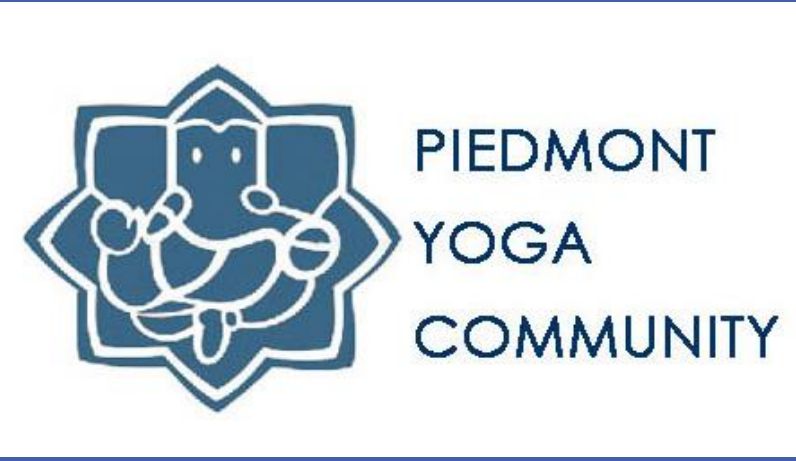




# HOW DOES YOGA PRACTICE IMPROVE TREATMENT RELATED SIDE-EFFECTS AND WELL-BEING IN CANCER PATIENTS POST TREATMENT?



Cheryl Fenner Brown, E-RYT 500, PYT<sup>1,2</sup> Dawn Jacobson, MD, MPH, E-RYT 500<sup>1,3</sup>

1. Cancer Support Community of the San Francisco Bay Area, 2. Piedmont Yoga Community, 3. Public Health Institute  
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## INTRODUCTION

Cancer and its allopathic treatment are often associated with a reduction in well-being across physical, functional, emotional, and spiritual domains. Yoga may improve well-being and is known to be beneficial for managing fatigue, insomnia, stress, and mood disturbances. The Healing Yoga for Cancer Survivorship (HYCS) standardized yoga protocol was designed to improve well-being for use with cancer survivors and includes:

### HYCS Active Practices:

- Reclining Poses (asana)
- Seated Poses
- Kneeling Poses
- Standing Poses
- Restorative Poses

### HYCS Contemplative Practices:

- Intention Setting (sankalpa)
- Chanting
- Hand Gestures (mudra)
- Breathing (pranayama)
- Body Scan
- Final Relaxation

## OBJECTIVES

1. To assess the impact of the standardized HYCS protocol on post-treatment side effects and overall well-being.
2. To evaluate which activities of the HYCS protocol are associated with changes in well-being: the physical practices (i.e., poses), or the contemplative practices (i.e., intention setting, chanting, mudra, pranayama, body scan, and final relaxation).
3. To determine whether a dose-response relationship exists through the use of a home practice booklet and DVD.

