

MANAGING HEART HEALTH DURING AND AFTER CANCER TREATMENT

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A quick guide for
primary care health professionals

In partnership with



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Disclaimer: No reader should assume that this guidance represents the only management option. There are other reasonable care strategies and there is no duty of care for any healthcare worker to follow these recommendations. The guidance development panel accepts shared responsibility for the publication of this guidance. **Funding:** No member of the guidance development panel has any conflict of interest in development of the publication. Macmillan Cancer Support has supported the publication and dissemination of the document.

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This Guide is available as a PDF at macmillan.org.uk/HeartGuide. Also, a one-page 'Tips' is available as a PDF at macmillan.org.uk/HeartTips.

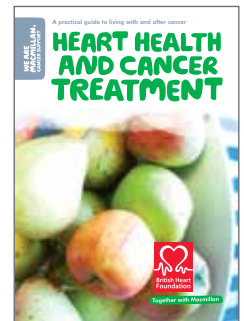
If you would like to order a hard copy of this guide, please visit be.macmillan.org.uk and search 'MAC15722_Guide'.

Purpose of this guide

Some cancer treatments can lead to heart problems, especially in patients with pre-existing cardiovascular (CV) risk factors. It is recommended that heart health is monitored and managed before, during and after cancer treatment. This is especially important for people with a cancer diagnosis and pre-existing heart conditions, or those receiving potentially cardiotoxic treatments.

This guide is aimed mainly at primary care professionals, but could also be useful to anyone involved in the care of people living with and beyond cancer. It provides basic recommendations on the management of heart health during and after cancer treatment and Figure 1 summarises these into a timeline. A simple 'Tips' one-pager is also available for quick reference (www.macmillan.org.uk/HeartTips)

For more information on patient self-management, please see the Macmillan Cancer Support patient booklet *Heart Health and Cancer Treatment* (MAC14637). The booklet speaks to patients about the importance of a healthy heart. It covers cancer treatments that can cause heart problems and discusses how these are monitored and managed by the medical team. It also looks at risk factors, and outlines tips to support patients in looking after their heart health.



Background

Improvements in cancer treatment and earlier diagnosis have contributed to increased survival. Unfortunately, many cancer treatments carry an increased risk of cardiovascular disease (CVD). The CVD risk is of particular consideration in an ageing population of cancer survivors who may have co-morbidities which also exacerbate this risk, and in adult survivors of childhood cancer treatment who may present with CVD symptoms at a relatively young age.

Heart disease following cancer treatment may be the result of direct CV damage, caused by the treatment or may be due to the development of cancer treatment-related CV risk factors.

Working with other professionals when necessary, GPs, community pharmacists and nurses are in a good position to follow-up people affected by cancer to ensure that CV risks are monitored, preventative action is taken, CVD is diagnosed and appropriate treatments are initiated.

Figure 1. Heart health: key factors to consider and manage before, during and after cancer treatments

	Before cancer treatment (see part 1)	During hospital-based or hormonal treatment (see part 2)	After cancer treatment (see part 3)		
			0–5 years	5–10 years	10+ years
Information and healthy lifestyle advice	Macmillan patient information booklet: <i>Heart Health and Cancer Treatment</i>				
	Healthy lifestyle advice: • Smoking • Physical activity • Healthy weight • Diet • Alcohol • Anxiety/stress				
	Important to discuss CV risks and repeat healthy lifestyle advice before, during and after cancer treatment				
History of CV disease and/or risks	Provide cancer team with CV history and risk factors				
	Optimise CV-related co-morbidities, especially in those on hormonal treatments (anti-androgens and anti-oestrogens)				
	Monitor CVD risk factors/medication – Alert cancer team of any changes				
Cancer treatment as a child, young person or adult			Be aware of any risk of cardiotoxicity, and likely timeline of any problems. Common treatments with risk of cardiotoxicity: Radiotherapy involving the heart (mediastinal or left breast). Anthracyclines such as doxorubicin and epirubicin. Trastuzumab (Herceptin®).		
			Investigate ANY CV symptom during treatment, however mild		
			READ code the treatments in GP system – see <i>Part 2 for more information</i>		
			Cardiac surveillance for people after cardiotoxic treatments – see <i>Part 3 for full recommendations</i>		
Treatment-related risk factors	Stress and anxiety about cancer diagnosis, treatment and the future				
			Cardiotoxic effects after adult treatment – usually within a few years		
			Cardiotoxic effects after childhood treatment – usually after years/decades		
	Weight gain due to hormonal treatments, steroids, etc				

Part 1. Before cancer treatment

(see summary in Figure 1, page 5)

- Primary care and oncology teams should provide advice to patients on how to optimise their heart health prior to, during and after cancer treatment, using the Macmillan booklet *Heart Health and Cancer Treatment* – in particular regular physical activity, healthy diet and smoking cessation (see Figure 1).
- Oncology teams will assess significant history or risk of CVD prior to treatment decisions but it is helpful if the GP can flag this (if possible) in the referral for suspected cancer.
- Prior to the start of anti-cancer therapy, oncology teams should ensure that patients with any pre-existing heart conditions are considered for a full cardiological assessment to ensure that they are stable and on appropriate cardiac treatment.
- Consider all CV risk factors prior to cancer treatment and optimise without delaying cancer care pathways (eg control of hypertension, diabetes, dyslipidaemias).

