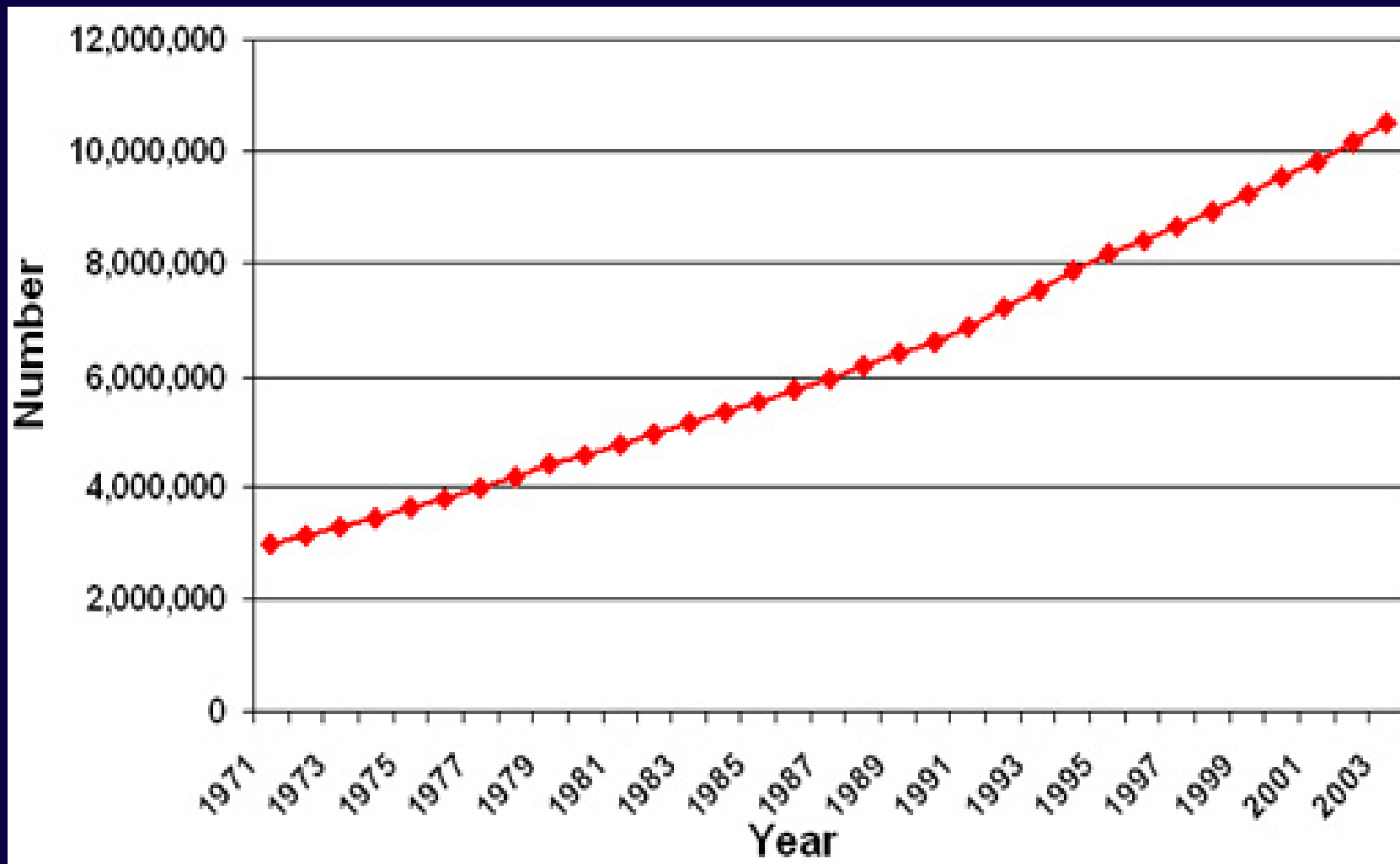


Survivorship and Longterm Effects of Cancer Treatments

Katherine D. Crew, M.D., M.S.
Assistant Professor of Medicine and Epidemiology
Herbert Irving Comprehensive Cancer Center
Columbia University Medical Center

