# Feel Good Chemical and Other Influence in How We Eat

While developing new habits around eating and fasting, it may help to have some context for how we have developed our current eating habits. Most of us are far from a true awareness of hunger signals that are strictly based on our body's need for nutrients and energy. Clearly there are processes within the body that signal when our bodies actually require replenishment. Why though have so many of us developed a problematic relationship with food with patterns of overeating, obsessing over certain foods, and addictions?

Many of us have heard references to both dopamine and serotonin as our "feel good chemicals", but may not know what functions they play in influencing our eating behaviors. Dopamine is a hormone made in the brain that serves as a neurotransmitter, meaning it acts as a chemical messenger between neurons. Although it is involved in many functions within the body, such as digestion, memory and focus, motor control, pain processing, pancreatic function and insulin regulation, we know it most for its role in pleasure and reward seeking behavior. The brain has an internal reward system in place that rewards us for doing things to encourage survival. So when we eat, our brain releases dopamine into the reward system to foster a good feeling or reward. The brain interprets dopamine as pleasure and is hardwired to seek out behaviors that will release dopamine. Interestingly, dopamine is actually released when we are expecting a reward. This means that just anticipating a behavior that releases dopamine may be enough to raise our dopamine levels. So merely deciding or planning to consume a favorite food treat we are craving will increase the dopamine level, and then eating the treat floods the brain with dopamine and reinforces the craving to ensure we satisfy the craving again in the future. You can see how our brain thrives on this little cycle of motivation, reward, and reinforcement

We experience dopamine's effects as increasing our alertness, focus, motivation, and happiness. A rush of it may even create a temporary sense of euphoria. This all makes it clearer why eating and especially highly palatable foods can have such power in creating unhealthy food habits. Though dopamine's purpose of rewarding us with feeling good to remind us where to find food and what foods satisfy our needs quickly is logical, our modern food situation overwhelms us with constant opportunities for a release of dopamine. And we have learned that too much of something too often creates a need for more to achieve the desired results. More food, more frequently, and more highly palatable.

Knowing that our motivation for eating is so heavily influenced by our brain's reward system and the seeking of the reward of dopamine, it makes sense that our fasting and healthier eating approach will mean fewer opportunities to get this dopamine response. This will definitely be an adjustment and also calls upon us to be sure we strengthen our other healthy behaviors that also increase our dopamine levels. We can raise our dopamine levels by eating adequate protein, getting enough good sleep, exercising regularly, getting appropriate sun exposure, meditating, and listening to music to name a few.

Serotonin is also a neurotransmitter, but it is less of a feel good chemical and more of a natural appetite suppressant, plays a major role in mood stabilization, and curbs cravings. Serotonin is primarily made and stored in the gut, so when our gut health is disrupted, serotonin is less able to transmit messages along neuron pathways. Thus low levels of serotonin or impaired functioning due to poor gut health can have negative effects on mood and appetite control. A lower level of serotonin can leave us feeling hungry, unhappy, or depressed. And these can all serve to activate our brain's desire for relief by releasing more dopamine, which is likely to inspire us to eat and quite possibly highly processed food with a high reward value. Fortunately for us, the ways to increase dopamine also increase serotonin.

Another important factor in our current eating habits is our past eating habits. For example, we have learned to eat at certain times of day, to eat whenever our stomach gurgles, or to eat quickly between meetings. As discussed in a previous lesson, these habits are currently engaged at the unconscious level, and so require us to interrupt reinforcing them while creating our new habits. In order to break our habits of eating at certain times when skipping a meal or fasting for a full day or more, it is wise to find other activities to do. Staying active or busy during a habitual meal time is one way to extinguish our body's triggers to eat at these times. When our stomach grumbles, reframing this as a great sign that our body will now have to burn stored body fat rather than fueling on food can help to change how our brain responds to this signal. Instead of perceiving a threat that we need food to avoid starvation, our brain will hear our affirmation that it is safe and doing the right thing to get its fuel from stored energy. And instead of gulping down our food as if we have a narrow time limit to eat our meal, practice eating mindfully where we sit down and pay attention to each bite of food, the scent, the flavor, and how our body feels in receiving this food. Again, we will be diminishing old eating habits and replacing them with new ones that are in alignment with our goals.

Yet another influence in the creation of our eating habits are the messages we have received from our families, cultural norms or traditions, and social influences. Because so many of our unconscious thoughts, beliefs, and behaviors stem from childhood experiences and observations, we have learned many things about what to eat, when to eat, and how often

without conscious decisions. And have reinforced these patterns daily for decades. This makes it important to take time to think about what things you have learned through your family or cultural group about eating and how these either support your health and weight goals or interfere with you achieving them. For many of us, this means exploring whether we can let go of certain foods that we now know are unhealthy for us or if there are healthy substitutions that we can learn to eat instead if we prefer to hold onto the experience of having them. Even our current social environment influences our eating habits. If we spend much of our time with others who don't eat healthily, we are likely to be spending time with them that may revolve around eating or being in environments with poor food choices. Often we are not even aware of the influence these interactions have on our eating habits until we look at them honestly. This doesn't mean that we cannot spend time with these people, but it does require us to assess what behaviors we will engage in and which ones we will not.