

Screening for late effects in cancer survivors

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What is a late effect?

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Late effect: any chronic or late occurring outcome after cancer treatment:

- Physical
- Psychological
- Psychosocial

May not become apparent until many years after the cancer

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SickKids Some examples of late effects

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- A new cancer

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- Heart problems

- Difficulty getting pregnant or having children

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- Learning problems & school difficulties

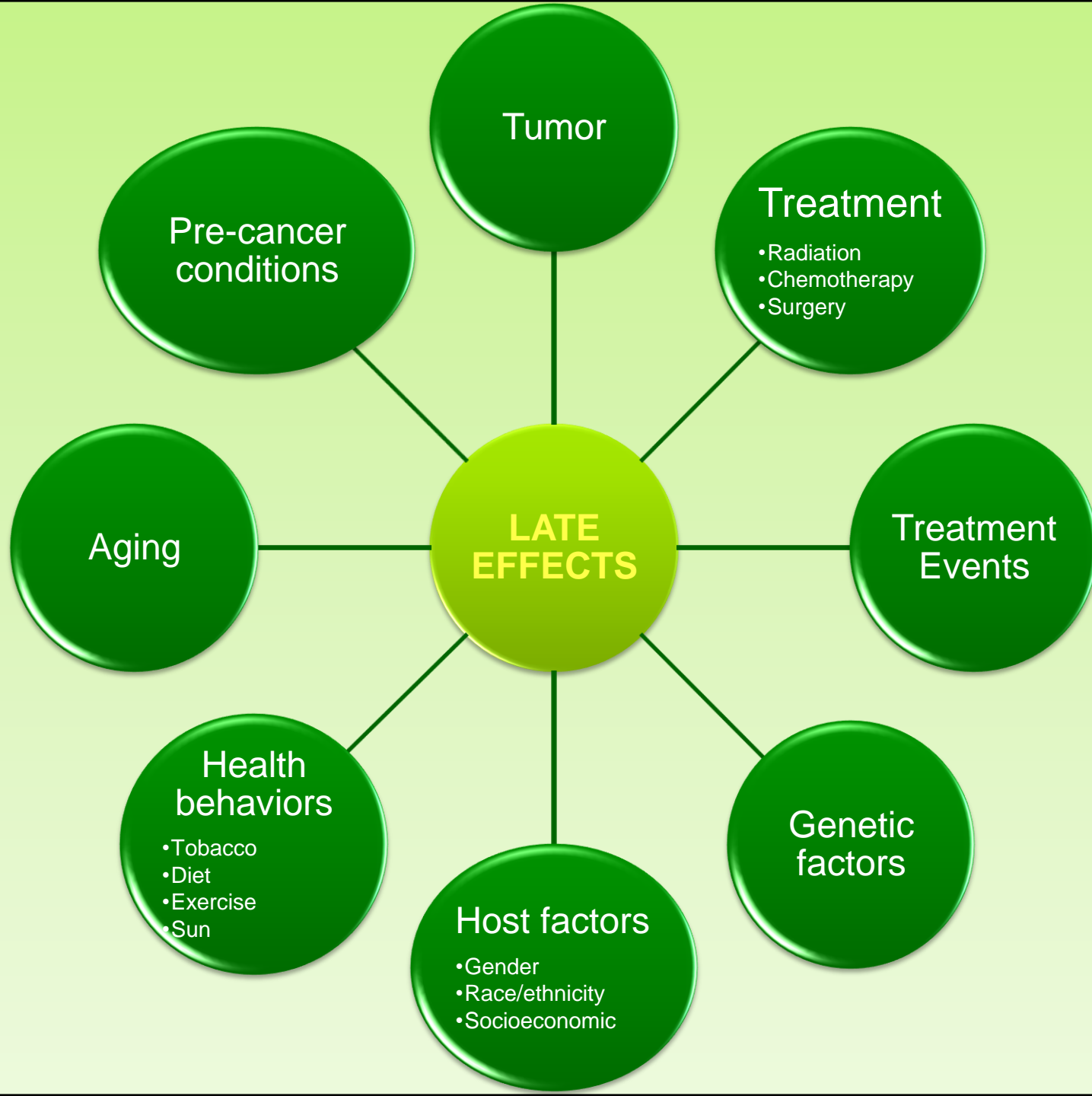
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- Anxiety or depression

Why do survivors get late effects?

- To kill cancer cells effectively, cancer treatment is generally toxic.
- Toxic therapy affects normal tissues and developing organs.
- Remember, the goal of the cancer therapy is to cure the cancer!





The GOAL of survivorship care

is to

Maximize your health & quality of life

while

**Minimizing preventable health
problems related to your previous
cancer**

What is screening?