Table 1: Cardiovascular risk factors to consider before cancer treatment

Risk Calculators can be used to quantify the patient's lifetime risk eg QRisk2 or JBS3 www.jbs3risk.com. If the 10 year CV risk is calculated to be >10% using JBS3 or QRisk2 calculator, the patient is considered high risk of CVD.

Demographic and lifestyle factors

Age	Smoking
Family history of premature CVD (<60 years)	Inactivity
Ethnicity: African-Caribbean or South Asian	Obesity
Stress	Diet
Social deprivation	Alcohol

Co-morbidities

Previous CVD	Peripheral vascular disease
Heart failure	Chronic kidney disease
Previous Myocardial Infarction (MI)	Hypertension
Stable angina	Diabetes
Significant valvular heart disease	Dyslipidaemia
Left Ventricular Hypertrophy (LVH)	

Previous or current cardiotoxic cancer treatment

	Examples
Anthracyclines	Doxorubicin (<i>Adriamycin</i>); Epirubicin (<i>Pharmorubicin</i> ®); Daunorubicin (<i>Daunomycin</i>)
Targeted cancer therapies	Trastuzumab (<i>Herceptin</i> ®) Bevacizumab (<i>Avastin</i> ®) Tyrosine kinase inhibitors (TKIs): Imatinib (<i>Glivec</i> ®); Sorafenib (<i>Nexavar</i> ®); Sunitinib (<i>Sutent</i> ®)
Hormonal therapies	Anti-oestrogens: Tamoxifen; Anastrozole (<i>Arimidex</i> ®); Letrozole (<i>Femara</i> ®) Anti-androgens: Goserelin (<i>Zoladex</i> ®); Buserelin (<i>Suprefact</i> ®); Surgical orchidectomy
Radiotherapy involving the heart	For example, left breast or mediastinal Note: Level of risk following breast radiotherapy varies according to the technique used – modern heart-sparing radiotherapy carries a lower risk of cardiotoxicity than older methods. See Brenner et al (2014).

Part 2. During hospital-based treatment or hormonal treatments (see summary in Figure 1, page 5)

- Be aware of the cardiotoxic risks of treatment identified in the discharge letter/Treatment Summary.
- **Be alert to the need to assess and further investigate ANY cardiac symptom, however mild, during chemotherapy – irrespective of previous cardiac history.**
- In addition to READ coding cancer treatment (Radiotherapy 7M371, Chemotherapy 8BAD), READ code the risk of CVD:

	SystemOne	All other systems
Radiotherapy	Xa8S1	7M371
Chemotherapy	X71bL	8BAD
Coronary heart disease risk	XaFxA	388A
At risk of heart disease	XaFs8	1407
High risk of heart disease	14070	14070

- Be aware that some cancer treatments last for a number of years and it is important to continue to review CVD risk during long-term treatment – people may not be receiving ongoing oncology-led cardiac monitoring, hence the importance of primary care in monitoring and managing CVD risk.
- Monitor weight, diabetes status and cholesterol profiles in people on hormonal cancer therapy and provide appropriate advice to reduce their CVD risk.
- Alert the oncology team to any changes to the patient's CV medication or status.
- Risks to future heart health should be fully discussed with the patient, especially if a woman is planning a pregnancy. The GP should also be informed of this risk.
- Refer to Macmillan's booklet *Heart Health and Cancer Treatment* for more information.

Part 3. After cancer treatment has finished

(see summary in Figure 1, page 5)

- The communication between specialist and primary care is important and it is vital to highlight any new information to primary care.
- Discuss with the patient the discharge letter/Treatment Summary provided by the cancer care team at the end of treatment, which should include details of treatment, side effects and long-term effects.
- Consider the impact of age at treatment: in the elderly there is a higher short-term risk; in younger adults and children there is higher long-term risk than in peers not affected by cancer. People who received cardiotoxic anti-cancer therapy in childhood, adolescence or as young adults are at lifelong risk of CVD and should be monitored every 5 years at least.
- All those with risk factors (Table 1, page 6) should receive healthy lifestyle advice and have their CVD risk factors managed appropriately (eg cholesterol, diabetes and high blood pressure).
- High risk patients are especially vulnerable to other long-term vascular disease, heart failure and other CVD such as arrhythmias.
- Assess people who report difficulty in breathing, reduced exercise tolerance, unusual tiredness, or peripheral oedema.
- Closer monitoring of women during pregnancy or who are planning to become pregnant is warranted due to the increased cardiometabolic demand on the heart of the mother during pregnancy. Referral to Cardiology for specialist advice is necessary in women who are pregnant or planning to become pregnant.
- Refer to Macmillan's patient booklet *Heart Health and Cancer Treatment* for more information.

