



WOMEN'S HEALTH SURVIVORSHIP CARE PLAN FOR YOUNG BREAST CANCER SURVIVORS

TREATING HOT FLASHES

NEXT STEPS

- 1 Start**
Yoga and cooling strategies
- 2 Learn more**
about non-hormonal prescription treatments
- 3 Discuss**
treatment options with healthcare providers
- 4 Start**
the best treatment option for you

KEY ONLINE RESOURCES

- National Cancer Institute:
 - http://www.cancer.gov/about-cancer/treatment/side-effects/sexuality-fertility-women/hot-flashes-pdq#section/_27

WHAT ARE HOT FLASHES?

- Low estrogen levels that may cause random and sudden feelings of heat that last from a few seconds to minutes.
- Women without breast cancer experience an average of 7 years of hot flashes that start 3 years before and continue 4 years after menopause.
- About two-thirds of breast cancer survivors will have hot flashes when they are treated with chemotherapy, tamoxifen or aromatase inhibitor therapy, or after having their ovaries taken out.
- Hot flashes tend to be worse during chemotherapy or start of endocrine therapy and then stabilize or decrease slightly over time.

TREATMENTS FOR HOT FLASHES

Hormone-free is recommended & safe
Hormone-based is NOT recommended

STRATEGIES TO KEEP COOL!

1. Dress in layers and light-colored clothes
2. Keep your thermostat at a lower temperature
3. Use cooling products: hand held fans, cold packs under pillow, iced water bottles, water misters



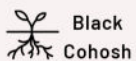
HORMONE-FREE HOT FLASH TREATMENTS THAT IMPROVE HOT FLASHES

BASED ON CURRENT RESEARCH

SIDE EFFECTS AND OTHER INFORMATION

<p>Anti-Depressants</p>	<ul style="list-style-type: none"> • Venlafaxine, citalopram, or paroxetine reduced hot flash frequency and severity by 50% after 4 to 6 weeks. 	<ul style="list-style-type: none"> • Paroxetine and celexa may interfere with tamoxifen action • Prescription medication • Nausea, dry mouth, constipation or diarrhea, dizziness • SSRI anti-depressants can have sexual side effects
<p>Gabapentin & Pregabalin</p>	<ul style="list-style-type: none"> • Gabapentin or pregabalin reduced hot flash frequency and severity by 50% after 4 to 6 weeks. 	<ul style="list-style-type: none"> • Prescription neurology medication • Dizziness, increased appetite, and less pain
<p>Clonidine</p>	<ul style="list-style-type: none"> • Clonidine reduced hot flash frequency and severity by 40% after 4 weeks. 	<ul style="list-style-type: none"> • Prescription blood pressure medication • Mouth dryness and constipation
<p>Acupuncture</p>	<ul style="list-style-type: none"> • Weekly or twice weekly acupuncture treatments reduced hot flash nuisance by 35%, daytime hot flash frequency by 50%, or hot flash frequency and severity by 65% after 4 to 12 weeks. 	<ul style="list-style-type: none"> • Needle pain and mild bruising
<p>Hypnosis</p>	<ul style="list-style-type: none"> • Weekly, 50-minute hypnosis sessions reduced hot flash frequency and severity by 68% after 5 weeks. 	<ul style="list-style-type: none"> • Unknown
<p>Yoga</p>	<ul style="list-style-type: none"> • Weekly, 120-minute yoga sessions reduced hot flash frequency and severity by 31% after 8 weeks. 	<ul style="list-style-type: none"> • Unknown
<p>iCBT</p>	<ul style="list-style-type: none"> • Weekly, 1-hour self-managed or guided internet-based cognitive behavioral therapy (iCBT) sessions reduced on average the perceived impact of hot flashes by 33% and hot flash frequency by 25% after 6 weeks. 	<ul style="list-style-type: none"> • Unknown
<p>Meditation</p>	<ul style="list-style-type: none"> • Weekly, 2-hour mindfulness meditation sessions reduced hot flash bothersome symptoms by 24% after 6 weeks. 	<ul style="list-style-type: none"> • Unknown