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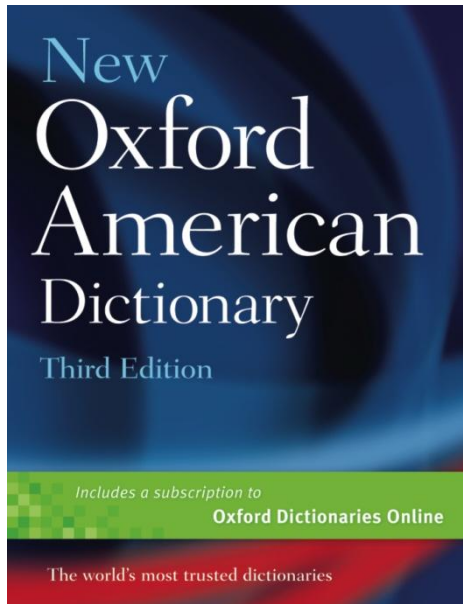
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screening test *n* (Medicine) a simple test performed on a large number of people to identify those who have or are likely to develop a specified disease

Everyday examples...

1. Vision or hearing tests in children
2. Pap smears in young women
3. Mammography in women over 50
4. Checking cholesterol or blood sugar

In order to screen, condition must be...

1. Fairly common in the population
2. Treatable or modifiable
3. Finding it early must make a difference

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Years or
decades



Screening



Cancer
treatment

Damage to
organ?

No signs or
symptoms
(sub-
clinical)

Disease?



**How do we know
what screening
needs to be done?**

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Long-Term Follow-Up Guidelines

for Survivors of Childhood, Adolescent,
and Young Adult Cancers

Version 3.0 – October 2008

CureSearch

Children's Oncology Group

www.survivorshipguidelines.org

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SKION Later

Langetermijneffecten na kinderkanker

Richtlijn follow-up na kinderkanker

meer dan 5 jaar na diagnose

THERAPY BASED LONG TERM FOLLOW UP
(2nd EDITION, APRIL 2005)

Practice Statement

UNITED KINGDOM CHILDREN'S CANCER STUDY GROUP
LATE EFFECTS GROUP

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can education and growth from Pfizer



Long term follow up care of survivors of childhood cancer

Guideline No. 76

Publication: January 2004

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**How does a survivor
know what they need
to be screened for?**

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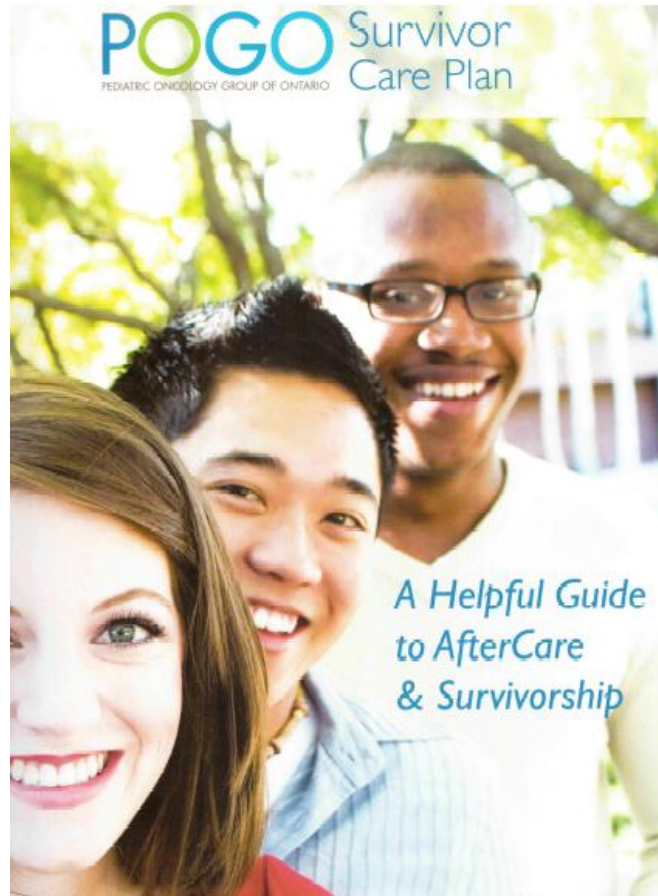
Survivor care plans

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A care plan needs to have...

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Information about:

- Your cancer and how it was treated
- Specifics about chemotherapy (doses), radiation (dose, field), cancer surgeries, transplant etc.

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A list of current health issues and possible late effects

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Recommendations for follow-up over time, including:

- How often to have a check-up
- Particular “things” that your doctor needs to look for or ask about
- Suggested screening tests

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Contact information for your oncology or follow-up team

POGO Survivor Care Plan Package

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The binder will include:

- Welcome letter
- Contact info
- Q & A sheet
- Passport to Health
- Treatment summary and follow-up plan
- COG Health Links
- Health promotion materials (e.g. Canada Food Guide)
- Notes page for questions, etc.
- SurvivorLinks booklet



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The Passport to Health contains confidential health information about the individual listed below. Please destroy this document if you are not the intended recipient.