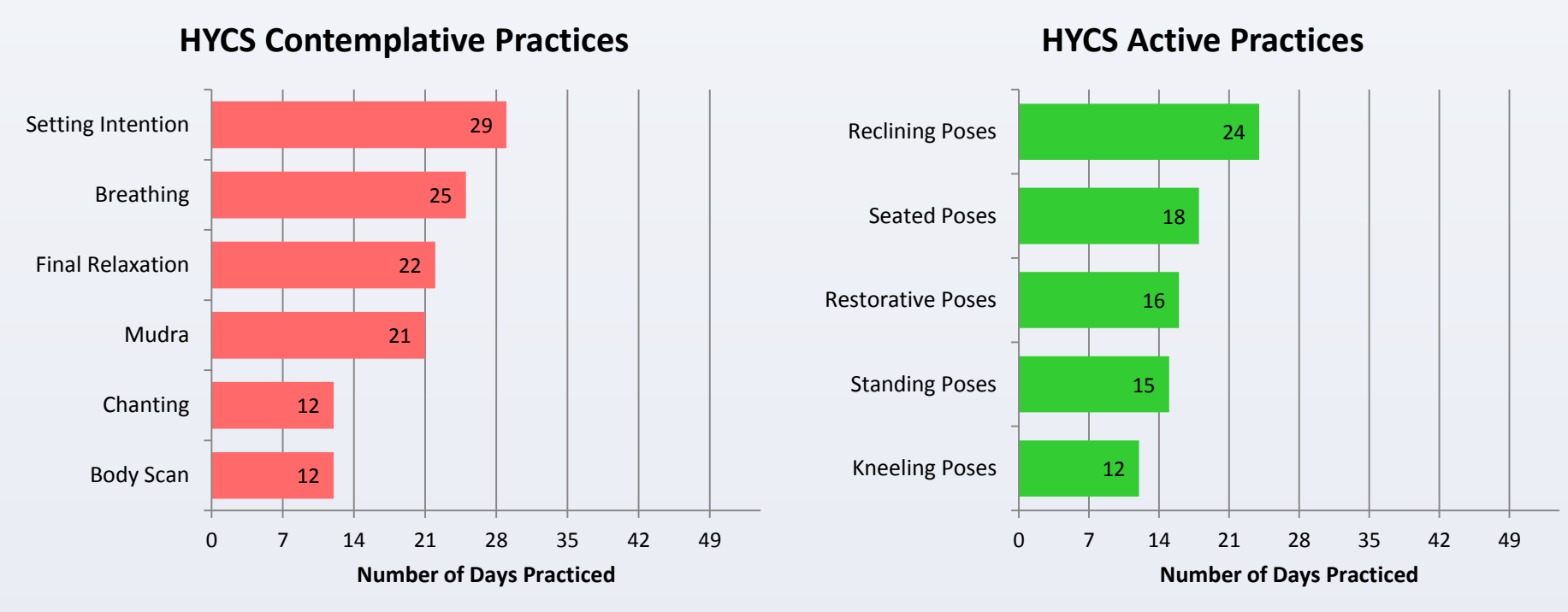
## METHODS

CHARACTERISTICS	VALUE N=17
Female (%)	15 (88%)
Median age in years (range)	55 (37-74)
Ethnicity (%)	
• Non-Hispanic white	14 (82%)
• Non-Hispanic black	2 (12%)
• Hispanic	1 (6%)
Diagnosis (%)	
• Breast cancer	6 (34%)
• Lymphoma	2 (12%)
• Melanoma	2 (12%)
• Ovarian	2 (12%)
• Endometrial	1 (6%)
• Kidney	1 (6%)
• Leukemia	1 (6%)
• Neuroendocrine	1 (6%)
• Rectal	1 (6%)

- **Yoga Intervention:** HYCS protocol taught in 8-weekly 90-minute sessions by a professional yoga therapist, daily home practice with DVD and booklet encouraged.
- **Measures:** Yoga group reported daily on frequency of HYCS protocol use and on levels of physical, functional, emotional, and spiritual well-being using 31 factors from FACT-G and FACIT-Sp measures.
- **Intended Benefits of HYCS Protocol:** To increase body awareness and lymphatic drainage; facilitate deep breathing; reduce anxiety, edema, and muscle tension.
- **Control Group:** Not analyzed due to small sample size (n=2)

