettes. London: ASH; January, available at: <http://ash.org.uk/files/documents/ASH_715.pdf>. [Link](https://ash.org.uk/wp-content/uploads/2019/04/E-Cigarettes-Briefing_PDF_v1.pdf)

**22.** Milani, R.V. and Lavie, C.J., 1996. Behavioral differences and effects of cardiac rehabilitation in diabetic patients following cardiac events. The American journal of medicine, 100(5), pp.517-523. [Link](https://d1wqtxts1xzle7.cloudfront.net/49259011/s0002-9343_2896_2900020-420161001-13929-s7hhgq.pdf?1475305900=&response-content-disposition=inline%3B+filename%3DBehavioral_differences_and_effects_of_ca.pdf&Expires=1592229002&Signature=TbmDfMQTASf4sI5pBURuR~~TJG-072VfabDQqYsiqfz-ghm60Lzw3WzjDNk2QGSEI1ZTddBo0n4jrq~zXeYAfnhcs5wmlYh9q-P407l3JSek1fUgiavv-FDhdgptUymQt0slS439Qco-5luzAjHKzIl5ZqsC0P4GElRr-~uc5di~6LWfzcTH8sgZaKVxB2LjwKXO7q2543NSWpxG2ph5KMfzbO974JwMoa68dcmBildnazuSF~ZnQnnH0gnfV1McYUTEEY2sFf7Qzz-JGEu8ms-zjX-qUjzgd41AARFG1vsSvhkZA0iEO2VQevXMEkS6NPzmJWp6wJs9ZprKgLXoGg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)

**23.** UK Chief Medical Officers' Physical Activity Guidelines [2019] [Link](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf)

**Sodium and Hypertension**

**24.** Karppanen, H. and Mervaala, E., 2006. Sodium intake and hypertension. Progress in cardiovascular diseases, 49(2), pp.59-75. [Link](https://www.drtsoukalas.com/uploads/file/SODIUM%20INTAKE%20HYPERTENSION%20FINLAND.pdf)

**25.** Grillo, A., Salvi, L., Coruzzi, P., Salvi, P. and Parati, G., 2019. Sodium intake and hypertension. Nutrients, 11(9), p.1970. [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6770596/)