The Passport to Health contains a summary of information related to your cancer care. Please provide the document to your health care professionals. For details regarding your medical history or clarification about information contained in the Passport please contact the health care professionals listed at the end of the document.

Name: Jane Doe

POGO Code: P-03-1512-7

DOB: 1989-04-10

Date of this summary: 2013-04-05

Diagnosis (stage): Hodgkin's Nodular Sclerosis (3A)

Site: RT Supraclavicular Lymph Node

Age at diagnosis: 14 Year(s)

Other Sites Involved: Local Lymph nodes, Regional Lymph Nodes

Date of diagnosis: 2003-08-01

Treatment Protocol (s) and End Date: COG AHOD0031 – 2003-12-26

Chemotherapy Name (Cumulative Dose; Route of Administration)

*Adriamycin (200 MG/M²; IV)

*Cyclophosphamide (3200 MG/M²; IV)

*ETOPOSIDE (1500 MG/M²; IV)

*Bleomycin (60 IU/M²; IV)

Vincristine (IV)

Prednisone (PO)

Radiation Therapy (Start Date – End Date; Dose; Site)

2004-01-02 – 2004-01-18

2100 cGy

Multiple Sites: Mediastinum, Neck

Complications

Endocrine: Hypothyroidism; L-Thyroxine (PO)

For More Information

POGO Late Effects Clinic; 480 University Avenue, Toronto, Ontario (416)592-1232

<http://www.pogo.ca>

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SurvivorLinks Booklet

- Current websites recommended for survivors
- Many websites are tailored to AYA survivors



Survivor Links

Websites for survivors of childhood cancer

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Resources for Healthy Living

www.cancer.org

The **American Cancer Society** has a National Cancer Survivorship Resource Centre, with a support network of online communities, a toll free number, live chat, as well as quizzes, videos, and a monthly newsletter.



www.bccancer.ca

The **British Columbia Cancer Agency** has a list of survivorship websites on care plans and support groups, as well as links to pamphlets and booklets available online.



www.beyondthecure.org

Beyond the Cure was created by the National Children's Cancer Society and has information on preparing for college or university with a disability, information on dating and marriage, a Late Effects Assessment Tool, and an online community.



www.tbts.org

The **Brain Tumor Society** has a story corner with other brain tumor survivors' stories, an online community, as well as a link to Imerman Angels one-on-one Cancer Support which matches you based on age, gender, and type of cancer with a peer support partner.



www.cancer.ca

The **Canadian Cancer Society** has videos, stories of hope, one-to-one peer support, an online community, as well as information on the Surviving Cancer and Living Well conference.



