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Fundación para la
Excelencia y la
Calidad de la
Oncología



Hospital Universitario

Fundación Jiménez Díaz

Grupo Quirónsalud

IQVIA



ALLIANCE
AGAINST
CANCER

START

"The cure starts here"

CONNECT
TO WIN

November 13th - 14th 2023

Auditorium of the Quirónsalud University Hospital

Diego de Velázquez, 1

28223 Pozuelo de Alarcón

Madrid -Spain

Real world evidence for Cardio-Oncology

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Hospital Universitario  quirónsalud
Madrid



Hospital Universitario
La Paz

Hospital Carlos III
Hospital Cantoblanco

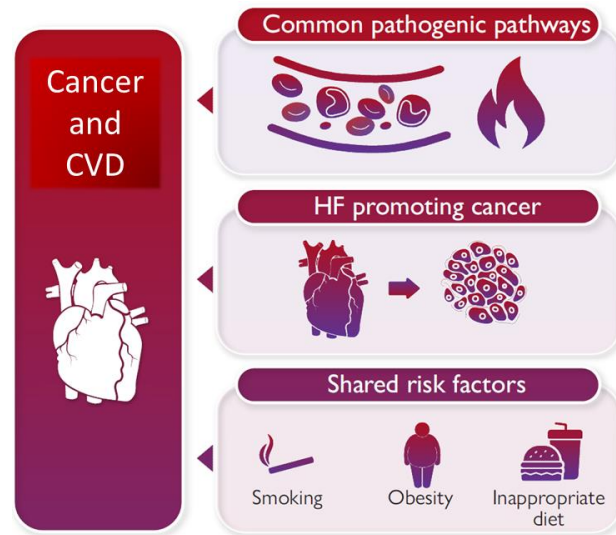


Disclosures

Speaker fees: Philips, Janssen, Daichi-Sankyo, Myocardial Solutions, Astra Zeneca, Pfizer, Beigene, Bayer not related with this presentation

**Why CVD is such a big deal
in patients with cancer**

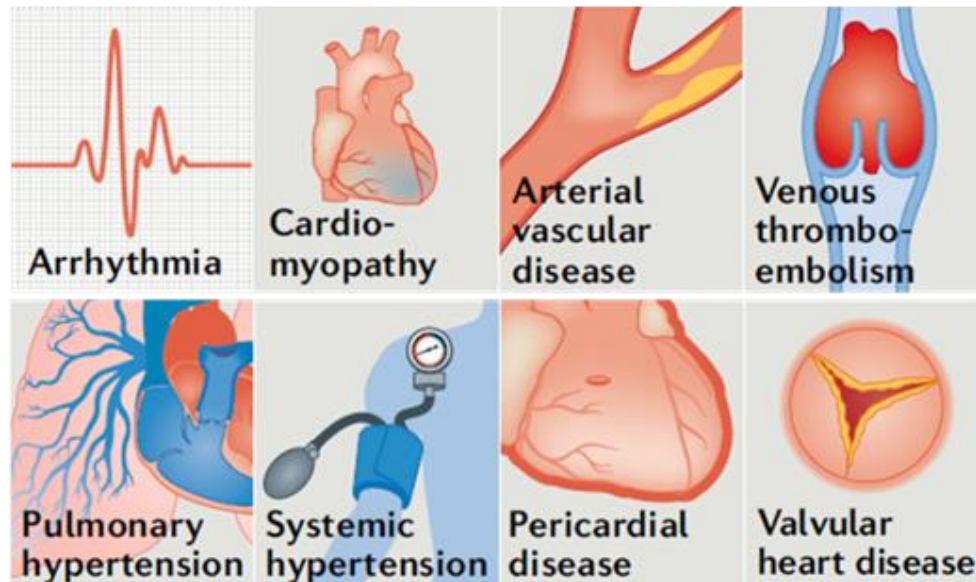
When CVD occurs before cancer



1 in 3 patients with cancer have pre-existing CVD

- Excluded from cancer trials → limited access to new cancer therapies
- CV treatment is often interrupted during cancer Tx
- High risk of CTR-CVT and cancer treatment interruption

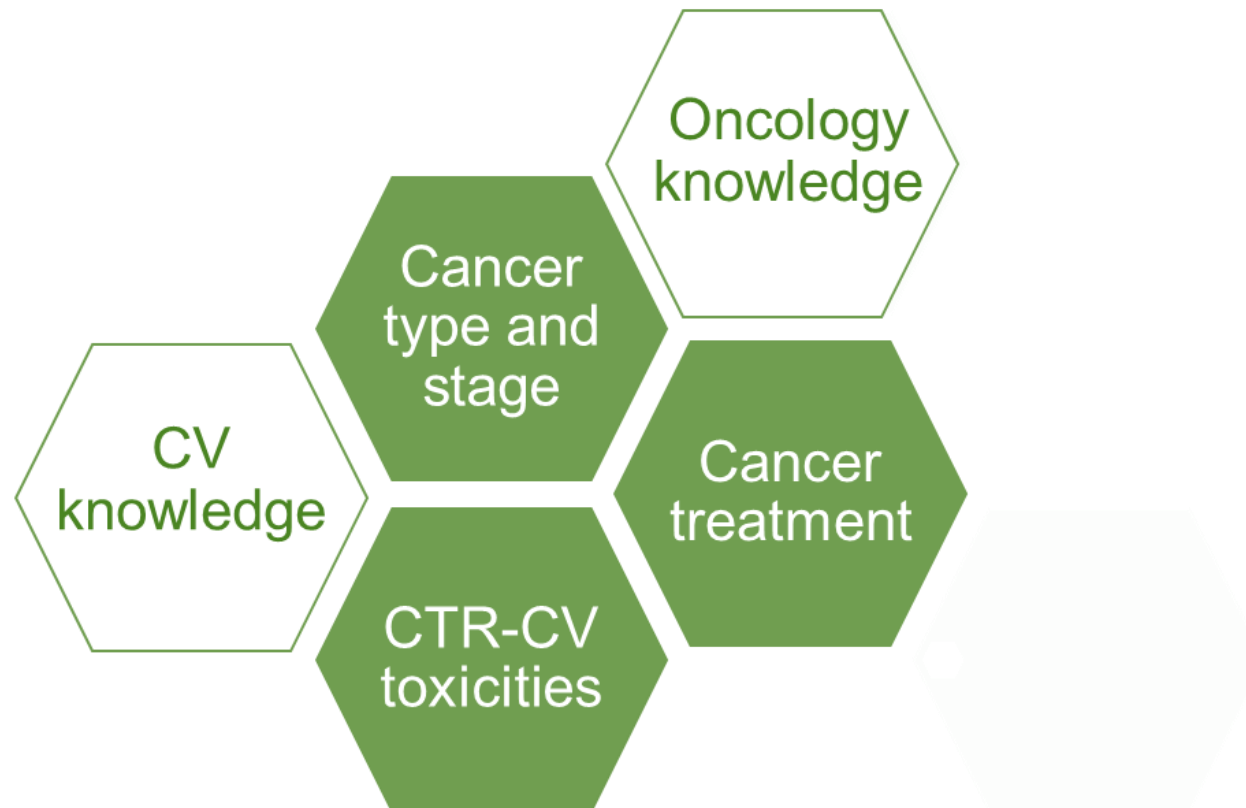
CTR-CVT impacts cancer patient's prognosis