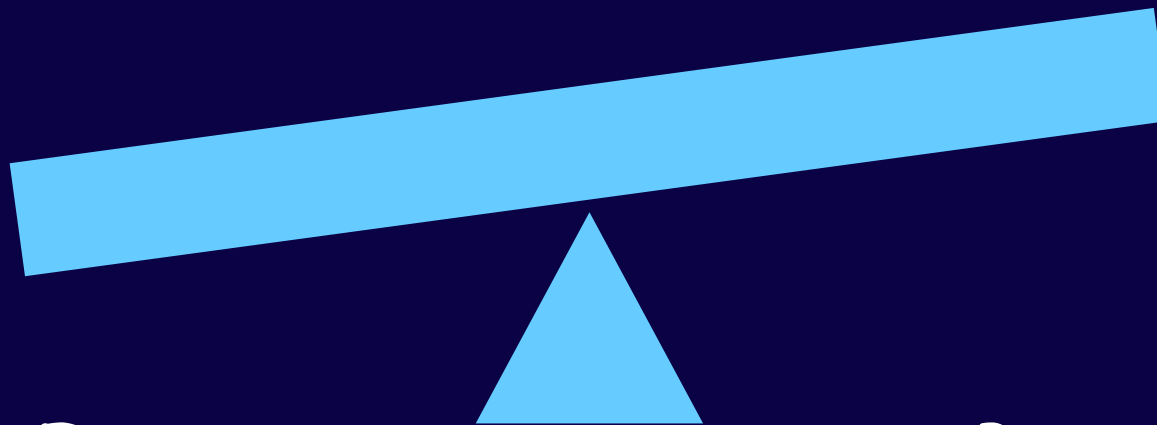
Estimated Number of Cancer Survivors in the United States



