

Appetite Hormones and How to Manage Them:

Main hormones that affect appetite:

- *CCK (cholecystokinin) - suppresses hunger, inhibits gastric emptying, stimulates gallbladder secretion*
- *Ghrelin - Triggers hunger, increases preference for fatty and sweet foods, increases gastric motility, induces fat production*
- *GLP-1 (glucagonlike peptide 1) - Slows gastric emptying, promotes insulin release, inhibits glucagon release, suppresses appetite*
- *Insulin - Lowers blood glucose, stimulates glycogen synthesis, stimulates fat synthesis and storage*
- *Leptin - Decreases food intake, regulates energy metabolism*
- *NPY (neuropeptide Y) - Stimulates appetite*



Managing appetite hormones:

- *Eat on a schedule -this helps prevent wide swings in appetite hormones, so you don't get overly hungry, and it reduces the likelihood you'll overeat, especially in the evening.*
- *Eat a high-protein breakfast - people who say they aren't hungry for breakfast often will notice a shift to experiencing morning hunger relatively soon after they adopt a breakfast habit. A rise in morning ghrelin is part of that shift, and eating breakfast helps stabilize hunger for the entire day. Protein reduces ghrelin levels best, and generally increases leptin activity too.*
- *Eat a mix of macronutrients at meals and snacks - protein is best at stimulating release of many satiety hormones, but carbohydrates and fat are more effective for stimulating certain other satiety hormones.*

Managing appetite hormones cont:

- Consume omega 3 fatty acids - these can increase the levels and number of dopamine receptors. Omega-3 fats also are anti-inflammatory and may help improve insulin and leptin sensitivity.
- Eat ghrelin suppressing foods at each meal - such as high quality animal proteins (skinless poultry, lean beef, fish, eggs and fat free Greek yogurt). Also, unprocessed carbohydrates high in resistant (non-digestible) starch (lentils, oats, veggies, sweet potatoes) may help boost satiety hormones.
- Plan meals with low energy density (fewer calories per bite) - meals need to look visually filling in terms of volume, which means more high fiber non-starchy veggies
- Seek pleasure from other activities - finding something to get your mind off cravings that is enjoyable will increase dopamine levels and provide pleasure without calories.
- Get adequate sleep (7-8 hours) - the less sleep you get, the higher ghrelin will be the next day. Lack of sleep will also negatively impact leptin and insulin levels.
- Commit to regular exercise - activity not only burns calories but also can increase levels of certain satiety hormones while reducing stress.