Canadian website



online community



survivor support match-up

Screening for new cancers

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Breast cancer

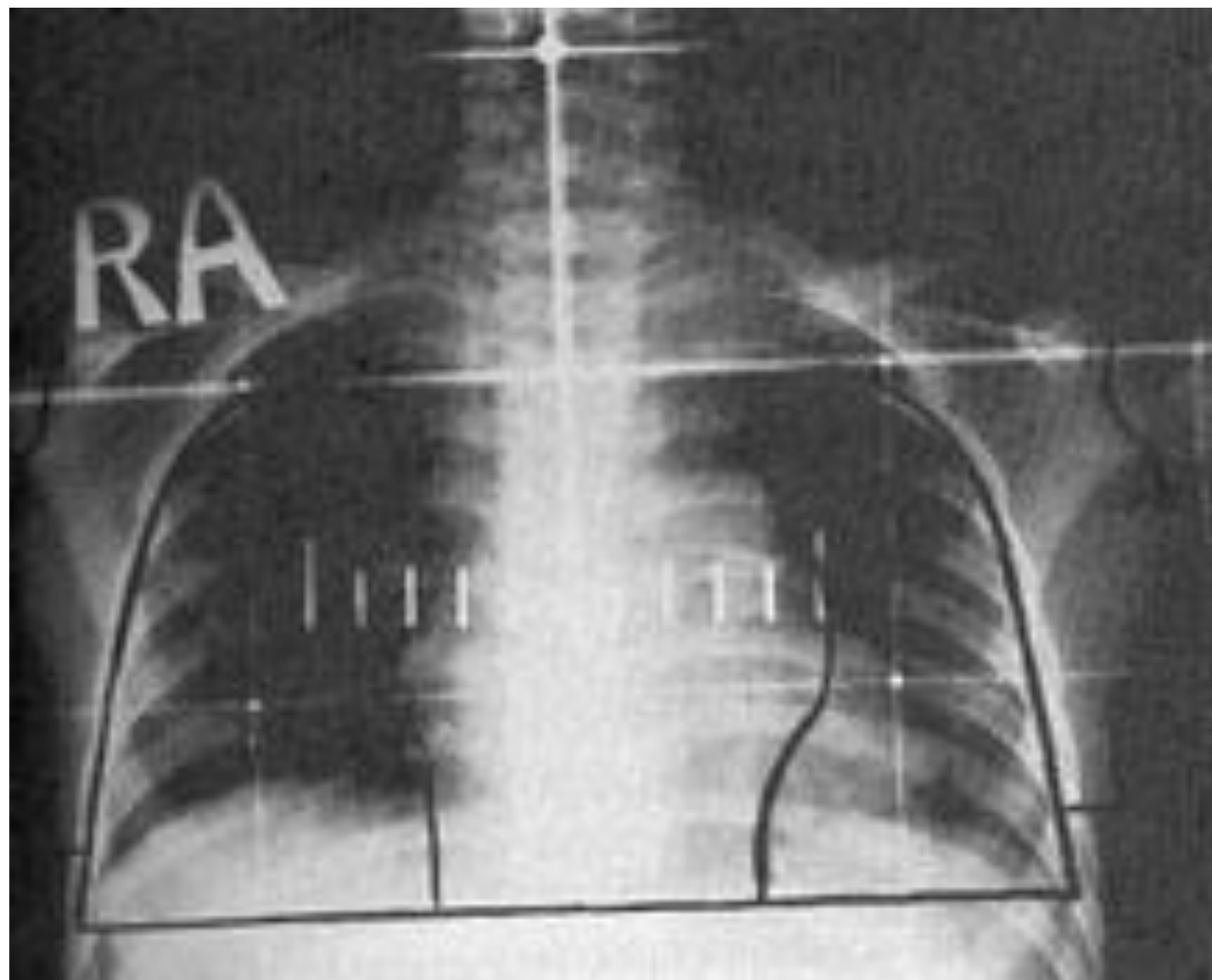
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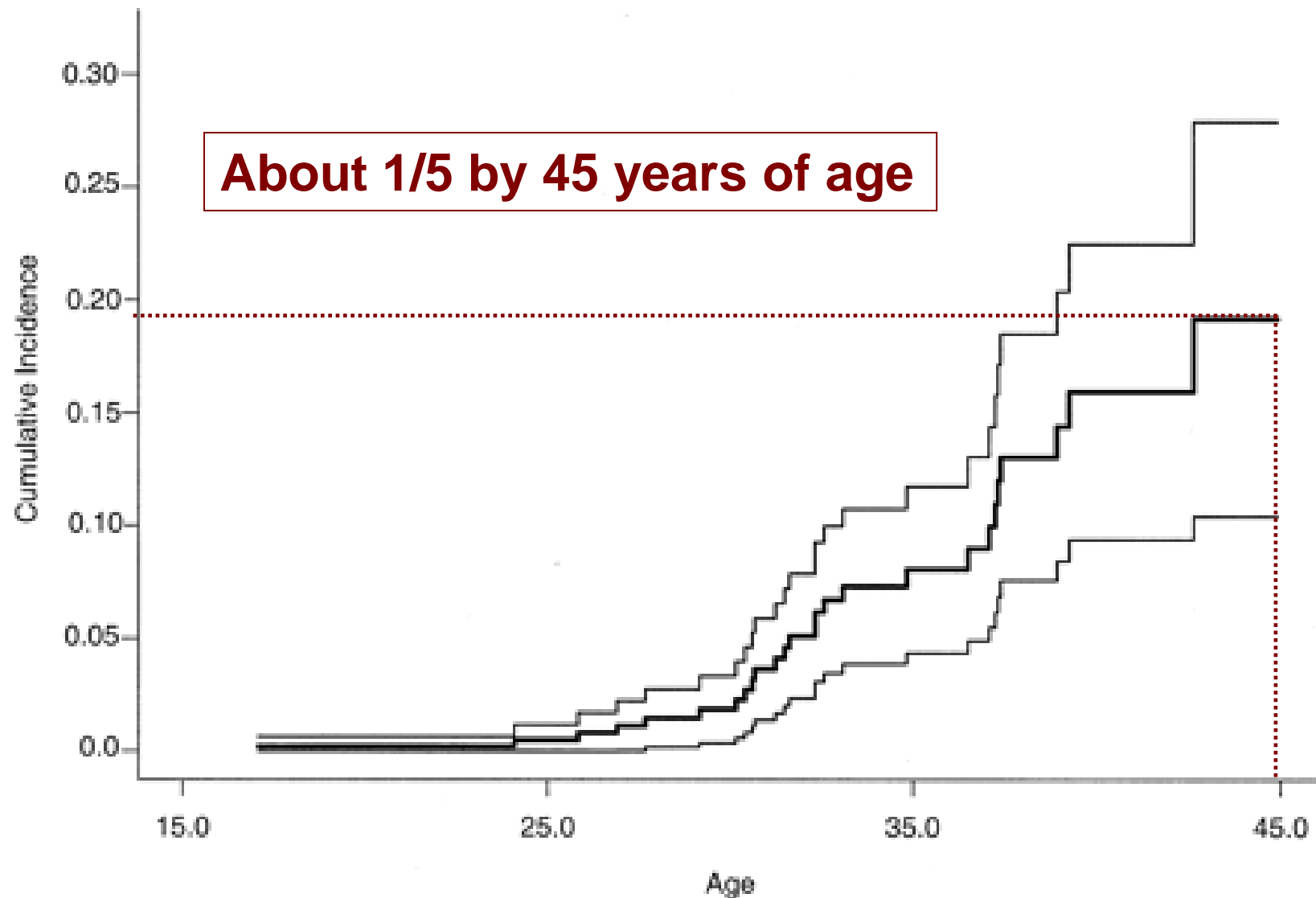
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Risk of breast cancer in women who have had chest radiation for Hodgkin lymphoma



