Guideline for Cardiac Rehabilitation Services

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

This guideline was introduced in order to provide a comprehensive and inclusive cardiac rehabilitation (CR) programme to all eligible patients with acute coronary syndrome (ACS), chronic heart failure and patients that are referred post-surgery; to include coronary artery bypass, valve surgery and cardiac transplantation

This guideline is for use by the following staff groups:

Cardiology nurse specialists (CNS's) in cardiac rehabilitation heart failure CNS's and ward nurses.

Lead Clinician(s)

Dr Deepak Goyal	Consultant Cardiologist lead for Cardiac rehabilitation
Dr Helen Routledge	Consultant Cardiologist
Dr William Foster	Consultant Cardiologist
Approved by Specialist Medicine Divisional Management Board on:	27th February 2023
Review Date: This is the most current document and is to be used until a revised version is available	27th February 2026

Key amendments to this guideline

Date	Amendment	Approved by:
January 2022	New Document written	Specialist Medicine DMB

Guideline for Cardiac Rehabilitation Services

Introduction

Cardiovascular disease causes a quarter of all deaths in England and Wales annually and is the largest cause of premature mortality in deprived areas. The NHS Long Term Plan (2018) aims to reduce 150'000 heart attacks, strokes and dementia cases over a ten-year period. Research has shown that cardiac rehabilitation vastly improves outcomes and encourages compliance with treatment and empowers patients to adopt healthy, long term, lifestyle choices and therefore reduces the risk of disease progression and hospitalisation. All relevant people regardless of age should be given advice about and offered cardiac rehabilitation that includes an exercise component. The cardiac rehabilitation programme should be offered to patients post myocardial infarction, cardiac surgery and those diagnosed with heart failure. A range of options should be offered and patients must be encouraged to attend all those appropriate. It is intended that by 2028, the proportion of patients accessing cardiac rehabilitation will increase significantly. The aim is that 85% of eligible patients will access and benefit from cardiac rehabilitation services, resulting in a 33% increase overall.

1. Competencies Required

The cardiac rehabilitation cardiac nurse specialists (CNS's) will provide this service with support from the team of cardiologists. All members of the team will have good cardiology knowledge and experience and will complete the competencies agreed with their line manager in accordance with six standards for cardiac rehabilitation set by The British Association for Cardiovascular Prevention of Rehabilitation (BACPR 2017).

2. Details of the guideline

Cardiac rehabilitation comprises 4 phases; Phases I – III are delivered by the Cardiac rehabilitation team, phase IV is a community based private enterprise. At each stage education and lifestyle advice is given.

2.1: Phase I

Patients are identified via inpatient lists and from procedure lists in the cardiac cath lab. Referrals may also be taken from outpatient clinics and hospitals outside the Trust for patients treated elsewhere or abroad and particularly the cardiac surgical centres. For myocardial infarction, the cardiac rehabilitation team should receive the referral during the inpatient stay or within 24 hours of discharge (BACPR, 2017). Ward admission and discharge lists will be checked for patients who may have been missed out of hours. During phase I the Cardiac rehabilitation CNS will give advice on the following topics.

- Diagnosis
- Pathology
- Treatment
- Risk factor reduction and control
- Medications including GTN use and the 999 safety net advice
- Awaited treatment and investigations
- Activity levels/lifestyle modification
- Exercise and walking
- Employment
- Driving guidance as per DVLA guidance

An information pack containing British Heart Foundation booklets and contact numbers will be given to patients prior to discharge. These packs will be provided by ward and cath lab staff for patients admitted and discharged out of hours.

Documentation

- Evidence of phase 1 contact will be documented in the medical notes using a tick box sticker; any other pertinent information will also be written in the medical notes.

Hospital Discharge

- A letter with details of the phase II appointment will be given to the patient prior to their discharge from hospital.
- Patients will be referred to their local centre (WRH, KTC, AGH)
- For referrals to external trust sites a copy of the discharge letter, echocardiogram, angiography report and relevant blood results will be sent
- For patients awaiting surgery, a copy of the discharge letter, echocardiogram, angiography report and relevant blood results will be forwarded to the relevant surgical centre

2.2: Phase II

The aim of phase II is to provide continuity of care for patients between the time of their discharge from hospital and starting Phase III. The patient will be given the opportunity to discuss any symptoms or concerns that they may have and will be encouraged to enrol in the phase III programme. Phase II paperwork (appendix 1) and pre assessment (appendix 2) will be completed electronically. Exercise should be commenced at the earliest opportunity (BACPR 2017) and no later than 33 days' post discharge for ACS patients and 46 days' post discharge for surgical patients. Unless there is a contraindication to exercise, all patients, regardless of age, must be encouraged to attend phase III cardiac rehabilitation

- The phase II telephone call should be made within 10 days of discharge from hospital.
- **Interpreter services will be arranged, if necessary, for patients who do not speak English as their first language.**
- Check understanding of the diagnosis
- Check if patient has maintained/started lifestyle adjustments required for recovery
- Check medication understanding and compliance.
- Encourage gradual and incremental physical activity
- Any concerning symptoms must be reported to patient's GP and or cardiologist.
- Telephone pre assessment will be conducted at the phase II appointment (appendix 2)
- Appropriate referral to Phase III will made following the phase II appointment
- The outcome of the phase II phone call will be documented on electronic notes

2.3: Phase III

Phase III is an 8-week programme consisting of exercise and education sessions that can be delivered as a class based programme or remotely using a variety of methods.

