Screening in the 40–49 Age Group

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Although abundant scientific evidence can be cited to support screening in the 40–49 age range, the topic has engendered long-standing controversy which was heightened when the United States Preventive Services Task Force (USPSTF) issued guidelines in 2016 recommending against routine screening in this age group (1).

Recent articles of the SBI Newsletter have summarized the benefits of screening mammography in general and several important points bear repeating. Randomized controlled trials (RCT) have consistently demonstrated an 18–29% mortality reduction related to screening women in the 40–49 age range (2). While most of us would consider this a substantial benefit, it is important to remember that RCTs *underestimate* the benefit of screening due to issues of noncompliance and contamination in the two groups. Note that RCTs compare women *invited to screening* (not women actually screened) with those not invited. Thus, deaths from breast cancer in women invited to screen but not attending mammography count against the screened group. Similarly, women who are invited to screening but who choose to undergo mammography and have their lives saved as a result are counted (contamination) in the unscreened group (3). Analysis of data from population service screening compares mortality rates of women who actually undergo screening mammography to those who do not. These studies demonstrate even greater benefit of screening mammography to reduce mortality up to 50% (4). Considering that service screening provides an indication of how mammography performs in the "real world," one would think this evidence compelling, yet the screening debate continues and in particular, the 40–49 decade remains highly controversial despite the continually mounting evidence.

In 2016, the USPSTF recommended against routine screening in the 40–49 age group citing that harms outweighed the benefits (1). This represents a subjective judgment regarding the risks and benefits of mammography without quantitative scientific valuation of factors such as anxiety or the number of recalls that are worth a death from breast cancer. The USPSTF panel did not include any doctor specializing in breast cancer and many breast cancer specialists disagree with the USPSTF. Women in their 40s can and do develop aggressive, life-threatening breast cancer. Waiting for a cancer to grow to a size where it can be felt by a woman or her doctor is dangerous. The goal of screening mammography is to find cancers before they can be detected on physical exam. Not only does screening mammography in 40- to 49-year-old women save lives, it also results in the detection of smaller tumors, resulting in less aggressive surgery, the possible omission of radiation therapy and elimination of expensive and toxic chemotherapy (5). When cancers are detected on mammography before they can spread to other parts of the body, the likelihood of cure is increased (6,7). A meta-analysis of the RCTs that included women 40–49 found a statistically significant mortality reduction after 10 or more years of follow up. In particular, data from the five Swedish RCTs yielded a significant 29% mortality reduction in women 40–49 (8).

Recently published data from the Breast Cancer Surveillance Consortium found that cancers diagnosed in premenopausal women on an annual (11–14 month) screening interval had more favorable prognostic characteristics than those diagnosed on a biennial (23–26 month)

screening interval, adding further support to annual screening in this younger age group (9). All of the CISNET models used by the USPSTF and the American Cancer Society (ACS) show that the most lives are saved by annual screening starting at the age of 40 (10, 11).

As Dan Kopans, MD, FACR, FSBI, reminds us "none of the parameters of screening—recall rates, biopsy recommended rates, or cancer detection rates—change suddenly at the age of 50 or any other age" (12). The suggestion that only high-risk women should choose to screen starting at age 40 ignores the fact that 75% of breast cancers are diagnosed in women with no identifiable risk factors. A study of 40–49-year-old-women with screen detected breast cancers found the majority had neither strong family history nor very dense breast tissue (13). An analysis by Hendrick and Helvie published in the American Journal of Roentgenology, using the Task Force's 2009 methodology, showed that if women ages 40–49 are not screened, and those 50–74 are screened biennially rather than annually, at current compliance rates approximately 6,500 additional women in the U.S. would die from breast cancer each year (11).

In October 2015, the ACS published updated breast cancer screening guidelines. The new "hybrid" protocol recommends annual screening from 45 to 54 transitioning to biennial screening starting at age 55 versus continuing annual screening (14). While the nuances of "strong" (screen at age 45) versus "qualified" (screen at age 40) recommendations are subtle, it is important to emphasize the ACS recommendation that women should have the opportunity to begin annual screening between ages 40–44. Their conclusion that the majority of women would want annual screening beginning at age 40 shows that they agree that the most lives are saved by annual screening starting at 40.

Although women and their doctors may choose screening mammography starting at age 40, if insurance does not cover the service access may be limited to those who can afford it. The USPSTF recommendations give a "Grade C" rating to screening women in the 40–49 age group, which means that insurance coverage is not mandated. Thus supporting legislation efforts such as the PALS Act (Protecting Access to Lifesaving Screening, H.R. 3339 and S. 1926) is vitally important (15). The PALS Act was passed in December, 2015 and provides a two-year moratorium delaying the implementation of USPSTF recommendations for screening mammography.

The USPSTF and the ACS have stated clearly that the most lives are saved by annual screening beginning at 40: "The USPSTF found adequate evidence that mammography screening reduces breast cancer mortality in women aged 40 to 74 years" (1). It is unfortunate that the USPSTF and ACS go on to recommend strategies that make choices for women that will cost lives and require them to "opt-in" for a mammogram. The SBI recommends annual screening beginning at 40 because it preserves access, has the greatest chance of saving lives and acknowledges the right of each woman to choose.

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