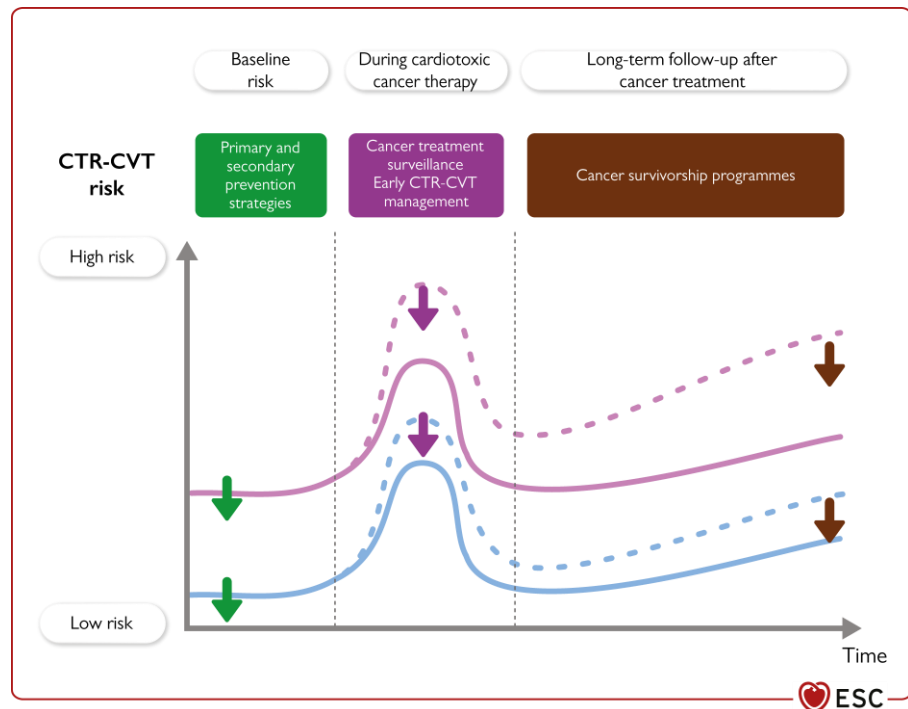
- **Acute CTR-CVT** limits access to optimal cancer treatment and impacts cancer and CV outcomes
- **Late CTR-CVT** is a competing cause of death in cancer survivors

#1 Key message

Cardio-Oncology is a teamwork



The cardio-oncology strategy: harmonizing the CV care of patients with cancer and cancer survivors



Minimize cancer treatment interruptions

Minimize CTR-CVT

Facilitate cancer treatment in HR patients

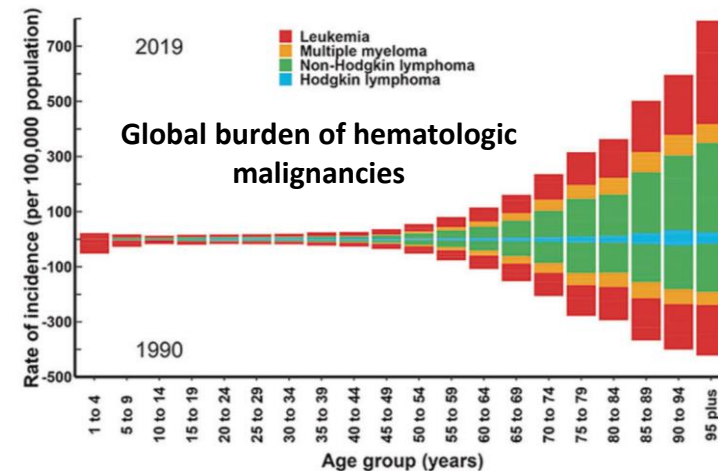
The challenges

↑ Cancer prevalence
and treatment needs

Probability of developing cancer

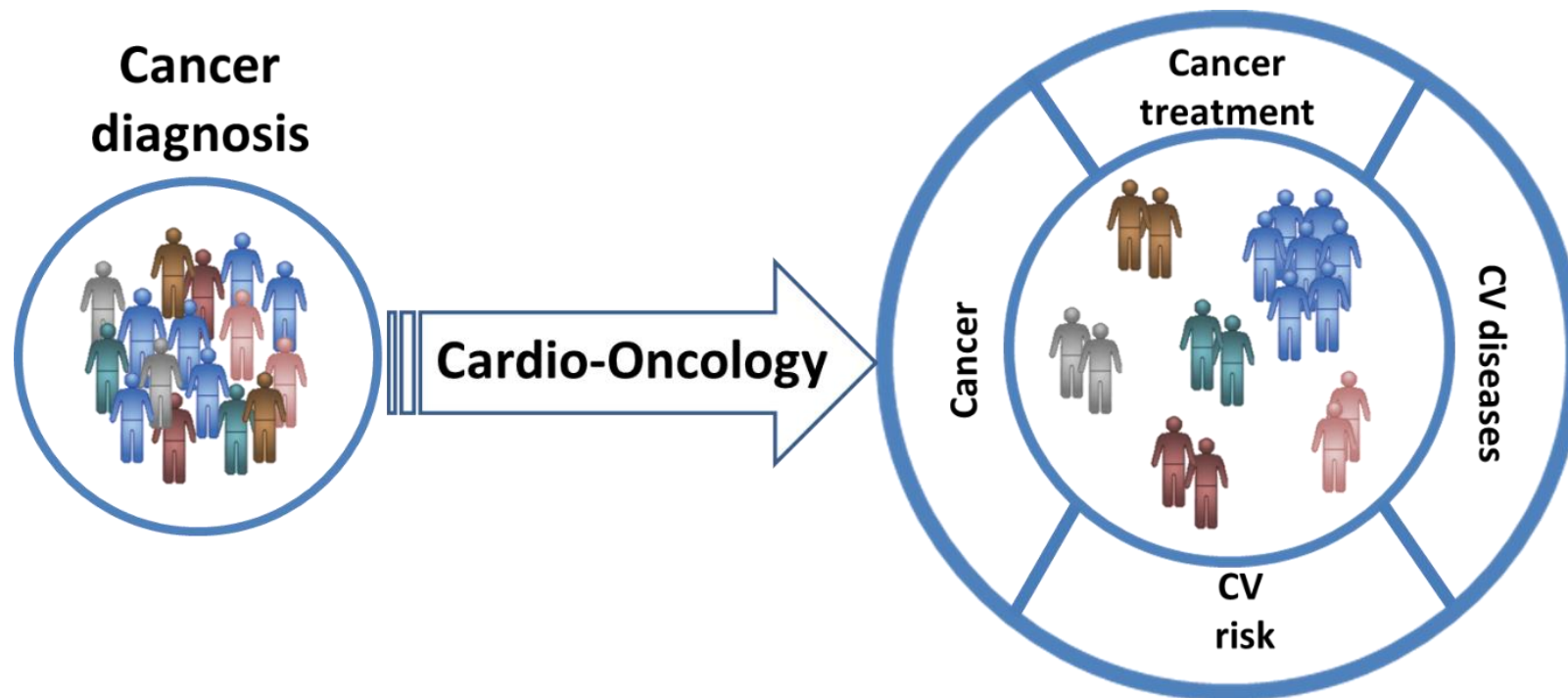
	>60 yo	>70 yo
Males	1 in 7	1 in 3
Females	1 in 10	1 in 4

