Ketone Strips & Ketosis

By now you should have been given a box of ketone strips. If you didn’t get them yet make sure you get them the next time you work out (ask the trainer where they are and please sign off for them).

For the ketone strips you can start testing that Wed or Thurs. Most of you will not be in ketosis yet. I do recommend you keep a log of the numbers for yourself too (I have also posted a template on the Facebook group for this).

The best time to test is in the afternoon between meals so at least 2 hours after a meal in the afternoon.

You take the Ketone strip, either pea on it while going to the bathroom or get a plastic disposable cup and urinate in that and dip the stick into it.

You will wait 15 to 30 seconds and compare the color to the chart. If you did not get your box of Ketone strips, every participant gets one box so please ask about it next time you are in there.

You want to be near the right side of colors on the strips.

What are ketones?
Ketones are a normal and efficient source of fuel and energy for the human body. They are produced by the liver from fatty acids, which result from the breakdown of body fat in response to the absence of glucose/sugar. In a ketogenic diet (a low carb plan) the tiny amounts of glucose required for some select functions can be met by consuming a minimum amount of carbs - or can be manufactured in the liver from PROTEIN (so you don’t actually have to eat carbs, your body makes them!) When your body is producing ketones, and using them for fuel, this is called "ketosis".

How will ketosis help me to lose weight?
Most reducing diets restrict calorie intake, so you lose weight but some of that is fat and some of it is lean muscle tissue as well. Less muscle means slowed metabolism, which makes losing weight more difficult and gaining it back all too easy. Ketosis will help you to lose FAT.

Being in ketosis means that your body’s primary source of energy is fat (in the form of ketones). When you consume adequate protein as well, there's no need for the body to break down its muscle tissue. Ketosis also tends to accelerate fat loss --- once the liver converts fat to ketones, it can't be converted back to fat, and so is excreted in the urine. This is why you test your urine to make sure this is happening.

Is being in ketosis a lifestyle?
Absolutely! This is how I focus on my food plan as well as my husband. There are thousands of websites supporting this lifestyle so you can learn more about it as well. It has been proven that reducing the amount of carbs you eat has a huge benefit to preventing almost every disease most Americans are dealing with right now.

But isn’t ketosis dangerous?
Being in ketosis by following a low carbohydrate diet or lifestyle is NOT dangerous. The human body was designed to use ketones very efficiently as fuel in the absence of glucose. However, the word ketosis is often confused with a similar word, ketoacidosis and you must not confuse these two things which many people do so if you hear someone say it’s bad for you, that is why they would say that.

Ketoacidosis is a dangerous condition for diabetics, and the main element is ACID not ketones. The blood pH becomes dangerously acidic because of an extremely high blood SUGAR level (the diabetic has no insulin, or doesn't respond to insulin .... so blood sugar rises ... ketones are produced by the body to provide the fuel necessary for life, since the cells can't use the sugar). It's the high blood sugar, and the acid condition that is so dangerous. Ketones just happen to be a part of the picture, and are a RESULT of the condition, not the CAUSE. Diabetics can safely follow a ketogenic diet to lose fat weight ... but they must be closely monitored by their health care provider, and blood sugars need to be kept low, and stable.
Why Does Ketosis Work? (also known as Lipolysis)

One of insulin’s jobs is to convert all your excess carbohydrate into stores of body fat. In a normally functioning body, fatty acids and ketones are readily converted from fat tissue to fuel. But in overweight people, high insulin levels prevent this from happening.

Most obese people become so adept at releasing insulin that their blood is never really free of it and they’re never able to use up their fat stores. By primarily burning fat instead of carbohydrates, lipolysis breaks the cycle of excess insulin and resultant stored fat. So by following a fat containing, controlled carbohydrate regimen, you bypass the process of converting large amounts of carbohydrate into glucose. When your carbohydrate intake drops low enough to induce fat burning, abnormal insulin levels return to normal—perhaps for the first time in years or decades.

Doesn't Ketosis Lead To Loss of Muscle Mass?

Only individuals on very low-calorie diets can lose muscle mass, because they have an inadequate protein intake. Eating low carb and high fat however, is not calorie restricted (this isn’t an invitation for gorging, but a recommendation to eat until you are no longer hungry) and the high protein intake required offsets any possible loss of body mass.

How do the ketone test strips work and where can I get them?