- The patient should receive information about phase III during the phase II phone call. If the patient declines the programme they will be discharged from cardiac rehab.
- If they wish to join the programme the patient will be informed of the available options

Class based programme

- Telephone pre assessment with Duke score
- Commence 2 week walking plan
- Enrol patient in exercise classes at Kidderminster hospital, Evesham leisure centre, Alexandra hospital or Warndon community centre, Worcester.
- Pre assessment with fitness instructor
- Monitor progress
- Staff to patient ratio in face to face classes will be 1:8 for low to moderate risk patients and 1:5 for high risk patients.

Website or App based programme

- Face to face pre assessment
- BHF website
- Trust website
- MyHeart app
- Follow up phone call at 4 weeks
- Final phone call at 8 weeks
- Progress monitored

Home programme (refer to SOP)

- Face to face pre assessment
- Exercise programme designed to meet the individual needs
- Follow up phone call at 4 weeks
- Monitor progress
- Final phone call at 8 weeks

2.3: Discharge

- Once patients have completed their chosen phase III programme a list of phase IV classes will be provided. Patients must be encouraged to continue improve and maintain cardiovascular health by maintaining 150 minutes of exercise weekly.
- The NACR audit form (appendix 3) **must** be completed by the cardiac rehabilitation team at the end of phase III.
- Data for the NACR audit will be submitted by the admin support team

3: Lipid management

Statins improve prognosis in coronary artery disease. There is also evidence of additional benefit of high dose statins early after acute coronary syndromes. Evidence derived from genetic studies and epidemiological observations and randomised controlled trials has consistently shown that high levels of atherogenic lipids are causally linked to atherosclerotic cardiovascular disease. And thus lowering these levels, significantly reduces the risk of first or recurrent cardiovascular events.

The cardiac rehab specialist team will

- Provide patients with a lipid passport
- Document baseline lipid profile
- Set individual target for cholesterol reduction– aim for reduction in non HDL cholesterol of 40% (NICE CG 181 WAHT-CAR-043)
- Ezetimibe 10mg has additional effects on cholesterol and prognosis in ACS, and should be considered in addition to a statin in patients not achieving target cholesterol or intolerant of statins NICE TA 132, NEJM 2015;372, 2387)
- Lipids to be rechecked at the end of cardiac rehab.
- If non HDL cholesterol remains high despite maximal tolerated lipid lowering therapy refer locally to Lipid clinic for consideration of PCSK-9 inhibitors (NICE TA 393/394)
- Complete Blueteq initiation documentation – refer to lipid clinic.

4: <u>Surgical Multi-Disciplinary Meeting MDM</u>

The MDM is a meeting of members of the cardiology and cardiac surgical teams convened for the purpose of reaching a consensus on the optimal management of a particular patient. Collective ownership of decisions means that the cardiology team needs to know the consequences of its recommendations for all patients and this requires regular audit of outcomes. The cardiac rehabilitation CNS will assume the role of MDM coordinator and;

- ensure that completed referral forms and all investigation results are available prior to the MDM
- agree with referring teams when specific patients will be discussed
- agree, in conjunction with the chair, a record of the MDM discussions and ensure that decisions and actions are conveyed to referring consultant in a timely fashion
- To update the MDT form (appendix 4) which is filed and sent to GP with the outcome of the combined clinic appointment
- To ensure that MDM outcomes are enacted, for example, by making referrals to surgeons or liaising with the inter hospital transfer coordinator
- To liaise with the on-call cardiologist and cardiac surgeon to ensure that the results of ad hoc urgent MDMs are recorded

<u>5: Post PCI Clinic</u>

The post PCI clinic was introduced to allow punctual assessment of cardiac patients post percutaneous coronary intervention (PCI). Patients' suitability for the post PCI clinic is assessed by the discharging cardiologist. Patients are added to the nurse led post PCI clinic outpatient list by the cardiology outpatient team. The post PCI clinic is delivered by CNS's and supported by the team of cardiologists.

