

De-stressing with Diet:

DOs and DON'Ts

What do stress hormones do?

A short-term stress response helps us react to a demand or threat.

- Adrenaline
 - Increases heart rate
 - Elevates blood pressure
 - Boosts energy
- Cortisol
 - Increases blood sugar
 - Enhances brain's use of glucose
 - Increases resources for repair
 - Alters immune response
 - Suppresses digestive and reproductive systems
 - Suppresses growth response
 - Communicates with brain re: mood, motivation, and fear²

What is stress?

A normal psychological and physical reaction to demands or threats, accompanied by increased hormone (adrenaline and cortisol) levels.¹

Did you know?

Practicing mindful eating can reduce cortisol levels.³

Is stress bad?

Long-term exposure to stress can cause hormone levels to remain elevated.

Chronic stress can lead to:

- Anxiety
- Depression
- Digestive problems
- Heart disease
- Sleep problems
- Weight gain
- Memory & concentration impairment²

References:

1. Stress Management. Basics. Mayo Clinic. <http://www.mayoclinic.org/healthy-living/stress-management/basics/stress-basics/hlv-20049495>. Accessed November 3, 2014.
2. Stress Management. Chronic stress puts your health at risk. Mayo Clinic. <http://www.mayoclinic.org/healthy-living/stress-management/in-depth/stress/art-20046037>. Accessed November 3, 2014.
3. Daubenmier J, Kristeller J, Hecht FM, et al. Mindfulness Intervention for Stress Eating to Reduce Cortisol and Abdominal Fat among Overweight and Obese Women: An Exploratory Randomized Controlled Study. <http://dx.doi.org/10.1155/2011/651936>. Accessed November 3, 2014.

Benefit from...	When you DO fuel with foods like...	And DON'T rely on foods like...
<ul style="list-style-type: none"> • Magnesium: helps to balance cortisol⁴ 	<ul style="list-style-type: none"> • Nuts like almonds, pecans, and cashews • Leafy greens, beans, whole grains⁵ 	<ul style="list-style-type: none"> • Processed junk foods like chips, pretzels, cheese snacks, etc.
<ul style="list-style-type: none"> • Tryptophan: reduces cortisol & improves mood under stress⁶ 	<ul style="list-style-type: none"> • Steel-cut oats • Lean proteins like turkey breast, eggs, pork loin, and chicken breast⁷ 	<ul style="list-style-type: none"> • Refined carbohydrates like white bread, pasta, and rice • Fried and processed meats like fried chicken, chicken fingers or wings, pepperoni, hot dogs, etc.
<ul style="list-style-type: none"> • Vitamin C: counteracts cortisol⁷ 	<ul style="list-style-type: none"> • Blueberries, strawberries, and other berries • Citrus fruits • Peppers, leafy greens⁵ 	<ul style="list-style-type: none"> • Sugary, processed, low-nutrient foods
<ul style="list-style-type: none"> • Omega-3 fatty acids: reduce the release of adrenaline & cortisol in response to stress⁸ 	<ul style="list-style-type: none"> • Salmon, mussels, soy, walnuts, flax seeds and oil, chia seeds⁵ 	<ul style="list-style-type: none"> • Trans fats such as those found in stick margarines, shortening, fried foods, and the hydrogenated oils in processed foods
<ul style="list-style-type: none"> • Theanine: reduces cortisol levels⁹ 	<ul style="list-style-type: none"> • Green and Black Teas^{9,10} 	<ul style="list-style-type: none"> • Excess alcohol (more than the moderate amount of 1 drink for women or 2 drinks for men per day) • Excess coffee or other highly caffeinated beverages (moderate amounts are okay)
<ul style="list-style-type: none"> • Flavonols: Reduce stress hormones, including cortisol¹¹ 	<ul style="list-style-type: none"> • Dark chocolate 	<ul style="list-style-type: none"> • Sugary desserts

References:

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5. USDA Nutrient Database for Standard Reference. <http://ndb.nal.usda.gov/>. Accessed November 3, 2014.
6. Markus CR, Olivier B, Panhuysen GE, et al. The bovine protein α -lactalbumin increases the plasma ratio of tryptophan to the other large neutral amino acids, and in vulnerable subjects raises brain serotonin activity, reduces cortisol concentration, and improves mood under stress. *Am J Clin Nutr.* 2000;71(6):1536-1544.
7. Peters EM, Anderson R, Nieman DC, Fickl H, Jogessar V. Vitamin C supplementation attenuates the increases in circulating cortisol, adrenaline and anti-inflammatory polypeptides following ultramarathon running. *Int J Sports Med.* 2001;22(7):537-43.
8. Delarue J, Matzinger O, Binnert C, et al. Fish oil prevents the adrenal activation elicited by mental stress in healthy men. *Diabetes Metab.* 2003; 29(3):289-95.
9. Hozawa A, Kuriyama S, Nakaya N, et al. Green tea consumption is associated with lower psychological distress in a general population: the Ohsaki Cohort 2006 Study. *Am J Clin Nutr.* 2009;90(5):1390-1396.
10. Steptoe A, Gibson EL, Vounonvirta R, et al. The effects of tea on psychophysiological stress responsivity and post-stress recovery: a randomised double-blind trial. *Psychopharmacology.* 2007;190(1):81-89.
11. Daniels S. Stressed? Try some dark chocolate, say Swiss scientists. <http://www.foodnavigator-usa.com/R-D/Stressed-Try-some-dark-chocolate-say-Swiss-scientists>. Accessed November 3, 2014.

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