

The Cold Thermogenesis Protocol

What is the next step in the evolution of the Leptin Rx?

The Cold Thermogenesis Protocol should be added **gradually** to the Leptin Rx rest protocol. This blog post is additive to the Leptin Rx, and is an evolution extension of it for those who need it. I hope you all realize that not everyone will need it. Some will need it because they have special needs that they face. This blog is designed for those who have been previously left out of the reset protocol. Those people are gastric bypass patients, HCG users, those on exogenous steroids, chronic pain patients, and those with T2D and metabolic syndrome, as a few examples.

Prolonged and controlled local peripheral skin cooling can induce selective “damage,” and increased hypothalamic signaling by forcing adipocyte apoptosis and subsequent loss of subcutaneous fat without damaging the overlying skin or the underlying muscle layers. This means that acute cold cause rapid leptin sensitivity! It means that fat is forced to liberate leptin from fat cells to slowly lower its serum levels as long as the cold stimulus is applied safely. This is new scientific information that was first carried out in pigs in 2008, and subsequently tested in humans and found to be quite effective for fat removal in certain selected areas of the body.

Maintenance of a normal temperature and the normal variations of the circadian and lunar rhythms are achieved by changes in all physiological systems, one of the most important of which is alteration in skin blood flow in humans. My version of

cold thermogenesis for the Leptin Rx reset is the process where we generalize these effects for the entire body's fat mass to force the brain to slowly rewire in the hypothalamus to burn all excessive WAT by inducing the formation of BAT using cold alone.

There is a way to force an epigenetic change to our DNA that opens a metabolic trap door that humans rarely use these days. A cursory version was first popularized by Ray Cronise in 2010, and by Tim Ferriss in 2011, but neither one of them took this process to its biological end point for permanent fat loss or survival from neolithic disease. I plan to show this and a whole lot more. I have done an epic 18 month bio-hack on this very topic and plan to slowly release what I have found. I believe what I have found has profound and wide clinical applications for us all.

Moreover, neither one of these men realized that the proper dietary forces might be used in combination with this process to dramatically produce different results in humans when using cold. Cold is not just a fat loss tool. It has several other benefits to human physiology. I believe the reason for this is the hypothalamic biology is not well appreciated by most scientists today. That is changing: Read this link that supports my assertions in CT-4 and CT-6.

The permanent fat loss they both talked and wrote about is what I call the "low hanging fruit" result of this process. When you sustain this process, steepen and expand the temperature gradient across a larger surface area, while specifically altering the macronutrient ratios, some other more amazing things become possible. None of these were covered well by Ferris or Cronise, but I call this process Factor X. I will get into more of the biochemistry and where it can take us, later this year. For now, I want to share with you how cold thermogenesis can augment the Leptin Rx reset and slow disease down, and can make a huge difference to those with vagal nerve damage who do not get a large bang from

my standard reset.

If you have a gastric bypass, T2D, chronic pain and are on narcotics, adrenal fatigue, or poor sleep this addition will likely shock you at how well it helps you. NASA data from the 1970's shows that fasted mammals cannot increase glucose turnover rate when cold adapted. They also cannot increase their muscle glucose uptake when exposed to cold environments. This is because the cold selects for an epigenetic program that enhances supplies of fatty acids and ketone bodies to active muscle contractions during exercise.

I have tested this on myself for the last 18 months to look for all the pitfalls I could muster. I ended the epic bio hack on January 9th, 2012 with a very dramatic N-1 experiment designed to test some of the borders of this science that I have found has given my neurosurgical patients a huge metabolic advantage in certain situations. Before you begin, you must make sure your cardiac risks are low and talk things over with your doctor and family. Most people will have no trouble doing this at home.

Let us learn the best way to cold adapt for the Leptin Rx reset.