Systemic Therapy Decision Making

Risks:
Adverse Events

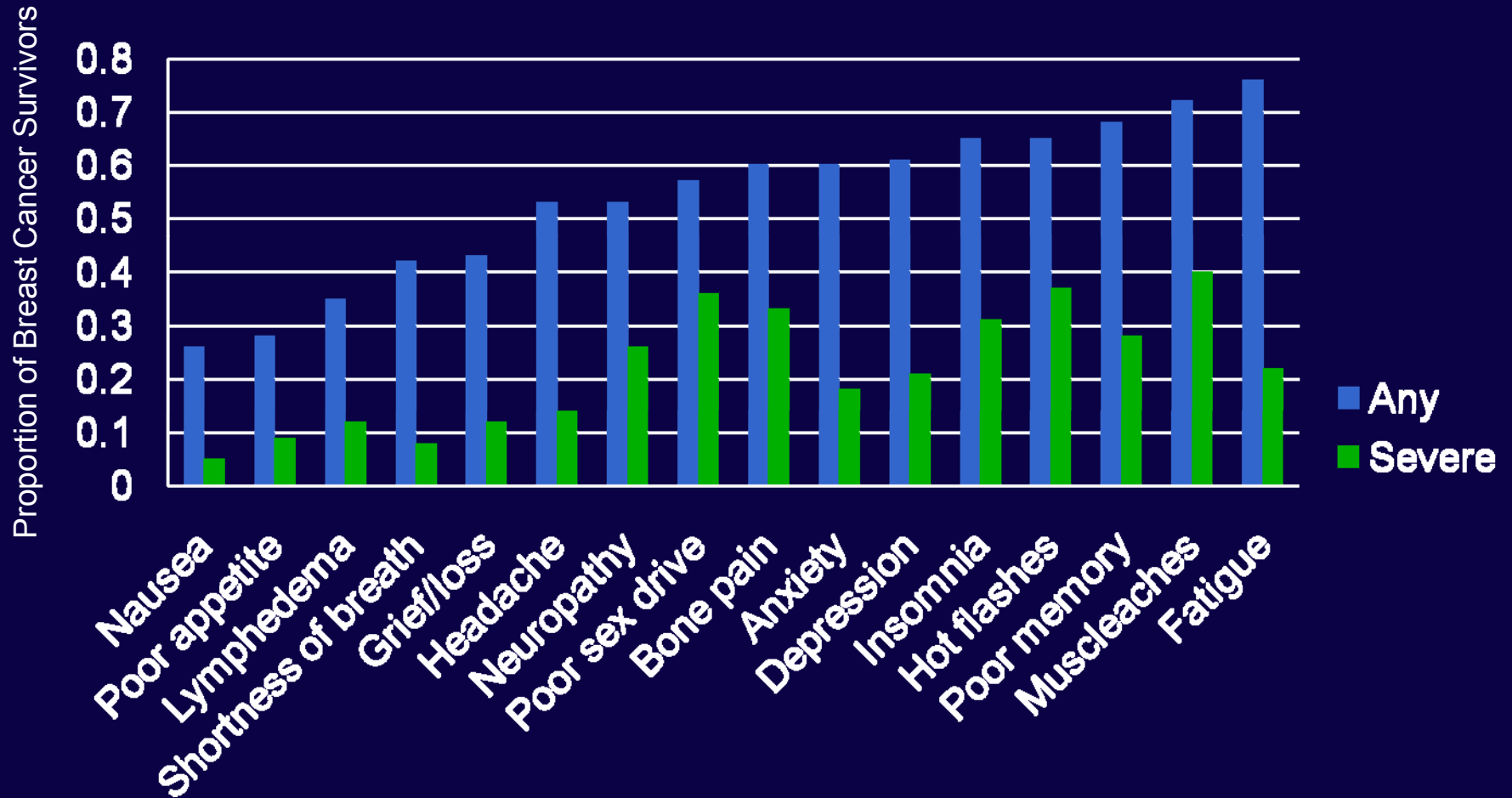
Benefits:
Risk Reduction



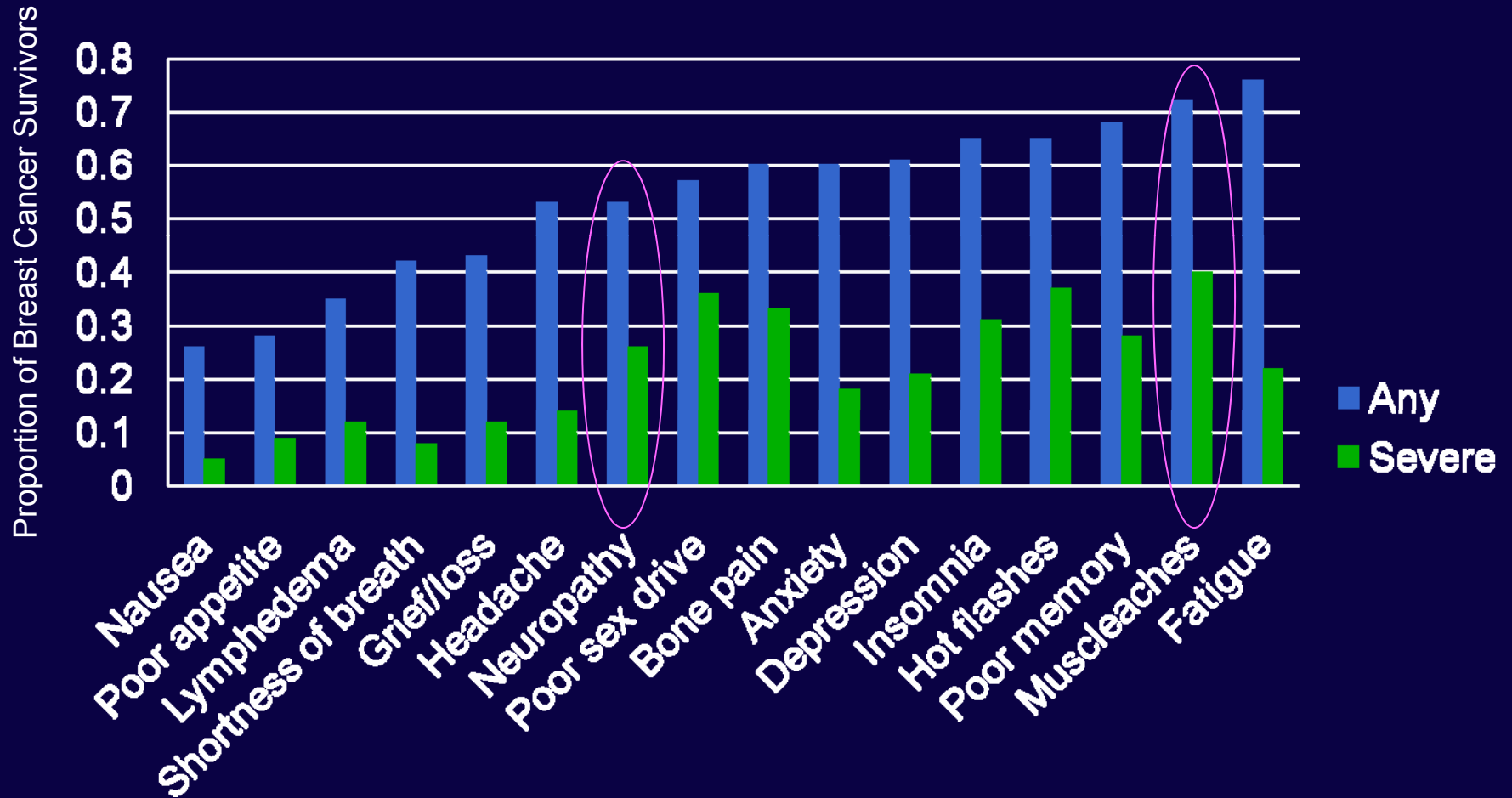