Ketone urine-testing strips, also called Ketostix or just ketone sticks ... are small plastic strips that have a little absorptive pad on the end. This contains a special chemical that will change color in the presence of ketones in the urine. The strips may change varying shades of pink to purple, or may not change color at all. The container will have a scale on the label, with blocks of color for you to compare the strip after a certain time lapse, usually 15 seconds. Most folks simply hold a strip in the flow of urine. Other folks argue that the force of the flow can "wash" some of the chemical away, and advise that a sample of urine be obtained in a cup or other container, then dip the strip into it.

The chemical reagent is very sensitive to moisture, including what’s in the air. It’s important to keep the lid of the container tightly closed at all times, except for when you’re getting a strip to take a reading. Make sure your fingers are dry before you go digging in! They also have an expiry date, so make note of this when you purchase the strips ... that's for the UNopened package. Once opened, they have a shelf-life of about 6 months -- you may wish to write the date you opened on the label for future reference.

Ketone test strips can be purchased at any pharmacy, and are usually kept with the diabetic supplies. In some stores they’re kept behind the counter, so if you don’t see them on the shelf, just ask the pharmacist; you don’t need a prescription to buy them. You can also purchase them online but for this program, I have given you a bottle of them for this program.

Where do you want to be on the strips?

Ideally you want to be around 40 to 80, if you are consistently close to 160 (dark purple), see the tips below.

If you are showing “negative” on the strips:
-You just haven’t gotten in ketosis yet, it can take 1 to 2 weeks for some, depending on how hooked on carbs you were – some it can take only a few days
-You are eating more carbs then you think you are
-You are not eating enough fat

If you are showing in the middle, “trace or light” on the strips:
That means it’s starting to work, just keep doing what you are doing and test in a few days to see if it’s gotten more.

If you are consistently showing all the way to the right, “heavy” on the strips, dark purple:
-You are in ketosis and its okay to be there.
-You don’t have to stay in the dark purple every day though so if you are always there, you might consider introducing about 20 grams of carbs a day back into your diet, your body might need a little more carbs then someone else – everyone’s body is different. Don’t get the carbs from grains but from fruits and vegetables.
I'm following Induction strictly; why won't my strips turn purple? Ketones will spill into the urine ONLY when there is more in the blood than is being used as fuel by the body at that particular moment.

You may have exercised or worked a few hours previously, so your muscles would have used up the ketones as fuel, thus there will be no excess. You may have had a lot of liquids to drink, so the urine is more diluted. Perhaps the strips are not fresh, or the lid was not on tight and some moisture from the atmosphere got in.

SOME low carbers NEVER show above trace or negative even ... yet they burn fat and lose weight just fine. If you're losing weight, and your clothes are getting looser, you're feeling well and not hungry all the time... than you are successfully in ketosis. Don't get hung up on the strips; they're just a guide, nothing more.

Will I lose weight faster if the strips show dark purple all the time? No. Testing in the darkest purple range all the time can sometimes be a sign of dehydration -- the urine is too concentrated. You need to drink more water to dilute it, and keep the kidneys flushed.

The liver will make ketones from body fat, the fat you EAT, and from alcohol --- the ketone strips have no way of distinguishing the source of the ketones. So, if you test every day after dinner, and dinner usually contains a lot of fat, then you may very well test for large amounts of ketones all the time. However this does not indicate that any BODY fat was burned. So best thing to do is test in the afternoon a few hours after a meal.

The strips only indicate what's happening in the urine. Ketosis happens in the blood and body tissues. If you're showing even a small amount, then you are in ketosis, and fat-burning is taking place. Don't get hung up on the ketone sticks they are just a tool.

What Shade Of Purple Should My Testing Strips Be? Will They Show Different Levels At Different Times Of The Day? Because every person's metabolism is different, the sticks turn different shades of purple or pink for different people. And, yes, results vary depending upon the time of the day, whether or not you exercise and what you last ate. It doesn't matter whether your strips turn a dark or light color.

Will I Lose Weight Faster If The Strips Show Dark Purple All The Time? It is true that, "The liver will make ketones from body fat, the fat you EAT, and from alcohol --- the ketone strips have no way of distinguishing the source of the ketones. So, if you test every day after dinner, and dinner usually contains a lot of fat, then you may very well test for large amounts of ketones all the time." This is why we recommend testing at the same time every day. The morning, before breakfast, is the best time because it will reflect what your body is doing, and not the previous meal. Unless someone tests negative in the morning, then we will recommend testing before bed.