1. You first must choose what environment you want to cold adapt too. The physics of heat loss following cold water immersion dictate a more rapid drop in surface and core temperature than from exposure to a cold air environment. So, most people will choose to use cold spring water from the ground that is unfluoridated because it works a lot faster. Before you start, always eat a high fat (MCT>saturated fats>MUFA's>PUFA's) and/or protein meal right before you attempt to cold adapt.

Also, drink 16-32 oz. of ice cold water immediately prior to the test no matter what stage you are at. Why you ask? Your body temperature is incredibly hot at approximately 98.6

degrees Fahrenheit, and ice water is approximately 40 degrees Fahrenheit. In order to maintain this homeostasis, your body has to bring that ice water up by about 60 degrees, and, by definition, it takes 1 calorie to raise the temperature of 1 liter of water by approximately 2 degrees Fahrenheit. That means that to raise the temperature of 1 liter of ice water by 60 degrees Fahrenheit, your body would burn about 30 calories. Two liters, which is about eight glasses of water, would burn 60 calories. Do not drink more than 32 oz of water before this test because cold adaptation also affects our thirst centers. You should always consider drinking cold liquids as part of your dietary plan as it can increase your metabolic rate by 30-40%. If you get a lot of brain freezes when you drink cold things this might signal you suffer with a high tissue omega six level or are severely dehydrated. You need to proceed with caution while trying to apply cold thermogenesis. You will see why your omega 6 level matter soon and your total body water matter a lot too.

I usually will do my training in the AM at sunrise or at night fall after dinner. I do not recommend trying this on an empty stomach. In the beginning of my adaptation, I also used Bitter Melon extract to cold adapt. The reason is that bitter melon appears to be quite effective at causing formation of BAT from WAT especially in T2D or those with metabolic syndrome. No one knows why it really works. However, I believe it is has to do with the simultaneous loss of adiponectin and leptin from fat cells with the simultaneous induction of Irisin from the cold stimulus on the skin and subcutaneous fat.

1. Cold adaptation occurs fastest when you use a metal to help it along. It is a 100 times faster adaptation than it would be if air alone was the medium. This is far too dangerous to use at home, so never try it. I have used it myself and on

some volunteers but it needs to be very controlled in a clinical scenario. When you use water, it is 24 times more effective than using just cold air. The easiest way to cold adapt is to place your face alone first in ice cold water as you monitor times. You must not use any makeup or facial products before you attempt this. You need a simple skin thermometer, ice, a bathroom sink and a watch with a timer. How does one cool the skin but not the core you ask? Simply pay attention to your skin temperature as it goes from where it is at normally in your house and until it gets to 50-55 degrees while in your cold environment on your skin surface and maintain it there. Go no lower. How do I do this? When you get there, watch your skin color when it begins to get to pale pink or white, it's going south of 50-55 degrees. End the session then. In the beginning your sessions will end faster than later because you're cold adapting.

When I began this 18 months ago, I did a lot of reading on NASA astronauts, Special Ops, and Navy Seal training. I also looked to a lot of natural human experiences with cold thermogenesis as well. The safest way to adapt to is to submerge your face first into water in a sink where you add ice to with a cooking thermometer. Wait until the water is between 50-55 degrees, and enter face first and see how long you can tolerate it using a time piece. Record the time. For the next two weeks work your way up until you need to take a breath for O₂. The rate of adaptation to this will vary for people. When you finish this proceed to number 2.

2. Buy a compression shirt that is quite tight and begin to place 20 or 40 lbs of ice on your torso. Double bag the ice to stop leakage on clothing or furniture. Compression shirts collapse the surface capillaries and allow your skin temperatures to fall faster than without wearing them. It sensitizes you quickly to cold. Initially, this will be tough to do, but you will adapt to it with time quickly. Try to extend your time 5 minutes a time until you get to 60

minutes. You will notice your skin is pink to cherry red and numb in places. When you get to sixty minutes, then take the compression shirt off for further testing. Place the direct plastic ice bags on your skin now, and repeat the skin cooling. If you develop **cold urticaria at this time**, this is a sign you have high levels of tissue and serum omega six content or your body has lost energy from EMF/artificial light due to dehydration. Stop the experiment and adjust your technology exposure and alter your diet to an Epi-paleo Rx, or until you have a blood omega six to three ratio that is below 10 to 1.

