



## ACCESS AYA PEARLS

### CHILDHOOD, ADOLESCENT AND YOUNG ADULT (AYA) CANCER SURVIVORS: CHRONIC LATE EFFECTS

One in 640 young adults between the ages of 20 and 39 is a survivor of childhood cancer. <sup>1</sup>  
Nearly 70,000 young adults between the ages of 15-39 are diagnosed each year in the US. <sup>2</sup>

#### EVIDENCE ASSESSMENT

- Medical and psychological long-term consequences of cancer treatment are referred to as “late effects.”
- 62.3 % of young adult survivors of childhood cancers have at least one late effect of cancer treatment and 27.5% suffer a severe or life-threatening late effect.<sup>3</sup>
- Childhood and young adult survivors face increased rates of death as a result of subsequent malignancies, cardiovascular and pulmonary disease.
- Realize that you can, and will, see diseases of older people in this younger population.
- Many childhood and AYA cancer survivors are not receiving appropriate risk-based follow-up care.

#### WHAT SHOULD I DO WITH THIS INFORMATION?

1. Take steps to Identify AYA and childhood cancer survivors among your patient panel.
2. Take a risk-based approach to evaluation of individual survivors patient
3. Have a high index of suspicion, and be alert for: secondary malignancies (such as breast cancer, leukemias, and sarcomas), cardiac dysfunction, and endocrinopathies
4. Recognize these patients may have poorer psychosocial health, fertility and health maintenance.
5. Recognize potential barriers to care including survivors’ lack of knowledge about late effects and unawareness of risks, lack of insurance and financial resources.
6. Refer survivors and family members to resources including Seton Survivor Center, LIVESTRONG, Cancer Care and other regional and national resources.
7. Work with your survivor patients to develop personalized survivorship treatment and care plans that include recommended screening and medical care (both cancer specific and generalized health maintenance) as well as psychosocial resources.

#### WANT MORE INFORMATION?

*Children’s Oncology Group, ed. Long Term Follow-Up Guidelines for Survivors of Childhood, Adolescent and Young Adult Cancers.*

Arcadia CA: Children’s Oncology Group 2006.

[www.survivorshipguidelines.org](http://www.survivorshipguidelines.org)

Seton Cancer Survivor Center Nurse Navigator

Tel: 512.324.3343

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AYA Healthy Survivorship iPhone app and Cancer Survivorship Plans

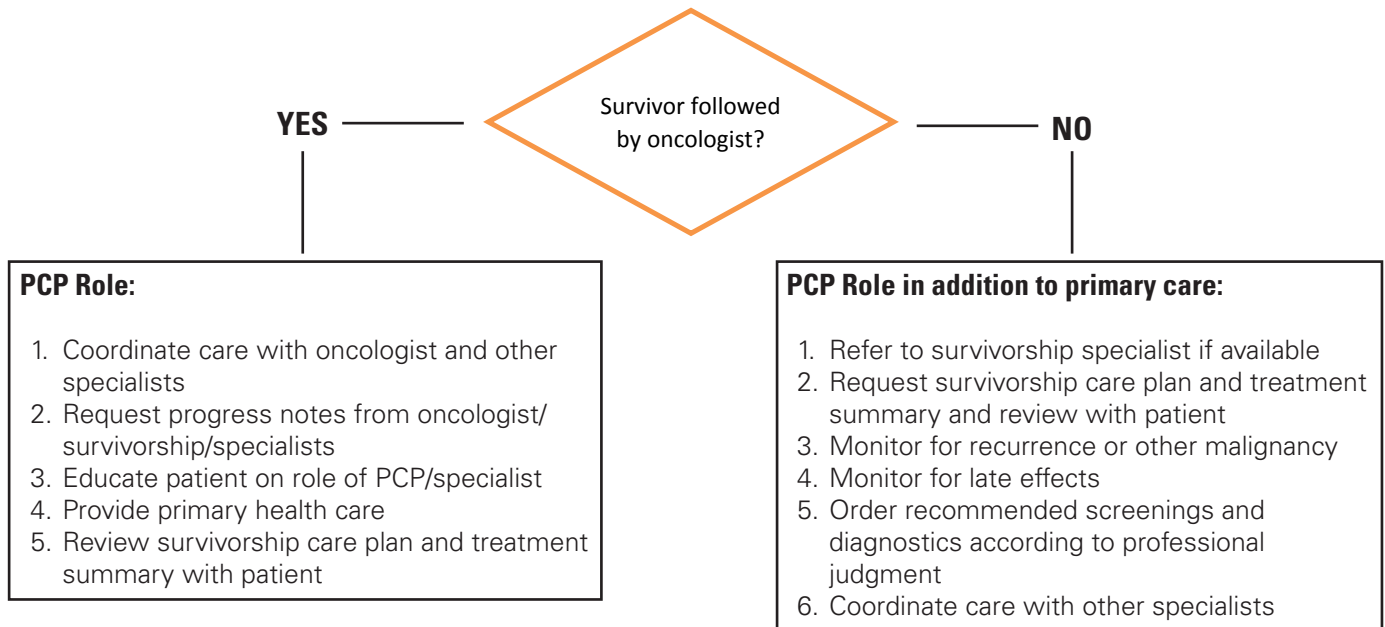
[www.healthysurvivorship.org](http://www.healthysurvivorship.org)

PEARLS = Prompt Evidence Assessment and Review of the Literature Service

## REFERENCES

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3. Oeffinger KC, Mertens AC, Sklar CA, Kawashima T, Hudson MM, Meadows AT et al. (2006) Chronic health conditions in adult survivors of childhood cancer. N Engl J Med. 355(15):1:572-1582.

### PCP Responsibility



## REFERRALS

The Seton Cancer Survivor Center sees patients ages 18-39 that have completed cancer treatment. Patients may call 512-324-9652 and choose to speak with the nurse navigator, or you may call the nurse navigator directly (512) 324-3343.

Referrals may be emailed to [aya-survivorship@seton.org](mailto:aya-survivorship@seton.org) or faxed to (512) 406-6515.

More information is available at <http://seton.net/survivorship>.

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### PSYCHOLOGICAL, SOCIAL, AND BEHAVIORAL ISSUES OF ADOLESCENT AND YOUNG ADULT (AYA) CANCER SURVIVORS

Compared to people who have never had cancer, AYA cancer survivors are more likely to smoke, less likely to get enough physical activity, and less likely to be able to afford to visit a doctor.<sup>1</sup>

AYAs experience a wide range of physical, psychological, social and spiritual concerns, similar to all cancer survivors. However, they often have unique needs due to their cancer occurring during a crucial stage of their personal and social development.<sup>2</sup>

#### EVIDENCE ASSESSMENT

- Some long-term AYA cancer survivors report poorer health outcomes including higher rates of obesity, anxiety and depression.<sup>3</sup>
- Some AYA survivors experience cognitive impairment, which can impact on employment and educational attainment.<sup>4</sup>
- Concerns related to body image, reduced fertility and sexual dysfunction are also prevalent among AYA cancer survivors.<sup>5</sup>
- Many childhood cancer survivors are not receiving appropriate risk-based follow-up care.

#### WHAT SHOULD I DO WITH THIS INFORMATION?

1. Take steps to Identify AYA and childhood cancer survivors among your patient panel.
2. Recognize potential barriers to care including survivors' lack of knowledge about late effects, low health literacy, lack of insurance and financial resources.
3. Refer survivors and family members to resources including Seton Survivor Center, LIVESTRONG, Cancer Care and other regional and national resources.
4. Encourage your survivor patients to develop a personalized survivorship care plan that includes recommended screening and medical care (both cancer specific and generalized health maintenance) as well as psychosocial resource.