The cardiac rehabilitation specialist nurses will review this group of patients in either a face to face clinic appointment or virtually by telephone appointment, in accordance with trust policy WHAT-CAR-046 Patients will be identified by the interventionist cardiologist following a presentation of either elective PCI or PPCI to return to see the specialist nurse who will

- Assess patients' recovery and also for any symptoms of angina
- Address any lifestyle concerns
- Ensure compliance with cardio protective medications and make recommendations to GP's as appropriate
- Request investigations if any new or worrying symptoms

Monitoring Tool

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	Compliance by staff with guidelines Cardiac rehab uptake Patient compliance/concordance with medications Rehab for heart failure patients Lipid management using lipid passport	Collect specific data national audit of cardiac rehab (NACR) Phase II Internal audit Internal audit	4 times per year 6 monthly 6 monthly	Lead CNS for rehab and admin support Band 6 CNS's Band 6 CNS's	Band 7 leads of each centre (KTC/WRH & AGH) will receive results from admin support	annually

References

- BACPR (2017) Standards and Core Components for Cardiovascular Disease Prevention and Rehabilitation 2017 (3rd edition). NHS (2018) Cardiovascular disease. Available at: https://www.nhs.uk/conditions/cardiovascular-disease/ Accessed 29.07.2022]
- Koskinas. K.C (2020) What is the role of lipids in atherosclerosis and how low should we decrease lipid levels. E journal of cardiology [online] available at https://www.escardio.org. Accessed 25/10/2022
- NICE Quality standard QS99 (2015) Secondary prevention after a myocardial infarction www.nice.org
- NICE Guidelines NG136 (2019) *Hypertension in adults: diagnosis and management* www.nice.org
- NICE Guidelines CG95 (2016) *Recent onset chest pain of suspected cardiac origin: assessment and diagnosis* www.nice.org
- NICE (2016) Cardiovascular disease: risk assessment and reduction, including lipid modification. Clinical guideline CG181. Available at: https://www.nice.org.uk/guidance/cg181/history [Accessed 29.07.2021, 02.12.2021]
- NICE Guidelines CG48 *Secondary prevention in primary and secondary care for patients following a* myocardial infarction. www.nice.org
- NICE (2016) Cardiovascular disease: risk assessment and reduction, including lipid modification. Clinical guideline CG181. Available at: https://www.nice.org.uk/guidance/cg181/history [Accessed 29.07.2021]
- NHS Long Term Plan (2018) chapter 3. Available at www.longterm plan.nhs.uk
- Trust guideline (2021) *Acute coronary syndrome guideline. (including management of ST elevation and non-ST elevation myocardial infarction)* WAHT-CAR-043.
- Trust guideline (2021) Post Percutaneous Coronary Intervention (PCI) Clinic guideline. WHAT-CAR-046
- Trust guideline (2021) Treatment of chronic Heart Failure caused by left ventricular dysfunction WAHT-CAR-041

Appendix 1: Phase 2 documentation

Cardiac rehabilitation phase 2

Name: <Patient: Name Initials>
DOB: <Patient: Date of Birth>
NHS no: <Patient: NHS Number>
Hospital no: <Patient: Hospital Number>
Clinic date: <Todays Date>
Date of admission: <In Patient Event: Admission Date>
Date of discharge: <Inpatient Event: Discharge Date>
Telephone No: <Patient: Home Tel>
Next of Kin: <Patient: Next of Kin>
NOK Tel No: <Patient: Next of Kin Day Phone>

	Comments
Referring trust	
Diagnosis	
Treatment/plan	
Echocardiogram	LVEF……%
Device	PPM/ICD/CRT
Past medical history	

Medications (Ask re DAPT card)	
Assessment of symptoms	
Driving	
Functional status	
Sexual activity	
Walking/exercise	
Social/psychological issues	
Occupation	
Modifiable risk factors:	

Blood results	
Advice for surgical patients	
Phase 3	Goals: Class based programme: Home programme: Declined:

Cardiac rehab specialist nurse: Date:

Appendix 3: Pre assessment paperwork

Our sites are completely SMOKEFREE

Cardiac rehabilitation: Pre Assessment for phase III

Name: <Patient: Name Initials>
DOB: <Patient: Date of Birth>
NHS no: <Patient: NHS Number>
Hospital no: <Patient: Hospital Number>
Clinic date: <Todays Date>
Date of admission: <In Patient Event: Admission Date>
Date of discharge: <Inpatient Event: Discharge Date>
Telephone No: <Patient: Home Tel>
Next of Kin: <Patient: Next of Kin>
NOK Tel No: <Patient: Next of Kin Day Phone>

Date of event:	ACS/PCI:	Surgery:	Heart failure:
Details of procedure including complications:			
Echocardiogram: LVEF……%			
ECG:			
Symptoms (angina, SOB, dizziness)			
Diabetic	Y/N		
Musculoskeletal issues affecting exercise			