**Organ Function,
Age, Co-morbidities**

**Prognostic &
Predictive Factors**

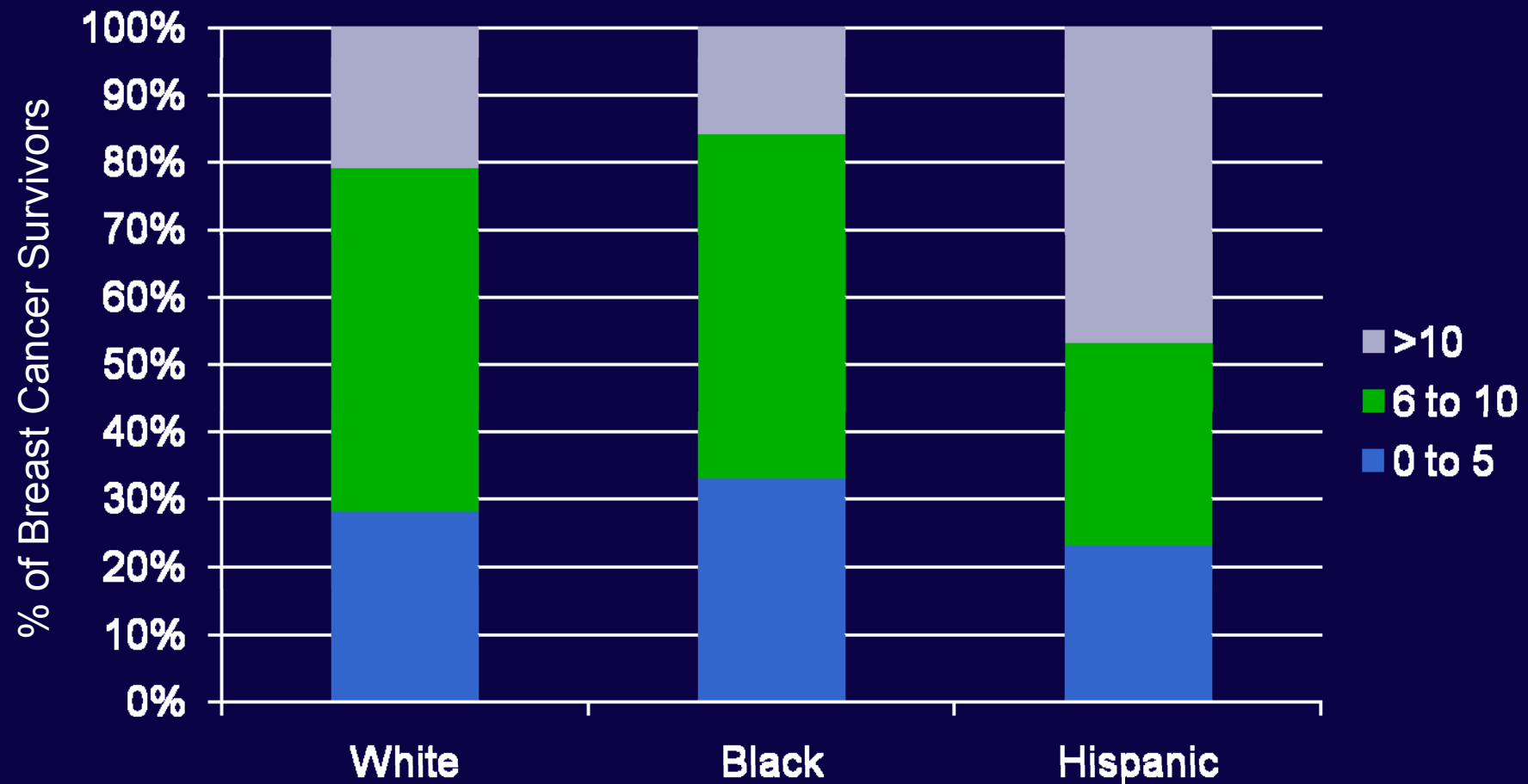
Prevalence of any and severe symptoms among breast cancer survivors