**Heart Calculations Academic Research**

1. Tan, S.J.J., Allen, J.C. and Tan, S.Y., 2017. Determination of ideal target exercise heart rate for cardiac patients suitable for rehabilitation. *Clinical cardiology*, *40*(11), pp.1008-1012. [Link](https://onlinelibrary.wiley.com/doi/full/10.1002/clc.22758)
2. ACPICR Standards (2015) Booklet [Link](https://www.acpicr.com/data/Page_Downloads/ACPICRStandards.pdf)
3. Whelton PK, Carey RM, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults. J Am Coll Cardiol. 2017; November 7: epub ahead of print. doi: 10.1016/j.jacc.2017.11.006. [Link](https://www.ahajournals.org/doi/full/10.1161/HYP.0000000000000065)
4. O’Mara, N. and Gardner, G., 2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: ACC/AHA. [Link](http://www.practicalreviews.com/Uploads/Public/2017GuidelineforthePreventionDetectionEvaluationandManagementofHighBloodPressureinAdults-ACCAHA.pdf)
5. Keteyian, S.J., Kitzman, D., Zannad, F., Landzberg, J., Arnold, J.M., Brubaker, P., Brawner, C.A., Bensimhon, D., Hellkamp, A.S. and Ewald, G., 2012. Predicting maximal heart rate in heart failure patients receiving beta-blockade therapy. *Medicine and science in sports and exercise*, *44*(3), p.371. [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3755356/)
6. Brawner, C.A., Ehrman, J.K., Schairer, J.R., Cao, J.J. and Keteyian, S.J., 2004. Predicting maximum heart rate among patients with coronary heart disease receiving β-adrenergic blockade therapy. American heart journal, 148(5), pp.910-914. [Link](https://d1wqtxts1xzle7.cloudfront.net/48908126/j.ahj.2004.04.03520160917-28879-xsv797.pdf?1474116392=&response-content-disposition=inline%3B+filename%3DPredicting_maximum_heart_rate_among_pati.pdf&Expires=1606479401&Signature=YF~tiW8Hyk8TlbIsjVc0d0-jSpE2K6eCqn2LAjcJK-gcOHX1iST44IdDZjt-JxljfBFch47YB1681U~YX6LQe5DawgFKDhysXh04bBhjvS6nsRwQuDNA43vHL5c6x-9CNSdLh9FvCQvMHOLyOGFga1c3OsgbSd8c6pr8ldoFZfPaVOjV7eWS3xAT7DrzsSZagOkrLe7WOiGe3Zwlaj3NnoTvm67QAdUAp4W3BButs~VDRTuVG3T5w~7XtZEZ-gvUdDinrRyAMzK~ZRRdZHE5bQF28exlvTMY3qzOzkD-vkCimB85hhOTlhm-HeVXjNkSTndc50uRiPjslCXNw7yZvg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)
7. BHF Heart Transplant [Link](https://www.bhf.org.uk/informationsupport/treatments/heart-transplant)
8. Arrell, D.K., Rosenow, C.S., Yamada, S., Behfar, A. and Terzic, A., 2020. Cardiopoietic stem cell therapy restores infarction-altered cardiac proteome. NPJ Regenerative medicine, 5(1), pp.1-11. [Link](https://www.nature.com/articles/s41536-020-0091-6.pdf?origin=ppub)
9. Angermann, C.E., 2009. Comorbidities in heart failure: a key issue. European Journal of Heart Failure Supplements, 8, pp.i5-i10. [Link](https://onlinelibrary.wiley.com/doi/pdf/10.1093/eurjhf/hfp009)
10. Vasan, R.S. and Levy, D., 1996. The role of hypertension in the pathogenesis of heart failure: a clinical mechanistic overview. Archives of internal medicine, 156(16), pp.1789-1796. [Link](https://www.researchgate.net/profile/Daniel_Levy11/publication/14413097_The_role_of_hypertension_in_the_pathogenesis_of_heart_failure_-_A_clinical_mechanistic_overview/links/584837ce08ae61f75de34cba/The-role-of-hypertension-in-the-pathogenesis-of-heart-failure-A-clinical-mechanistic-overview.pdf)
11. Paffenbarger Jr, R.S. and Lee, I.M., 1996. Physical activity and fitness for health and longevity. Research quarterly for exercise and sport, 67(sup3), pp.S-11. [Link](https://shapeamerica.tandfonline.com/doi/abs/10.1080/02701367.1996.10608850?journalCode=urqe20#.Xui45y2ZOys)
12. Giuliano, C., Karahalios, A., Neil, C., Allen, J. and Levinger, I., 2017. The effects of resistance training on muscle strength, quality of life and aerobic capacity in patients with chronic heart failure—A meta-analysis. International journal of cardiology, 227, pp.413-423. [Link](https://www.researchgate.net/profile/Jason_Allen2/publication/309744132_The_effects_of_resistance_training_on_muscle_strength_quality_of_life_and_aerobic_capacity_in_patients_with_chronic_heart_failure_-_A_meta-analysis/links/5c100cab4585157ac1bb9dfd/The-effects-of-resistance-training-on-muscle-strength-quality-of-life-and-aerobic-capacity-in-patients-with-chronic-heart-failure-A-meta-analysis.pdf)