When can breast cancer happen?

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As early as 8 years after treatment
(but usually after age 25 years)

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On average, in the 30's
(about 16 years after radiation)

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Prognosis strongly related to how advanced
the cancer is at diagnosis (stage)

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- Find it earlier → do much better
- May be fewer treatment options (anthracyclines, radiation), so best to find it early

So, what screening is needed?

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- A mammogram every year starting at age 25 or 8 years after radiation (whichever is later)

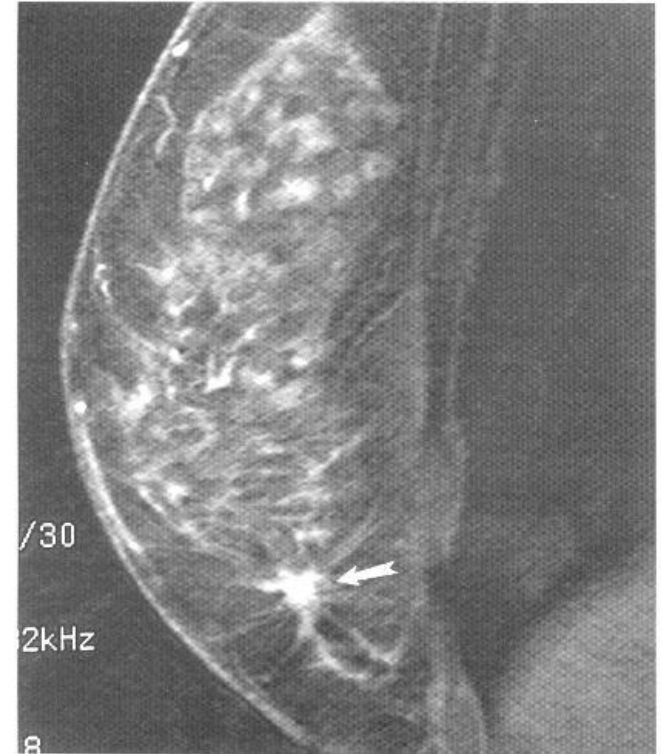
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- A yearly breast MRI is often done as well

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- A breast exam every year until age 25, and then every 6 months

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Colorectal (bowel) cancer

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Who is at risk?

- More than 30 Gy radiation therapy to the abdomen, pelvis or lower spine

How big is the risk?

- Small – about 1/50 (2%)

Why is it important?

- Colon cancer is VERY treatable if it is found early because it grows slowly

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What screening is needed?

Colonoscopy every 5
years starting at age 35

Skin cancer

(and being safe in the sun)

