**![A picture containing food

Description automatically generated]()**

**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's%20Advanced%20Exercise%20Physiology%20(American%20College%20of%20Sports%20Med))
* 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**

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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.

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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

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**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.

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