



URBAN MOONSHINE®
ORGANIC BITTERS & TONICS

Bitters – take the challenge. It’s worth it.

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Give a young child the choice between a cookie and radicchio: the sweet will beat the bitter every time. It’s predictable behavior! And while it may frustrate parents, there are good reasons children behave this way: our ability to taste is a way of interacting with the world, a sense that gives us valuable information about what we eat. Much has been said about the overwhelming rise of cookies and other sweets in our diet. The steady removal of plants, and especially wild, bitter-tasting plants, has received less attention. But without these plants, we are at the mercy of sugar’s addictive power: curbing sweets without any support is asking a lot in this culture. You might as well try to help a smoker quit by plopping them down in a 1920s Parisian café.

How did sugar consumption become so easy? It was not always this way. Even after the adoption of agriculture (some ten thousand years ago), carbohydrates were relatively rare and still quite coarse. Our diets were mostly bitter plants and fatty animal products. Anytime we came upon something sweet, we would quickly eat it all, our reward centers in the brain would light up like crazy, and we’d sit back contented. Sugar’s drug-like effects are undeniable. They make such an impression on our memories so that we’ll never forget the source of such concentrated, vital nutrition.

Today, if anything, we *need* to forget that we can get sugar at literally every corner in a major urban environment. We don’t live in a world where we have to maximize every opportunity for food, lest we starve. But we are still making the same choices a young child would, reaching for the cookie whenever we can. The problem is, we always can! And there is no counterbalance to our hard-wired drive for sweetness: too often I see folks on carbohydrate-restriction plans who struggle, blame themselves, end up frustrated. A little extra bitter support often makes the difference.

Why should we be concerned about overindulgence in the sweet flavor anyway? One of the biggest concerns stems from the links between sugar consumption and the epidemic of diabetes and obesity. The overabundance of carbohydrates is a major reason for these diseases that, due to their effects on the heart, have become major public health concerns. Beyond this, most of the digestive complaints I see in my clinic also relate to eating sugars and refined grains. People speak of bloating, spasm, irregular bowel habits, heartburn and more – all too often connected to the sweet, starchy foods they eat. In helping these folks, my goal isn't to eliminate carbohydrate consumption, nor is it to throw a ton of external enzymes at the sweet, unchallenging food – far from it! I simply try to adjust the cocktail of chemistry that their digestive systems experience, making it more akin to that of a pre-industrial diet. Usually this means bringing in bitters.

Our bodies aren't used to all this sweet. What they are used to is a large, daily variety of bitter-tasting plants! This is, of course, more from circumstance than from choice. Generally we resorted to what was most often available (since long before we were humans, in fact): plants. Interestingly, plants have also been active participants in this dance: since they've been browsed on forever, they have evolved the ability to make a variety of chemicals that kill insects and deter herbivores when consumed. All plants have these chemicals. And all of them taste bitter.

So the bitter flavor is a collection of all the plant chemicals that animals have found toxic over millions of years. Our taste for bitter is the most sensitive of all, responding to over one hundred different kinds of molecules. Receptors for bitterness are present throughout our mouth, gut, liver, lung tissue, even the brain. And though we have developed organs (the gut and liver) that make all these plant chemicals completely harmless, we still recoil a little when we taste them. Crucially, after a bitter stimulus we find sugar less appealing. We consume fewer calories. Our average blood glucose levels are more balanced. This is consistent with the nature of the bitter flavor: a signal from long ago that a plant might contain toxicity. Though the plant is no longer harmful to us, we still remember – and eat less. Our bellies empty more slowly, and we feel full more quickly. Sugar loses its hold.

If our liver evolved to help process bitter molecules from plants, it stands to reason that liver function would be improved by consuming bitters. This is precisely the case. In fact, what we are beginning to understand is that the liver doesn't work quite right without experiencing bitter chemicals daily: it

produces fewer enzymes to break down toxins. Without bitters, we are more vulnerable to new, modern petrochemicals. Greater hyper-reactivity, allergies and inflammation inevitably result. In the digestive tract, bitters are essential to stimulate secretions, including pancreatic enzymes. Bitters also help keep the valves between the compartments of the gut closed, so food gets more completely digested and there is less heartburn. All of these are adaptations to protect us and ensure potential toxins are neutralized, and are triggered by bitters alone. Without them we get weaker, more reactive, and symptomatic in our bellies – like a muscle would without any exercise.

So in sum, it is wise to moderate sugar consumption and avoid exposure to petrochemical toxins. But, beyond being mindful of what is overabundant, we should also reintroduce what is missing: the bitter flavor, embodied in wild medicinal plants. In so doing, we untangle ourselves from sweetness, from the overabundance of refined grains that are overwhelming our digestion and metabolism and overtaking our agricultural lands. We grow up – from a childhood concerned with satisfying impulses to an adulthood that recognizes the importance of stepping up to what is bitter and challenging in life. Instead of running, or trying to patch things up here and there, let's rise to the challenge and get stronger!