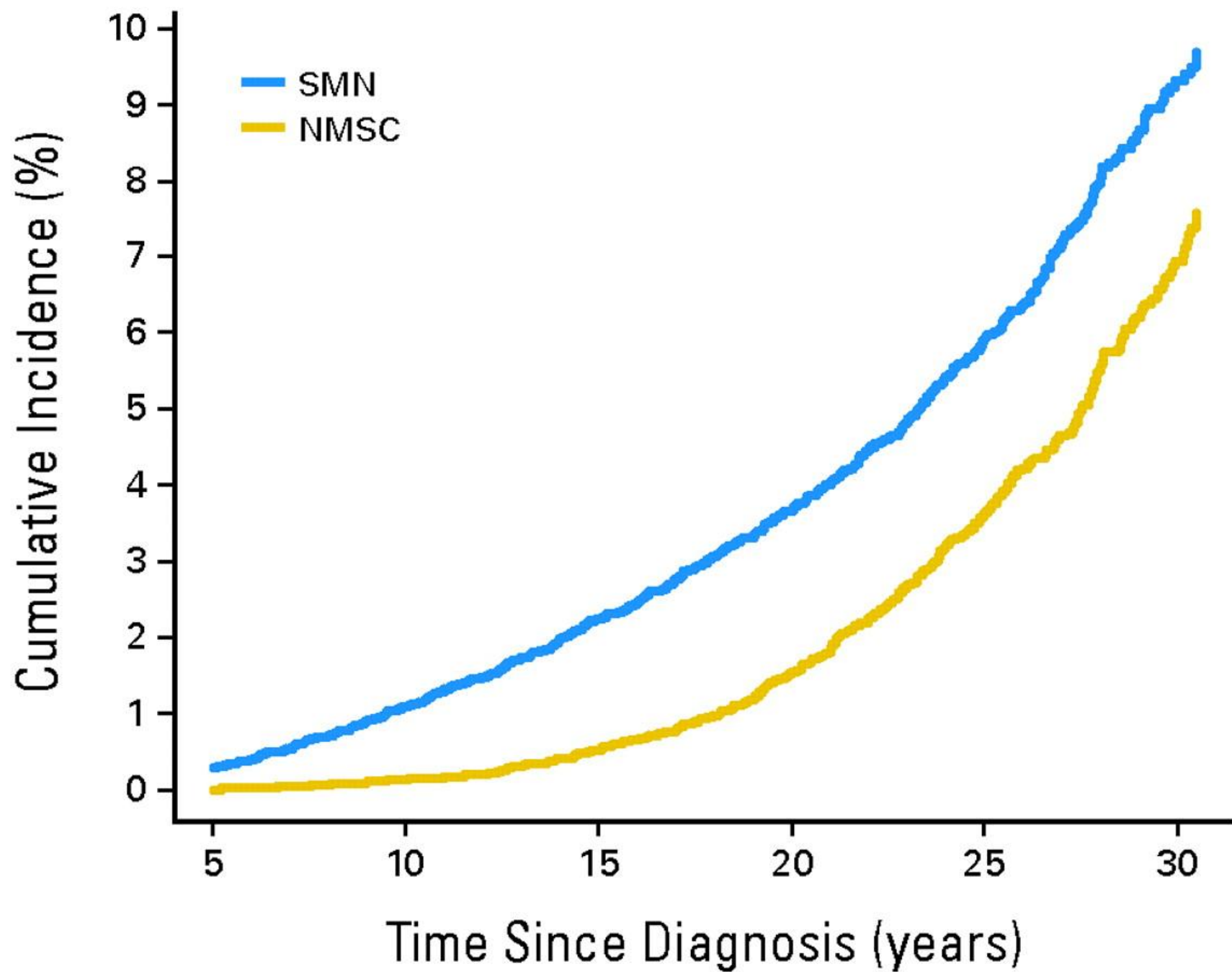
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SUN PROTECTION



Do survivors comply with guidelines?

Screening in survivors at average risk for a new cancer (USPSTF)

Breast

Mammography every 1 to 2 years for women aged ≥ 40 y

Cervix

Pap smear every 3 years starting at age 21 years

Surveillance in survivors at high risk for a new cancer (COG)

Breast

≥ 20 Gy radiation therapy to the chest

Annual mammogram starting 8 years after radiation or age 25 years, whichever is last

