

2022

Essential Messages from ESC Guidelines

**Clinical Practice
Guidelines Committee**

CARDIO-ONCOLOGY

Guidelines on cardio-oncology

Essential Messages

2022 ESC Guidelines on cardio-oncology

Developed by the Task Force on cardio-oncology of the European Society of Cardiology (ESC) in collaboration with the European Hematology Association (EHA), the European Society for Therapeutic Radiology and Oncology (ESTRO) and the International Cardio-Oncology Society (IC-OS)

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Councils: Council of Cardio-Oncology, Council on Hypertension, Council on Valvular Heart Disease.

Working Groups: Aorta and Peripheral Vascular Diseases, Cardiovascular Pharmacotherapy, e-Cardiology, Myocardial Function, Pulmonary Circulation and Right Ventricular Function, Thrombosis.

Patient Forum

ESSENTIAL MESSAGES FROM THE 2022 ESC GUIDELINES ON CARDIO-ONCOLOGY

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Key messages

This is the first ESC cardio-oncology Guideline and contains 272 new recommendations. The key messages from this guideline are:

- A guiding principle of cardio-oncology is integration, and cardio-oncology providers must have knowledge of the broad scope of cardiology, oncology, and haematology. Communication between different healthcare professionals is critical to optimize the care of patients with cancer and CVD.
- Cardio-oncology programmes facilitate cancer treatment by minimizing unnecessary cancer therapy interruptions and CTR-CVT across the entire continuum of cancer care. In patients who develop CTR-CVT, a MDT discussion is required to balance the risk/benefit of cancer treatment discontinuation.
- There is a new international definition of CTR-CVT.
- CV toxicity risk is a dynamic variable. This guideline is structured to provide a personalized approach to care based upon the baseline CV toxicity risk. A baseline CV risk assessment is recommended for all patients with cancer scheduled to receive a potentially cardiotoxic anticancer therapy. This enables the oncology team to consider CV risk while making cancer treatment choices, educating patients regarding their CV risk, and personalizing CV surveillance and follow-up strategy.
- Primary prevention of CV toxicity from cancer therapy aims to avoid or minimize the development of CTR-CVT in patients without CVD.
- Secondary prevention refers to interventions in patients with pre-existing CVD, including prior or new CTR-CVT. A MDT is recommended when patients with cancer have complex CVD that may impact on their cancer treatment.
- Defining and delivering an appropriate prevention and surveillance plan for potential CV complications is recommended. Optimal management of CVRF and pre-existing CVD is mandatory to facilitate cancer therapy and to improve patients' prognosis.
- Detailed monitoring pathways during cancer therapy - including 3D echocardiography, GLS, and cardiac biomarkers - are provided to detect CV toxicity based upon specific cancer therapies and baseline CV toxicity risk.
- Treatment recommendations for CTRCD during and after cancer therapy depend upon CTRCD severity and symptoms. New guidance on continuing trastuzumab in BC patients who develop asymptomatic moderate CTRCD (LVEF 40-49%) whilst starting cardioprotective medication is provided.

Key messages

- Use of a structured algorithm to guide decisions regarding anticoagulation management in patients with cancer presenting with AF or VTE encompassing the TBIP assessment is encouraged.
- After cancer treatment is completed, the focus of the cardio-oncology team shifts to coordination of long-term follow-up. This starts with an 'end-of-treatment' assessment in the first year after treatment, reviewing patients with cancer who have received cardiotoxic anticancer therapies to re-assess their CV toxicity risk and guide long-term surveillance planning.
- A new algorithm is provided to guide weaning off of CV medication in CS.
- Patients with cancer, CS, and the patient's family/carers should receive guidance to promote healthy lifestyle and recognize and report signs and symptoms of CVD, to receive prompt and effective treatment, without interfering with their cancer treatment.
- Patients must receive psychological support when needed and clear and accurate information about their condition to play an active role in managing their treatment and increase adherence to cancer and CV treatments.

Gaps in evidence

Cancer and CVD are the two major public health problems with great economic and social impact. In addition, CTR-CVT are associated with an excess of both CV and oncological mortality, especially when they limit patients' ability to complete effective treatments. However, the intersection of cancer and CVD has only recently gained wider interest and many areas with lack of evidence need to be addressed in future research.

Role of cardio-oncology services and cardio-oncology care networks

- Robust evidence on the impact of dedicated cardio-oncology programmes and cardio-oncology rehabilitation on the prognosis of patients with cancer and survivors.
- Specification of roles of different healthcare professionals (including nurses and pharmacists) in cardio-oncology teams.
- Cardio-oncology care networks to improve the management of patients with cancer and to discuss difficult cases.
- Cardio-oncology team support and involvement in oncology trials design (including patients' representatives).
- Understand how to engage patients with cancer in their own CV care (inclusion of digital tools).

Research, education, and training in cardio-oncology

- Consensus about CV toxicity definitions used in oncology trials.
- Define standards for CV toxicity monitoring in oncology trials to avoid unexpected CV toxicities when new drugs are approved for clinical use.
- Relevant model systems to allow high-throughput screening of new cancer treatments for CV toxicity.
- Improved knowledge on CV toxicity mechanisms of new targeted cancer therapies and ICI and optimal treatment of CV toxicities.
- Improved knowledge on the effects of radiation to specific cardiac substructures and the interactions between cardiotoxic systemic therapy and RT.
- Further research into the underlying mechanisms that connect CVD and cancer, such as a genetic predisposition to CV toxicity.
- Personalized medicine and use of big data and artificial intelligence tools.

Gaps in evidence

Cardiovascular toxicity risk stratification

- Development of CV toxicity risk prediction tools including both treatment- and patient-related risk factors.
- Validated prospective CV toxicity risk scores based on clinical outcomes.
- Further research on the role of genetics in CV toxicity risk stratification.
- Validation of CPET parameters for CV outcomes in patients with cancer.

Prevention, diagnosis, and management of CTR-CVT

- Raise awareness of the benefits of minimizing CV risk in patients with cancer in order to reduce the risk of CTR-CVT.
- More data on new technologies (biomarkers, advanced echocardiography, CMR, etc.) and genetic profiles for the detection of early CV toxicity.
- Prospective studies showing the impact on outcomes and/or quality of life (and frailty) of early CTR-CVT diagnosis and treatment.
- Further evidence from prospective RCTs to define when cardioprotective medications improve patients' outcomes.
- Further research on the potential for aerobic exercise to reduce CTR-CVT.
- RCTs of (new) CV therapies in patients with different types of CTR-CVT.

Long-term cancer survivorship programmes

- Development of optimal CV follow-up programmes after treatment for cancer (research on risk stratification, efficacy, and frequency of screening protocols).
- Best screening strategies for RT-induced CAD.
- Further research on CV preventive strategies for long-term CS.

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Post-publication corrections and updates are available at www.escardio.org/guidelines

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