↑ Age and CV risk of
patients with cancer



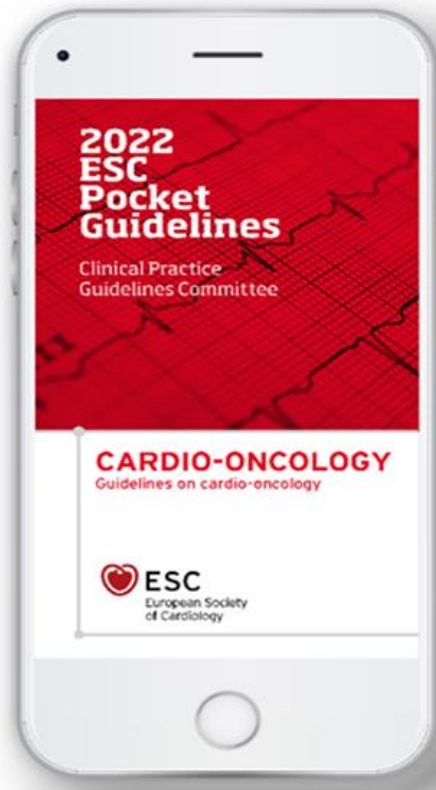
#2 Key message

Identify patients who are at risk of CTR-CVT and involve them in their CV care



HFA-ICOS risk assessment

ESC Pocket Guidelines App



Multitargeted Kinase Inhibitors for CML: Baseline Risk Assess.

Warning: Please make sure that all data items are activated to get correct recommendation(s). The data items have to be selected from top to bottom and if applicable from left to right.

Risk Factor

Previous Cardiovascular Disease

Arterial vascular disease (IHD, PCI, CABG, stable angina, TIA, stroke, PVD)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Arterial thrombosis with TKI	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Heart failure or LVSD	<input type="checkbox"/> Yes	<input type="checkbox"/> No
BCR-ABL TKI-mediated LVSD	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Abnormal ABPI*	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pulmonary arterial hypertension**	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Baseline LVEF <50%	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Venous thromboembolism (DVT/PE)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Arrhythmia†	<input type="checkbox"/> Yes	<input type="checkbox"/> No
QTc interval	<input type="text" value="-Select-"/>	

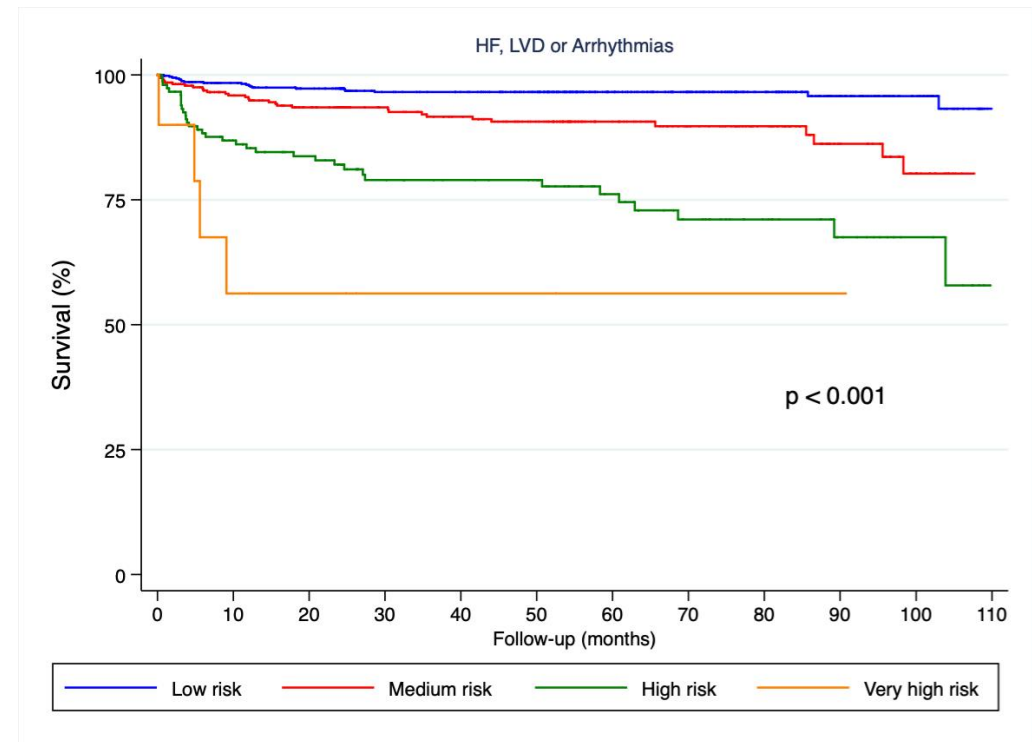
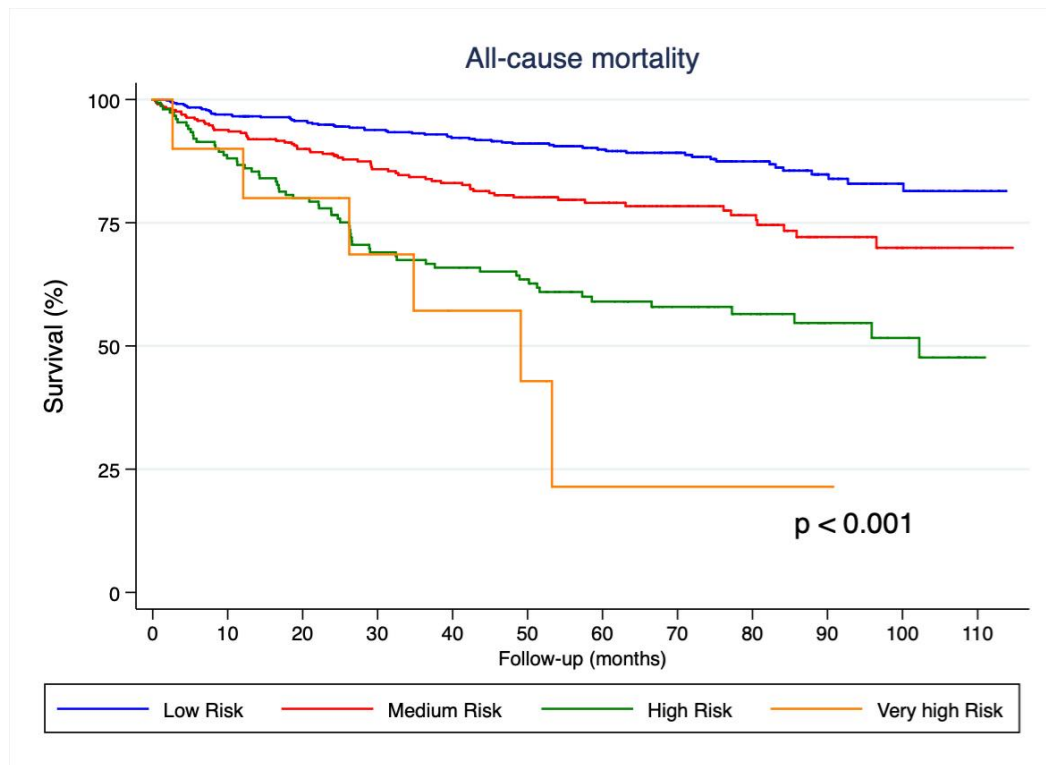
Demographic and Other CV Risk Factors