#### WANT MORE INFORMATION?

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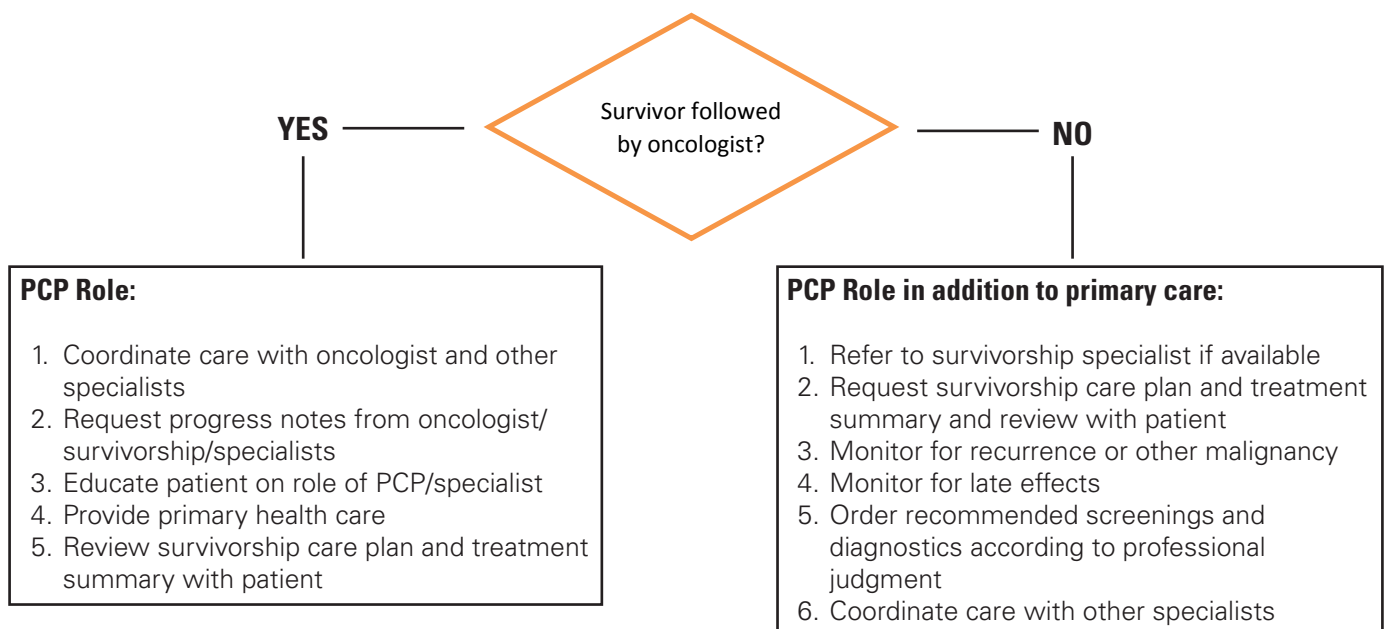
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1. Tai E, Buchanan N, Townsend J, Fairley T, Moore A, Richardson LC. (2012) Health status of adolescent and young adult cancer survivors. Cancer, American Cancer Society.
2. Clinton-McHarg et al. (2010) Measuring the psychosocial health of adolescent and young adult survivors (AYA) cancer survivors: a critical review. Health and Quality of Life Outcomes. 8:25
3. Hedstrom M, Kreuger A, Ljungman G, Nygren P, von Essen L: Accuracy of assessment of distress, anxiety, and depression by physicians and nurses in adolescents recently diagnosed with cancer. Pediatric Blood & Cancer 2006, 46(7): 773-779.
4. Langeveld NE, Stam H, Grootenhuis MA, Last BF. (2002) Quality of life in young adult survivors of childhood cancer. Supportive Care in Cancer 10(8): 579-600.
5. Pacey AA (2007) Fertility issues in survivors from adolescent cancers. Cancer Treat Rev. 2007 Nov;33(7):646-55.

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## ACCESS AYA PEARLS

### CHILDHOOD, ADOLESCENT AND YOUNG ADULT (AYA) CARDIOTOXIC CHRONIC LATE EFFECTS

One in 640 young adults between the ages of 20 and 39 is a survivor of childhood cancer. <sup>1</sup>  
Nearly 70,000 young adults between the ages of 15-39 are diagnosed each year in the US. <sup>2</sup>

#### THE EVIDENCE

- Compared with those who have never had cancer, more AYA survivors had heart disease (14% vs.7%) and high blood pressure (35% vs. 29%); these conditions may be long term effects of being treated for cancer as a child or young adult. <sup>1</sup>
- Anthracycline-based therapy has correlated with an increased risk of cardiac disease, and expert panels recommend that AYA and childhood cancer survivors who received anthracyclines be monitored for cardiac disease. <sup>2,3</sup>
- Many other chemotherapy agents, as well as new oral “targeted” agents may have cardiotoxic side effects, but these are more likely to be acute, rather than long term effects. <sup>4,5,6</sup>
- Female gender has also been associated with increased risk for cardiac disease in several studies. The reason female gender has been correlated with this risk is unknown. <sup>7</sup>
- Mediastinal radiation, radiation to the lungs, left abdomen and treatment for Wilms Tumor and Ewing’s Sarcoma may raise concerns for cardiac issues. <sup>8</sup>

#### WHAT SHOULD I DO WITH THIS INFORMATION?

1. Take steps to identify AYA and childhood cancer survivors among your patient panel.
2. A detailed cardiac assessment should be performed for survivors of childhood cancer and AYAs who are pregnant or planning a pregnancy or who wish to take part in competitive sports.
3. Recognize potential barriers to care including survivors’ lack of knowledge about late effects and unawareness of risks, low health literacy, lack of insurance and financial resources.
4. Refer survivors and family members to resources including Seton Survivor Center, Seton Heart Institute’s Cardio-Oncology Program, LiveSTRONG, Cancer Care and other regional/national resources.
5. Encourage your survivor patients to develop a personalized survivorship care plan that includes recommended screenings (both cancer specific and recommended health screenings as well as psychosocial resources and needs).

#### WANT MORE INFORMATION?

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1. Tai E, Buchanan N, Townsend J, Fairley T, Moore A, Richardson LC. (2012) Health status of adolescent and young adult cancer survivors. *Cancer*.
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