HORMONE-FREE TREATMENTS THAT DID NOT IMPROVE HOT FLASHES



Black Cohosh



Exercise: Aerobic & Strength Training



Soy & Phyto-estrogens



Vitamin E



Fluoxetine



Sertraline



Bupropion



Actheane®



WOMEN'S HEALTH SURVIVORSHIP CARE PLAN FOR YOUNG BREAST CANCER SURVIVORS

HOT FLASHES: EVIDENCE

HORMONE-FREE TREATMENTS THAT IMPROVE HOT FLASHES: COMPARISON OF OUTCOMES BY HORMONE-FREE TREATMENTS COMPARED TO PLACEBO TREATMENTS				
Intervention	Hot Flashes	Improvement Time	Side Effects	Ref
<u>Anti-Depressants</u> Venlafaxine (75 or 150 mg daily) Citalopram (10, 20 or 30 mg daily) Paroxetine (10, 20 or 25 mg daily)	Venlafaxine, citalopram, and paroxetine reduced hot flash frequency and severity by 50% at all listed doses.	4 to 6 weeks	Venlafaxine 150 mg results in more mouth dryness than venlafaxine 75 mg. Paroxetine 20 mg results in more nausea and stopping medication than paroxetine 10 mg. Nausea, dry mouth, constipation or diarrhea, and dizziness SSRI anti-depressants can have sexual side effects	(1-3)
<u>Nerve Pain Medications</u> Gabapentin (900 or 2400 mg daily) Pregabalin (150 mg daily)	Gabapentin or pregabalin reduced hot flash frequency and severity by 50%.	4 to 6 weeks	Dizziness, increased appetite, and less pain	(4-5)
<u>High Blood Pressure Medication</u> Clonidine (0.1 mg daily [oral])	Clonidine reduced hot flash frequency and severity by 40%.	4 weeks	Mouth dryness and constipation	(6)
<u>Acupuncture</u> Weekly or twice weekly treatments	Data comparing acupuncture versus sham acupuncture, relaxation, or self-care (i.e., detailed information booklet on hot flash management) has shown mixed results. Acupuncture (vs. sham acupuncture) reduced hot flash nuisance by 35% and daytime hot flash frequency by 50%. Acupuncture plus self-care (vs. self-care alone) reduced hot flash frequency and severity by 65%. Four studies showed no difference between groups.	4 to 12 weeks	Needle pain, mild bruising	(7-16)
<u>Yoga</u> Weekly, 120-minute sessions included gentle stretching poses, breathing techniques, meditation, and group discussions	Yoga reduced hot flash frequency and severity by 31%.	8 weeks	Unknown	(17)
<u>Mindfulness Meditation</u> Weekly, 2-hour sessions included mindfulness, relaxation, mind-body connection; practice of meditation; gentle movement exercises; and psycho-education	Mindfulness meditation reduced hot flash bothersome symptoms by 24%.	6 weeks	Unknown	(18)
<u>Hypnosis</u> Weekly, 50-minute sessions included relaxation, mental imagery for coolness and dissociation	Hypnosis reduced hot flash frequency and severity by 68%.	5 weeks	Unknown	(19)
<u>Guided or self-managed Internet-based cognitive behavioral therapy (iCBT)</u> Weekly 1-hour sessions included self-reflection, psycho-education, and assignments	Self-managed or guided iCBT reduced the perceived impact of hot flashes by 32% and 34% and the frequency of hot flashes by 21% and 29%, respectively.	6 weeks	Unknown	(20)

TREATMENTS THAT MAY INTERFERE WITH TAMOXIFEN

Some anti-depressants may interfere with tamoxifen metabolism and decrease the efficacy of tamoxifen. Tamoxifen is metabolized to its more potent metabolite endoxifen by the CYP2D6 enzyme in the liver. Some anti-depressants inhibit the CYP2D6 enzyme

Strong Interaction	Mild Interaction	No Interaction
Paroxetine	Sertraline	Venlafaxine, desvenlafaxine
Fluoxetine	Citalopram	Mirtazapine
Bupropion	Fluvoxamine	Gabapentin
		Pregabalin
		Clonidine



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HOT FLASHES: EVIDENCE CONTINUED

HEAD-TO-HEAD COMPARISONS OF TWO DIFFERENT HOT FLASH TREATMENTS

Intervention	Hot Flashes	Improvement Time	Patient Preference	Mood	Quality of Life	Additional Effects	Ref
Venlafaxine (75 mg daily) or Clonidine (0.1 mg daily)	↔	Favors venlafaxine (1-2 weeks) over clonidine (> 4 weeks)	↔	Venlafaxine: Increased depression Clonidine: Increased anxiety	n/a	Venlafaxine: Decreased appetite Blood Pressure: ↔	(21)
Venlafaxine (75 mg daily) or Clonidine (0.1 mg daily)	↔	↔	↔	Venlafaxine: Improved depression	↔	Venlafaxine: Decreased appetite and sexual interest, improved sleep, higher study withdrawal Blood Pressure: 5 mmHg systolic and 3 mmHg diastolic increase with Clonidine	(22)
Venlafaxine (75 mg daily) or Clonidine (0.1 mg daily)	Favors venlafaxine	Favors venlafaxine	n/a	n/a	n/a	Venlafaxine: more nausea Blood Pressure: n/a	(23)
Venlafaxine (75 mg daily) or Gabapentin (900 mg daily)	↔	↔	Venlafaxine preferred	Gabapentin: Negative mood changes	↔	Venlafaxine: Decreased appetite, more nausea and constipation Gabapentin: Dizziness Blood Pressure: n/a	(24)
Duloxetine (60 mg daily) or Escitalopram (20 mg daily)	↔	↔	↔	Both drugs: Improved depression	n/a	↔ Blood Pressure: n/a	(25)