You can also test your serum for this as well if you choose. If you do not develop cold urticaria, proceed on to see how long you can tolerate the cold. Make sure you have no metal on your torso or ears or nose when you do this. Record your times. Pay attention to your skin color. After ten minutes, you will notice numbness and tingling present on these cold areas. As your times increase, you may notice numbness in areas adjacent to the ice develop, too. This usually occurs with longer exposures and with more surface area covered to your skin. The length of time you expose yourself should be matched to your BMI. The fatter you are, the longer your exposure should be. You want your skin to always remain pink to cherry red when you are doing this. If it gets white you need to stop the test and take a warm shower. Do these things indoors initially where you can control the air temperature during adaptation. Do not start this outside until you cold adapt for at least a month. When you can tolerate the skin being covered for one hour with pink to cherry red skin, you're now ready for the Cold Tub step.

3. Once you complete Step 2, you can try cold showers to ready your body for immersion, but I did not use this much when I was training my brain to rewire. I went straight to the bath tub and filled it with cold tap water. With immersion, the major heat exchange in water occurs by means of conduction

with the surrounding water. The exceptions to this are the non immersed body parts, in most cases the head. The head can represent a significant site of heat loss to the environment owing to its minimal insulation (small fat layers), and lack of vasoconstriction in the scalp.

I then proceed to add twenty pounds of ice to my chest and abdomen region while my body is in the tub. Initially, I kept my socks and gloves on my extremities, and I also wore a knitted cap to my head. This was all to combat the vasoconstriction that normally will occur in extremities. The hat was to keep in heat from the veins of the scalp to allow for an adaptation to immersion. This step will take you some time to get used too. You lose 20-40% more heat from cerebral blood shunting when you cool adapt. After I was adapted to 20 lbs of ice (about 5-7 days), then I removed socks, gloves, and head cap. If you get lightheaded, this means you're not ready for the tub. Abort the tub and go back to dunking your face in the cold water. If you can handle the 20 pounds of ice, you can increase it ten pounds of ice at a time to cover more of your body with icy water. If you have access to skin thermometers (I did) that an anesthesiologist would normally use during a surgery, the key thing you are looking to do is get your skin surface temp to 50-55 degrees. You can buy these online now too, I was told by a patient. I have no idea where he got them. We are trying to use the peripheral nervous system's cold receptors in the skin to tell the brain something has radically changed in our current environment. After you can get past 45 minutes of this, you will notice your tolerance to cold dramatically changes in water, air, and in ice. You will be able to wear less clothing and go outside and not be cold. In fact, you may notice your temperature rises in anticipation of the cold tub. I do this now all the time. You will be able to drive on the highway with the windows down in the dead of the winter and feel amazing. Your significant other will

notice you seem to radiate heat at rest when you lay down to sleep. The longer you tolerate this situation, the better adaptations you will get. The extent of the training depends upon your goal. For this blog, we are concerned only about weight loss. So I will limit this discussion to this adaptation alone. However, there are many others.

4. At 45 minutes, you can choose to stop and then plan on doing this 2-5 times a week depending upon your starting weight,

