

# Athletes, Say Goodbye to Sugary Goos and Drinks

## —Optimizing Energy, Performance, and Recovery

Athletes are often encouraged to consume sugary energy products in order to maximize energy and insulin levels and fuel their race, run, ride, swim, or climb.

But research now shows that sugars are not the best way to sustain energy and maximize performance, endurance, and recovery. In fact, instead of providing healthy energy, sugar can actually lead to increased muscle fatigue, decreased performance, and slower recovery—in addition to contributing long-term to a variety of serious health issues associated with spikes in blood sugar and insulin levels.

- Oxylent multivitamin drink contains no sugar. Each packet fuels your body with a full panel of electrolytes, vitamins, minerals, amino acids, enzymes, and antioxidants—all without sugar, caffeine, gluten, soy, dairy, GMOs, or additives of any kind.

### Sugary Drinks, Chews, and Goos are Not the Best Energy Source

The market is flooded with energy gels, shots, and drinks promising to give athletes an edge by providing ideal fuel during sustained and/or intense exercise. They are based on a line of research associating the consumption of carbohydrates with maintaining and replacing the glucose and glycogen that become depleted during physical activity.

- Many contain close to 30 grams of sugar, which research is now showing can over stimulate the release of insulin, lactic acid, and stress hormones like cortisol—causing a decrease in athletic performance and muscle function, and a slowed recovery time.

### The Science of Energy Production

The optimal physiological and metabolic state for the athlete is for the muscle cells to have a constant supply of glucose. The reason why is that glucose is the fuel source that muscle cells prefer. If glucose is not available, then the body uses glycogen stores, fats, and eventually proteins for energy. These are much less efficient energy sources and relying on them leads to increased lactic acid levels in muscle, which leads to decreased performance, increased muscle fatigue and damage, and longer recovery.

To give the muscle its preferred fuel, many athletes therefore try to maintain glucose levels in the optimal range—often relying on sugary energy products. However, research is now showing that sugars and high glycemic carbohydrates cause an over stimulation of insulin, which causes glucose levels to drop below normal just as quick as they spiked, thereby increasing stress hormones like cortisol and epinephrine in order to bring glucose levels back to normal. This situation also significantly decreases athletic performance and muscle function and slows muscle recovery.

- Oxylent contains no sugar and is sweetened with stevia only, which has a Glycemic Index of zero and does not cause the spiked blood glucose levels or the over stimulation of insulin that can decrease athletic performance.

### Managing Steady Blood Sugar and Insulin Levels

Rather than sugars and high-glycemic carbohydrates, consuming low-glycemic carbohydrates along with good protein and fat, together with ensuring adequate micronutrient status, is a better way to nourish the body with the fuel it needs. This causes a slow and steady increase in glucose

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levels and a modest increase in insulin—allowing the muscle to receive a continuous supply of the fuel it prefers while also avoiding the spike and drop of insulin and elevated lactic acid and cortisol that diminishes athletic performance.

- Consuming sugars raises blood glucose levels for only 10–20 minutes during intense exercise before glucose levels drop below normal and stimulate the release of cortisol and epinephrine.<sup>1</sup>
- Consuming low-glycemic carbohydrates, along with healthy fat and protein, causes blood glucose levels to remain modestly elevated for 1–3 hours during moderately intense exercise.<sup>1</sup>

## Longer-Term Health Consequences of Sugar

Maintaining healthy blood sugar and insulin levels is not only key to optimizing short-term athletic performance, endurance, and recovery, however. Research also shows that there are long-term health consequences associated with frequent spikes in blood sugar and insulin levels. High sugar intake is increasingly identified as a central factor in many chronic health issues affecting the heart, liver, brain, and immune system.<sup>2</sup>

- Leading researchers have recently argued that sugar should be regulated like tobacco and alcohol, since sugar is linked to many of the same health problems.<sup>2</sup>

## Micronutrients in Sport and Exercise

Many vitamins and minerals play key roles in energy production, and are also involved in repair and building of muscle protein in response to training. Marginal deficiencies can often have more effect on serious athletes and their performance than on sedentary individuals. Consistent intense training may also increase micronutrient requirements by increasing metabolism, degradation rates, or bodily losses of these key nutrients. Exercise appears to decrease nutrient status even further in active individuals with preexisting marginal vitamin intakes or marginal body stores.<sup>3</sup>

The following nutrients have biological functions that impact physical activity and performance, and are therefore especially important for athletes to be aware of.