Colorectal

≥ 30 Gy radiation therapy to the abdomen, pelvis, or spine

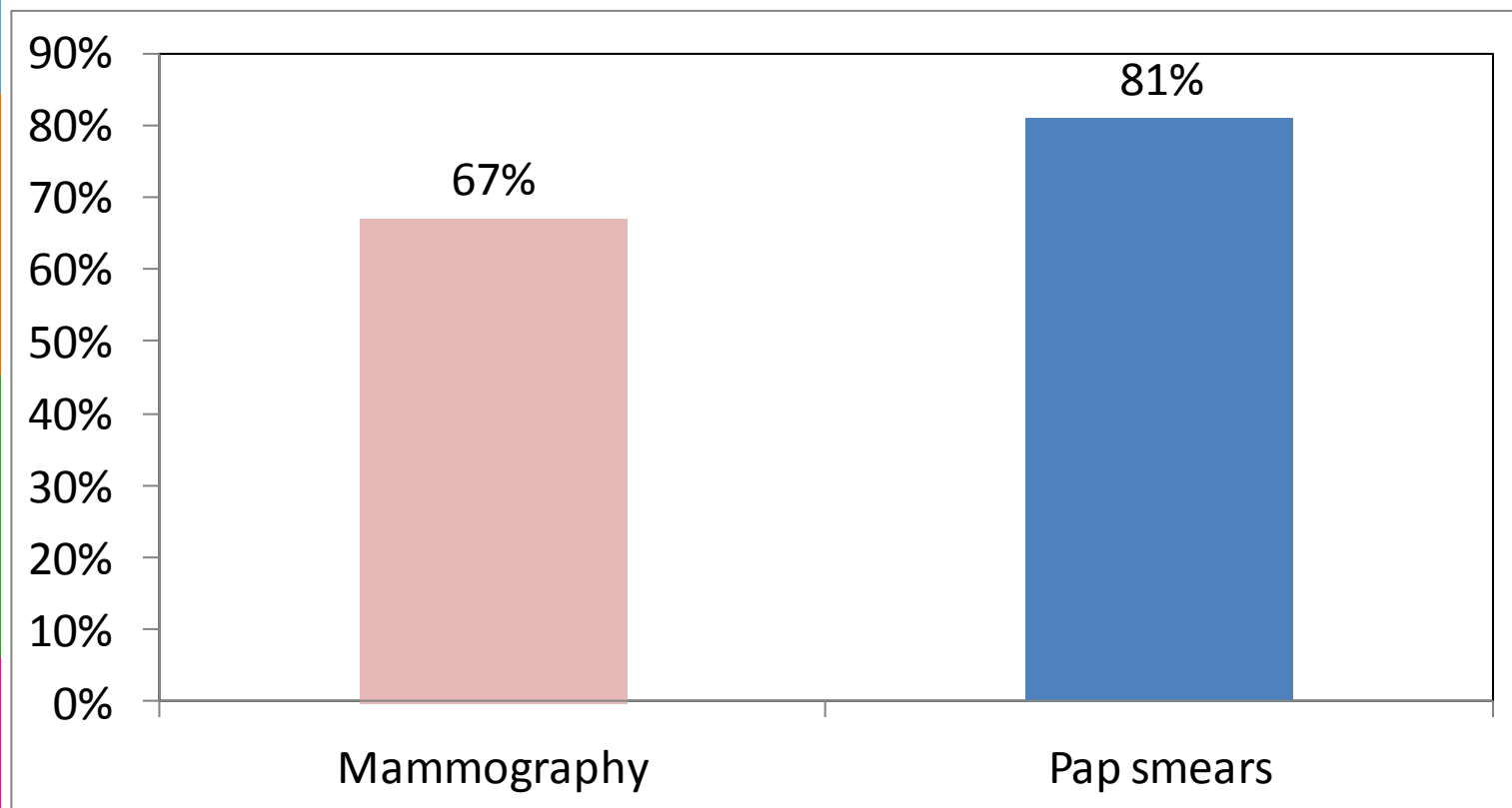
Colonoscopy every 5 years starting at age 35 years

Skin

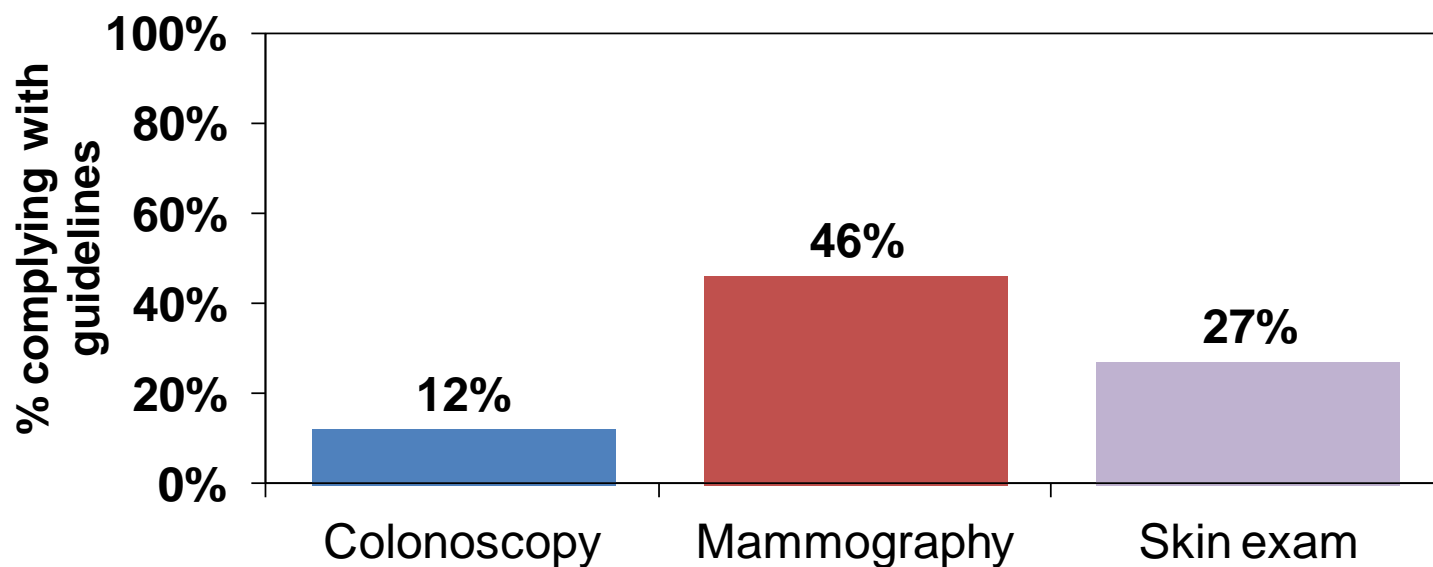
Any radiation therapy

Annual skin examination of radiated areas

Compliance with recommended screening tests – average risk survivors



Compliance with recommended surveillance tests – high risk



Screening for heart problems



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What puts survivors at risk?