Prevalence of any and severe symptoms among breast cancer survivors



Prevalence of number of symptoms based upon race



Examples

- Chronic Side Effect:
 - Aromatase inhibitor-induced joint symptoms
- Acute/Late Side Effect:
 - Chemotherapy-induced peripheral neuropathy

Example 1: Chronic Side Effect Aromatase Inhibitor Joint Symptoms

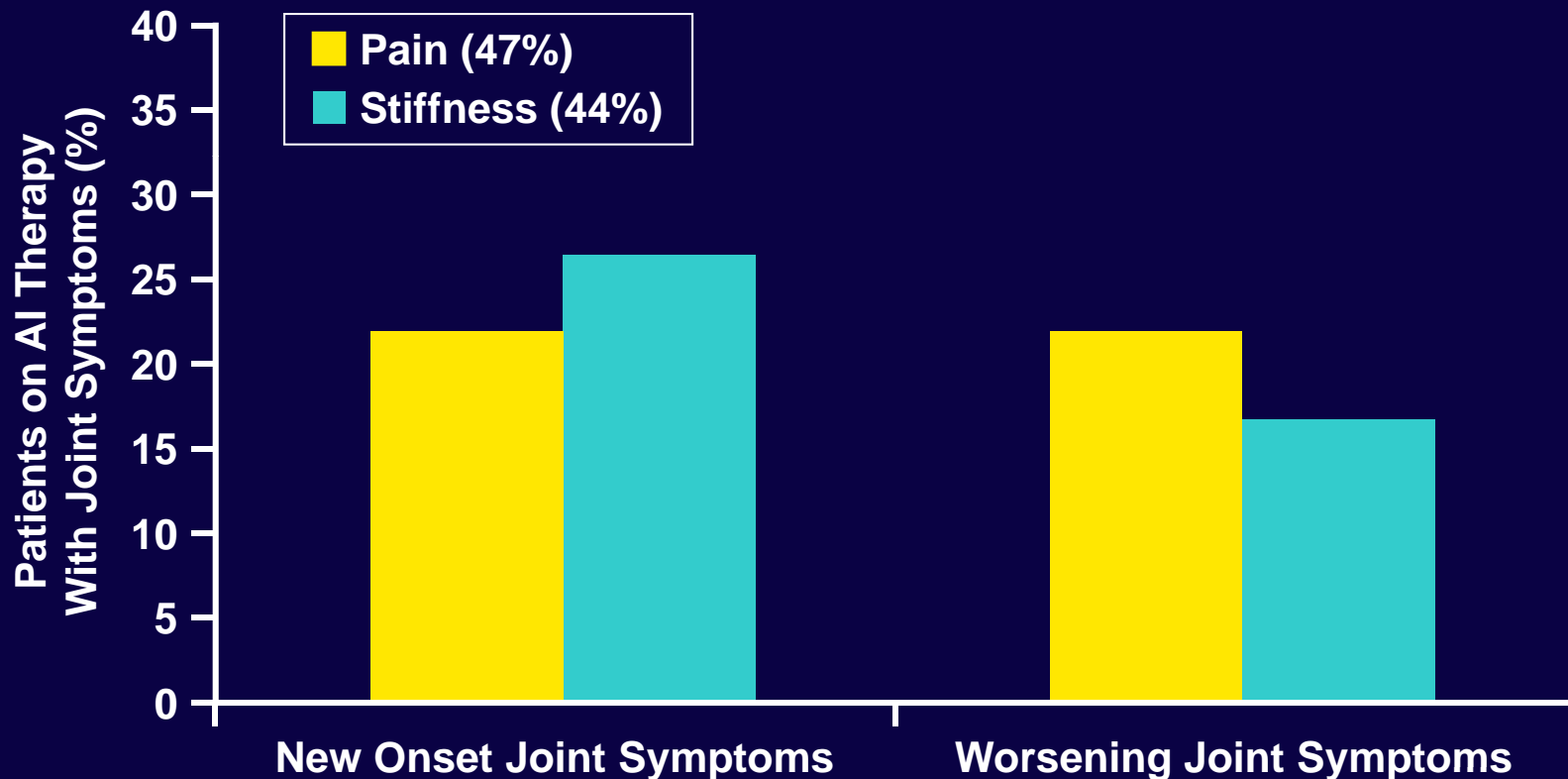
- Standard of care for postmenopausal hormone-sensitive breast cancer.
- Estrogen deficiency after menopause linked to chronic inflammatory conditions.
- The incidence is 5-10% in clinical trials.
- 10-20% discontinue therapy because of toxic effects - resulting in resolution of symptoms.
- 50% on treatment after 5 years.