13. Marzolini, S., Oh, P.I. and Brooks, D., 2012. Effect of combined aerobic and resistance training versus aerobic training alone in individuals with coronary artery disease: a meta-analysis. European journal of preventive cardiology, 19(1), pp.81-94. [Link](https://www.ncbi.nlm.nih.gov/books/NBK99373/)
14. Jewiss, D., Ostman, C. and Smart, N.A., 2016. The effect of resistance training on clinical outcomes in heart failure: a systematic review and meta-analysis. International journal of cardiology, 221, pp.674-681. [Link](https://rune.une.edu.au/web/bitstream/1959.11/19347/3/open/SOURCE02.pdf)
15. Barrett-Connor, E., 2003. Diabetes and heart disease. Diabetes Care, 26(10), pp.2947-2958. [Link](https://care.diabetesjournals.org/content/26/10/2947)
16. Goldstein, D.S., 2007. Cardiac denervation in patients with Parkinson disease. Cleveland Clinic journal of medicine, 74(1), p.S91. [Link](https://mdedge-files-live.s3.us-east-2.amazonaws.com/files/s3fs-public/issues/articles/content_74_Suppl_1_SI-91.pdf)
17. Paffenbarger, J.R., Blair, S.N., Lee, I.M. and Hyde, R.T., 1993. Measurement of physical activity to assess health effects in free-living populations. Medicine and science in sports and exercise, 25(1), pp.60-70. [Link](https://europepmc.org/article/med/8423758)
18. Woodgate, J. and Brawley, L.R., 2008. Self-efficacy for exercise in cardiac rehabilitation: review and recommendations. Journal of Health Psychology, 13(3), pp.366-387. [Link](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.967.7137&rep=rep1&type=pdf)
19. Pollock, M.L., Foster, C., Rod, J.L. and Wible, G., 1982. Comparison of methods for determining exercise training intensity for cardiac patients and healthy adults. Adv Cardiol, 31(2), pp.129-133. [Link](https://www.researchgate.net/profile/Carl_Foster3/publication/16214853_Comparison_of_methods_for_determining_exercise_training_intensity_for_cardiac_patients_and_healthy_adults/links/56fb020a08ae1b40b804d9cf/Comparison-of-methods-for-determining-exercise-training-intensity-for-cardiac-patients-and-healthy-adults.pdf)
20. Ritchie, C., 2012. Rating of perceived exertion (RPE). Journal of physiotherapy, 58(1), p.62. [Link](file:///Users/grantralston/Desktop/Desk%20Top%20Folders/WRIGHT%20FOUNDATION%20CIC/WF%20Day%20Notes/Ritchie%2C%20C.%2C%202012.%20Rating%20of%20perceived%20exertion%20%28RPE%29.%20Journal%20of%20physiotherapy%2C%2058%281%29%2C%20p.62.)
21. Beale, L., Silberbauer, J., Carter, H., Doust, J. and Brickley, G., 2010. Exercise heart rate guidelines overestimate recommended intensity for chronic heart failure patients. British Journal of Cardiology, 17(3), pp.133-137. [Link](https://www.researchgate.net/publication/259975286_Exercise_heart_rate_guidelines_overestimate_recommended_intensity_for_chronic_heart_failure_patients_Copy)
22. Robergs, R.A. and Landwehr, R., 2002. The surprising history of the" HRmax= 220-age" equation. Journal of Exercise Physiology Online, 5(2), pp.1-10. [Link](https://eprints.qut.edu.au/96880/1/96880.pdf)
23. Inbar, O.M.R.I., Oren, A., Scheinowitz, M.I.C.K.E.Y., Rotstein, A.R.I.E., Dlin, R.O.N.A.L.D. and Casaburi, R.I.C.H.A.R.D., 1994. Normal cardiopulmonary responses during incremental exercise in 20-to 70-yr-old men. Medicine and science in sports and exercise, 26, pp.538-538. [Link](https://d1wqtxts1xzle7.cloudfront.net/40046826/5577455408aeb6d8c01ce075.pdf20151115-68247-1he4rah.pdf?1447643374=&response-content-disposition=inline%3B+filename%3DNormal_cardiopulmonary_responses_during.pdf&Expires=1592323055&Signature=D4DqYSkcCj9bTOa4evPggMo36loM6e2Rack8PSkTYA5prSdoz~nvlpfyOYbYZidM~kg~FMPL5LL~KJ6MX0S~FUCjs0zd20lUMD86YBmr9uK8oTFHvVm0~N5HhUIgnMgjPd27bKcg7yr7KedK-cQkPKJXhDFVPJWhPUFuqumr4wZ2bh7WysSA9ucaHRgYb0ArKPZJTb1Cm5DlSLOtWKk9uaE9cgOefuio-S2DM6DZi1IVtJJc7BXI5A-t3X36rDx-sRLlSOCeo7FX1wBeHABsHuGOL88mK--FGM-BrRFU1CcTaLFbSABvDS8GXkj1uPqjsnmoJ0AXR~tZzvpP1EKuPw__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)
24. Tanaka, H., Monahan, K.D. and Seals, D.R., 2001. Age-predicted maximal heart rate revisited. Journal of the American college of cardiology, 37(1), pp.153-156. [Link](https://www.sciencedirect.com/science/article/pii/S0735109700010548)
25. ACC/AHA 2002 Guideline Update for Exercise Testing: Summary Article [Link](https://www.ahajournals.org/doi/epub/10.1161/01.CIR.0000034670.06526.15)
26. Exercise testing in clinical medicine [Link](https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:78774a33-2a2e-4f49-84ce-11b959808da8)