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Clinical risk factors

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1. Young age
2. ↑total dose
3. Chest radiation
4. Gender (female)
5. Prior heart disease
6. Heart toxicity during therapy

RECOMMENDED FREQUENCY OF ECHOCARDIOGRAM OR MUGA SCAN

Age at Treatment*	Radiation with Potential Impact to the Heart§	Anthracycline Dose†	Recommended Frequency
<1 year old	Yes	Any	Every year
	No	<200 mg/m ²	Every 2 years
		≥200 mg/m ²	Every year
1-4 years old	Yes	Any	Every year
	No	<100 mg/m ²	Every 5 years
		≥100 to <300 mg/m ²	Every 2 years
		≥300 mg/m ²	Every year
≥5 years old	Yes	<300 mg/m ²	Every 2 years
		≥300 mg/m ²	Every year
	No	<200 mg/m ²	Every 5 years
		≥200 to <300 mg/m ²	Every 2 years
		≥300 mg/m ²	Every year
Any age with decrease in serial function			Every year



Research

PCS²

Preventing Cardiac Sequelae
in Pediatric Cancer Survivors

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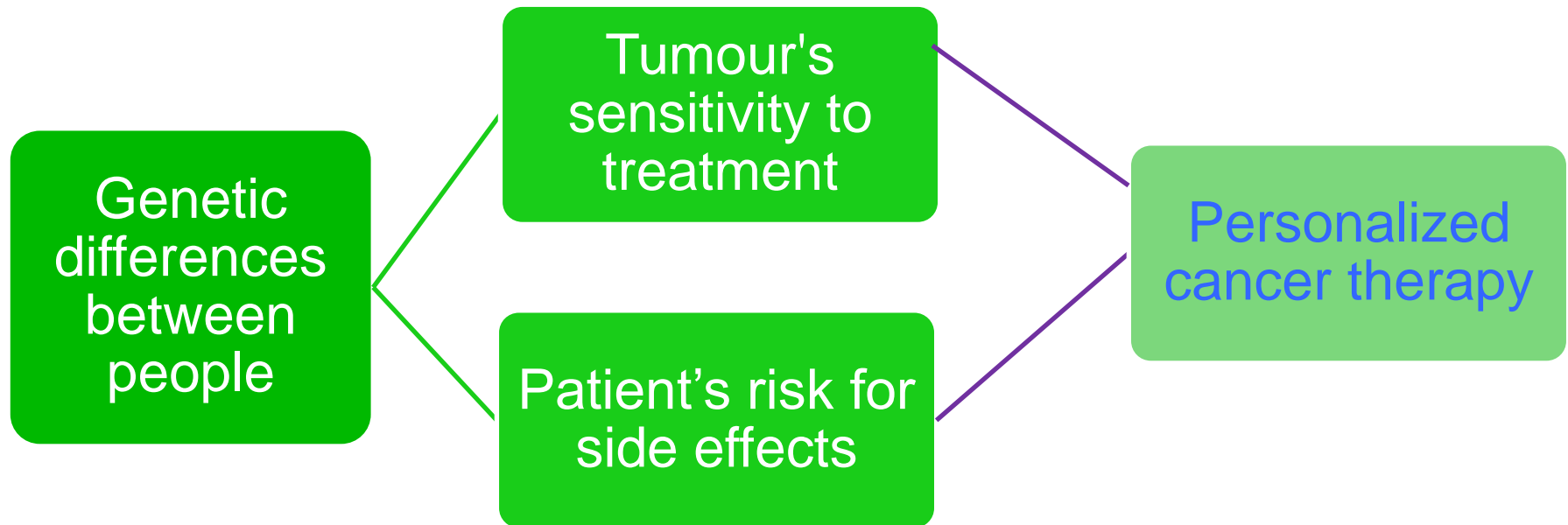
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Targeted cancer therapy



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- Genes
- Biomarkers
- Echocardiography
- Pilot intervention





Genomics

Biomarkers

Better
imaging

At risk!

Lower dose

Different drug

Cardio-
protection

Better
monitoring

Summary

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1. Find out what screening you need to stay healthy – get a survivorship care plan
2. If you don't know → contact your cancer centre (we can help)
3. Make sure your regular doctor knows what you need
4. Make screening part of your health care routine
5. It could save your life!