Prevalence of joint symptoms in women on AIs for early stage breast cancer

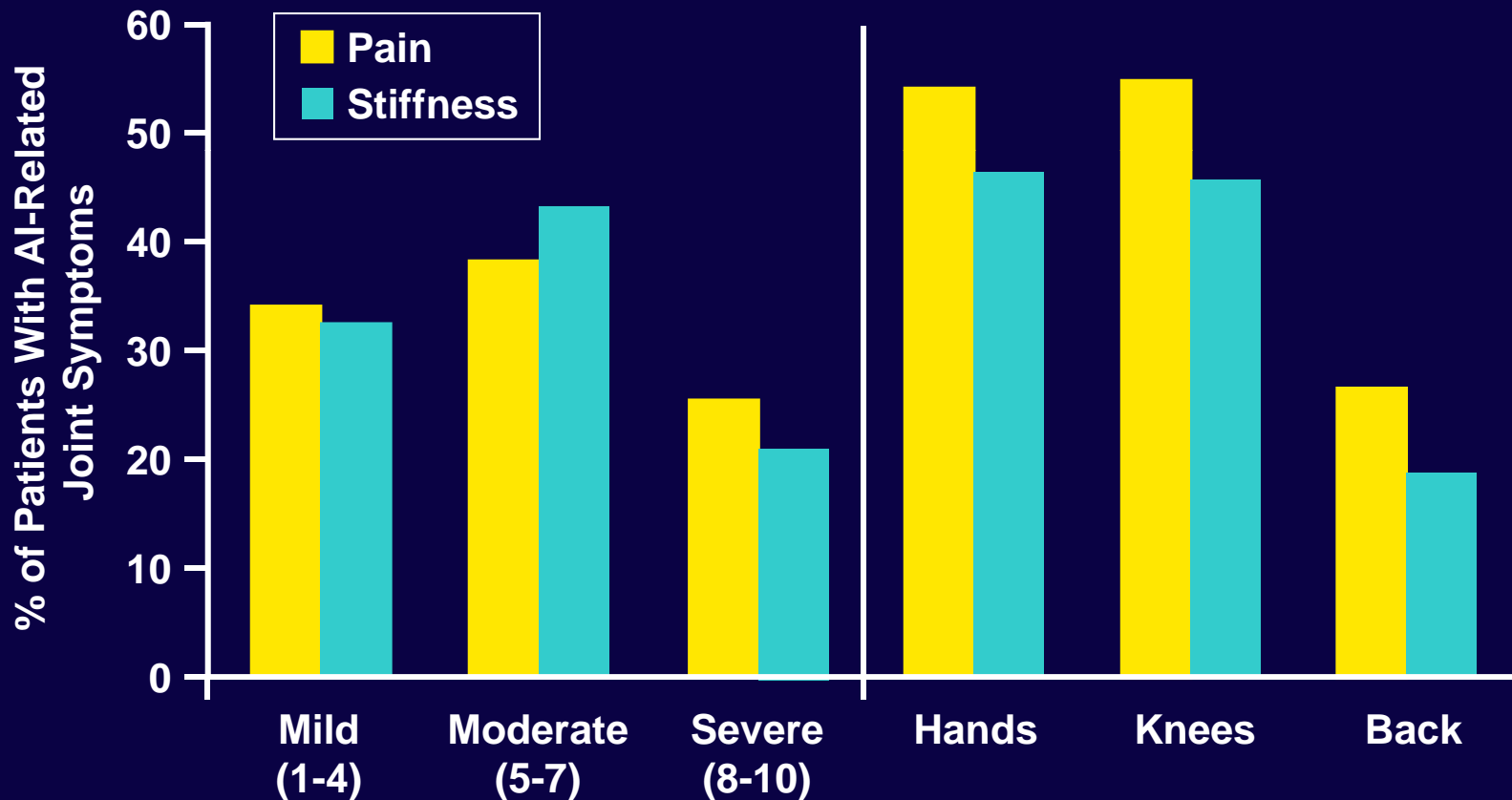
- Cross-sectional survey of 200 consecutive pts receiving adjuvant AI therapy.
- The main outcomes on pain/stiffness severity adapted from the Brief Pain Inventory:
 1. Any joint pain/stiffness in the past week that had either started or worsened after initiating AI therapy
 2. Severity of joint pain or stiffness on a 0 to 10 scale
 3. Location of affected joints
 4. Use of oral medications/supplements to relieve symptoms
 5. Degree of pain relief from these oral medications (0-10).