## RESULTS

### FREQUENCY OF HYCS PRACTICE

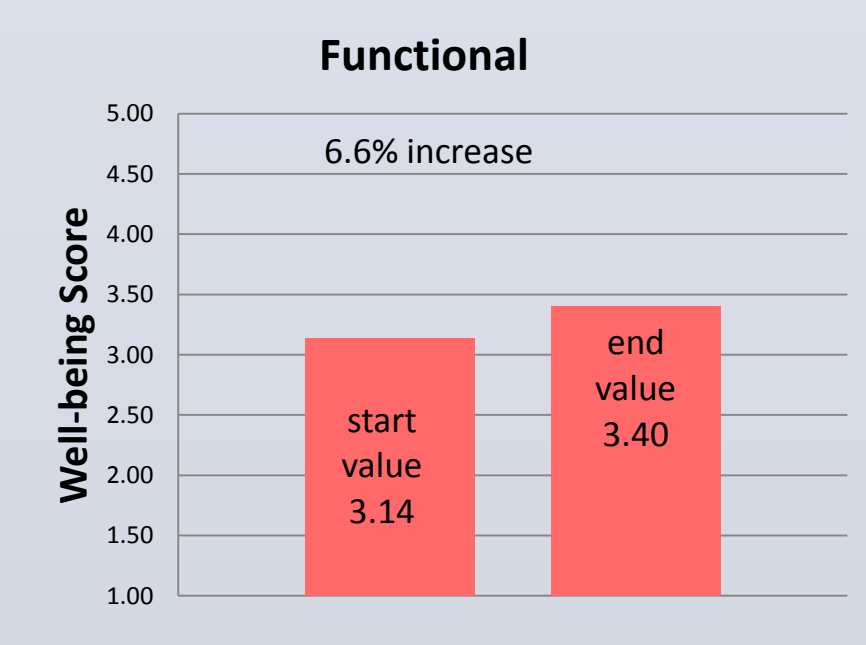


### INCREASE IN WELL-BEING SCORE BY DOMAIN

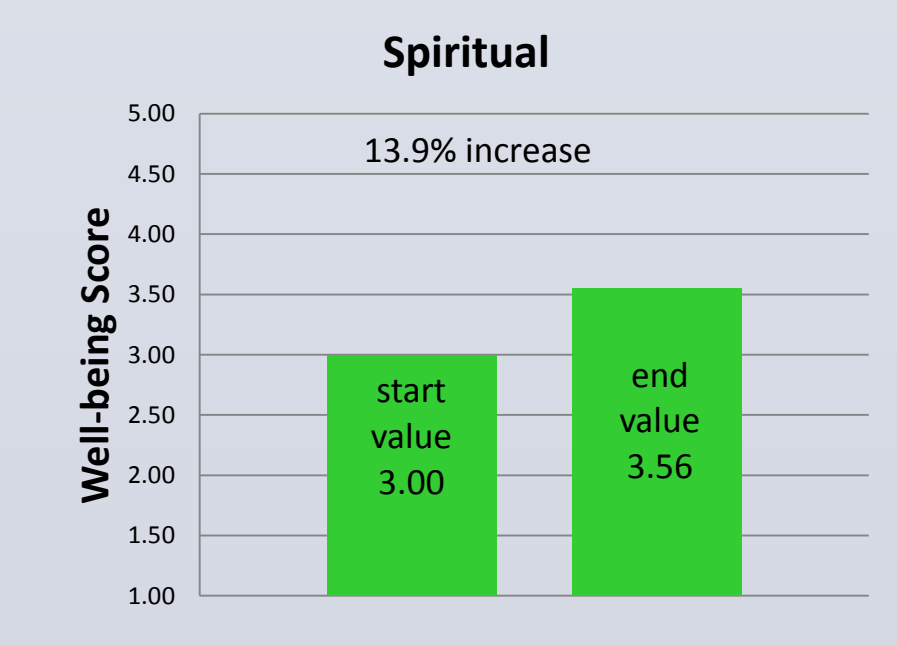


DOMAIN	OUTCOME MEASURE	PERCENT CHANGE
PHYSICAL 8.9% Increase in well-being	Lack of energy	16.8%
	Fatigue	15.0%
	Need to Sleep	-4.3%
	Ability to meet needs of family	1.0%
	Pain	14.8%
	Pain interference	17.8%
	Side-effect interference	22.8%
	Perceived illness	-3.3%
	Constipation	-0.7%

DOMAIN	OUTCOME MEASURE	PERCENT CHANGE
EMOTIONAL 10.3% Increase in well-being	Sadness	7.0%
	Nervousness	19.3%
	Emotional instability	17.5%
	Uncertainty about future health	-14.8%
	Worry about recurrence	-3.5%
	Worry about death	24.3%
	Hopelessness	22.0%



