

# Childhood body size affects future breast cancer chances

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Thinner girls may be at higher risk of breast cancer. Researchers writing in BioMed Central's open access journal *Breast Cancer Research* found that girls who were leaner at age seven were at higher risk of cancer later in life.

Jingmei Li worked with a team of researchers from the Karolinska Institutet, Sweden, to study the relationships between [childhood body size](#) and [tumour](#) characteristics in a group of 2,818 Swedish [breast cancer](#) patients and 3,111 controls. She said, "Our main finding was that a large body type at age seven years was associated with a decreased risk of postmenopausal breast cancer. Although strongly associated with other known risk factors such as age of menarche, adult BMI and [breast density](#), size at age seven years remained a significant protective factor after adjustment for these other issues".

Size at age seven was also found to determine tumour characteristics, in particular, estrogen receptor status. A large body size at age seven was especially protective against [estrogen receptor](#) negative tumours, which generally fare worse in terms of prognosis. The researchers' classification of childhood body size was derived from nine numbered pictograms ranging from very skinny (S1) to very fat (S9). Subjects assessed their own body type at present and how they remembered themselves at seven years old.

These selections were then used to group them as lean (S1 to S2), medium (S3 to S4) and large (S5 to S9). Li said, "It appears

counterintuitive that a large body size during childhood can reduce breast cancer risk, because a large birth weight and a high adult BMI have been shown to otherwise elevate breast cancer risk. There remain unanswered questions on mechanisms driving this protective effect".

These findings may have important implications. The researchers conclude, "Given the strength of the associations, and the ease of retrieval of information on childhood shape from old photographs, childhood body size is potentially useful for building breast cancer risk or prognosis models".

**More information:** Effects of childhood body size on breast cancer tumour characteristics, Jingmei Li, Keith Humphreys, Louise Eriksson, Kamila Czene, Jianjun Liu and Per Hall, Breast Cancer Research (in press), [breast-cancer-research.com/](https://breast-cancer-research.com/)

Provided by BioMed Central

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