### B vitamins

Many of the B vitamins serve as cofactors for metabolic enzymes, which means they are required in order for metabolic processes like energy production and protein synthesis to function properly. Athletes with marginal status of B vitamins may thus have decreased abilities to perform at high intensities. Current research also suggests that exercise may increase the need for riboflavin (vitamin B2) and vitamin B6. Furthermore, B vitamins are water-soluble and thus are not stored in the body, so they must be replenished regularly.<sup>4,5</sup>

- Each packet of Oxylent provides at least 100% of the daily value for 7 B vitamins

### Vitamin C

Humans cannot manufacture vitamin C, unlike most mammals, which is why it is called an “essential” nutrient. Furthermore, this essential vitamin is also water-soluble and thus not stored in the body, requiring it to be replenished regularly. Vitamin C is required for many metabolic functions—including the production of energy by the mitochondria inside the cell, and the formation of collagen that keeps tendons and cartilage healthy—as well as for immune function and antioxidant protection. It has also been shown to benefit exercise recovery.<sup>6,7</sup>

- Each packet of Oxylent provides 1000 mg of vitamin C

### Vitamin D

In recent years, there has been an increased focus in sports medicine research on the potential impact that inadequate vitamin D levels may have on athletic performance, and increasing interest in the

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potential athletic benefits of vitamin D supplementation. Studies suggest that vitamin D plays a role in muscle structure and function, and have identified vitamin D receptors in muscle tissue. Based upon the growing evidence that many athletic populations are vitamin D deficient or insufficient, researchers have recommended that athletes monitor their vitamin D levels.<sup>8,9</sup>

- Each packet of Oxyent provides 1000 I.U. of vitamin D3

## Magnesium

Magnesium plays many important roles—in energy metabolism, muscle contraction, oxygen delivery, and protein synthesis—and because many of these processes are accelerated during exercise, adequate magnesium status is required for optimal performance. There is evidence that many people are deficient in magnesium, and some studies have suggested potential benefit of magnesium supplementation on athletic performance.<sup>10</sup>

- Each packet of Oxyent provides 28% daily value of magnesium
- Oxyent's Albion Minerals are guaranteed to be absorbed and metabolized

## Zinc

Zinc is another essential mineral involved in functions important to athletic performance, including muscle cell energy production and protein synthesis and tissue repair. Most of the body's zinc content is present in muscle. Research suggests that endurance athletes who follow a diet rich in carbohydrates but low in protein and fat may decrease their zinc intake and over time contribute to zinc deficiency.<sup>10</sup>

- Each packet of Oxyent provides 100% daily value of zinc
- Oxyent's Albion Minerals are guaranteed to be absorbed and metabolized

## Chromium

This trace mineral is an insulin cofactor, playing a key role in the insulin function that is so important to athletes. Chromium has received research attention regarding its potential effects for athletes, and it has been theorized to potentially enhance performance for both strength and endurance athletes.<sup>10</sup>

- Each packet of Oxyent provides 83% daily value of chromium
- Oxyent's Albion Minerals are guaranteed to be absorbed and metabolized

## Selenium

This mineral has an antioxidant function, forming a key part of the antioxidant enzyme glutathione peroxidase, helping to protect cells against free radical damage. Some studies with selenium supplementation have shown enhanced antioxidant status.<sup>10</sup>

- Each packet of Oxyent provides 100% daily value of selenium
- Oxyent's Albion Minerals are guaranteed to be absorbed and metabolized

## Electrolytes

Certain minerals found in bodily fluids act as electrolytes, conducting the electrical charges that power the heartbeat, breathing, muscles, nerves, and oxygen delivery. Inside the cell, the major electrolyte is potassium; outside the cell, the major electrolytes are sodium and chloride. During sustained exercise, drinking water alone is not sufficient to maintain electrolyte homeostasis and can lead to decreased performance. Researchers therefore recommend that athletes consume sodium both during and after sustained exercise.<sup>11-13</sup>

- Each packet of Oxyent provides 50 mg sodium and 225 mg potassium
- As much as or more than most sports drinks!

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## Antioxidants

In comparison to sedentary people, athletes generate greater amounts of destructive compounds known as free radicals, which damage cells, tissues, and DNA. Studies have shown that athletes engaged in intense training have evidence of free radical-induced damage to subcellular structures and muscle membranes.<sup>14</sup>

- In addition to antioxidant nutrients such as vitamin C and selenium, Oxylent's unique formula also contains 20 I.U. SOD (superoxide dismutase)—the most powerful antioxidant on the planet.
- A single I.U. of this revolutionary ingredient has a life of several days in the body, and can neutralize and eliminate billions of free radicals. Oxylent is the only multivitamin to contain SOD.

## OXYLENT—Energy With None of the Risks!

Without any sugar or artificial ingredients that diminish performance and pose health hazards, Oxylent makes an excellent choice to fuel your body, along with low-glycemic carbohydrates and healthy fats and protein, in order to optimize energy and maximize athletic performance, endurance, and recovery.

## REFERENCES

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These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.