Home TOC Search My Library History

LOW RISK = no risk factor **OR** one MEDIUM1 RF
MEDIUM RISK = MEDIUM RFs with a total of 2-4 points
HIGH RISK = MEDIUM RFs with a total of ≥ 5 points **OR** any HIGH RF
VERY HIGH RISK = any VERY HIGH RF

<https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Guidelines-derivative-products/ESC-Mobile-Pocket-Guidelines>

CARDIOTOX registry



It is astonishing just with checkpoint inhibitors alone, how complex it will be to establish CV safety

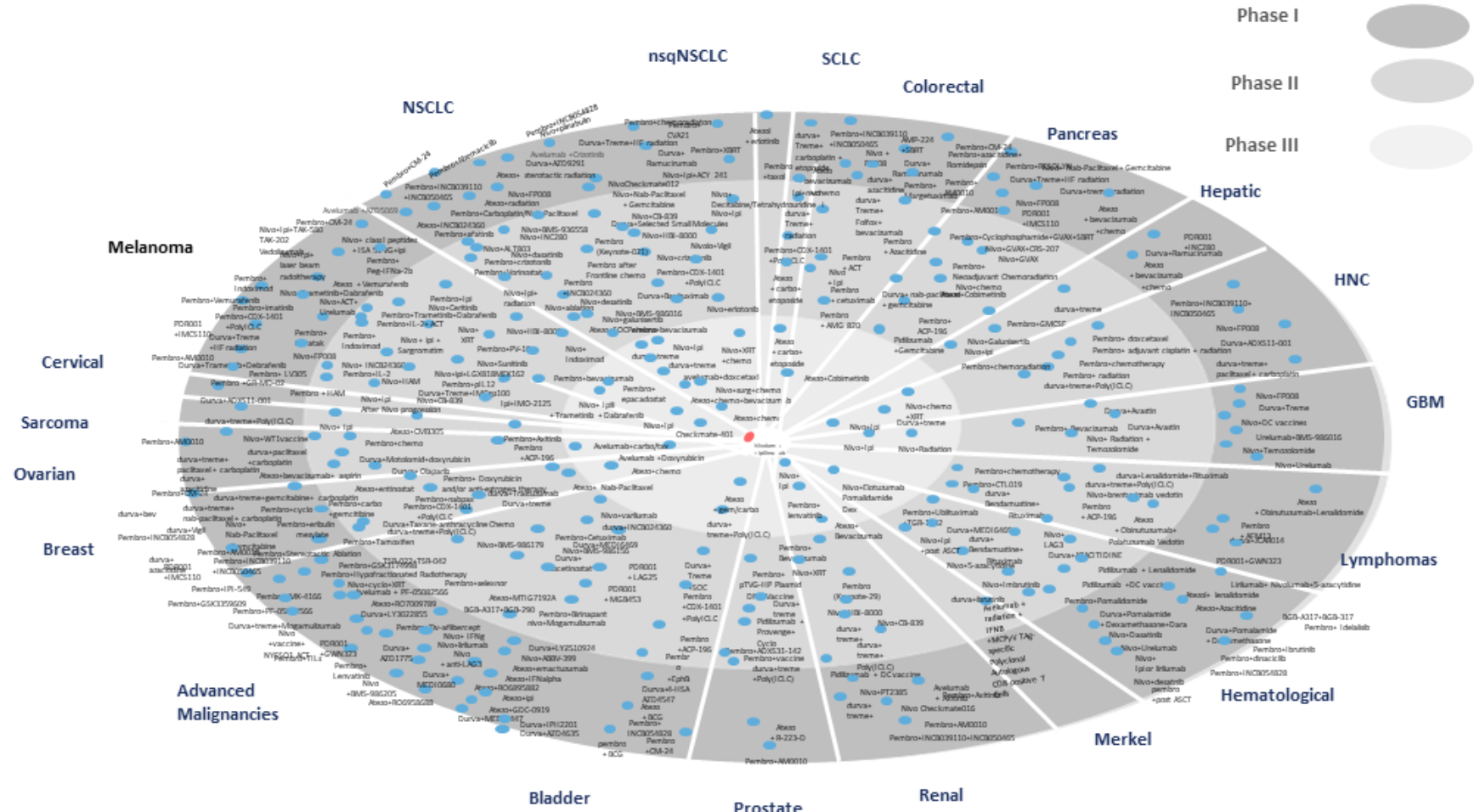
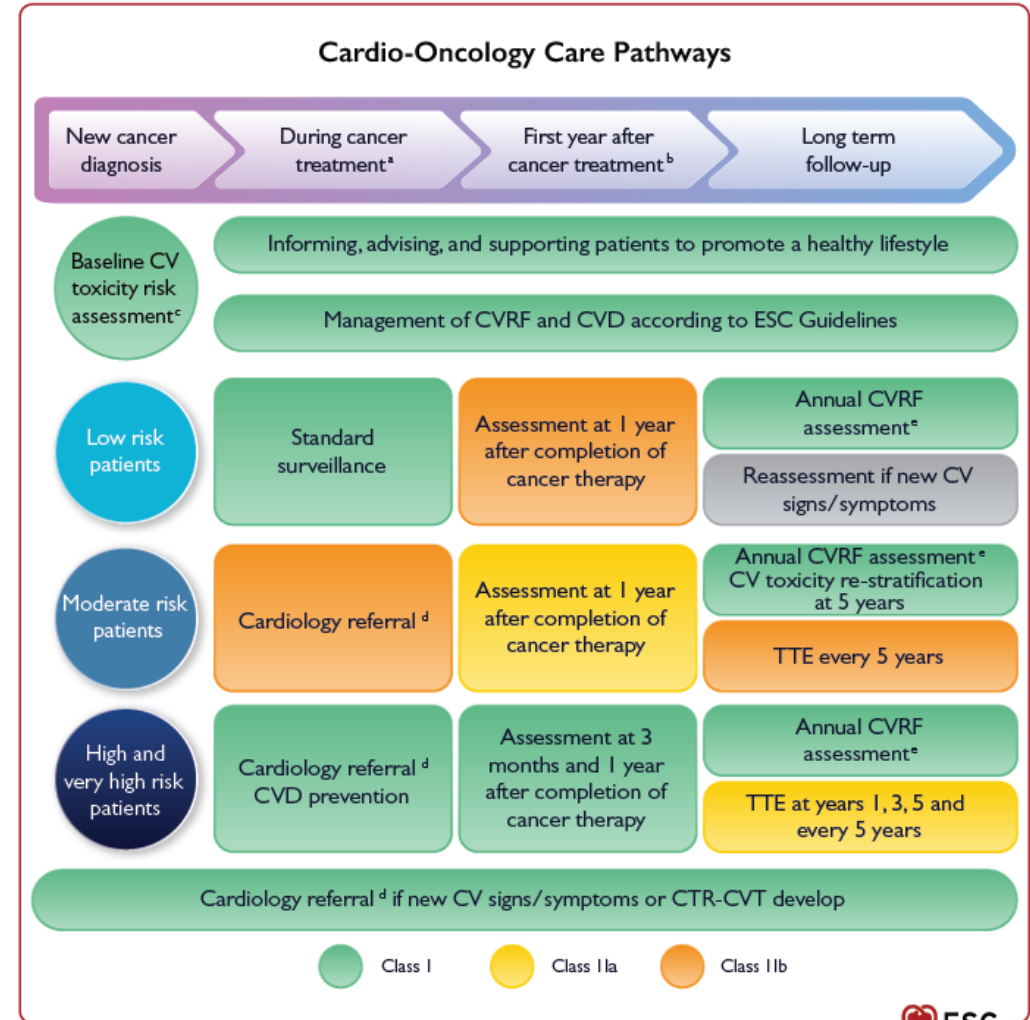


