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Treating Cancer Before It Starts

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While exercise, a healthy diet, and not smoking can reduce cancer risk, high-risk individuals may be good candidates for chemoprevention—using drugs or certain supplements to further lower risk. Clinical trials have looked at various risk-reduction methods for some common tumor types.

Breast Cancer

For the past two decades, women at high risk for breast cancer were encouraged to take tamoxifen to lower their risk by half. Unfortunately, because of the risk of life-threatening side effects, including blood clots and endometrial cancer, many high-risk women choose not to take the five-year treatment. In 2006, a study comparing Evista (raloxifene), an osteoporosis drug, versus standard tamoxifen showed Evista equaled tamoxifen's effectiveness in preventing invasive breast cancer. The makers of Evista plan to seek drug approval for lowering breast cancer risk in late 2006.

For updated information on Evista's approval for breast cancer prevention, read Winter 2007's "[Osteoporosis Drug Gets OK for Preventing Breast Cancer](#)."

Prostate Cancer

The Prostate Cancer Prevention Trial, a study involving more than 18,000 men, showed that a drug traditionally used to treat prostate enlargement called Proscar (finasteride) lowered the risk of prostate cancer from 24 percent to 18 percent when taken for seven years. Proscar blocks an enzyme called 5-alpha reductase type 2 that is needed to convert testosterone to dihydrotestosterone (DHT), a male hormone involved in promoting prostate cell growth. While Proscar produced positive results in preventing some prostate cancers during the trial, researchers noticed that men who did get prostate cancer had more aggressive tumors. Researchers are now examining whether Proscar caused the tumors to become more aggressive or if the drug simply doesn't work as well on aggressive cancers.

A second-generation 5-alpha reductase inhibitor called Avodart (dutasteride) inhibits both enzyme type 1 and 2—a double punch that reduces DHT production faster than Proscar. Final results of a trial with 8,000 men testing Avodart versus

placebo are expected by 2009.

For updated information on the PCPT trial, read Winter 2008's "[Finasteride Comes Out on Top in Prostate Cancer Trial.](#)"

Colorectal Cancer

While clinical trials testing the effectiveness of cholesterol-lowering statins or increased dietary fiber to reduce colon cancer risk have yielded inconclusive results at best, prevention strategies with aspirin, a non-steroidal anti-inflammatory drug (NSAID), have yielded positive data. In two studies, aspirin taken daily for three years was shown to reduce polyps, a precursor to colorectal cancer, by 19 to 35 percent in people at high risk for the disease.

Celebrex (celecoxib), another NSAID, is approved for reducing the risk of polyps in people with familial adenomatous polyposis, a rare genetic disorder that predisposes carriers to develop colon polyps. Because of the risk of serious side effects, such as heart attack, stroke, and bleeding from stomach irritation, experts only recommend NSAID use for cancer prevention for people at high risk of developing colorectal cancer.