Prevalence of joint symptoms in women on AIs for early stage breast cancer

Prevalence of AI-Related Joint Symptoms



Severity and Location of Joint Symptoms



Predictors of AI joint symptoms

- Risk is independent of:
 - Age
 - Type of AI
 - Duration of therapy
- Risk is inversely associated:
 - BMI
 - Prior tamoxifen therapy
- Risk increased with:
 - Prior taxane chemotherapy

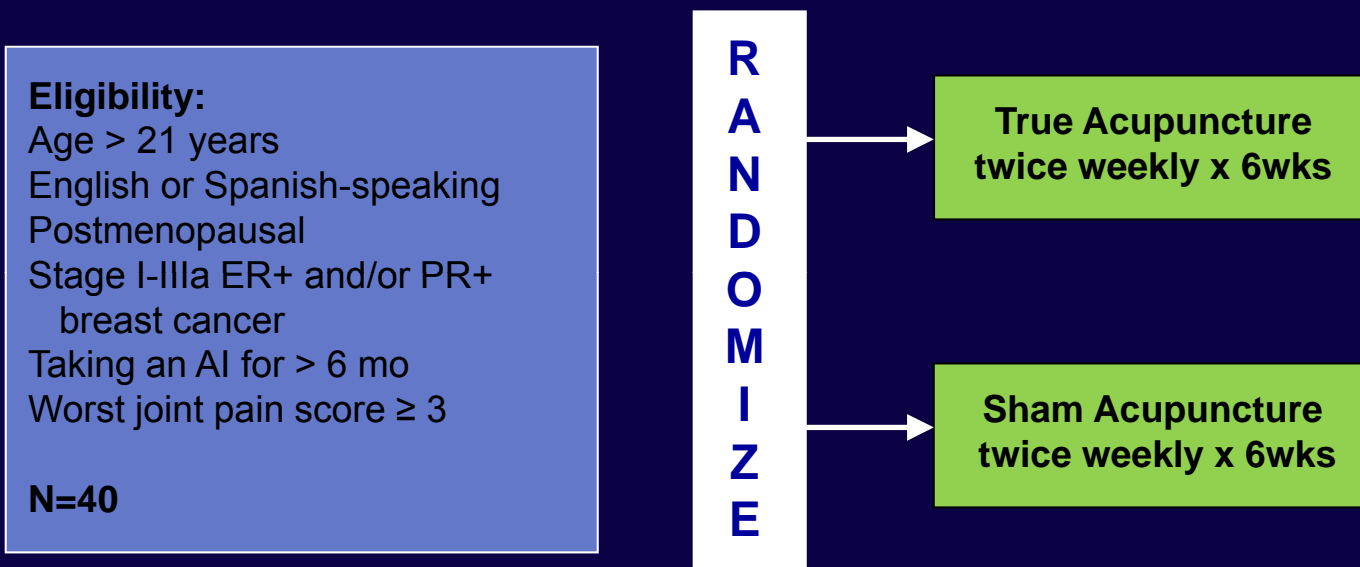
Trials for AI Joint Symptoms

- Exercise
- Acupuncture
- Glucosamine / Chondroitin
- Omega-3 Fatty Acids
- Vitamin D
- Lyrica
- Cymbalta

Trials for AI Joint Symptoms

- Exercise
- Acupuncture
- Glucosamine / Chondroitin
- Omega-3 Fatty Acids
- Vitamin D
- Lyrica
- Cymbalta