Image courtesy Ryan Sullivan, MD

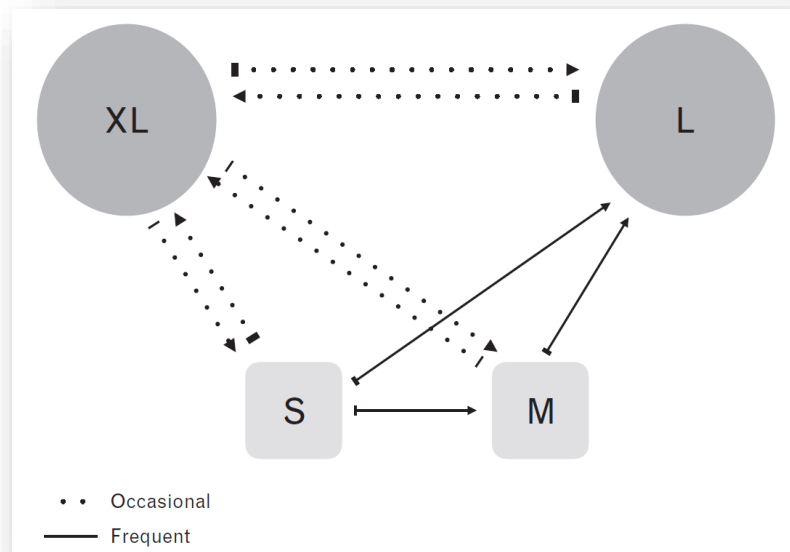
#3 Key message

Deliver continuous care and define appropriate prevention and surveillance plans



#4 Key messages

Minimize inequities in CO care access Cardio-Oncology networks and Quality Metrics



ESC
European Society
of Cardiology

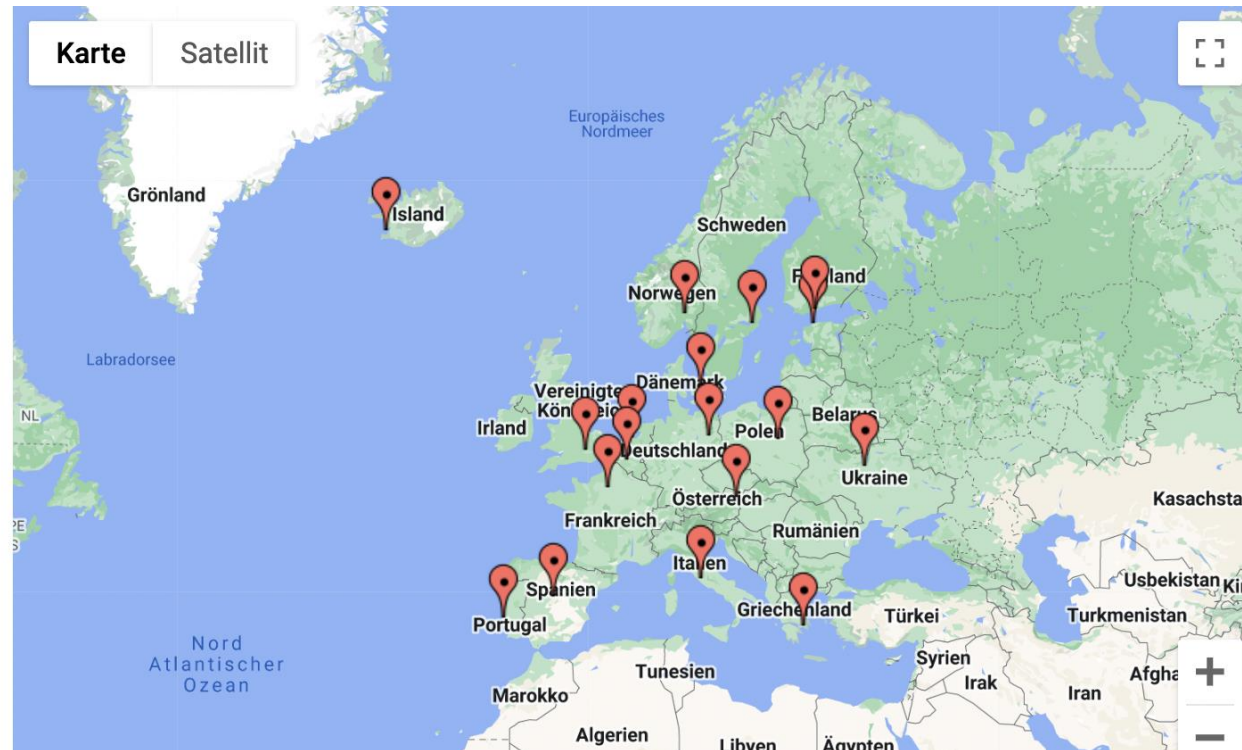
European Heart Journal - Quality of Care and Clinical Outcomes (2023) 9, 1–7
<https://doi.org/10.1093/ehjqcco/qcac070>

REVIEW

European Society of Cardiology quality indicators for the prevention and management of cancer therapy-related cardiovascular toxicity in cancer treatment

G.A. Lee^{1,†}, S. Aktaa^{2,3,4}, E. Baker¹, C.P. Gale^{2,3,4}, Israa F Yaseen^{5,6}, G. Gulati^{7,8}, R. Asteggiano^{9,10}, S. Szmit^{11,12}, A. Cohen-Solal^{13,14}, A. Abdin¹⁵, W. Jurczak¹⁶, P. Garrido Lopez¹⁷, A.L. Sverdllov¹⁸, C.G. Tocchetti¹⁹, A. Barac²⁰, I. Parrini²¹, P. Zamorano²², Z. Iakobishvili^{23,24}, R. Pudil²⁵, L. Badimon²⁶, A.M. Kirby²⁷, A.H. Blaes²⁸, D. Farmakis²⁹, G. Curigliano^{30,31}, R. Stephens³², A.R. Lyon³³ and T. Lopez-Fernandez³⁴