Neurological conditions affecting balance or exercise			
Mobility issue (walking aids etc)			
Pre class exercise capacity			
DUKE score			
Observations	BP	HR	Sats
Cardiac risk	Low	Moderate	High
Supervision level	Low	Moderate	High

Cardiac rehab specialist nurse:

Date:

Appendix 3: NACR audit form

Patient Sticker

Topic of Discussion	Patient Assessment 1 –	Patient Assessment 2 –
	DATE :	DATE:
Cardiac History LV Function Cardiac Risk	Referring Trust: Admitted on: Cardiac Diagnosis: Procedure on: Discharged on: Echo: LVSD: LOW ☐ MEDIUM ☐ HIGH ☐	
Other Medical History/ Co-Morbidities *(e.g. diabetic, family history, arthritis etc)*		
What Exercise Type/ Frequency is the patient doing? *(150 minutes?)*		
Employment Status		
Continuing with Phase 4 community Classes: YES ☐ NO ☐		
Ethnicity		
Marital Status		
Height: *cm*		
Weight: *kg*		
Waist: *inch*		
BMI		
Blood Pressure / Heart Rate	BP: HR: regular/irregular	BP: HR: regular/irregular

Diabetes: *HbA1c*	None Diabetic ☐ On Insulin ☐ On Tablets ☐ Diet Controlled ☐ HbA1c: mmol/mol		None Diabetic ☐ On Insulin ☐ On Tablets ☐ Diet Controlled ☐ HbA1c: mmol/mol	
Cholesterol	Total: HDL: LDL: Trig:		Total: HDL: LDL: Trig:	
Alcohol: *units per week*				
Smoking Status	Never ☐ Ex-Smoker ☐ Vape ☐ Still Smoking ☐ Amount per day:		Never ☐ Ex-Smoker ☐ Vape ☐ Still Smoking ☐ Amount per day:	
HAD	Anxiety: Depression:		Anxiety: Depression:	
Medication	**Aspirin**	mg OD/BD	**Aspirin**	mg OD/BD
	Clopidogrel	mg OD/BD	**Clopidogrel**	mg OD/BD
	Ticagrelor	mg OD/BD	**Ticagrelor**	mg OD/BD
	Ramipril	mg OD/BD	**Ramipril**	mg OD/BD
	Perindopril	mg OD/BD	**Perindopril**	mg OD/BD
	Lisinopril	mg OD/BD	**Lisinopril**	mg OD/BD
	Atorvastatin	mg OD/BD	**Atorvastatin**	mg OD/BD
	Simvastatin	mg OD/BD	**Simvastatin**	mg OD/BD
	Rosuvastatin	mg OD/BD	**Rosuvastatin**	mg OD/BD
	Atenolol	mg OD/BD	**Atenolol**	mg OD/BD
	Bisoprolol	mg OD/BD	**Bisoprolol**	mg OD/BD
	Losartan	mg OD/BD	**Losartan**	mg OD/BD
	Candesartan	mg OD/BD	**Candesartan**	mg OD/BD
	GTN Spray		**GTN Spray**	
	Other Medication:		**Other Medication:**	
Personal Goals/Aims				
Any Problems/Issues/Concerns				

Number of Sessions Completed		Phase 3 face to classes – Home self-managed (e.g. walking) – Total sessions -
Fitness Test: 6 Minute Walk ☐ DUKE ☐ Exercise Diary/Log ☐		

Date:
Signed:_
Cardiac Rehabilitation Specialist Fitness Instructor / Cardiac Rehabilitation Specialist Nurse

Appendix 4: MDT form

Contribution List

This key document has been circulated to the following individuals for consultation;

Name	Designation
Dr Deepak Goyal	Consultant Cardiologist
Dr Helen Routledge	Consultant Cardiologist
Dr William Foster	Consultant Cardiologist
Linda Barratt	Lead cardiac rehab CNS AGH
Jenny Banner	Lead cardiac rehab CNS KTC & WRH

Supporting Document 1 - Equality Impact Assessment Tool

.
To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy / guidance affect one group less or more favourably than another on the basis of:**		
	Age	No	
	Disability	No	
	Gender reassignment	No	
	Marriage and civil partnership	No	
	Pregnancy and maternity	No	
	Race	No	
	Religion or belief	No	
	Sex	No	
	Sexual orientation	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and / or justifiable?**	No	
4.	**Is the impact of the policy / guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**		
6.	**What alternatives are there to achieving the policy / guidance without the impact?**		
7.	**Can we reduce the impact by taking different action?**		

NB:
Where an inappropriate, negative or discriminatory impact has been identified please proceed to conduct a Full Equality Impact Assessment and refer to Equality and Diversity Committee, together with any suggestions as to the action required to avoid / reduce this impact.

Advice can be obtained from the Equality and Diversity Leads in HR and Nursing Directorates (details available on the Trust intranet).

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval.