

Education

<p><b>Who needs surveillance?</b></p> <p>Healthcare providers, teachers, caregivers, and survivors of childhood, adolescent and young adult (CAYA) cancers, and survivors' schools <i>should be aware</i> that, on a group level, survivors of CAYA cancer are at risk for:</p> <ul style="list-style-type: none"> <li>• lower educational achievement (Level C evidence)</li> <li>• experiencing a delay in completing their education (Level B evidence)</li> <li>• requiring educational accommodations (Level B evidence)</li> </ul> <p>Particular attention is needed for survivors of CAYA cancer with the following risk factors<sup>a</sup> for <b>lower educational achievement</b>: primary diagnosis of CNS tumor (Level B evidence), CNS-directed therapies (concordant in existing guidelines, expert opinion), impaired neurocognitive functioning (Level A evidence), non-white race or immigration status (Level A evidence for specific geographical regions), and parents' lower level of education (Level B evidence). (Strong recommendation)</p>
<p><b>At what age or time from exposure should surveillance be initiated?</b></p> <p>Surveillance of educational outcomes <i>is recommended</i> for all ages to begin at diagnosis and continue through survivorship until young adulthood (expert opinion, strong recommendation).</p>
<p><b>What surveillance modality should be used and at what frequency should surveillance be performed?</b></p> <p>Regular assessment of educational outcomes<sup>b</sup> via parent- or self-report <i>is recommended</i> at every long-term follow-up visit or general medical checkup at least annually<sup>c</sup> until education is completed (expert opinion, strong recommendation).</p>
<p><b>What should be done if abnormalities are identified?</b></p> <p>Documentation of educational problems in the survivor's medical record <i>is recommended</i> to facilitate sharing with all members of the care team (expert opinion, strong recommendation). Referral<sup>d</sup> to an educational specialist, psychologist, and/or social worker for assessment and implementation of relevant educational and/or disability services <i>is recommended</i> for survivors who report educational problems upon screening (expert opinion, strong recommendation).</p>

Green representing a strong recommendation with low degree of uncertainty.

Abbreviations: CAYA, childhood, adolescent and young adult; CNS, central nervous system.

<sup>a</sup> Main risk factors were all factors that were associated with increased risk for lower educational achievement with at least Level B evidence, demonstrating statistically significantly increased risk in >50% of studies, or with concordance in existing guidelines. A complete list of all risk factors is presented in the conclusions of evidence table.

<sup>b</sup> Questions to ask: "How are you doing in school?", "Has your performance been affected in any way? In what way?", "Are there certain areas/subjects you struggle with?", "Are there areas of your education that cause you stress or anxiety?", "Have you ever received or asked for any support?"

<sup>c</sup> If survivors are not scheduled for annual visits, screening can be done via phone or telehealth, or can be delegated to a suitable professional in the school of the survivor.

<sup>d</sup> The referring healthcare professional is responsible for following up with the referred survivor regarding receipt of support, and documenting progress of educational outcomes in the survivor's medical records. The referring healthcare professional can transfer this responsibility to another person, e.g. the educational specialist or school, but it needs to be communicated clearly to the survivor, the referring healthcare professional, and the educational specialist who is responsible for this.

## Employment

<b>Who needs surveillance?</b>
Healthcare providers, caregivers, and survivors of childhood, adolescent and young adult (CAYA) cancers <i>should be aware</i> that, on a group level, survivors of CAYA cancer are at risk for unemployment (Level C evidence).  Particular attention is needed for survivors of CAYA cancer with the following risk factors <sup>a</sup> for <b>unemployment</b> : female sex (Level B evidence), lower educational achievement (Level A evidence), primary diagnosis of CNS tumor (concordant in existing guidelines, Level A evidence), CNS-directed therapies (concordant in existing guidelines, Level A evidence), any adverse long-term side effects (Level A evidence), impaired neurocognitive functioning (Level A evidence), second malignancy or recurrence (Level B evidence), psychological distress (Level B evidence), and physical disability (Level B evidence).  (Strong recommendation)
<b>At what age or time from exposure should surveillance be initiated?</b>
Vocational planning and employment surveillance <i>is recommended</i> beginning in adolescence to support survivors to transition from education to employment (expert opinion, strong recommendation).
<b>What surveillance modality should be used and at what frequency should surveillance be performed?</b>
Regular assessment of vocational planning <sup>b</sup> and employment status via parent- or self-report <i>is recommended</i> at every long-term follow-up visit or general medical checkup (expert opinion, strong recommendation).
<b>What should be done if abnormalities are identified?</b>
Documentation of vocational problems in the survivor's medical record <i>is recommended</i> to facilitate information sharing with all members of the care team (expert opinion, strong recommendation).  Referral <sup>c</sup> to a vocational counselor, psychologist, and/or social worker for assessment and implementation of relevant vocational and/or disability services <i>is recommended</i> for survivors who report vocational problems upon screening (expert opinion, strong recommendation).

Green representing a strong recommendation with low degree of uncertainty.

Abbreviations: CAYA, childhood, adolescent and young adult; CNS, central nervous system.

<sup>a</sup> Main risk factors were all factors that were associated with increased risk for unemployment with at least Level B evidence, demonstrating statistically significantly increased risk in >50% of studies, or with concordance in existing guidelines. A complete list of all risk factors are presented in the conclusions of evidence table.

<sup>b</sup> Questions to ask: "What profession would you like to pursue?", "Have you had difficulties when applying for a job?", "Do you have any problems keeping up with your work?", "Do you have any problems keeping a full time job?", "Have you ever received or asked for any support?"

<sup>c</sup> The referring healthcare professional is responsible for following up with the referred survivor regarding receipt of support, and documenting progress of vocational outcomes in the survivor's medical records. The referring healthcare professional can transfer this responsibility to another person, e.g. the vocational counselor or rehabilitation specialist, but it needs to be communicated clearly to the survivor, the referring healthcare professional, and the vocational specialist who is responsible for this.

## **Publication**

Devine KA, Christen S, Mulder RL, Brown MC, Ingerski LM, Mader L, Potter E, Sleurs C, Viola A, Waern S, Constine LS, Hudson MM, Kremer LCM, Skinner R, Michel G, Gilleland Marchak J, Schulte F on behalf of the IGHG psychological late effects group. Recommendations for the surveillance of education and employment outcomes in survivors of childhood, adolescent and young adult cancer: A Report from the International Late Effects of Childhood Cancer Guideline Harmonization Group. Cancer 2022; epub ahead of print.