The European Clinical Model for Cardio-Oncology

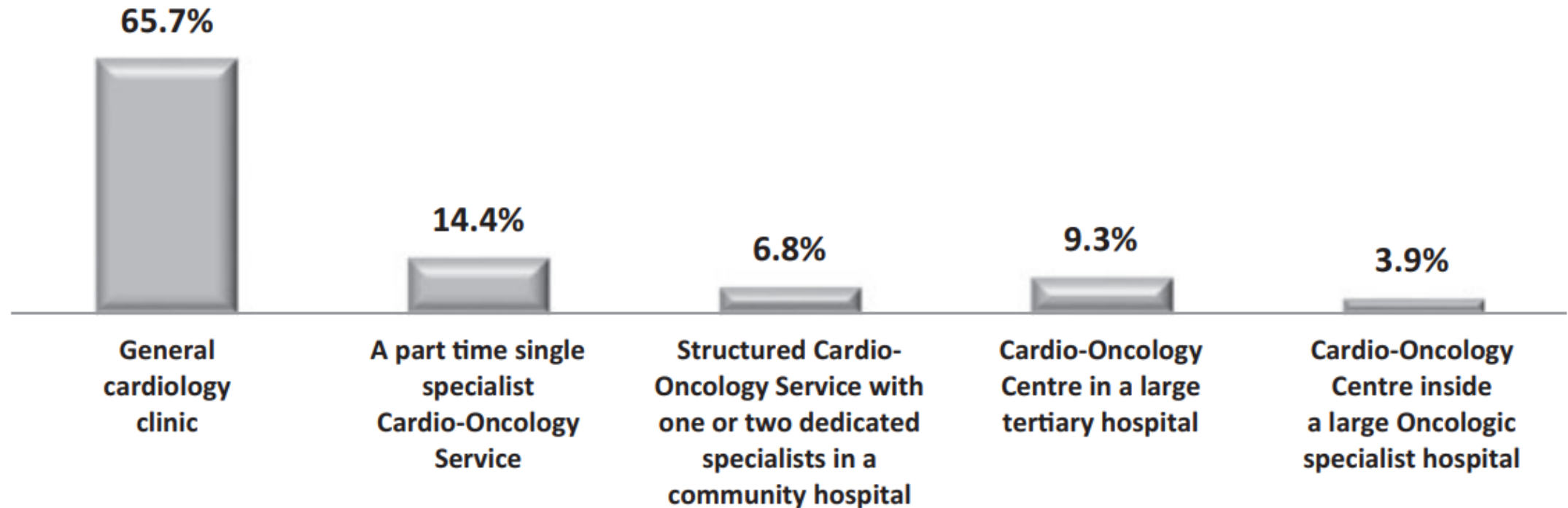


www.escardio.org/Councils/council-of-cardio-oncology/cardio-oncology-in-your-country

Cardiology care delivered to cancer patients

The results of a questionnaire survey by the Council for Cardio Oncology and Council for Cardiology Practice of the European Society of Cardiology

In your professional environment where are ambulatory cancer patients with cardiovascular health problems reviewed?



The challenges to cardio-oncology access

Limited number of dedicated CO structures for training, research and cancer patients care

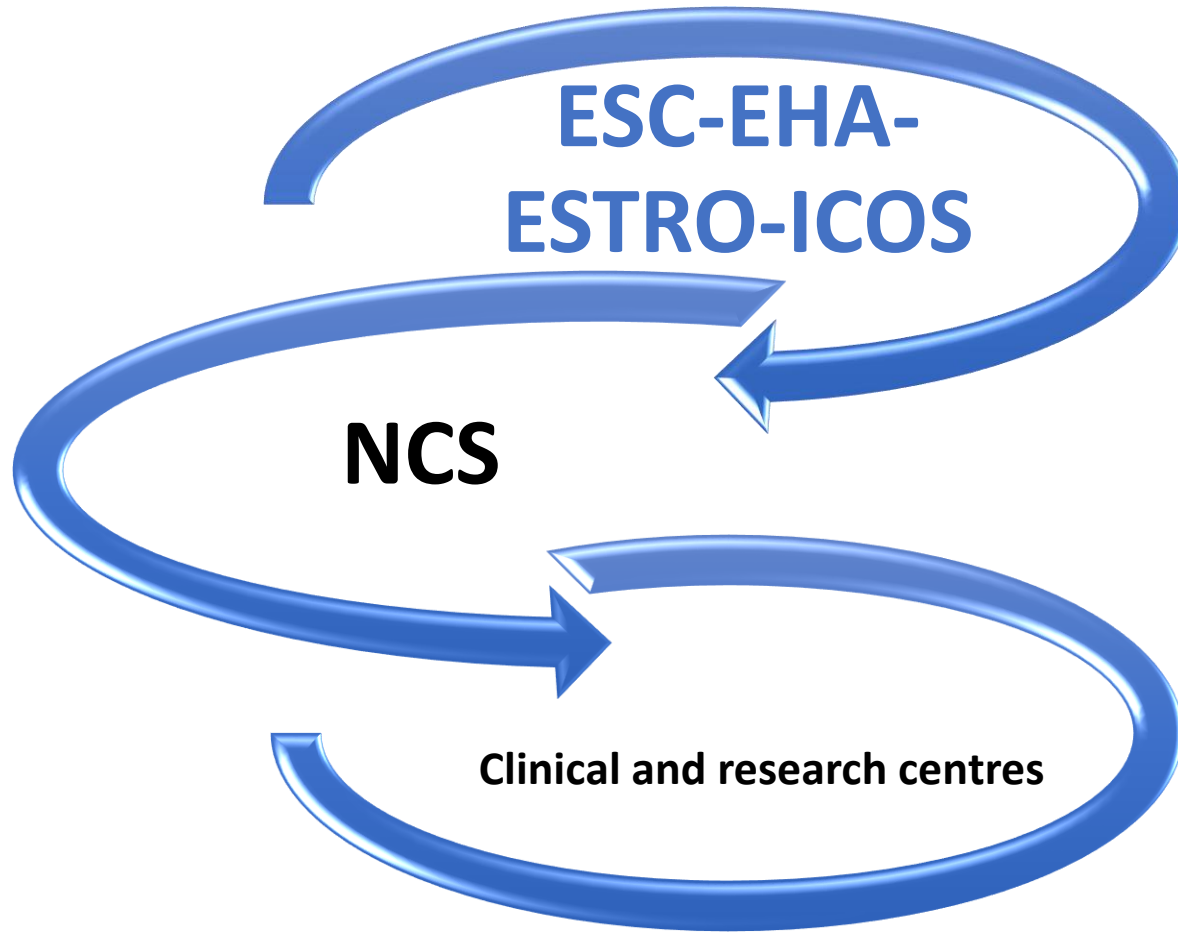
For patients

- Limited access to specialist care for screening, surveillance, and management
- Inadequate representation in clinical trials

For professionals

- No opportunities for training of fellowship programmes in cardio-oncology
- Limited information on natural history and optimal monitoring strategies

The European Model



2022 ESC Guidelines on cardio-oncology developed 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)

Developed by the task force on cardio-oncology of the European Society of Cardiology (ESC)

Authors/Task Force Members: Alexander R. Lyon^{*†} (Chairperson) (United Kingdom), Teresa López-Fernández^{*†} (Chairperson) (Spain), Liam S. Couch (Task Force Coordinator) (United Kingdom), Riccardo Asteggiano (Italy), Marianne C. Aznar¹ (United Kingdom), Jutta Bergler-Klein (Austria), Giuseppe Boriani (Italy), Daniela Cardinale (Italy), Raul Cordoba² (Spain), Bernard Cosyns (Belgium), David J. Cutter (United Kingdom), Evandro de Azambuja (Belgium), Rudolf A. de Boer (Netherlands), Susan F. Dent³ (United States of America), Dimitrios Farmakis (Cyprus), Sofie A. Gevaert (Belgium), Diana A. Gorog (United Kingdom), Joerg Herrmann³ (United States of America), Daniel Lenihan³ (United States of America), Javid Moslehi (United States of America), Brenda Moura (Portugal), Sonja S. Salinger (Serbia), Richard Stephens (United Kingdom), Thomas M. Suter (Switzerland), Sebastian Szmit (Poland), Juan Tamargo (Spain), Paaladinesh Thavendiranathan (Canada), Carlo G. Tocchetti (Italy), Peter van der Meer (Netherlands), Helena J.H. van der Pal (Netherlands), and ESC Scientific Document Group



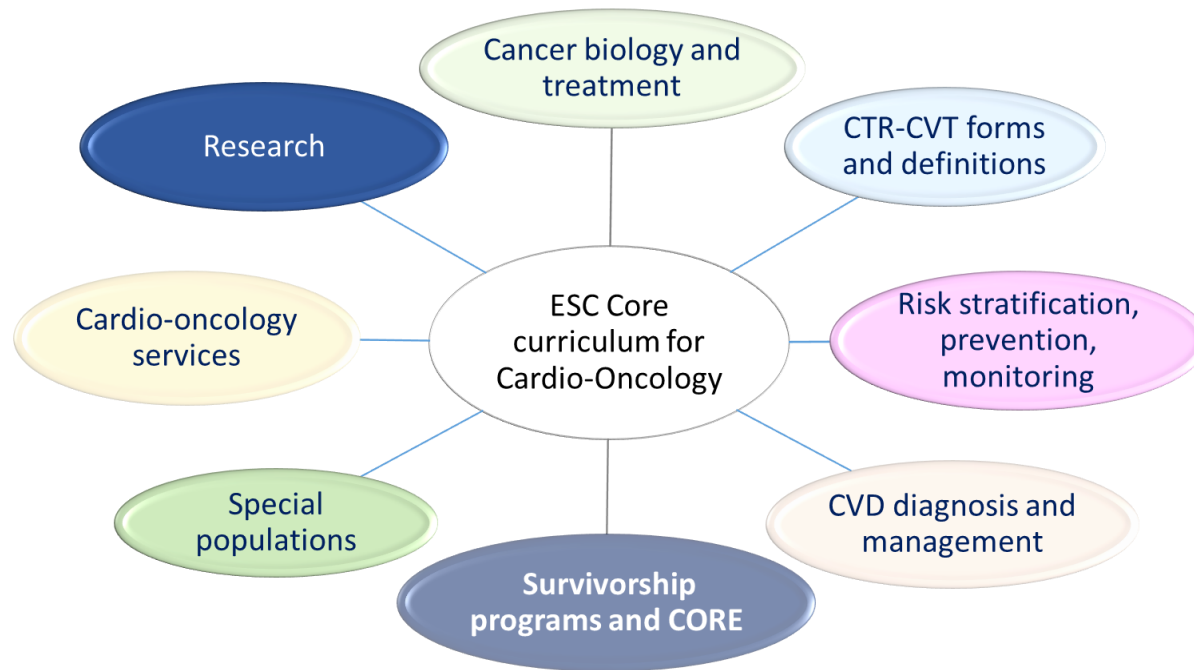
ESC Council of Cardio-Oncology education offer



<https://www.escardio.org/Education/ESC-Education-by-Topic/Topic-of-the-Month/cardio-oncology>

2023 ESC Core Curriculum for Cardio-Oncology

A joint initiative of the ESC Council of Cardio-Oncology
and the HFA Working Group Cardio-Oncology



EPA

Level of independence

Scope and timeframe

Setting

Including

CanMEDS roles

Knowledge

Skills

Attitudes

Cardio-oncology in Spain



Cardio-oncology in Spain



Asociación de
Cardiología
Clínica

Grupo de
Cardio-Oncología



Sociedad Española de
Hematología y Hemoterapia



ICOS-Spain



ESC
Council

Cardio-Oncology

<https://secardiologia.es/cientifico/grupos-de-trabajo/cardio-oncologia>

Cardio-oncology in Spain

Education: Online resources (webinars, campus sec)

Residency in internal medicine,
cardiology or oncology

1-2 months

Máster online en
Cardio - Onco - Hematología
3a Edición

60 ECTS | 10 meses | 100% online

The advertisement features four panels of cardiac imaging: top-left shows a cross-section of the heart with strain values (-26.2%, -27.5%, -15.9%, -13.0%, -7.6%, -8.4%); top-right shows a similar cross-section with strain values (-27.5%, -29%, -29%, -18%, -26%); bottom-left is a polar plot of strain with values ranging from -3.1 to -3.7; bottom-right is a 3D volume rendering of the heart. Logos for CAMPUS SECTO IMAGEN CARDIACA, SEICO, CTO, and Universidad Francisco de Vitoria are at the bottom.

Advanced training for fellows in
cardiology or oncology

6-12 months

<https://grupocto.com/campusimagencardiaca/cardio-onco-hematologia/>



Asociación de
Cardiología
Clínica

Grupo de
Cardio-Oncología



Sociedad Española de
Hematología y Hemoterapia

SEOM
Sociedad Española
de Oncología Médica

BASIC AND TRANSLATIONAL RESEARCH SYMPOSIUM IN CARDIO-ONCOLOGY

CNIC SEPTEMBER, 27th



GLOBAL
CARDIO ONCOLOGY
SUMMIT 2023

MADRID SEPTEMBER, 27-29th



GLOBAL CARDIO ONCOLOGY SUMMIT 2023

MADRID SEPTEMBER, 28-29th



CARDIO-ONCOLOGY NURSES SYMPOSIUM

HOSPITAL LA PAZ SEPTEMBER, 30th



GLOBAL
CARDIO ONCOLOGY
SUMMIT 2023

MADRID SEPTEMBER, 27-29th



Cardio-oncology in Spain

Research

Consensus document: AF, CVRF, cancer survivors, AYA

National registries



International collaborations



Global Cardio Oncology Registry (G-COR):
Registry Design, Primary Objectives, and Future
Perspectives of a Multicenter Global Initiative

