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Older Adolescents and Young Adults with Cancer: Conditional Survival Deficit

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Background

- Survival probability changes as time elapses from diagnosis and treatment.
- Conditional Survival, CS(y|x), is the probability of surviving *y* years, given that the person has already survived *x* years:

$$CS(y \mid x) = \frac{S(x+y)}{S(x)}$$

where S(t) is Kaplan-Meier survival at time t.

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Purpose & Methods

- **Purpose:** To compare CS of Adolescents & Young Adults (AYA) (ages 15-29) compared to other age groups.
- **Methods:**
  - Used SEER 2005 data
  - included pts diagnosed between 1975-2000
  - grouped by age (0-14, 15-29, 30-44, 45+)
  - Computed 5-yr CS

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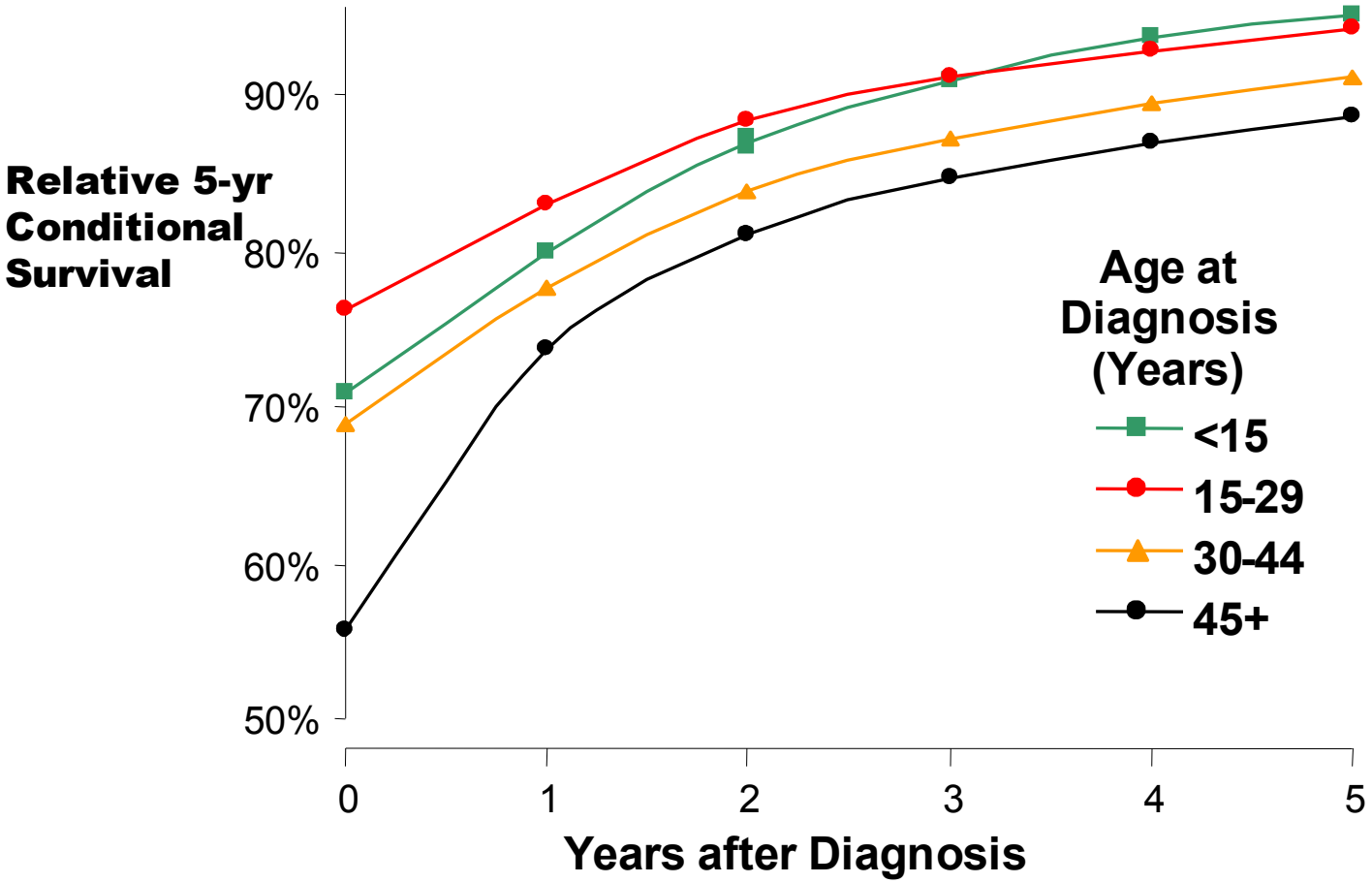
5-year Conditional Survival by age at diagnosis