It is also true that, "The strips only indicate what's happening in the urine. Ketosis happens in the blood and body tissues. If you're showing even a small amount, then you are in ketosis, and fat-burning is taking place. Don't get hung up on the ketone sticks."

Keep in mind, it does not always have to be dark purple all the way over the right, being around 40 or in the middle colors is just fine. Don't get obsessed with it.

I Am Unable To Get Into Ketosis Even When I Consume No Carbohydrates. What Should I Do? Some people do not produce enough ketones to show up in their urine. If you are experiencing a reduction in your appetite and an improvement in well-being and are losing weight or your clothes are feeling looser, there is no need to do anything differently. Remember, the testing strips are tools; making them change color is not the sole object of the game.

If you are not losing weight, you either have a strong metabolic resistance to weight loss or you are consuming "hidden" carbohydrates in the form of sweetened salad dressing, breading, etc. Make sure you are not eating too many veggies with high carbs, this can really add up even to 100 grams a day if you are not paying attention to it.
Still no change? Try cutting out tomatoes and onions, which are relatively high on the glycemic index. You may also benefit from nutritional supplements such as L-carnitine, hydroxy citric acid (HCA), and chromium—all of which aid in hunger reduction or weight loss. You may also need to step up the frequency and intensity of your exercise program.

**What if my strips are not getting darker and staying in trace?**
The most likely reason is that you’re not deep in ketosis:
1. You’re eating too many carbs
2. You’re eating too much protein
3. You’re eating too many calories
4. You are not enough fat

If you have adjusted the top things and they are still not turning purple:
1. The strips may be out of date
2. They’ve got damp
3. You’re drinking too much liquid and diluting them out
4. You’re testing at the wrong time (they’re highest in the evening, lowest in the morning).
5. You're burning them all up (all of your ketones).

**Don’t get obsessed with it.**
Remember this is just a tool. Don’t get obsessed with testing all of the time or freaking out if it’s not changing. Be patient and let this be a tool. This will take some time to understand all of this stuff.

**Does caffeine affect ketosis?**
This is questionable. There ARE a few studies that suggest caffeine may cause blood sugar to rise, with consequent effect on insulin ... The studies involve consuming 50 gm glucose orally, followed by a dose of caffeine. This is quite different from a low carber, who is consuming only 20 gm carbs, in the form of high-fiber vegetables, spread throughout the day.

Many low carbers continue to enjoy caffeine-containing beverages with no serious impact on their weight-loss efforts. However, there are some sensitive individuals ... and persons who are extremely insulin resistant may need to restrict or even eliminate all caffeine. If you have been losing successfully then find your weight loss stalled for a month or two, and you are following your program to the letter, you might consider stopping all caffeine for a while, to see if that will get things started again.

**Will drinking alcohol affect ketosis?**
No and yes. The liver can make ketones out of alcohol, so technically, when you drink you’ll continue to produce ketones and so will remain in ketosis. The problem is ... alcohol converts more easily to ketones than fatty acids, so your liver will use the alcohol first, in preference to fat. Thus, when you drink, basically your FAT burning is put on hold until all the alcohol is out of your system.

This rapid breakdown of alcohol into ketones and acetaldehyde (the intoxicating by-product) ... tends to put low carbers at risk for quicker intoxication ... especially if no other food is consumed to slow absorption.

**Something to pay attention to...**
Many people first getting into ketosis can have bad breath. So be aware of this and make sure you keep fresh, especially if you are in the people business and around others all of the time. Sugar free mints or gum helps. Usually we don’t know our own breath is “off” so if you have someone close to you that you can ask, ask them (only ask someone you know will be kind about it). I don’t prefer using artificial sweeteners so if you can find some all natural gum or mints at a health food store with sugar alcohols in them instead of regular sugar or artificial sweeteners.

**How Long Does It Usually Take To Get Into Ketosis?**
The body can only store a two-day supply of glucose in the form of glycogen, so after two days of consuming no more than 20 grams of carbohydrates, most people go into lipolysis/ketosis. However keep in mind, if your blood sugar levels have been really elevated from a high carb lifestyle, this can take a week or more.