Arco J. Teske¹, MD, PhD; Rohit Moudgil², MD, PhD; Teresa López-Fernández³, MD; Ana Barac⁴, MD, PhD;
Sherry Ann Brown, MD, PhD; Anita Deswa⁵, MD, MBBS; Tomas G. Neilan⁶, MD, MPH; Sarju Ganatra, MD, MBBS;
Husam Abdel Qadir, MD, PhD; Venu Menon⁷, MD; Aaron L. Sverdlow⁸, MBBS, PhD; Richard K. Cheng⁹, MD, MS;
Silvia Makhoul¹⁰, MD; Arjun K. Ghosh¹¹, MBBS, PhD; Sebastian Szmit¹², MD, PhD; Vlad Zaha¹³, MD, PhD; Daniel Addison¹⁴, MD;
Lili Zhang, MD, MS; Joerg Herrmann, MD; Jun H. Chong, B Med.; Vivek Agarwala¹⁵, DM, MBBS; Zaza Iakobishvili¹⁶, MD, PhD;
Patricia Guerrero, MD; Eric H. Yang¹⁷, MD; Monika Leja, MD; Nausheen Akhter¹⁸, MD; Avirup Guha¹⁹, MBBS, MPH;
Tochukwu M. Okwuosa²⁰, DO; Carolina Carvalho Silva, MD, PhD; Patrick Collier²¹, MD, PhD; Jeanne DeCara²², MD;
Brenton Bauer²³, MD; Carrie E. Lenneman, MD, MSCI; Diego Sadler²⁴, MD

Artículo especial

Cardio-Onco-Hematología en la práctica clínica.
Documento de consenso y recomendaciones

Teresa López-Fernández^{1,2,3,4}, Ana Martín García^{5,6}, Ana Santaballa Bel
Ramón García Sanz⁷, Pilar Mazón Ramos⁸, Sonia Velasco del Castillo⁹,
Manuel Barreiro-Pérez¹⁰, Rocío Hinojar Baydes¹¹, Leopoldo Pérez de Isla¹², Si
Regina Dalmán González-Gallardo¹³, Francisco Calvo-Iglesias¹⁴, Juan José
Antonio Castro Fernández¹⁵, Eva González-Caballero¹⁶, Cristina Mitro¹⁷,
Juan Antonio Virizuela Echaburu¹⁸, Pascual Marco Vera¹⁹, Andrés Iñigüe
Juan Carlos Plana Gómez²⁰ y José Luis López Sendón Henche²¹

Rev Esp Cardiol. 2019;72(8):749-759

Artículo especial

Estratificación, monitorización y control del riesgo cardiovascular en
pacientes con cáncer. Documento de consenso de SEC, FEC, SEOM, SEOR,
SEHH, SEMG, AEEMT, AEEC y AEEC

Ana Martín García^{1,2}, Cristina Mitro³, Pilar Mazón Ramos⁴, Ramón García Sanz⁵,
Juan Antonio Virizuela⁶, Meritxell Arenas⁷, Isabel Egochoaga Cabello⁸, Dimpna Albert⁹,
Manuel Anguita Sánchez¹⁰, Vicente Ignacio Arrieta Etxebarri¹¹, Francisco Ayala de la Peña¹²,
Clara Bonanand Lozano¹³, Almudena Castro¹⁴, Antonio Castro Fernández¹⁵, Raúl Córdoba¹⁶,
Juan Cosín-Sales¹⁷, Mariela Chaparro-Mulero¹⁸, Regina Dalmán¹⁹, Yassin Drak Hernández²⁰,
Lucía Deiros Bronie²¹, Pablo Díez-Villanueva²², Carlos Escobar Cervantes²³,
Concepción Fernández Redondo²⁴, Estibaliz García Rodríguez²⁵, Teresa Lozano²⁶, Pascual Marco Vera²⁷,
Amparo Martínez Monzó²⁸, Dolores Mesa²⁹, Gerard Oriñe³⁰, José Luis Palma Gómez³¹,
Milagros Pedreira³², Luis Reinos Barbero³³, Isabel Rodríguez³⁴, José María Serrano Antolín³⁵,
Belen Tosal³⁶, Laxa Torres Ripa³⁷, Sonia Velasco del Castillo³⁸, Teófila Vicente-Herrewé³⁹,
Eduardo Zatarain-Nicolás⁴⁰, Juan Tamargo⁴¹ y Teresa López Fernández⁴²

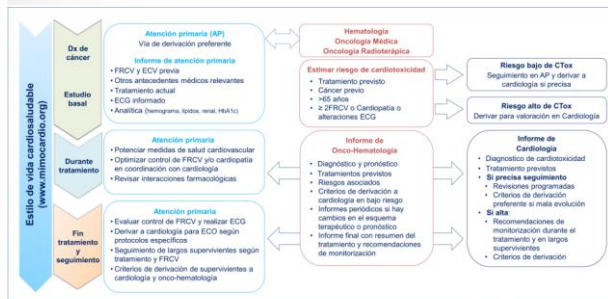
Artículo especial

Abordaje de la fibrilación auricular en pacientes con cáncer activo.
Documento de consenso de expertos y recomendaciones

Teresa López-Fernández¹, Ana Martín-García², Inmaculada Roldán Rabadán³, Cristina Mitro⁴,
Pilar Mazón Ramos⁵, Pablo Díez-Villanueva⁶, Carlos Escobar Cervantes⁷, Concepción Alonso Martín⁸,
Gonzalo Luis Alonso Salinas⁹, Meritxell Arenas¹⁰, Vicente Ignacio Arrieta Esteban¹¹,
Francisco Ayala de La Peña¹², Antonio Castro Fernández¹³, Héctor García Pardo¹⁴, Ramón García-Sanz¹⁵,
José Ramón González Porras¹⁶, Esteban López de Sá¹⁷, Teresa Lozano¹⁸, Pascual Marco Vera¹⁹,
Virginia Martínez Marín²⁰, Dolores Mesa Rubio²¹, Angel Montero²², Gerard Oriñe²³,
Armando Pérez de Prado²⁴, Sonia Velasco del Castillo²⁵, Juan Antonio Virizuela Echaburu²⁶,
Eduardo Zatarain-Nicolás²⁷, Manuel Anguita Sánchez²⁸, Juan Tamargo Menéndez²⁹

Cardio-oncology in Spain

Quality programmes



Guía para el manejo coordinado de trabajadores con cáncer y riesgo cardiovascular



<https://secardiologia.es/cientifico/grupos-de-trabajo/cardio-oncologia>



- Programme to certify units, processes and procedures

Cardio-oncology in Spain

Advocacy

SMART-CARE



Patient's initiatives



Thank you!



Cardio-oncology: the way to move forward

Unlock digitally enabled research in CO: the time is now

1. Facilitate **comprehensive CV toxicity risk assessment** for early referrals to cardio-oncology specialists
2. To **analyse RWE** that allows to develop truly **equitable modes of education (patients and professionals) and virtual care** to overcome barriers
3. **Improve knowledge on CV toxicity mechanisms** → facilitate preventive strategies



Thank you for your attention



Asociación de
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Grupo de
Cardio-Oncología

<https://secardiologia.es/cientifico/grupos-de-trabajo/cardio-oncologia>



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Cardio-Oncology

*Membership
is free*

<https://www.escardio.org/Councils/council-of-cardio-oncology>