BF {a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6}, and what your goals are. You also need to be cognizant of where you want to lose the fat on your body. If you have it in your belly, butt, or legs, continue using the indoor tub or outdoor lake, or pool. Immersion is the best way to shred body fat and regain LS. Once you can accomplish this in your house for one month, you can then move to the outdoors if you would like. If you have a pool, lake, or hot tub you can set its temp lower to replace the ice use. I tend to use the lake or my hot tub, but I use them differently. When I want a quick training to maintain my adaptation, I just jump into the lake for a 10-20 minutes from my neck down. I pay attention to my skin color as I do this. The hardest part is emerging from the lake and walking back to the house and not being in the water. It is easier now for me, but in the beginning it was tough. Most of the time presently, I use my hot tub to train. I get in it and I cold adapt my upper body with ice bags on my torso, while my bottom half is submerged in the water. I alter the water temperatures to higher than my torso, because I have very little fat on this part of lower parts of my body today. So, often I will sit in warmer water while my upper half is completely exposed to the elements with ice on my chest and abdomen. It is very effective at lowering your surface temperatures to 50-55 degrees in 2-3 minutes. This augments thermogenesis naturally using convection currents of different temperatures. Here, I am using Fournier's Law. In heat transfer, conduction (or heat

conduction) is a mode of transfer of energy within and between bodies of matter, due to a temperature gradient between the hot tub my body, and the cold air and ice on my skin. I can do this for amazing lengths of time now, after 18 months of training. Do not try to bit off more than you can chew. Heat spontaneously tends to flows from a body at a higher temperature to a body at a lower temperature. A warmer lower body and a 50 degree skin temperature on the torso create a dynamic that makes using cold thermogenesis really easy daily. Anyone who as soaked in a volcanic geothermal spring can tell you they hardly notice the cold on their exposed bodies unless they see the piloerection of the skin and hairs, their pink skin, or the sub clinical shivering of the underlying muscles. This method is really effective at increasing thermogenesis in the exposed areas for fat loss. If you have a lot of belly fat, this is not your best method, but it will still work. If you have torso, back, facial, neck fat (sleep apnea) this works like a charm quickly.

5. You burn a lot more calories when it's cold outside, so you MUST get outside in cold and try not to wear a ton of clothing as you adapt. In the beginning, most wear a ton of clothing when they go outside in cold weather. That slows adaptation to cold. According to Andrew J. Young, Ph.D., of the U.S. Army Research Institute of Environmental Medicine in Natick, Mass., "There are two factors that could cause energy expenditure to increase with falling outdoor temperature. First, if shivering is elicited by cold, then energy expenditure increases. However, different people have differing shivering-response sensitivity, and intensity of shivering will be influenced by magnitude of decrease in body (deep core and skin) temperature, which in turn is influenced by body size and fat content that vary widely among people, as well as clothing worn. So some folks don't shiver at all (too warmly dressed, excessive body fat, LR), and a man in the cold is not always a cold man. The more LR one is the more you should consider a steeper slope of adaptation to lose fat.

The other reason energy expenditure might increase in cold weather is if you perform heavy physical labor like weight lifting (walking in deep snow). Additionally, there is a likelihood that you could have a slight increase in calorie burn (about 3 to 7 percent) from your body re-warming itself from cold air touching your skin and warming the cold air that goes into your lungs. This is also why when I emerge from my cold tub, lake or ice baths, I will remain outside in the buff for several minutes to really heighten the cold stimulus. I immediately go inside to a warm terrycloth robe, which captures my thermal loss and actually increases by caloric burn for about an hour after the cooling. This is a great time to work out as well. You will also notice your ability to lift and workout increases by 5-10{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6}. Recovery is simply stunning. You won't believe what a cold tub does after a serious high intensity work out. Your recovery will amaze you, and your sleep will be shockingly solid. Nothing is better to induce sleep in my view than cold thermogenesis induction.

The beauty of this adaptation is that it does not require any change to your core temps. When you begin to mess with your core temps you can get into trouble with frostbite and freezing injury. The higher your omega six content, the worse cold adapted you will be. The higher your omega three content is, the better you will adapt to cold. The higher protein/fat intake you have, the slower you will adapt to cold. The more carbs you have in diet (LR), the easier you will find it to adapt to cold. If you have a history of smoking, dipping, cigar use you will not cold adapt well. If you are dehydrated (booze/wine) you will not cold adapt fast either.