Key: ↔ = no difference among groups n/a = not assessed

HEAD-TO-HEAD COMPARISONS OF PRESCRIPTION AND NON-PRESCRIPTION HOT FLASH TREATMENTS

Intervention	Hot Flashes	Improvement Time	Quality of Life	Additional Effects	Ref
Gabapentin (900 mg daily) or Vitamin E (800 IU daily)	Favors gabapentin	Favors gabapentin	Favors gabapentin	Gabapentin: Improved sleep and menopausal-related symptoms Vitamin E: Higher study withdrawal due to ineffective hot flash treatment	(26)
Gabapentin (900 mg daily) or Hypnotic inductions (weekly for 3 weeks)	↔	↔	n/a	n/a	(27)
Gabapentin (900 mg daily) or Electro-acupuncture (1-2 times weekly)	↔ during active treatment	↔	n/a	Gabapentin: Dizziness, fatigue, drowsiness Electro-acupuncture: Needle pain, mild bruising	(14)
Pregabalin (150 mg daily) or Stellate ganglion block (once)	Favors stellate ganglion block	↔	n/a	Stellate ganglion block: Transient mild Horner's Syndrome Pregabalin: Dizziness	(28)
Paroxetine (7.5 mg daily) or Stellate ganglion block (once)	↔	↔	n/a	Stellate ganglion block: Transient mild Horner's Syndrome; mild headache Paroxetine: Nausea, vomiting	(29)
Venlafaxine (75 mg daily) or Acupuncture (1-2 times weekly)	↔ during active treatment	↔	↔	Venlafaxine: Nausea, headache, sleep, dizziness	(30)

Key: ↔ = no difference among groups n/a = not assessed

This information has been written by researchers at UC San Diego who performed a systematic review of clinical research studies on managing hot flashes in breast cancer survivors in December 2019.



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WOMEN'S HEALTH SURVIVORSHIP CARE PLAN FOR YOUNG BREAST CANCER SURVIVORS

HOT FLASHES: CLINICAL GUIDELINES

OVERVIEW

Clinical guidelines from the National Comprehensive Cancer Network "Breast Cancer Clinical Practice Guidelines Version 2.2020" recommend the following:

- Estrogen deprivation, tamoxifen and aromatase inhibitors contribute to hot flashes.
- Venlafaxine, an SNRI, is an effective intervention in decreasing hot flashes.
- Concomitant use of tamoxifen with certain SSRIs may decrease plasma levels of endoxifen, an active metabolite of tamoxifen.

Clinical guidelines from the American Congress of Obstetrics and Gynecology "Management of Gynecologic Issues in Women with Breast Cancer" (Practice Bulletin No. 126, 2012, reaffirmed in 2016) recommend the following:

- Treatments for hot flashes include lifestyle alterations, alternative and complementary therapy, and pharmacologic agents.
- The use of hormonal therapy is generally contraindicated in patients with breast cancer.
- SSRIs and SNRIs have both been shown to be safe and to reduce the severity of hot flashes in patients with breast cancer, although caution must be used when using these agents in conjunction with tamoxifen.
- Gabapentin and clonidine are other options for management of hot flashes.
- Low-dose anti-depressants or gabapentin can be used to manage vasomotor symptoms. Most of these treatments are not as effective as hormonal therapy, but they do offer some relief for symptomatic hot flashes.
- Venlafaxine 75 mg daily appears to be the dose with the optimal balance between effectiveness and adverse effects (most commonly dry mouth, nausea, constipation and poor appetite).
- There is some significant concern that the use of pure SSRIs, in women taking tamoxifen may interfere with tamoxifen metabolism and thus block the drug's therapeutic benefit. The interference with tamoxifen appears to be less severe or nonexistent for SNRIs such as venlafaxine.
- Safety and efficacy of herbal treatments are unclear.

A search of the following professional societies did not yield additional guidelines: North American Menopause Society, American Society of Clinical Oncology, American Society of Reproductive Medicine, Endocrine Society

UC San Diego
SCHOOL OF MEDICINE



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WOMEN'S HEALTH SURVIVORSHIP CARE PLAN FOR YOUNG BREAST CANCER SURVIVORS

HOT FLASHES: RESOURCES

NEXT STEPS



ONLINE RESOURCES

What organization provides this resource?	What type of information is there?
National Cancer Institute	Information on hot flash causes and treatments for patients with cancer
Susan G. Komen Foundation	Information on non-hormonal hot flash treatments for breast cancer patients
North American Menopause Society	Hot flash treatment options for breast cancer survivors