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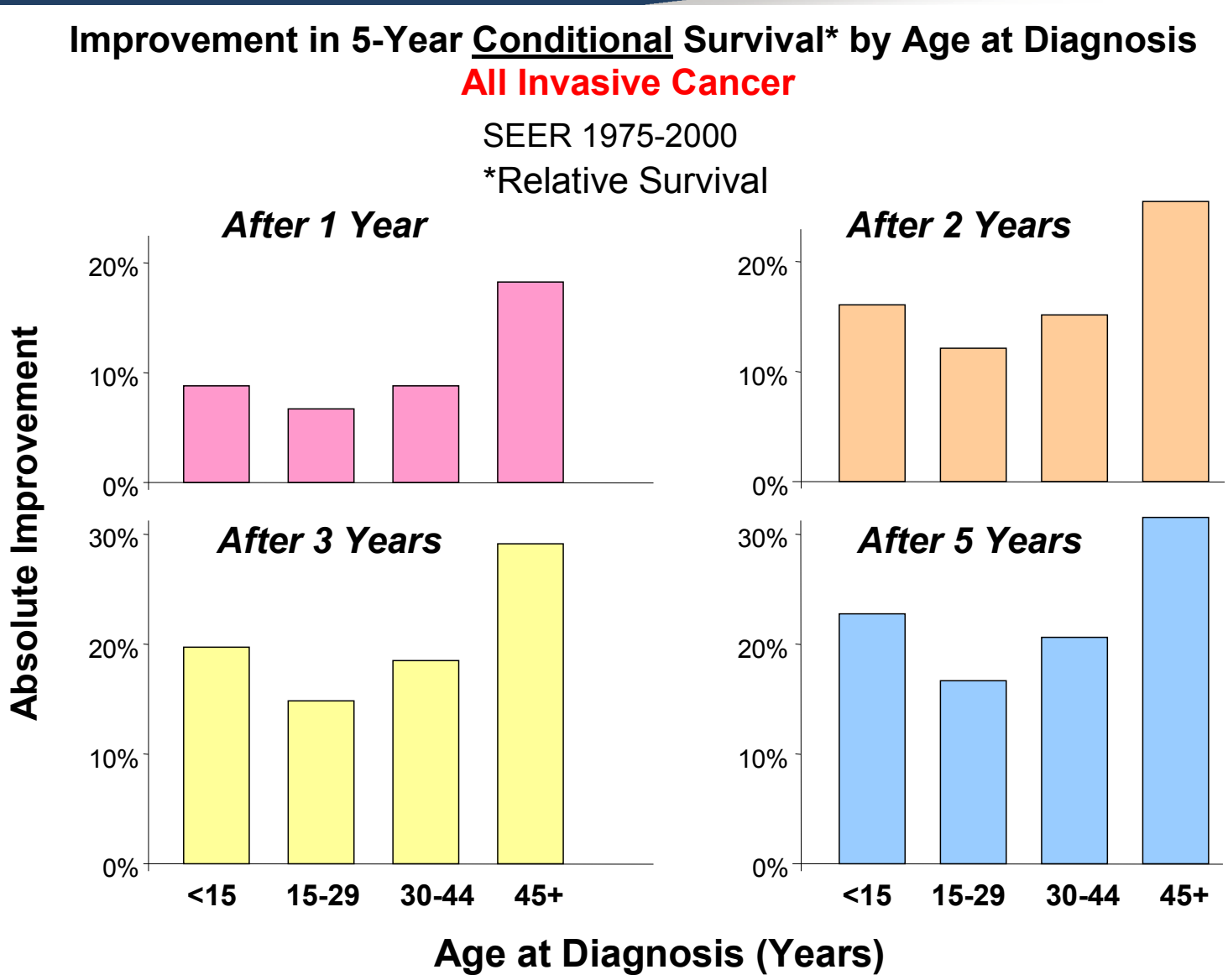
Change in 5-year conditional survival at 1, 2, 3, and 5 years after diagnosis



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Summary: Conditional Survival for AYA

- CS improves over time for all age groups, but the AYA group (age 15-29) shows less improvement than any other group.
- The deficit in CS improvement appears at the earliest follow-up & continues to 5 years.
- Further study needed to explore possible explanations:
  - unique AYA cancer mix (lymphoma, melanoma, testis…)
  - Less progress in AYA treatment improvement
  - CS improvement may occur after 5 years
  - Less room for CS gains given initial prognoses

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