6. If you use just air to adapt to cold thermogenesis it will take a lot longer, but there is one thing I should mention to you. Try to slowly remove clothing as you proceed over time. As you remove clothing, there is a specific way you should

pick the clothes to remove. You want to expose your face and head to cold as soon as possible. Remember in number 1, we begin cold water adaptation with our face? This is because all mammals have a reflex called a dive reflex that is built in because we all were formed in a fluid filled placenta. When we expose ourselves to cold on our face first, we stimulate slowing of our heart rate. This is soon followed by vasoconstriction of blood flow in our extremities. When we continue to dive deep (think about dive in the movie the Abyss) we force blood and water to pass through our organs and endothelium to fill our air filled cavities like our chest. This has been experimentally shown even in humans with deep water cold dives in adults. We actually drown in pulmonary fluids but we can still survive! As a physician, I see this problem clinically daily in our ICU's in patients with ARDS. Sadly, we do not treat them as I think we should, given what we know about the mammalian dive reflex but that is another blog. Do not worry, I do not plan to use this adaptation in my reset in the near future! I'd love to try it but I hear it takes years to perfect from my research on it.

When you first begin cold training with clothing on, when you re-enter a warm environment the way you disrobe also matters for the adaptation to become more comfortable and less agonizing. So first expose your face, then your head to the warm environment. Then expose your extremities to re establish the blood flow and lastly your torso and abdomen. If I am wearing clothing in liquid when I am in cold water, I do the same thing. This progression of re-exposure to the warm environment from the cold will make it more bearable as time progresses. If you remove clothing in a different layered fashion, you can abruptly increase cortisol release to cause a vascular instability. This instability is felt to be behind a thermal dump that underpins vascular reperfusion injuries seen in frostbite and hypothermia injuries. If you are not overheated by heavy clothing or your warming environment, the cold (when other symptoms are warm) will trigger non-shivering

thermogenesis to be induced and you will continue to burn calories as free heat for many hours after the cold exposure. This is why people who are in cold environments tend to be quite thin when they are eating a non Western diet. You will also notice a change in your hunger and appetite, because they will decline. This addition is also quite beneficial to those with binge eating disorders too.

The metabolic programs that underpin all these adaptations will blow your mind when I lay them all out this year. I believe that cold thermogenesis is an evolutionary forerunner for all mammalian physiology before exercise was evolved or naturally selected for in mammals. This is a controversial point, but I think based upon what we know to be true today it's not a fringe theory. The available food sources also helped simultaneously sculpt evolutionary pressures that were naturally selected for in a cold environment. I believe natural exercise was selected for movements to warmer environments, longer light cycles, and more abundant carbohydrates in the environment. Mammals did not first evolve predominately in warm environments. Humans certainly might have evolved this way, but we are descended from these eutherian mammals and their epigenetic programs remain buried within us but are just not selected for these days. When we do induce the programs, what this may mean for us today is among the most exciting things in biology I have come across in 30 years. It appears cold thermogenesis not only opens a novel metabolic pathway in modern mammals and humans, but it also activates our longevity genes epigenetically. Many of the things aging researchers and scientist currently hold to as core beliefs may in fact not be true. The ability to test these theories is now here because of how we are unfolding the story of our own biology using a piece by piece approach that the The Quilt provides.

I think evolution sculpted all mammalian life using cold to naturally select for a specific diet that combined for

longevity and certain behaviors for optimal living in our world. Today, those factors have been buried in modern mammals by the newer environmental changes that have preferentially selected for new epigenetic traits. Yet when the environment calls for this program, we can use it to our full advantage to do many special things.

Consider this...a 26.2 mile marathon burns 2600 calories. My three hour training session I did this AM burned 3800 calories. The cold effect on weight loss is great, but what has me more excited is which form of exercise do you think might harm me more long term? One thought might just alter your DNA!

Awesome pictures here for you to see how evolution might have wanted us to have this epigenetic program handy in case we needed it again!

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- [The Holy Trinity: CT-4](#)
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