Post-treatment surveillance and monitoring

- Regular cardiac surveillance (cardiac function testing such as Echo and BNP/NT-proBNP to screen mainly for heart failure) after cancer treatment is likely to be beneficial in the long term. However, due to the complexity of case mix and variety of cancer treatments, there is not enough evidence to recommend a specific surveillance and monitoring regime. See summary in Table 2 (page 9).

People with metastatic disease

- Many people with metastatic disease are surviving longer and may have ongoing cancer treatments. CVD risk must be considered in the context of their prognosis.
- They should be stratified in the same risk categories as others (Table 1, page 6).
- They should be monitored and managed in the same way as people without metastases. Clinical judgement is required in the context of cancer prognosis on treatment regarding the importance of CV risk in patients with metastatic disease.

Table 2: Summary of primary care monitoring of heart health in cancer patients

<p>How should the patient be monitored in primary care?</p>	<ul style="list-style-type: none"> • People with risk factors identified in Table 1, even if asymptomatic, should be regularly screened (at least once a year) for CV risk factors/co-morbidities eg hypertension, diabetes, dyslipidaemia, overweight/obesity. • They should also be counselled against smoking and physical inactivity (as appropriate) and on the benefits of an overall healthy lifestyle. • This could be carried out as part of an annual Cancer Care Review in primary care.
<p>Which patients should have regular cardiovascular risk assessment?</p>	<ul style="list-style-type: none"> • Patients starting anti-androgen or anti-oestrogen therapy should be reviewed for CV risk factors within 3 months of starting therapy. • Continue annual monitoring for the duration of hormonal therapy (often 5 years+). • This is especially important in those with previous CV disease, diabetes or chronic kidney disease.
<p>Which patients should have surveillance for heart failure?</p>	<ul style="list-style-type: none"> • Surveillance (cardiac function testing) depends upon which cardiotoxic cancer treatments were received, eg anthracycline chemotherapy; radiotherapy involving the heart. There is insufficient evidence to recommend a specific surveillance and monitoring regime. • Surveillance (by primary or secondary care) of patients who have had high risk cardiotoxic cancer treatment (Table 1, page 6) should begin no later than 6 months after completion of cardiotoxic cancer treatment and continue thereafter at 5-yearly intervals*. <p>*providing 6 month assessment normal and patient asymptomatic</p>
<p>What advice should the patient be given?</p>	<ul style="list-style-type: none"> • Advise on benefits of healthy lifestyle including healthy diet, smoking cessation and physical activity (for suitable patients). • Offer the Macmillan information booklet <i>Heart Health and Cancer Treatment</i>. This has a lot of useful self-help advice. • Advise patient with new CV symptoms to discuss them with their GP.
<p>When should the patient be referred to Cardiology?</p>	<ul style="list-style-type: none"> • See Part 4 (page 10). • Closely monitor women during pregnancy or who are planning to become pregnant. Refer to Cardiology for specialist advice.

Part 4. Criteria for referral to Cardiology

Primary care professionals should consider referral to Cardiology specialists for the following:

- Individuals who have abnormal cardiac function or CV symptoms detected during surveillance.
- Any new cardiac abnormality in symptomatic patients with established CVD.
- Women who were treated with cardiotoxic chemotherapy or radiotherapy involving the heart and are pregnant or planning to become pregnant.
- Patients who were treated with cardiotoxic chemotherapy or radiotherapy involving the heart and who wish to compete at a high level of exercise.

Glossary

CV	Cardiovascular
CVD	Cardiovascular disease
Echo	Echocardiogram
READ	A system of coding symptoms and disease in GP practice

Further reading and useful links

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Ewer MS and Ewer SM. Cardiotoxicity of anticancer treatments. *Nature Reviews Cardiology* 12, 547–558 (2015) doi:10.1038/nrcardio.2015.65

Macmillan Cancer Support booklet for patients *Heart Health and Cancer Treatment* – available as booklet, PDF and e-reader versions.

Log on to be.macmillan.org.uk and search 'MAC14637'

Macmillan Cancer Support resources for physical activity

www.macmillan.org.uk/pa

www.macmillan.org.uk/movemore

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As a healthcare professional, you know cancer doesn't just affect your patients physically. It can affect everything – their relationships, finances, work. But maybe you feel like there aren't enough hours in the day to spend as long as you'd like with them, or to answer all their questions.

That's where we come in. We're here to provide extra support to your patients with cancer, and their loved ones. Whether it's offering benefits advice, help returning to work, or support with getting active again – we're here to help you give your patients the energy and inspiration they need to feel more in control of their lives. Right from the moment they're diagnosed, through treatment and beyond.

To find out more about how we can help, visit macmillan.org.uk. And please let your patients know they can contact us on **0808 808 00 00** if they need our support.

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