Randomized Placebo-Controlled Trial of Acupuncture for AI-related Joint Symptoms

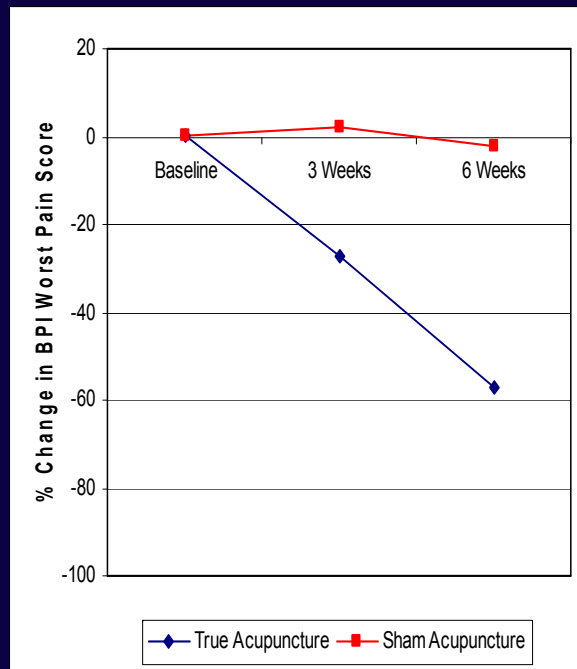


Primary Outcome: Change in joint pain score (BPI-SF)

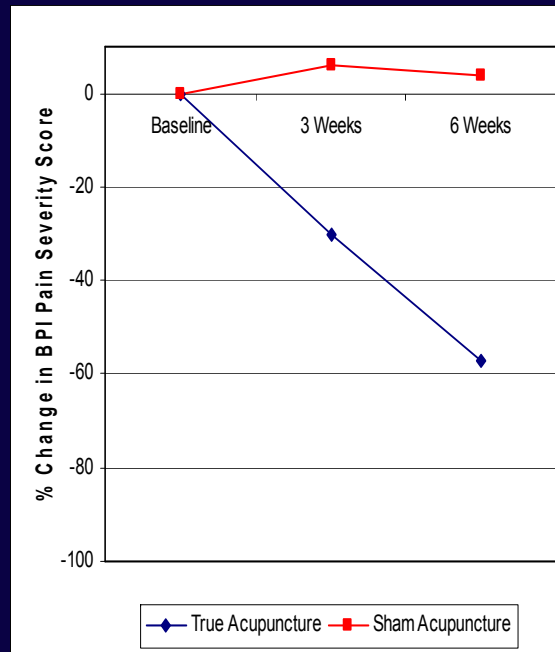
Secondary Outcomes: Change in joint pain, stiffness, function (WOMAC, M-SACRAH), QOL (FACT-ES), analgesic use, serum inflammatory biomarkers

Brief Pain Inventory from baseline to 3 and 6 weeks for the true and sham acupuncture groups

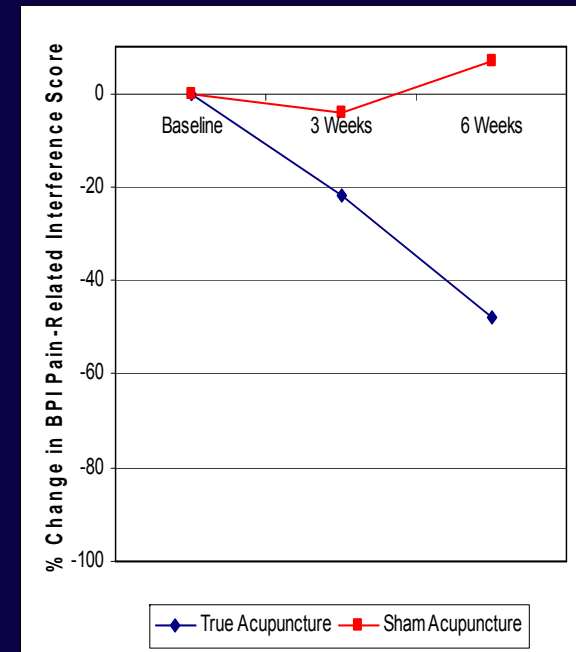
Worst Pain



Pain Severity



Function



Example 2: Acute/Late Side Effect Chemotherapy-Induced Neuropathy

- Taxane use has increased for early stage breast cancer.
- Taxanes cause a sensory neuropathy. Up to 20-30% develop moderate to severe acute neuropathy.
- The most effective approach to minimize neuropathy is reduce the dose or discontinue therapy.
- Results in suboptimal treatment.

Prospective evaluation of neuropathy in breast cancer patients treated with adjuvant paclitaxel

- Fifty women with stage I-III breast cancer who were about to initiate adjuvant paclitaxel therapy were enrolled.
- Women were evaluated at baseline, after paclitaxel, and 3, 6, 9, 12 months after completing paclitaxel.
 1. Functional Assessment of Cancer Therapy-Taxane (FACT-Tax)
 2. Quantitative neurosensory testing:
 - Touch sensation (microfilaments)
 - Vibration threshold

Mean FACT-Tax Score Before and After Paclitaxel Chemotherapy

