

Cancer Screening



BENEFITS OF SCREENING

Reduced cancer incidence

Some screening tests can detect precancerous lesions. Removal of the precancerous lesions can reduce, or even eliminate, an individual's risk of developing the screened cancer at that site.

Reduced incidence of advanced disease

Screening tests that detect cancers at an early stage of development can reduce the individual's risk of being diagnosed with the screened cancer at a stage when it has spread to other parts of the body.

Reduced cancer mortality

Diagnosis at an early stage of disease can increase the likelihood that a patient can be successfully treated, which thereby reduces the individual's risk of dying from the screened cancer.

Reduced treatment-related toxicity

Diagnosis at an early stage of disease can reduce the likelihood of a patient's needing extensive surgery and/or chemotherapy to treat the cancer, which thereby reduces the individual's exposure to potential treatment-related toxicities.



POTENTIAL HARMS OF SCREENING

False-negative test results

Not all individuals who have a negative screening test result are free from the screened cancer. The rates of false-negative test results are generally low, but a false-negative test result can lead to missed opportunities for early treatment.

False-positive test results

Not all individuals who have a positive screening test result have the screened cancer. The rates of false-positive test results vary depending on the test but are generally low; a false-positive test result can result in additional unnecessary medical procedures, treatments, and anxiety.

Adverse events

Screening tests are medical procedures; thus, they carry some risk. However, the chance that an adverse event will occur during a screening test recommended by the U.S. Preventive Services Task Force or a professional society is low.

Anxiety

Screening individuals who are not at risk of disease can cause unnecessary anxiety during the waiting period for the test results.

Overdiagnosis and overtreatment

Not all precancerous lesions or cancers detected by screening will go on to cause symptoms and threaten life. Overdiagnosis, as this is called, can lead to overtreatment, which carries its own potential harms and costs. The rates of overdiagnosis and overtreatment vary among cancer types. More longitudinal studies to elucidate and quantify the impact of overdiagnosis and overtreatment are required. Additional research is also needed to determine ways to identify which of the early-stage cancers detected through screening are most likely to go on to cause symptoms and threaten life.