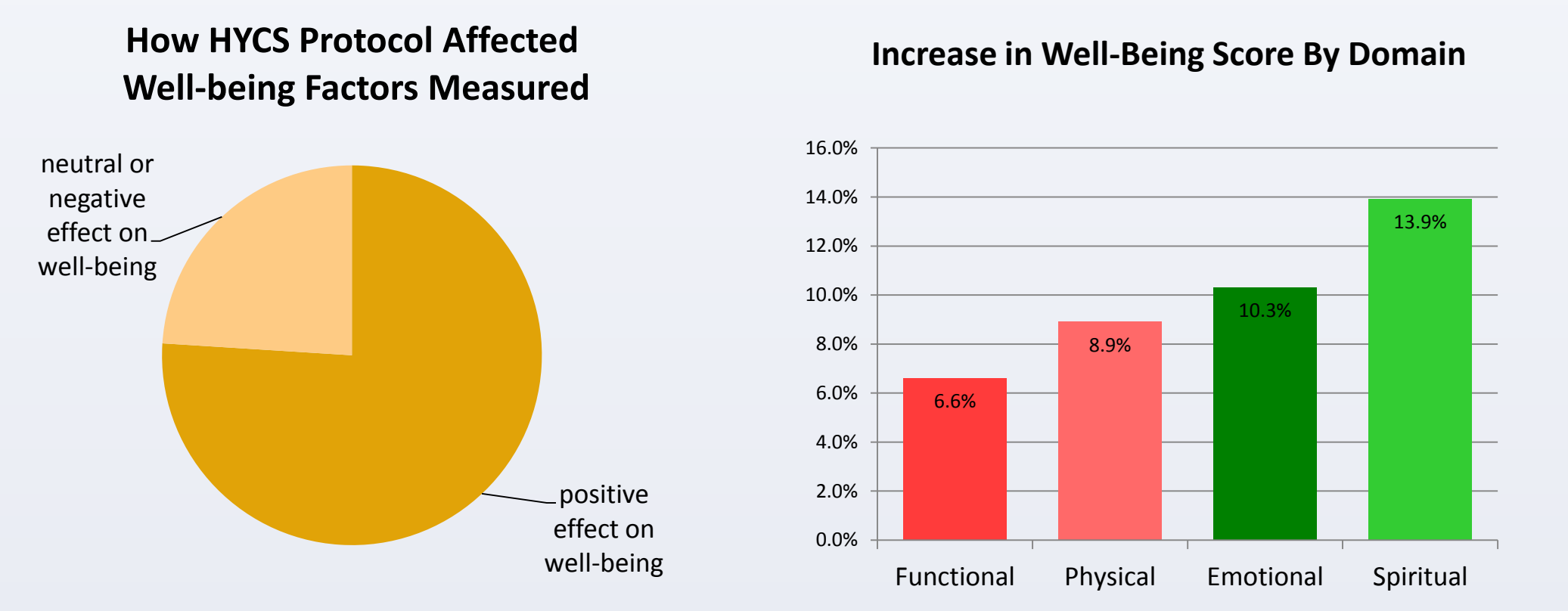
DOMAIN	OUTCOME MEASURE	PERCENT CHANGE
FUNCTIONAL 6.6% Increase in well-being	Ability to work	14.8%
	Mental clarity	8.8%
	Concentration	9.8%
	Life enjoyment	-1.8%
	Illness acceptance	-9.5%
	Sleep	16.0%
	Leisure activity enjoyment	14.0%
	Quality of life contentment	0.5%



DOMAIN	OUTCOME MEASURE	PERCENT CHANGE
SPIRITUAL 13.9% Increase in well-being	Peacefulness	11.8%
	Life purpose	17.0%
	Ability to self-comfort	17.8%
	Harmony	25.8%
	Self-reliance	13.0%
	Gratitude	4.0%
	Hopefulness	7.8%

(Mean values from yoga group on Likert scale where 1=not at all, 2=a little bit, 3=somewhat, 4=quite a bit, 5=very much)

## RESULTS, cont.



## CONCLUSIONS

1. HYCS protocol positively affected 76% of well-being factors measured
2. Evaluation showed **more frequent use of contemplative yoga practices yielding a greater increase in emotional and spiritual well-being**.
  - **Most Frequent Contemplative Practice:** Setting Intention
3. Dose-response relationship confirmed with greatest increase among emotional and spiritual domains:
  - **Most Improved Emotional Well-being Factors:**
    - Worry about death - 24% improvement
    - Hopelessness - 22% improvement
  - **Most Improved Spiritual Well-being Factor:**
    - Harmony - 26% improvement

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